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CLERK, U.S. DISTRICT COURT
MIDDLE DISTRICT OF FLORIDA
TAMPA, FLORIDA

Case No. GW

CERCLA RD/RA FINAL CONSENT DECREE FOR THE
TAYLOR ROAD LANDFILL SUPERFUND SITE
IN HILLSBOROUGH COUNTY, FLORIDA

04-98-C023
04-96-D208

98-239-CIV-T-25-F
5/11/98

TABLE OF CONTENTS

CERCLA RD/RA CONSENT DECREE

I.	BACKGROUND	1
II	JURISDICTION	5
III.	PARTIES BOUND	6
IV.	DEFINITIONS	7
V.	GENERAL PROVISIONS	15
VI.	PERFORMANCE OF THE WORK BY SETTLING DEFENDANTS	20
VII.	REMEDY REVIEW	26
VIII.	QUALITY ASSURANCE, SAMPLING, and DATA ANALYSIS	28
IX.	ACCESS AND INSTITUTIONAL CONTROLS	31
X.	REPORTING REQUIREMENTS	33
XI.	EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS	36
XII.	PROJECT COORDINATORS	40
XIII.	ASSURANCE OF ABILITY TO COMPLETE WORK	41
XIV.	CERTIFICATION OF COMPLETION	44
XV.	EMERGENCY RESPONSE	49
XVI.	REIMBURSEMENT OF RESPONSE COSTS	51
XVII.	INDEMNIFICATION AND INSURANCE	65
XVIII.	FORCE MAJEURE	70
XIX.	DISPUTE RESOLUTION	74
XX.	STIPULATED PENALTIES	80

XXI.	COVENANTS BY PLAINTIFF	88
XXII.	COVENANTS BY SETTLING DEFENDANTS	94
XXIII.	EFFECT OF SETTLEMENT; CONTRIBUTION PROTECTION	97
XXIV.	ACCESS TO INFORMATION	99
XXV.	RETENTION OF RECORDS	102
XXVI.	NOTICES AND SUBMISSIONS	105
XXVII.	EFFECTIVE DATE	107
XXVIII.	RETENTION OF JURISDICTION	107
XXIX.	APPENDICES	107
XXX.	COMMUNITY RELATIONS	108
XXXI.	MODIFICATION	108
XXXII.	LODGING AND OPPORTUNITY FOR PUBLIC COMMENT	109
XXXIII.	SIGNATORIES/SERVICE	110

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF FLORIDA

UNITED STATES OF AMERICA, Plaintiff, v. HILLSBOROUGH COUNTY, FLORIDA, WASTE MANAGEMENT, INC., acting on behalf of its subsidiaries and predecessors; UNIVERSITY OF SOUTH FLORIDA, acting for and on behalf of the Board of Regents, a public corporation of the State of Florida (including USF Medical Center and Florida Mental Health Institute); UNIVERSITY COMMUNITY HOSPITAL; FLEETWOOD ENTERPRISES, INC. Acting on behalf of its subsidiaries and their predecessors; LAIDLAW WASTE SYSTEMS, INC.; CITY OF TAMPA; CITY OF TEMPLE TERRACE, FLORIDA; GTE FLORIDA INCORPORATED; THE DAVID J. JOSEPH COMPANY; CITY OF PLANT CITY; J.C.PENNEY COMPANY, INC.; TAMPA COCA-COLA BOTTLING COMPANY; and SEARS, ROEBUCK & COMPANY. Defendants.	CIVIL ACTION NO.

CONSENT DECREE

I. BACKGROUND

A. The United States of America ("United States" or "Plaintiff"), on behalf of the Administrator of the United States Environmental Protection Agency ("EPA"), filed a complaint in this matter pursuant to Sections 106 and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. §§ 9606 & 9607. The United States in its complaint seeks, inter alia: (1) reimbursement of costs incurred by EPA and the Department of Justice for response actions at the Taylor Road Landfill Superfund Site in Hillsborough County, Florida ("Site"), together with accrued interest; and (2) performance of studies and response work by the defendants at the Site consistent with the National Contingency Plan, 40 C.F.R. Part 300 (as amended) ("NCP").

B. In accordance with the NCP and Section 121(f)(1)(F) of CERCLA, 42 U.S.C. § 9621(f)(1)(F), EPA notified the State of Florida (the "State") on January 17, 1996, of negotiations with potentially responsible parties ("PRPs") regarding the implementation of the remedial design and remedial action, as defined below ("Remedial Action"), for the Site, and EPA has provided the State with an opportunity to participate in such negotiations and be a party to this Consent Decree.

C. In accordance with Section 122(j)(1) of CERCLA, 42 U.S.C. § 9622(j)(1), EPA notified the United States Department of Interior on January 17, 1996, of negotiations with the PRPs regarding the release of hazardous substances that may have resulted in injury to the natural resources under Federal trusteeship and encouraged the trustees to participate in the negotiation of this Consent Decree.

D. The Settling Defendants do not admit any liability to the Plaintiff arising out of the transactions or occurrences alleged in the complaint, nor do they admit that the release or threatened release of hazardous substances at or from the Site constitutes an imminent or substantial endangerment to the public health or welfare or the environment. The Settling Federal Agency does not admit any liability arising out of the transactions or occurrences alleged in any potential claims which have been or could have been asserted by the Settling Defendants.

E. Pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, EPA placed the Site on the original National Priorities List (NPL), currently set forth at 40 C.F.R. Part 300, Appendix B, by publication in the Federal Register on September 8, 1983.

F. In response to a release or a substantial threat of a release of a hazardous substances at or from the Site, a Steering

Committee of PRPs ("Steering Committee") on February 1, 1993, commenced work on a Remedial Investigation and Feasibility Study ("RI/FS") for the Site pursuant to 40 C.F.R. § 300.430.

G. EPA approved a Final Remedial Investigation ("RI") Report prepared by a Steering Committee of PRPs on May 5, 1995, and subsequently approved a Feasibility Study ("FS") Report prepared by the Steering Committee on June 26, 1995.

H. Pursuant to Section 117 of CERCLA, 42 U.S.C. § 9617, EPA published notice of the completion of the FS and of the proposed plan for Remedial Action on July 14, 1995, in a major local newspaper of general circulation. EPA provided an opportunity for written and oral comments from the public on the proposed plan for Remedial Action. A copy of the transcript of the public meeting is available to the public as part of the administrative record upon which the Regional Administrator based the selection of the response action.

I. The decision by EPA determining the remedial action to be implemented at the Site is embodied in a final Record of Decision ("ROD"), executed on September 29, 1995, on which the State had a reasonable opportunity to review and comment and on which the State has given its concurrence. The ROD includes a responsiveness summary to the public comments. Notice of the

final plan was published in accordance with Section 117(b) of CERCLA.

J. Based on the information presently available to EPA, EPA believes that the work, as defined below ("Work"), will be properly and promptly conducted by the Settling Defendants if conducted in accordance with the requirements of this Consent Decree and its appendices.

K. Solely for the purposes of Section 113(j) of CERCLA, the Remedial Action selected by the ROD and the Work to be performed by the Settling Defendants shall constitute a response action taken or ordered by the President.

L. The Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and implementation of this Consent Decree will expedite the cleanup of the Site and will avoid prolonged and complicated litigation between the Parties, and that this Consent Decree is fair, reasonable, and in the public interest.

NOW, THEREFORE, it is hereby Ordered, Adjudged, and Decreed:

II. JURISDICTION

1. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1345, and 42 U.S.C.

§§ 9606, 9607, and 9613(b). This Court also has personal jurisdiction over the Settling Defendants. Solely for the purposes of this Consent Decree and the underlying complaint, Settling Defendants waive all objections and defenses that they may have to jurisdiction of the Court or to venue in this District. Settling Defendants shall not challenge the terms of this Consent Decree or this Court's jurisdiction to enter and enforce this Consent Decree.

III. PARTIES BOUND

2. This Consent Decree applies to and is binding upon the United States and upon Settling Defendants and their heirs, successors and assigns. Any change in ownership or corporate status of a Settling Defendant including, but not limited to, any transfer of assets or real or personal property, shall in no way alter such Settling Defendants' responsibilities under this Consent Decree.

3. Settling Defendants shall provide a copy of this Consent Decree to each contractor hired to perform the Work required by this Consent Decree and to each person performing the Work at the Site and shall condition all contracts entered into hereunder upon performance of the Work in conformity with the terms of this Consent Decree. Settling Defendants or their contractors shall

provide written notice of the Consent Decree to all subcontractors hired to perform any portion of the Work required by this Consent Decree. Settling Defendants shall nonetheless be responsible for ensuring that their contractors and subcontractors perform the Work contemplated herein in accordance with this Consent Decree. With regard to the activities undertaken pursuant to this Consent Decree, each contractor and subcontractor shall be deemed to be in a contractual relationship with the Settling Defendants within the meaning of Section 107(b)(3) of CERCLA, 42 U.S.C. §9607(b)(3).

IV. DEFINITIONS

4. Unless otherwise expressly provided herein, terms used in this Consent Decree which are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Consent Decree or in the appendices attached hereto and incorporated hereunder, the following definitions shall apply:

"CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 et seq.

"Consent Decree" shall mean this Decree and all appendices attached hereto (listed in Section XXIX). In the event of conflict between this Decree and any appendix, this Decree shall control.

"Day" shall mean a calendar day unless expressly stated to be a working day. "Working day" shall mean a day other than a Saturday, Sunday, or Federal holiday. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or Federal holiday, the period shall run until the close of business of the next working day.

"EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States.

"FDEP" shall mean the Florida Department of Environmental Protection and any successor departments or agencies of the State.

"Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this Consent Decree, verifying the Work, or otherwise negotiating, implementing, overseeing, or enforcing this Consent Decree, including, but not limited to, payroll costs, contractor

costs, travel costs, laboratory costs, the costs incurred pursuant to Sections VII, IX, XV, and Paragraph 86 of Section XXI. Future Response Costs shall also include all Interim Response Costs and all Interest on the Past Response Costs that has accrued pursuant to 42 U.S.C. § 9607(a) during the period from February 24, 1996, to the date of entry of this Consent Decree.

"Interim Response Costs" shall mean all costs, including direct and indirect costs, (a) paid by the United States in connection with the Site between February 24, 1996, and the effective date of this Consent Decree, or (b) incurred prior to the effective date of this Consent Decree but paid after that date.

"Interest" shall mean interest at the rate specified for interest on investments of the Hazardous Substance Superfund established under Subchapter A of Chapter 98 of Title 26 of the U.S. Code, compounded on October 1 of each year, in accordance with 42 U.S.C. § 9607(a).

"Municipal Solid Waste" shall mean all waste materials generated by households, including single and multi-family residences, and hotels and motels. The term also includes waste materials generated by commercial, institutional, and industrial

sources, to the extent such wastes (A) are essentially the same as waste normally generated by households, or (B) are collected and disposed of with other municipal solid waste or sewage sludge as part of normal municipal solid waste collection services and, regardless of when generated, would be considered conditionally exempt as small quantity generator waste under regulations issued pursuant to Section 3001(d)(4) of the Solid Waste Disposal Act (42 U.S.C. 6921(d)(4)). Examples of Municipal Solid Waste include food and yard waste, paper, clothing, appliances, consumer product packaging, disposable diapers, office supplies, cosmetics, glass and metal food containers, elementary or secondary school science laboratory waste, and household hazardous waste. The term does not include combustion ash generated by resource recovery facilities or municipal incinerators, or waste from manufacturing or processing (including pollution control) operations not essentially the same as waste normally generated by households.

"National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

"Operation and Maintenance" or "O & M" shall mean all activities required to maintain the effectiveness of the Remedial Action as required under the Operation and Maintenance Plan approved or developed by EPA pursuant to this Consent Decree and the Statement of Work (SOW).

"Owner, Operator, or Lessee of Residential Property" shall mean a person who owns, operates, manages, or leases Residential Property and who uses or allows the use of the Residential Property exclusively for residential purposes.

"Owner Settling Defendant" shall mean Hillsborough County, Florida.

"Paragraph" shall mean a portion of this Consent Decree identified by an arabic numeral or an upper case letter.

"Parties" shall mean the United States and the Settling Defendants.

"Past Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs that the United States paid at or in connection with the Site through February 23, 1996, plus Interest on all such costs which has accrued pursuant to 42 U.S.C. § 9607(a) through such date.

"Performance Standards" shall mean the cleanup standards and other measures of achievement of the goals of the Remedial

Action, referred to in Section 9.2 of the ROD and Section 2C of the SOW.

"Plaintiff" shall mean the United States.

"RCRA" shall mean the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901 et seq. (also known as the Resource Conservation and Recovery Act).

"Record of Decision" or "ROD" shall mean the EPA Record of Decision relating to the Site signed on September 29, 1995, by the Regional Administrator, EPA Region 4, or his delegate, and all attachments thereto. The ROD is attached as Appendix A.

"Remedial Action" shall mean those activities, except for Operation and Maintenance, to be undertaken by the Settling Defendants to implement the ROD, in accordance with the SOW and the final Remedial Design and Remedial Action Work Plan and other plans approved by EPA.

"Remedial Design and Remedial Action Work Plan" or "RD/RA Work Plan" shall mean the documents developed pursuant to Paragraph 11 of this Consent Decree and approved by EPA, and any amendments thereto.

"Remedial Design" shall mean those activities to be undertaken by the Settling Defendants to develop the final plans

and specifications for the Remedial Action pursuant to the Remedial Design and Remedial Action Work Plan.

"Residential Property" shall mean single or multi-family residences, including accessory land, buildings, or improvements incidental to such dwellings, which are exclusively for residential use.

"Section" shall mean a portion of this Consent Decree identified by a roman numeral.

"Settling Defendants" shall mean those entities that are identified in Appendix D (Non-Owner Settling Defendants) and Hillsborough County, Florida, the Owner/Operator Settling Defendant.

"Settling Federal Agency" shall mean the Department of Veterans' Affairs and any successor departments, agencies and instrumentalities of the United States.

"Sewage Sludge" means solid, semisolid, or liquid residue removed during the treatment of municipal waste water, domestic sewage, or other waste water at or by publicly owned or federally owned treatment works.

"Site" shall mean the Taylor Road Landfill, and the areal extent of groundwater contamination therefrom, which landfill is located in Eastern Hillsborough County, near the intersection of

Interstate Highway 4 and State Road 579 (Mango Road), and is depicted generally on the map attached as Appendix C.

"Small Business" shall mean any business entity that employs no more than 100 individuals and is a "small business concern" as defined under the Small Business Act (15 U.S.C. § 631 et seq.).

"Small Nonprofit Organization" shall mean any organization that does not distribute any part of its income or profit to its members, directors, or officers, employs no more than 100 paid individuals at the involved chapter, office, or department, and was recognized as a nonprofit organization under Section 501(c)(3) of the Internal Revenue Code of 1986.

"State" shall mean the State of Florida.

"Statement of Work" or "SOW" shall mean the statement of work for implementation of the Remedial Design, Remedial Action, and Operation and Maintenance at the Site, as set forth in Appendix B to this Consent Decree and any modifications made in accordance with this Consent Decree.

"Supervising Contractor" shall mean the principal contractor retained by the Settling Defendants to supervise and direct the implementation of the Work under this Consent Decree.

"United States" shall mean the United States of America and all of its departments, agencies, and instrumentalities.

"Waste Material" shall mean (1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under Section 101(33), 42 U.S.C. § 9601(33); and (3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

"Work" shall mean all activities Settling Defendants are required to perform under this Consent Decree, except those required by Section XXV (Retention of Records).

V. GENERAL PROVISIONS

5. Objectives of the Parties

The objectives of the Parties in entering into this Consent Decree are to protect public health, welfare, and the environment by the design and implementation of response actions at the Site by the Settling Defendants, to reimburse response costs of the Plaintiff, to resolve the claims of Plaintiff against Settling Defendants, and the claims of the Settling Defendants which have been or could have been asserted against the Settling Federal Agency, as provided in this Consent Decree.

6. Commitments by Settling Defendants and the Settling Federal Agency.

a. Settling Defendants shall finance and perform the Work in accordance with this Consent Decree, the ROD, the SOW, and all work plans and other plans, standards, specifications, and schedules set forth herein or developed by Settling Defendants and approved by EPA pursuant to this Consent Decree. Settling Defendants shall also reimburse the United States for Past Response Costs and Future Response Costs as provided in this Consent Decree.

b. The obligations of Settling Defendants to finance and perform the Work and to pay amounts owed the United States under this Consent Decree are joint and several. In the event of the insolvency or other failure of any one or more Settling Defendants to implement the requirements of this Consent Decree, the remaining Settling Defendants shall complete all such requirements.

c. The Settling Federal Agency shall resolve its liability at this Site through a payment to the EPA Hazardous Substance Superfund and payments to the designated Non-Owner Settling Defendant in Appendix D who, with the exception of the premium payment specified in subparagraph 54.a, will pay the Settling Federal Agency's aliquot share to Hillsborough County if

the Settling Defendants undertake Work, pursuant to Paragraphs 13.c.i, 13.c.ii and 18, as provided in this Consent Decree.

7. Compliance With Applicable Law

All activities undertaken by Settling Defendants pursuant to this Consent Decree shall be performed in accordance with the requirements of all applicable federal and state laws and regulations. Settling Defendants must also comply with all applicable or relevant and appropriate requirements of all Federal and state environmental laws as set forth in the ROD and the SOW. The activities conducted pursuant to this Consent Decree, if approved by EPA, shall be considered to be consistent with the NCP.

8. As provided in Section 121(e) of CERCLA and Section 300.400(e) of the NCP, no permit shall be required for any portion of the Work conducted entirely on the Site (i.e., within the areal extent of contamination or in very close proximity to the contamination and necessary for implementation of the Work). Where any portion of the Work that is not on the Site requires a federal or state permit or approval, Settling Defendants shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals.

a. The Settling Defendants may seek relief under the provisions of Section XVIII (Force Majeure) of this Consent Decree for any delay in the performance of the Work resulting from a failure to obtain, or a delay in obtaining, any permit required for the Work.

b. This Consent Decree is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

9. Notice of Obligations to Successors-in-Title

a. Within thirty (30) days after the entry of this Consent Decree, Hillsborough County shall record notice of the entry of this Consent Decree in the form attached hereto as Appendix E with the Clerk's Office, Hillsborough County, State of Florida. Thereafter, each deed, title, or other instrument conveying an interest in the portion of the Site property owned by Hillsborough County shall contain a notice stating that such property is subject to this Consent Decree and shall reference the recorded location of the Consent Decree and any restrictions applicable to such property under this Consent Decree.

b. The obligations of Hillsborough County with respect to the provision of access under Section IX (Access) and the implementation of institutional controls under Paragraph 26 of

that Section shall be binding upon any and all such Owner Settling Defendants and any and all persons who subsequently acquire any such interest or portion thereof (hereinafter "Successors-in-Title"). Within thirty (30) days after the entry of this Consent Decree, Hillsborough County shall record at the Clerk's Office a notice of obligation to provide access under Section IX (Access) and related covenants, if any. Each subsequent instrument conveying an interest to any such Site property shall refer to the recorded location of such notice and covenants applicable to such property.

c. Hillsborough County and any Successor-in-Title shall, at least 30 days prior to the conveyance of any such interest, give written notice of this Consent Decree to the grantee and written notice to EPA of the proposed conveyance, including the name(s) and address(es) of the intended grantee(s), and the date on which notice of the Consent Decree was given to the grantee(s). In the event of any such conveyance, the Settling Defendants' obligations under this Consent Decree, including their obligations to provide or secure access pursuant to Section IX, shall continue to be met by the Settling Defendants. In addition, if the United States approves, the grantee may perform some or all of the Work under this Consent

Decree. In no event shall the conveyance of an interest in property that includes, or is a portion of, the Site release or otherwise affect the liability of the Settling Defendants to comply with the Consent Decree.

VI. PERFORMANCE OF THE WORK BY SETTLING DEFENDANTS

10. Selection of Supervising Contractor.

a. All aspects of the Work to be performed by Settling Defendants pursuant to Sections VI (Performance of the Work by Settling Defendants), VII (Remedy Review), VIII (Quality Assurance, Sampling and Data Analysis), and XV (Emergency Response) of this Consent Decree shall be under the direction and supervision of the Supervising Contractor, the selection of which shall be subject to disapproval by EPA and which shall not be unreasonably withheld after a reasonable opportunity for review and comment by the State. Within 10 days after the lodging of this Consent Decree, Settling Defendants shall notify EPA and the State in writing of the name, title, and qualifications of any contractor proposed to be the Supervising Contractor. EPA will issue a notice of disapproval or an authorization to proceed. If at any time thereafter, Settling Defendants propose to change a Supervising Contractor, Settling Defendants shall give such notice to EPA and the State and must obtain an authorization to

proceed from EPA, after a reasonable opportunity for review and comment by the State, before the new Supervising Contractor performs, directs, or supervises any Work under this Consent Decree.

b. If EPA disapproves a proposed Supervising Contractor, EPA will notify the Settling Defendants in writing. Settling Defendants shall submit to EPA and the State a list of contractors, including the qualifications of each contractor, that would be acceptable to them within 30 days of receipt of EPA's disapproval of the contractor previously proposed. EPA will provide written notice of the names of any contractor(s) that it disapproves and an authorization to proceed with respect to any of the other contractors. Settling Defendants may select any contractor from that list that is not disapproved and shall notify EPA and the State of the name of the contractor selected within 21 days of EPA's authorization to proceed.

c. If EPA fails to provide written notice of its authorization to proceed or disapproval as provided in this Paragraph and this failure prevents the Settling Defendants from meeting one or more deadlines pursuant to this Consent Decree, Settling Defendants may seek relief under the provisions of Section XVIII (Force Majeure) hereof.

11. Remedial Design and Remedial Action.

a. Within 60 days after EPA's issuance of an authorization to proceed pursuant to Paragraph 10, Settling Defendants shall submit to EPA and the State an RD/RA Work Plan which consists of plans and schedules for construction and implementation of the Remedial Action as required by the ROD and the attached SOW. Upon its approval by EPA, the RD/RA Work Plan shall be incorporated into and become enforceable under this Consent Decree. The Settling Defendants shall also submit, as part of the RD/RA Work Plan, to EPA and the State a Health and Safety Plan for field activities which conforms to the applicable Occupational Safety and Health Administration and EPA requirements including, but not limited to, 29 C.F.R. § 1910.120.

b. Upon approval of the RD/RA Work Plan by EPA, after a reasonable opportunity for review and comment by the State, Settling Defendants shall implement the RD/RA Work Plan. The Settling Defendants shall submit to EPA and the State all plans, submittals and other deliverables required under the approved RD/RA Work Plan in accordance with the approved schedule for review and approval pursuant to Section XI (EPA Approval of Plans and Other Submissions). Unless otherwise directed by EPA,

Settling Defendants shall not commence further Remedial Action activities at the Site prior to approval of the RD/RA Work Plan.

12. The Settling Defendants shall continue to implement the Remedial Action and O&M until the Performance Standards are achieved and for so long thereafter as is otherwise required under Section VII of this Consent Decree.

13. Modification of the SOW or Related Work Plans.

a. If EPA determines that modification to the work specified in the SOW and/or in work plans developed pursuant to the SOW is necessary to achieve and maintain the Performance Standards or to carry out and maintain the effectiveness of the remedy set forth in the ROD, EPA may require that such modification be incorporated in the SOW and/or such work plans. Provided, however, that a modification may only be required pursuant to this Paragraph to the extent that it is consistent with the scope of the remedy or contingent remedy set forth in the ROD.

b. For the purposes of this Paragraph 13 and Paragraphs 45 and 46 only, the "scope of the remedy set forth in the ROD" is:

i. the use of existing and future institutional controls to restrict construction of new potable

water wells that would extract water affected by the Site as set forth in Section 9.1.1 of ROD;

ii. modification of the existing Hillsborough County groundwater monitoring program to include quarterly monitoring of a "ring" of existing and future monitor wells located for the purpose of defining the area of groundwater contamination exceeding the Florida Guidance Concentrations as set forth in Section 9.1.2 of ROD;

iii. provision of County water service to human receptors (about 20 residences) within the "ring" of monitor wells and within the "buffer zone" that extends 270 ft outward from the "ring" as set forth in Section 9.1.2 of ROD;

iv. compliance with Performance Standards at and in the area outside "the point of compliance" as set forth in figure 9.1 of the ROD;

v. natural attenuation.

c. For purposes of this Paragraph 13, the "scope of the contingent remedy set forth in the ROD" is:

i. expansion of the ring of monitor wells by the installation of additional monitor wells and by connection of the residences and businesses included within an expanded ring and 270-ft buffer zone (or "setback") in the event that an exceedance of Florida Primary or Secondary Standards or Minimum Criteria occurs as required by Section 9.1.2 of ROD; and

ii. contingent corrective action if monitoring reveals that it is needed as set forth in Section 9.1.3 of ROD.

d. If Settling Defendants object to any modification determined by EPA to be necessary pursuant to this Paragraph, they may seek dispute resolution pursuant to Section XIX (Dispute Resolution), Paragraph 67 (record review). The SOW and/or related work plans shall be modified in accordance with final resolution of the dispute.

e. Settling Defendants shall implement any task required by any modifications incorporated in the SOW and/or in

work plans developed pursuant to the SOW in accordance with this Paragraph.

f. Nothing in this Paragraph shall be construed to limit EPA's authority to require performance of further response actions as set forth in Paragraphs 18 and 47 of this Consent Decree.

14. Settling Defendants acknowledge and agree that nothing in this Consent Decree, the SOW, or the RD/RA Work Plans constitutes a warranty or representation of any kind by Plaintiff that compliance with the work requirements set forth in the SOW and the work plans will achieve the Performance Standards.

VII. REMEDY REVIEW

15. Periodic Review. Settling Defendants shall conduct any studies and investigations as required by EPA, in order to permit EPA to conduct reviews of whether the Remedial Action is protective of human health and the environment at least every five years as required by Section 121(c) of CERCLA and any applicable regulations.

16. EPA Selection of Further Response Actions. If EPA determines, at any time, that the Remedial Action is not protective of human health and the environment, EPA may select

further response actions for the Site in accordance with the requirements of CERCLA and the NCP.

17. Opportunity To Comment. Settling Defendants and, if required by Sections 113(k)(2) or 117 of CERCLA, the public, will be provided with an opportunity to comment on any further response actions proposed by EPA as a result of the review conducted pursuant to Section 121(c) of CERCLA and to submit written comments for the record during the comment period.

18. Settling Defendants' Obligation To Perform Further Response Actions. If EPA selects further response actions for the Site, the Settling Defendants shall undertake such further response actions only to the extent that the reopener conditions in Paragraph 82 or Paragraph 83 (United States' reservations of liability based on unknown conditions or new information) are satisfied. Settling Defendants may invoke the procedures set forth in Section XIX (Dispute Resolution) to dispute (1) EPA's determination that the reopener conditions of Paragraph 82 or Paragraph 83 of Section XXI (Covenants by Plaintiff) are satisfied, (2) EPA's determination that the Remedial Action is not protective of human health and the environment, or (3) EPA's selection of the further response actions. Disputes pertaining to whether the Remedial Action is protective or to EPA's

selection of further response actions shall be resolved pursuant to Paragraph 67 (record review).

19. Submissions of Plans. If Settling Defendants are required to perform the further response actions pursuant to Paragraph 18, they shall submit a plan for such work to EPA for approval in accordance with the procedures set forth in Section VI (Performance of the Work by Settling Defendants) and shall implement the plan approved by EPA in accordance with the provisions of this Decree.

VIII. QUALITY ASSURANCE, SAMPLING, and DATA ANALYSIS

20. Settling Defendants shall use quality assurance, quality control, and chain of custody procedures for all compliance and monitoring samples in accordance with "EPA Requirements for Quality Assurance Project Plans for Environmental Data Operation," (EPA QA/R5); "Preparing Perfect Project Plans," (EPA /600/9-88/087), and subsequent amendments to such guidelines upon notification by EPA to Settling Defendants of such amendment. Amended guidelines shall apply only to procedures conducted after such notification. Prior to the commencement of any monitoring project under this Consent Decree, Settling Defendants shall submit to EPA for approval, after a reasonable opportunity for review and comment by the

State, a Quality Assurance Project Plan ("QAPP") that is consistent with the SOW, the NCP and applicable guidance documents. If relevant to the proceeding, the Parties agree that validated sampling data generated in accordance with the QAPP and reviewed and approved by EPA shall be admissible as evidence, without objection, in any proceeding under this Decree. Settling Defendants shall ensure that EPA and its authorized representatives are allowed access at reasonable times to all laboratories utilized by Settling Defendants in implementing this Consent Decree. In addition, Settling Defendants shall ensure that such laboratories shall analyze all samples submitted by EPA pursuant to the QAPP for quality assurance monitoring. Settling Defendants shall ensure that the laboratories they utilize for the analysis of samples taken pursuant to this Decree perform all analyses according to accepted EPA methods. Accepted EPA methods consist of those methods which are documented in the "Contract Lab Program Statement of Work for Inorganic Analysis" and the "Contract Lab Program Statement of Work for Organic Analysis," dated February 1988, and any amendments made thereto during the course of the implementation of this Decree. Settling Defendants shall ensure that all laboratories they use for analysis of samples taken pursuant to this Consent Decree participate in an

EPA or EPA-equivalent QA/QC program. Settling Defendants shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Decree will be conducted in accordance with the procedures set forth in the QAPP approved by EPA.

21. Settling Defendants shall notify EPA and the State not less than thirty (30) days in advance of any sample collection activity unless shorter notice is agreed to by EPA. At least 48 hours prior to the date of the stated sampling activity, EPA shall notify the Settling Defendants of the State or EPA's intent to take split or duplicate samples. In addition, EPA and the State shall have the right to take any additional samples that EPA or the State deem necessary.

22. Settling Defendants shall submit to EPA and the State five (5) copies each of the results of all sampling and/or tests or other data obtained or generated by or on behalf of Settling Defendants with respect to the Site and/or the implementation of this Consent Decree unless EPA agrees otherwise.

23. Notwithstanding any provision of this Consent Decree, the United States hereby retains all of its information-gathering and inspection authorities and rights, including enforcement

actions related thereto, under CERCLA, RCRA and any other applicable statutes or regulations.

IX. ACCESS AND INSTITUTIONAL CONTROLS

24. Commencing upon the date of lodging of this Consent Decree, the Settling Defendants agree to provide the United States and its representatives, including EPA and its contractors, access at all reasonable times to the Site and any other property to which access is required for the implementation of this Consent Decree, to the extent access to the Site and/or property is controlled by Settling Defendants, for the purposes of conducting any activity related to this Consent Decree including, but not limited to:

a. Monitoring the Work;

b. Verifying any data or information submitted to the United States or the State;

c. Conducting investigations relating to contamination at or near the Site;

d. Obtaining samples;

e. Assessing the need for, planning, or implementing additional response actions at or near the Site;

f. Inspecting and copying records, operating logs, contracts, or other documents maintained or generated by Settling Defendants or their agents, consistent with Section XXIV; and

g. Assessing Settling Defendants' compliance with this Consent Decree.

25. To the extent that the Site or any other property to which access is required for the implementation of this Consent Decree is owned or controlled by persons other than Settling Defendants, Settling Defendants shall use their best efforts to secure from such persons access for Settling Defendants, as well as for the United States and its representatives, including, but not limited to, their contractors, as necessary to effectuate this Consent Decree. For purposes of this Paragraph "best efforts" shall include but not be limited to: (1) exercise of eminent domain by Hillsborough County; (2) reduction of the tax assessment of the property subject to access: and (3) the payment of reasonable sums of money in consideration of access. If any access required to complete the Work is not obtained within 45 days of the date of lodging of this Consent Decree, or within 45 days of the date EPA notifies the Settling Defendants in writing that additional access beyond that previously secured is necessary, Settling Defendants shall promptly notify the

United States in writing, and shall include in that notification a summary of the steps Settling Defendants have taken to attempt to obtain access. The United States may, as it deems appropriate, assist Settling Defendants in obtaining access. Settling Defendants shall reimburse the United States, in accordance with the procedures in Section XVI (Reimbursement of Response Costs), for all costs incurred by the United States in obtaining access. Notwithstanding any provision of this Consent Decree, the United States retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA and any other applicable statute or regulations.

26. Hillsborough County shall establish institutional controls as set forth in Section 9 of the ROD.

X. REPORTING REQUIREMENTS

27. Unless otherwise determined by EPA, in addition to any other requirement of this Consent Decree, Settling Defendants shall submit to EPA and the State five (5) copies each of all written monthly progress reports that: (a) describe the actions which have been taken toward achieving compliance with this Consent Decree during the previous calendar month; (b) include a summary of all results of sampling and tests and all other data

received or generated by Settling Defendants or their contractors or agents in the previous calendar month; (c) identify all work plans, plans and other deliverables required by this Consent Decree completed and submitted during the previous calendar month; (d) describe all actions, including, but not limited to, data collection and implementation of work plans, which are scheduled for the next six weeks and provide other information relating to the progress of construction, including, but not limited to, critical path diagrams, Gantt charts and Pert charts; (e) include information regarding percentage of completion, unresolved delays encountered or anticipated that may affect the future schedule for implementation of the Work, and a description of efforts made to mitigate those delays or anticipated delays; (f) include any modifications to the work plans or other schedules that Settling Defendants have proposed to EPA or that have been approved by EPA; and (g) describe all activities undertaken in support of the Community Relations Plan during the previous calendar month and those to be undertaken in the next six weeks. Settling Defendants shall submit these progress reports to EPA and the State by the tenth day of every calendar month following the lodging of this Consent Decree until EPA notifies the Settling Defendants pursuant to Paragraph 46.b of

Section XIV (Certification of Completion). If requested by EPA, Settling Defendants shall also provide briefings for EPA to discuss the progress of the Work.

28. The Settling Defendants shall notify EPA of any change in the schedule described in the monthly progress report for the performance of any activity, including, but not limited to, data collection and implementation of work plans, no later than seven days prior to the performance of the activity, unless otherwise determined by EPA.

29. Upon the occurrence of any event during performance of the Work that Settling Defendants are required to report pursuant to Section 103 of CERCLA or Section 304 of the Emergency Planning and Community Right-to-know Act (EPCRA) ("Reporting Event"), Settling Defendants shall within 24 hours of the onset of such event orally notify the EPA Project Coordinator or the Alternate EPA Project Coordinator (in the event of the unavailability of the EPA Project Coordinator), or, in the event that neither the EPA Project Coordinator or Alternate EPA Project Coordinator is available, the Emergency Response Section, Region IV, United States Environmental Protection Agency. These reporting requirements are in addition to the reporting required by CERCLA Section 103 or EPCRA Section 304.

30. Within 20 days of the onset of such a Reporting Event, Settling Defendants shall furnish to Plaintiff a written report, signed by the Settling Defendants' Project Coordinator, setting forth the event(s) which occurred and the measures taken, and to be taken, in response thereto. Within 30 days of the conclusion of a Reporting Event, Settling Defendants shall submit a written report setting forth all actions taken in response thereto.

31. Unless otherwise determined by EPA, Settling Defendants shall submit seven (7) copies of all plans, reports, and data required by the SOW, the RD/RA Work Plan, or any other approved plans to EPA, and simultaneously to the State, in accordance with the schedules set forth in such plans.

32. All reports and other documents submitted by Settling Defendants to EPA (other than the monthly progress reports referred to above) which purport to document Settling Defendants' compliance with the terms of this Consent Decree shall be signed by an authorized representative of the Settling Defendants.

XI. EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS

33. After review of any plan, report or other item which is required to be submitted for approval pursuant to this Consent Decree, EPA, after reasonable opportunity for review and comment by the State, shall: (a) approve, in whole or in part, the

submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that the Settling Defendants modify the submission; or (e) any combination of the above. However, EPA shall not modify a submission without first providing Settling Defendants at least one notice of deficiency and an opportunity to cure within fourteen (14) calendar days, except when to do so would cause serious disruption to the Work or when any previous submissions have been disapproved due to material defects and the deficiencies in the submission under consideration indicate a bad faith lack of effort to submit an acceptable deliverable.

34. In the event of approval, approval upon conditions, or modification by EPA, pursuant to Paragraph 33(a), (b), or (c), Settling Defendants shall proceed to take any action required by the plan, report, or other item, as approved or modified by EPA subject only to their right to invoke the Dispute Resolution procedures set forth in Section XIX (Dispute Resolution) with respect to the modifications or conditions made by EPA. In the event that EPA modifies the submission to cure the deficiencies pursuant to Paragraph 33(c) and the submission has a material

defect, EPA retains its right to seek stipulated penalties, as provided in Section XX (Stipulated Penalties).

35. a. Upon receipt of a notice of disapproval pursuant to Paragraph 33(d), Settling Defendants shall, within seven (7) days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the plan, report, or other item for approval. Any stipulated penalties applicable to the submission, as provided in Section XX, shall accrue during the seven (7) day period or otherwise specified period but shall not be payable unless the resubmission is disapproved or modified due to a material defect as provided in Paragraphs 36 and 37.

b. Notwithstanding the receipt of a notice of disapproval pursuant to Paragraph 33(d), Settling Defendants shall proceed, at the direction of EPA, to take any action required by any non-deficient portion of the submission. Implementation of any non-deficient portion of a submission shall not relieve Settling Defendants of any liability for stipulated penalties under Section XX (Stipulated Penalties).

36. In the event that a resubmitted plan, report or other item, or portion thereof, is disapproved by EPA, EPA may again require the Settling Defendants to correct the deficiencies, in accordance with the preceding Paragraphs. EPA also retains the

right to modify or develop the plan, report or other item itself. Settling Defendants shall implement any such plan, report, or item as modified or developed by EPA subject only to their right to invoke the procedures set forth in Section XIX (Dispute Resolution).

37. If upon resubmission, a plan, report, or item is disapproved or modified by EPA due to a material defect, Settling Defendants shall be deemed to have failed to submit such plan, report, or item timely and adequately unless the Settling Defendants invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution) and EPA's action is overturned pursuant to that Section. The provisions of Section XIX (Dispute Resolution) and Section XX (Stipulated Penalties) shall govern the implementation of the Work and accrual and payment of any stipulated penalties during Dispute Resolution. If EPA's disapproval or modification is upheld, stipulated penalties shall accrue for such violation from the date on which the initial submission was originally required, as provided in Section XX.

38. All plans, reports, and other items required to be submitted to EPA under this Consent Decree shall, upon approval or modification by EPA, be enforceable under this Consent Decree. In the event EPA approves or modifies a portion of a plan,

report, or other item required to be submitted to EPA under this Consent Decree, the approved or modified portion shall be enforceable under this Consent Decree.

XII. PROJECT COORDINATORS

39. Within 20 days of lodging this Consent Decree, Settling Defendants and EPA will notify each other, in writing, of the name, address and telephone number of their respective designated Project Coordinators and Alternate Project Coordinators. If a Project Coordinator or Alternate Project Coordinator initially designated is changed, the identity of the successor will be given to the other Defendants at least 5 working days before the changes occur, unless impracticable, but in no event later than the actual day the change is made. The Settling Defendants' Project Coordinator shall be subject to disapproval by EPA and shall have the technical expertise sufficient to adequately oversee all aspects of the Work. The Settling Defendants' Project Coordinator shall not be an attorney for any of the Settling Defendants in this matter. He or she may assign other representatives, including other contractors, to serve as a Site representative for oversight of performance of daily operations during remedial activities.

40. Plaintiff may designate other representatives, including, but not limited to, EPA and State employees, and federal and State contractors and consultants, to observe and monitor the progress of any activity undertaken pursuant to this Consent Decree. EPA's Project Coordinator and Alternate Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager ("RPM") and an On-Scene Coordinator ("OSC") by the National Contingency Plan, 40 C.F.R. Part 300. In addition, EPA's Project Coordinator or Alternate Project Coordinator shall have authority, consistent with the National Contingency Plan, to halt any Work required by this Consent Decree and to take any necessary response action when s/he determines that conditions at the Site constitute an emergency situation or may present an immediate threat to public health or welfare or the environment due to release or threatened release of Waste Material.

XIII. ASSURANCE OF ABILITY TO COMPLETE WORK

41. Within 30 days of entry of this Consent Decree, one or more of the Settling Defendants shall establish and maintain financial security in the amount of $2,500,000.00 in one or more of the following forms:

(a) A surety bond guaranteeing performance of the Work;

(b) One or more irrevocable letters of credit equaling the total estimated cost of the Work;

(c) A trust fund;

(d) A guarantee to perform the Work by one or more unrelated corporations that have a substantial business relationship with at least one of the Settling Defendants; or

(e) A demonstration that one or more of the Settling Defendants satisfy the requirements of 40 C.F.R. Part 264.143(f).

(f) Internal financial information sufficient to allow EPA to determine that one or more of the Settling Defendants have sufficient assets available to perform the Work.

42. If the Settling Defendants seek to demonstrate the ability to complete the Work through a guarantee by a third party pursuant to Paragraph 41(d) of this Consent Decree, Settling Defendants shall demonstrate that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f). If Settling Defendants seek to demonstrate their ability to complete the Work by means of the financial test or the corporate guarantee pursuant to Paragraph 41(d) or (e), they shall resubmit sworn statements conveying the information required by 40 C.F.R. Part 264.143(f) annually, on the anniversary of the effective date of this Consent Decree. In the event that EPA, after a reasonable

opportunity for review and comment by the State, determines at any time that the financial assurances provided pursuant to this Section are inadequate, Settling Defendants shall, within 30 days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 41 of this Consent Decree. Settling Defendants' inability to demonstrate financial ability to complete the Work shall not excuse performance of any activities required under this Consent Decree.

43. If Settling Defendants can show that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 41 above after entry of this Consent Decree, Settling Defendants may, on any anniversary date of entry of this Consent Decree, or at any other time agreed to by the Settling Defendants, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining work to be performed. Settling Defendants shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security upon approval by EPA. In the event of a dispute, Settling Defendants may reduce the amount of the security in accordance with the final administrative or judicial decision

resolving the dispute as set forth in Section XIX of this Consent Decree.

44. Settling Defendants may change the form of financial assurance provided under this Section at any time upon notice to and approval by EPA provided that the new form of assurance is approved by EPA as consistent with the requirements of this Section, provided that in the event of a dispute, Settling Defendants may change the form of the financial assurance only in accordance with the final administrative or judicial decision resolving the dispute as set forth in Section XIX of this Consent Decree.

XIV. CERTIFICATION OF COMPLETION

45. Completion of the Remedial Action

a. Within 90 days after Settling Defendants conclude that the Remedial Action has been fully performed and the Performance Standards have been attained, Settling Defendants shall schedule and conduct a pre-certification inspection to be attended by a representative of the Settling Defendants and EPA. If, after the pre-certification inspection, the Settling Defendants still believe that the Remedial Action has been fully performed and the Performance Standards have been attained, they shall submit a written report requesting certification to EPA for

approval, with a copy to the State, pursuant to Section XI (EPA Approval of Plans and Other Submissions) within 30 days of the inspection. In the report, a registered professional engineer and the Settling Defendants' Project Coordinator shall state that the Remedial Action has been completed in full satisfaction of the requirements of this Consent Decree. The written report shall include as-built drawings signed and stamped by a professional engineer. The report shall contain the following statement, signed by a responsible corporate official of a Settling Defendant or the Settling Defendants' Project Coordinator:

> "To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If, after completion of the pre-certification inspection and receipt and review of the written report, EPA, after reasonable opportunity to review and comment by the State, determines that the Remedial Action or any portion thereof has not been completed in accordance with this Consent Decree or that the Performance Standards have not been achieved, EPA will notify Settling Defendants in writing of the activities that must be undertaken

by Settling Defendants pursuant to this Consent Decree to complete the Remedial Action and achieve the Performance Standards. Provided, however, that EPA may only require Settling Defendants to perform such activities pursuant to this Paragraph to the extent that such activities are consistent with the scope of the remedy or contingent remedy set forth in the ROD, as that term is defined in subparagraphs 13.b and 13.c. EPA will set forth in the notice a schedule for performance of such activities consistent with the Consent Decree and the SOW or require the Settling Defendants to submit a schedule to EPA for approval pursuant to Section XI (EPA Approval of Plans and Other Submissions). Settling Defendants shall perform all activities described in the notice in accordance with the specifications and schedules established pursuant to this Paragraph, subject to their right to invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution).

b. If EPA concludes, based on the initial or any subsequent report requesting Certification of Completion and after a reasonable opportunity for review and comment by the State, that the Remedial Action has been performed in accordance with this Consent Decree and that the Performance Standards have been achieved, EPA will so certify in writing to Settling

Defendants. This certification shall constitute the Certification of Completion of the Remedial Action for purposes of this Consent Decree, including, but not limited to, Section XXI (Covenants by Plaintiff). Certification of Completion of the Remedial Action shall not relieve Settling Defendants of their other obligations under this Consent Decree.

46. Completion of the Work

a. Within 90 days after Settling Defendants conclude that all phases of the Work (including O & M), have been fully performed, Settling Defendants shall schedule and conduct a pre-certification inspection to be attended by Settling Defendants and EPA. If, after the pre-certification inspection, the Settling Defendants still believe that the Work has been fully performed, Settling Defendants shall submit a written report by a registered professional engineer stating that the Work has been completed in full satisfaction of the requirements of this Consent Decree. The report shall contain the following statement, signed by a responsible corporate official of a

Settling Defendant or the Settling Defendants' Project Coordinator:

> "To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If, after review of the written report, EPA, after reasonable opportunity to review and comment by the State, determines that any portion of the Work has not been completed in accordance with this Consent Decree, EPA will notify Settling Defendants in writing of the activities that must be undertaken by Settling Defendants pursuant to this Consent Decree to complete the Work. Provided, however, that EPA may only require Settling Defendants to perform such activities pursuant to this Paragraph to the extent that such activities are consistent with the scope of the remedy or contingent remedy set forth in the ROD, as that term is defined in subparagraphs 13.b and 13.c. EPA will set forth in the notice a schedule for performance of such activities consistent with the Consent Decree and the SOW or require the Settling Defendants to submit a schedule to EPA for approval pursuant to Section XI (EPA Approval of Plans and Other Submissions). Settling Defendants shall perform all activities

described in the notice in accordance with the specifications and schedules established therein, subject to their right to invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution).

b. If EPA concludes, based on the initial or any subsequent request for Certification of Completion by Settling Defendants and after a reasonable opportunity for review and comment by the State, that the Work has been performed in accordance with this Consent Decree, EPA will so notify the Settling Defendants in writing.

XV. EMERGENCY RESPONSE

47. In the event of any action or occurrence during the performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Settling Defendants shall, subject to Paragraph 48, immediately take all appropriate action to prevent, abate, or minimize such release or threat of release, and shall immediately notify the EPA's Project Coordinator, or, if the Project Coordinator is unavailable, EPA's Alternate Project Coordinator. If neither of these persons is available, the Settling Defendants shall notify the EPA Region IV, Emergency

Response Branch, Waste Management Division. Settling Defendants shall take such actions in consultation with EPA's Project Coordinator or other available authorized EPA officer and in accordance with all applicable provisions of the Health and Safety Plans, the Contingency Plans, and any other applicable plans or documents developed pursuant to the SOW. In the event that Settling Defendants fail to take appropriate response action as required by this Section, and EPA takes such action instead, Settling Defendants shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XVI (Reimbursement of Response Costs).

48. Nothing in the preceding Paragraph or in this Consent Decree shall be deemed to limit any authority of the United States, or the State, a) to take all appropriate action to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Site, or b) to direct or order such action, or seek an order from the Court, to protect human health and the environment or to prevent, abate, respond to, or minimize an actual or threatened release of Waste Material on, at, or from the Site, subject to Section XXI (Covenants by Plaintiff).

XVI. REIMBURSEMENT OF RESPONSE COSTS

49. Within sixty (60) days of the effective date of this Consent Decree, Settling Defendants shall pay to the EPA Hazardous Substance Superfund $673,186.14 by FedWire Electronic Funds Transfer ("EFT" or wire transfer) to the U.S. Department of Justice account in accordance with current electronic funds transfer procedures, referencing U.S.A.O. file number _____, the EPA Region and Site/Spill ID #0408, and DOJ case number 90-11-3-1614. Payment shall be made in accordance with instructions provided to the Settling Defendants by the Financial Litigation Unit of the United States Attorney's Office for the Middle District of Florida within sixty (60) days of entry of the Consent Decree. Any payments received by the Department of Justice after 4:00 P.M. (Eastern Time) will be credited on the next business day. Settling Defendants shall send notice that such payment has been made to the United States as specified in Section XXVI (Notices and Submissions).

50. Settling Defendants shall reimburse the EPA Hazardous Substance Superfund for all Future Response Costs not inconsistent with the National Contingency Plan. The United States will send Settling Defendants a bill requiring payment that includes a certified Agency Finance System Data (SCORES)

report, or such other summary as certified by EPA, which includes direct and indirect costs incurred by EPA and DOJ on an annual basis. Settling Defendants shall make all payments within sixty (60) days of Settling Defendants' receipt of each bill requiring payment, except as otherwise provided in Paragraph 51. The Settling Defendants shall make all payments required by this Paragraph in the form of a certified or cashier's check or checks made payable to "EPA Hazardous Substance Superfund" and referencing the EPA Region and Site/Spill ID #0408, the DOJ case number 90-11-3-1614, and the name and address of the party making payment. The Settling Defendants shall send the check(s) to:

U. S. Environmental Protection Agency
Region IV
Superfund Accounting
P.O. Box 100142
Atlanta, Georgia 30384

ATTENTION: Collection Officer for Superfund

and shall send copies of the check(s) to the United States as specified in Section XXVI (Notices and Submissions) and by sending copies of the check(s) to the United States Environmental Protection Agency, Region IV, Program Services Branch, Waste Management Division, Attention: Greg Armstrong, 61 Forsyth Street, SW, Atlanta, Georgia 30303.

51. Settling Defendants may contest payment of any Future Response Costs under Paragraph 50 if they determine that the United States has made an accounting error (including bookkeeping, arithmetical, or scrivener's errors) or if they allege that a cost item that is included represents costs that are inconsistent with the NCP. Such objection shall be made in writing within sixty (60) days of receipt of the bill and must be sent to the United States (if the United States' accounting is being disputed) pursuant to Section XXVI (Notices and Submissions). Any such objection shall specifically identify the contested Future Response Costs and the basis for objection. In the event of an objection, the Settling Defendants shall within the sixty (60) day period pay all uncontested Future Response Costs to the United States in the manner described in Paragraph 50. Simultaneously, the Settling Defendants shall establish an interest-bearing escrow account in a federally-insured bank duly chartered in the State of Florida and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. The Settling Defendants shall send to the United States, as provided in Section XXVI (Notices and Submissions), a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that

establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, the Settling Defendants shall initiate the Dispute Resolution procedures in Section XIX (Dispute Resolution). If the United States prevails in the dispute, within 5 days of the resolution of the dispute, the Settling Defendants shall pay the sums due (with accrued interest) to the United States in the manner described in Paragraph 50. If the Settling Defendants prevail concerning any aspect of the contested costs, the Settling Defendants shall pay that portion of the costs (plus associated accrued interest) for which they did not prevail to the United States in the manner described in Paragraph 50; Settling Defendants shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XIX (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding the Settling Defendants' obligation to reimburse the United States for its Future Response Costs.

52. In the event that the payments required by Paragraph 49 are not made within sixty (60) days of entry of this Consent Decree or the payments required by Paragraph 50 are not made within sixty (60) days of the Settling Defendants' receipt of the bill, Settling Defendants shall pay Interest on the unpaid balance. The Interest to be paid on Past Response Costs under this Paragraph shall begin to accrue sixty (60) days after entry of this Consent Decree. The Interest on Future Response Costs shall begin to accrue sixty (60) days after receipt of the bill, which shall be sent by certified mail -- return receipt requested. The Interest shall accrue through the date of the Settling Defendant's payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to Plaintiffs by virtue of Settling Defendants' failure to make timely payments under this Section. The Settling Defendants shall make all payments required by this Paragraph in the manner described in Paragraph 50.

53. As soon as reasonably practicable after the effective date of this Consent Decree, the United States, on behalf of the Settling Federal Agency, shall cause to be paid to the EPA - Hazardous Substance Superfund, $91,176.36. This sum represents the Settling Federal Agency's share of (a) EPA's Past Response

Costs, (b) the past response costs incurred by the Settling Defendants, (c) the expected costs of the Work to be performed by the Settling Defendants, excluding Work pursuant to subparagraphs 13.c.i, 13.c.ii or Paragraph 18, and (d) the expected Future Response Costs that EPA will incur in connection with the Work to be performed by the Settling Defendants, excluding Work pursuant to subparagraphs 13.c.i, 13.c.ii or Paragraph 18. In the event that payments required by Paragraph 53 are not made within 120 days of the effective date of this Consent Decree, interest on the unpaid balance shall be paid at the rate established pursuant to section 107(a) of CERCLA, 42 U.S.C. § 9607(a), commencing on the 121st day after entry of this Consent Decree and accruing through the date of payment.

54. Agreements Regarding the Settling Federal Agency's Payment of Estimated Remedy Costs

a. If EPA requires the Settling Defendants to undertake any Work pursuant to subparagraphs 13.c.i, 13.c.ii or Paragraph 18 of this Consent Decree, the United States, on behalf of the Settling Federal Agency, shall pay the Non-Owner Settling Defendants the Estimated Remedy Costs, as described below, along with a $30,000 premium to cover the risk that one or more of the Non-Owner Settling Defendants will fail to pay its aliquot share of the

Estimated Remedy Costs for any reason and to ensure that the Settling Federal Agency's percentages for payments in this subparagraph are not readjusted. This premium shall only be paid once even if EPA requires the Settling Defendants to undertake Work pursuant to one or more of the above-referenced paragraphs (subparagraphs 13.c.i, 13.c.ii and Paragraph 18). For purposes of this Paragraph the Estimated Remedy Costs shall be the present value of those costs mutually agreed upon by the Settling Defendants for Work under subparagraphs 13.c.i, 13.c.ii and Paragraph 18, the amount of which shall be estimated at the time that EPA notifies the Settling Defendants that the remedy must be implemented. Such Estimated Remedy Costs for implementing the remedy must be necessary costs of response and consistent with the National Contingency Plan. Other than costs to be incurred by Hillsborough County in the actual performance of "Remedial Action" and "Operation and Maintenance" as those terms are defined in this Consent Decree, Estimated Remedy Costs shall not include any cost, expense, fee, loss, damage, or claim incurred or suffered by Hillsborough County, its agents, employees, or any other person. Estimated Remedy Costs shall not include EPA oversight costs for Work undertaken pursuant to subparagraphs

13.c.i, 13.c.ii and Paragraph 18. Such oversight costs shall be paid pursuant to subparagraph 54.f.

b. The United States, on behalf of the Settling Federal Agency, shall pay the Non-Owner Settling Defendants 1.6% (7.99% of 20%) of all Estimated Remedy Costs in connection with any Work that EPA requires the Settling Defendants to undertake pursuant to subparagraph 13.c.i of this Consent Decree ("Stage I Contingent Remedy"). The Settling Federal Agency recognizes that the implementation of the Stage I Contingent Remedy may occur in phases over time as required by EPA incident to expansion of the monitoring well ring. In such an event, the Settling Federal Agency will pay 1.6% (7.99% of 20%) of the Estimated Remedy Costs for each phase required by EPA under this Consent Decree for Stage I of the Contingent Remedy. Payment by the United States, on behalf of the Settling Federal Agency, for the final phase of the Stage I Contingent Remedy shall be accepted as payment in full of all sums owing under this Consent Decree by the Settling Federal Agency for Work performed pursuant to subparagraph 13.c.i. Otherwise, if the Stage I Contingent Remedy does not occur in phases over time, payment of the Estimated Remedy Costs for the Stage I Contingent Remedy shall be accepted as payment in full of all sums owing under this Consent Decree by the Settling

Federal Agency for Work performed pursuant to subparagraph 13.c.i.

c. The United States, on behalf of the Settling Federal Agency, shall pay the Non-Owner Settling Defendants 2.4% (8.11% of 30%) of all Estimated Remedy Costs in connection with any Work that EPA requires the Settling Defendants to undertake pursuant to subparagraph 13.c.ii of this Consent Decree ("Stage II Contingent Remedy"). Payment of the Estimated Remedy Costs for Work required under subparagraph 13.c.ii shall be made on a one-time basis.

d. The United States, on behalf of the Settling Federal Agency, shall pay the Non-Owner Settling Defendants 1.2% (8.11% of 15%) of all Estimated Remedy Costs in connection with any Work that EPA requires the Settling Defendants to undertake pursuant to Paragraph 18 of this Consent Decree. Payment of the Estimated Remedy Costs for Work required under Paragraph 18 shall be made on a one-time basis.

e. Unless otherwise agreed to in writing between the Settling Federal Agency and the Non-Owner Settling Defendants, the United States, on behalf of the Settling Federal Agency, shall pay its share as set forth in subparagraph 54.b through d above in the manner set forth below:

i. The Non-Owner Settling Defendants shall promptly provide the Settling Federal Agency with a statement demanding payment, accompanied by a detailed itemization of the costs for the services and material necessary to implement the Work pursuant to subparagraphs 13.c.i, 13.c.ii or Paragraph 18 under this Consent Decree, as appropriate, and the costs allocated to the United States. The Non-Owner Settling Defendants shall also state whether it is seeking payment under subparagraphs 13.c.i, 13.c.ii or Paragraph 18. For purposes of this subparagraph 54.e, the demand and accompanying documentation shall be referred to collectively as a "Payment Demand."

ii. Each Payment Demand made under subparagraph 54.e shall be accompanied by a certification executed by the Non-Owner Settling Defendants as follows:

> Each Non-Owner Settling Defendant making this Payment Demand certifies that the Estimated Remedy Costs referenced in the attached document is the present value of those costs mutually agreed upon by the Settling Defendants of implementation of the remedy, the amount of which shall be estimated at the time EPA notifies the Settling Defendants that the remedy must be implemented.
>
> The Estimated Remedy Costs referenced in the attached document are; 1) necessary costs of response and consistent with the National Contingency Plan; and 2) do not include costs the Settling Defendants incur or would otherwise have incurred in performance of the

Non-Contingent Remedy. Payment by the United States, on behalf of the Settling Federal Agency, of all amounts in the attached Payment Demand shall be accepted as payment in full of all sums owing under this Consent Decree by the Settling Federal Agency for Work performed pursuant to subparagraph 13.c.ii or Paragraph 18.

iii. The United States, on behalf of the Settling Federal Agency, shall then pay its aliquot share of all Estimated Remedy Costs incurred as set forth in each Payment Demand, less any amounts withheld or disputed in accordance with this subparagraph 54.d.iii, as soon as reasonably practicable. If the Settling Federal Agency in good faith questions or contests any invoiced fees or expenses, it shall have the right to withhold payment of such disputed amount; provided, however, that the Settling Federal Agency shall notify the Non-Owner Settling Defendants in writing of any disputed amount within sixty (60) days of the date of such Payment Demand and shall make a good faith effort to resolve such dispute. In the event that the Settling Federal Agency and the Non-Owner Settling Defendants cannot resolve the dispute, either party may seek the Court's assistance by motion not less than 120 days after the date of the Payment Demand in question. In the event that payments required by subparagraphs 54.b through d are not

made within 120 days of receipt of the relevant Payment Demand, interest on the unpaid amount shall be paid at the rate established pursuant to section 107(a) of CERCLA, 42 U.S.C. § 9607(a), commencing on the 121st day after the receipt of the relevant Payment Demand and accruing through the date of payment.

f. In addition to payment of the Estimated Remedy Costs as set forth in subparagraphs 54.b through d, the United States, on behalf of the Settling Federal Agency, shall pay its aliquot share of EPA oversight costs actually paid by Hillsborough County to EPA. For purposes of subparagraphs 54.a and 54.f, EPA's oversight costs shall mean all direct and indirect costs that the United States incurs in connection with Work undertaken pursuant to subparagraphs 13.c.i, 13.c.ii and Paragraph 18 in reviewing or developing plans, reports, and other items pursuant to this Consent Decree, or overseeing or verifying such Work, including payroll costs, contractor costs, travel costs, and laboratory costs. EPA's oversight costs shall be paid according to the percentages set forth below:

i. 1.6% (7.99% of 20%), not to exceed $1,198.50, of EPA oversight costs incurred in connection with Work that EPA requires the Settling Defendants to

undertake pursuant to subparagraph 13.c.i for the Stage I Contingent Remedy;

ii. 2.4% (8.11% of 30%) of EPA oversight costs incurred in connection with Work that EPA requires the Settling Defendants to undertake pursuant to subparagraph 13.c.ii of this Consent Decree for the Stage II Contingent Remedy; and

iii. 1.2% (8.11% of 15%) for EPA oversight costs incurred in connection with Work that EPA requires the Settling Defendants to undertake pursuant to Paragraph 18 of this Consent Decree.

The Non-Owner Settling Defendants shall provide the Settling Federal Agency with a statement which contains proof of Hillsborough County's payment to EPA and EPA's supporting documentation of its oversight costs. The statement shall also state whether EPA's oversight costs pertain to subparagraphs 13.c.i, 13.c.ii or Paragraph 18. The United States, on behalf of the Settling Federal Agency, shall then pay its aliquot share of EPA's oversight costs to the Non-Owner Settling Defendants, less any amounts withheld or disputed, as soon as reasonably practicable. Any dispute concerning the amount of reimbursement under this subparagraph, which dispute shall be limited solely to

the issue of whether EPA's oversight costs pertain to subparagraphs 13.c.i, 13.c.ii or Paragraph 18, shall be resolved in accordance with the procedures specified in subparagraph 54.e.iii.

g. If EPA performs any of the Work described in subparagraphs 13.c.i, 13.c.ii or Paragraph 18 in lieu of the Settling Defendants pursuant to Paragraph 86 (EPA work takeover), and if the Settling Defendants reimburse EPA for such Work pursuant to Paragraph 50, the Non-Owner Settling Defendants shall notify the Settling Federal Agency in writing each time a payment is made pursuant to Paragraph 50. As soon as reasonably practicable after receipt of such notice, the United States, on behalf of the Settling Federal Agency, shall pay to the Non-Owner Settling Defendants its aliquot share of the amount that the Non-Owner Settling Defendants paid to EPA (exclusive of Interest), unless the United States has already paid Estimated Remedy Costs to the Non-Owner Settling Defendants for such Work pursuant to subparagraphs 54.b through d. If payment is made pursuant to this subparagraph 54.g., no further payment shall be required pursuant to subparagraph 54.f.

h. Any payment made by the Settling Federal Agency to the Non-Owner Settling Defendants under this Paragraph shall be made

by check or checks made payable to the designated Non-Owner Settling Defendant listed in Appendix D. The Settling Federal Agency shall send the check(s) to the designated Non-Owner Settling Defendant listed in Appendix D who will pay the Settling Federal Agency's aliquot share to Hillsborough County, except for the premium payment specified in subparagraph 54.a.

55. The Parties to this Consent Decree recognize and acknowledge that the payment obligations of the Settling Federal Agency under this Consent Decree can only be paid from appropriated funds legally available for such purpose. Nothing in this Consent Decree shall be interpreted or construed as a commitment or requirement that the Settling Federal Agency obligate or pay funds in contravention of the Anti-Deficiency Act, 31 U.S.C. § 1341, or any other applicable provision of law.

XVII. INDEMNIFICATION AND INSURANCE

56. a. The United States does not assume any liability by entering into this agreement or by virtue of any designation of Settling Defendants as EPA's authorized representatives under Section 104(e) of CERCLA. Settling Defendants shall indemnify, save and hold harmless the United States and its officials, agents, employees, contractors, subcontractors, or representatives for or from any and all claims or causes of

action arising from, or on account of, negligent or other wrongful acts or omissions of Settling Defendants, their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Consent Decree, including, but not limited to, any claims arising from any designation of Settling Defendants as EPA's authorized representatives under Section 104(e) of CERCLA. Further, the Settling Defendants agree to pay the United States all costs it incurs including, but not limited to, attorneys fees and other expenses of litigation and settlement arising from, or on account of, claims made against the United States based on negligent or other wrongful acts or omissions of Settling Defendants, their officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Consent Decree. The United States shall not be held out as a party to any contract entered into by or on behalf of Settling Defendants in carrying out activities pursuant to this Consent Decree. Neither the Settling Defendants nor any such contractor shall be considered an agent of the United States.

b. The United States shall give Settling Defendants notice pursuant to Paragraph 103 of this Consent Decree of any claim for which the United States plans to seek indemnification pursuant to Paragraph 56.a., and shall consult with Settling Defendants prior to settling such claim.

57. Settling Defendants waive all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between any one or more of Settling Defendants and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, Settling Defendants shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of Settling Defendants and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

58. No later than fifteen (15) days before commencing any on-site Work under this Consent Decree, Hillsborough County shall provide EPA a Certificate of Self-Insurance. Said Certificate

shall indicate that Hillsborough County is a public entity that is self-insured for Workers' Compensation Insurance and for general liability, including damages in tort for any damages for injury or loss of property, personal injury, or death caused by the negligent or wrongful act or omission of Hillsborough County and/or any employee of Hillsborough County while acting within his or her scope of office or employment and/or any contractor or subcontractor of Hillsborough County while performing the Work on behalf of Settling Defendants in furtherance of this Consent Decree. Hillsborough County shall resubmit such certificate of self-insurance each year on the anniversary of the entry of this Consent Decree. In addition, for the duration of this Consent Decree, Hillsborough County shall require that its contractors and subcontractors satisfy all applicable laws and regulations regarding the provision of workers' compensation insurance for all persons other than employees of Hillsborough County who perform the Work on behalf of Settling Defendants in furtherance of this Consent Decree. Settling Defendants, excluding Hillsborough County, shall secure, and shall maintain until the first anniversary of EPA's Certificate of Completion of the Remedial Action pursuant to Paragraph 45.b of Section XIV (Certification of Completion) comprehensive general liability

insurance with limits of five million dollars, combined single limit, and automobile liability insurance with limits of two million dollars, combined single limit, naming the United States an additional insured. If Hillsborough County demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains comprehensive general liability insurance with limits of five million dollars, combined single limit, and automobile liability insurance with limits of two million dollars, combined single limit, naming the United States an additional insured, or insurance covering the same risks but in a lessor amount, then with respect to that contractor or subcontractor, Hillsborough County need provide evidence of self-insurance only for that portion of the insurance described above that is not maintained by the contractor or subcontractor.

59. Settling Defendants shall secure, and shall maintain until the first anniversary of EPA's Certification of Completion of the Remedial Action pursuant to Paragraph 45.b. of Section XIV (Certification of Completion) comprehensive general liability insurance with limits of five million dollars, combined single limit, and automobile liability insurance with limits of two million dollars, combined single limit, naming the United States as an additional insured. In addition, for the duration of this

Consent Decree, Settling Defendants shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Settling Defendants in furtherance of this Consent Decree. Prior to commencement of the Work under this Consent Decree, Settling Defendants shall provide to EPA certificates of such insurance and a copy of each insurance policy. Settling Defendants shall resubmit such certificates and copies of policies each year on the anniversary of entry of this Consent Decree. If Settling Defendants demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering the same risks but in a lesser amount, then, with respect to that contractor or subcontractor, Settling Defendants need provide only that portion of the insurance described above which is not maintained by the contractor or subcontractor.

XVIII. FORCE MAJEURE

60. "Force majeure," for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of the Settling Defendants, of any entity controlled by Settling

Defendants, or of Settling Defendants' contractors, that delays or prevents the performance of any obligation under this Consent Decree despite Settling Defendants' best efforts to fulfill the obligation. The requirement that the Settling Defendants exercise their "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) following the potential force majeure event, such that the delay is minimized to the greatest extent possible. "Force Majeure" does not include financial inability to complete the Work or a failure to attain the Performance Standards.

61. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not caused by a force majeure event, the Settling Defendants shall notify orally EPA's Project Coordinator or, in his or her absence, EPA's Alternate Project Coordinator or, in the event both of EPA's designated representatives are unavailable, the Director of the Waste Management Division, EPA Region IV, within forty-eight (48) hours of when Settling Defendants first knew that the event might cause a delay. Within five (5) days thereafter, Settling Defendants shall provide in writing to EPA

an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; the Settling Defendants' rationale for attributing such delay to a force majeure event if they intend to assert such a claim; and a statement as to whether, in the opinion of the Settling Defendants, such event may cause or contribute to an endangerment to public health, welfare or the environment. The Settling Defendants shall include with any notice all available documentation supporting their claim that the delay was attributable to a force majeure. Failure to comply with the above requirements shall preclude Settling Defendants from asserting any claim of force majeure for that event for the period of time of such failure to comply, and for any additional delay caused by such failure. Settling Defendants shall be deemed to know of any circumstance of which they, any entity controlled by them, or their contractors knew or should have known.

62. If EPA agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by

the force majeure event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify the Settling Defendants in writing of its decision. If EPA agrees that the delay or anticipated delay is attributable to a force majeure event, EPA will notify the Settling Defendants in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

63. If the Settling Defendants elect to invoke the dispute resolution procedures set forth in Section XIX (Dispute Resolution), they shall do so no later than fifteen (15) days after receipt of EPA's notice in response to their assertion of force majeure. In any such proceeding, Settling Defendants shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event; that the duration of the delay or the extension sought was or will be warranted under the circumstances; that best efforts were exercised to avoid and

mitigate the effects of the delay; and that Settling Defendants complied with the requirements of Paragraphs 59 and 60, above. If Settling Defendants meet this burden, the delay or anticipated delay at issue shall be deemed a force majeure event and shall not constitute a violation by Settling Defendants of the affected obligation(s) of this Consent Decree.

XIX. DISPUTE RESOLUTION

64. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section XIX shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. However, the procedures set forth in this Section shall not apply to actions by the United States to enforce obligations of the Settling Defendants that have not been disputed in accordance with this Section.

65. Any dispute which arises under or with respect to this Consent Decree shall in the first instance be the subject of informal negotiations between the Parties to the dispute. The period for informal negotiations shall not exceed twenty (20) days from the time the dispute arises, unless the period is modified by written agreement of the Parties to the dispute. The dispute shall be considered to have arisen upon the date of

receipt of a written Notice of Dispute sent by certified mail -- return receipt requested.

66. a. In the event that the Parties cannot resolve a dispute by informal negotiations under the preceding Paragraph, then the position advanced by EPA shall be considered binding unless, within thirty (30) days after the conclusion of the informal negotiation period, Settling Defendants invoke the formal dispute resolution procedures of this Section by serving on the United States a written Statement of Position on the matter in dispute, including, but not limited to, any factual data, analysis or opinion supporting that position and any supporting documentation relied upon by the Settling Defendants. The Statement of Position shall also specify the Settling Defendants' position as to whether formal dispute resolution should proceed under Paragraph 66 or Paragraph 67.

b. Within thirty (30) days after receipt of Settling Defendants' Statement of Position, EPA will serve on Settling Defendants its Statement of Position, including, but not limited to, any factual data, analysis, or opinion supporting that position and all supporting documentation relied upon by EPA. EPA's Statement of Position shall include a statement as to whether formal dispute resolution should proceed under Paragraph

66 or 67. Within fifteen (15) days after receipt of EPA's Statement of Position, Settling Defendants may submit a reply.

c. If there is disagreement between EPA and the Settling Defendants as to whether dispute resolution should proceed under Paragraph 66 or 67, the Parties to the dispute shall follow the procedures set forth in the paragraph determined by EPA to be applicable. However, if the Settling Defendants ultimately appeal to the Court to resolve the dispute, the Court shall determine which paragraph is applicable in accordance with the standards of applicability set forth in Paragraphs 66 and 67.

67. Formal dispute resolution for disputes pertaining to the selection or adequacy of any response action and all other disputes that are accorded review based on the administrative record under applicable principles of administrative law shall be conducted pursuant to the procedures set forth in this Paragraph. For purposes of this Paragraph, the phrase the "adequacy of any response action" includes, without limitation: (1) the adequacy or appropriateness of the plans, the procedures to implement such plans, or any other items requiring approval by EPA under this Consent Decree; and (2) the adequacy of the performance of response actions taken pursuant to this Consent Decree. Nothing in this Consent Decree shall be construed to allow any dispute by

Settling Defendants regarding the validity of the ROD's provisions.

a. An administrative record of any dispute subject to resolution under this Paragraph shall be maintained by EPA and shall contain all statements of position, including supporting documentation submitted pursuant to this Section. Where appropriate, EPA may allow submission of supplemental statements of position by the Parties to the dispute; but, in the event EPA is submitting such a supplemental statement, it shall endeavor to notify the Settling Defendants of its intent to do so within twenty-one (21 days before doing so and the other Parties to the dispute shall be allowed fifteen (15) days from receipt of EPA's supplemental statement of position in which to submit a reply.

b. The Director of the Waste Management Division, EPA Region IV, will issue a final administrative decision resolving the dispute based on the administrative record described in Paragraph 66.a. This decision shall be binding upon the Settling Defendants, subject only to the right to seek judicial review pursuant to Paragraph 66.c. and d.

c. Any administrative decision made by EPA pursuant to Paragraph 66.b. shall be reviewable by this Court, provided that a motion for judicial review of the decision is filed by the

Settling Defendants with the Court and served on all Parties within twenty (20) days of receipt of EPA's decision. The motion shall include a description of the matter in dispute, the efforts made by the Parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of this Consent Decree. The United States may file a response within sixty (60) days of receipt of the Settling Defendants' motion.

d. In proceedings on any dispute governed by this Paragraph, Settling Defendants shall have the burden of demonstrating that the decision of the Waste Management Division Director is arbitrary and capricious or otherwise not in accordance with law. Judicial review of EPA's decision shall be on the administrative record compiled pursuant to Paragraph 66.a.

68. Formal dispute resolution for disputes that neither pertain to the selection or adequacy of any response action nor are otherwise accorded review based on the administrative record under applicable principles of administrative law, shall be governed by this Paragraph.

a. Following receipt of Settling Defendants' Statement of Position submitted pursuant to Paragraph 66, the Director of the Waste Management Division, EPA Region IV, will

issue a final decision resolving the dispute. The Waste Management Division Director's decision shall be binding on the Settling Defendants unless, within twenty (20) days of receipt of the decision, the Settling Defendants file with the Court and serve on the Parties a motion for judicial review of the decision setting forth the matter in dispute, the efforts made by the Parties to resolve it, the relief requested, and the schedule, if any, within which the dispute must be resolved to ensure orderly implementation of the Consent Decree. The United States may file a response within sixty (60) days of receipt of the Settling Defendants' motion.

b. Notwithstanding Paragraph L of Section I (Background) of this Consent Decree, judicial review of any dispute governed by this Paragraph shall be governed by applicable principles of law.

69. The invocation of formal dispute resolution procedures under this Section shall not extend, postpone or affect in any way any obligation of the Settling Defendants under this Consent Decree, not directly in dispute, unless EPA or the Court agrees otherwise. Stipulated penalties with respect to the disputed matter shall continue to accrue but payment shall be stayed pending resolution of the dispute as provided in Paragraph 74.

Notwithstanding the stay of payment, stipulated penalties shall accrue from the first day of noncompliance with any applicable provision of this Consent Decree. In the event that the Settling Defendants do not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XX (Stipulated Penalties).

XX. STIPULATED PENALTIES

70. Settling Defendants shall be liable for stipulated penalties in the amounts set forth in Paragraphs 71 and 72 to the United States for failure to comply with the requirements of this Consent Decree specified below, unless excused under Section XVIII (Force Majeure). "Compliance" by Settling Defendants shall include completion of the activities under this Consent Decree or any work plan or other plan approved under this Consent Decree identified below in accordance with all applicable requirements of law, this Consent Decree, the SOW, and any plans or other documents approved by EPA pursuant to this Consent Decree and within the specified time schedules established by and approved under this Consent Decree.

71. a. The following stipulated penalties shall accrue per violation per day for any noncompliance identified in Subparagraph b:

Penalty Per Violation Per Day	Period of Noncompliance
$1000	1st thru 14th day
$2500	14th thru 30th day
$5000	30th thru 45th day
$7500	45th day and beyond

b. Failure to timely or adequately comply with the following requirements of this Consent Decree:

1. Except for the payments required under Paragraph 54 of this Consent Decree, reimburse any costs required to be paid under this Consent Decree, including Past Response Costs, Interim Response Costs, and Future Response Costs;

2. Submit and if necessary, modify the RD/RA Work Plan and any and all plans and reports required thereunder;

3. Implement the approved RD/RA Work Plan;

4. Complete the Remedial Action required under this Consent Decree and the SOW. Stipulated penalties shall not accrue during the period, if any, beginning on the 21st day after the date that Settling Defendants notified EPA of the alleged force majeure event pursuant to paragraph 62, and until the date that EPA notifies the Settling Defendants of its decision whether or not the alleged delay is a force majeure event;

5. Complete the O&M required under this Consent Decree;

6. Establish financial assurance pursuant to Section XIII of this Decree (Assurance of Ability to Complete Work);

7. Satisfy the insurance requirements pursuant to Section XVII (Indemnification and Insurance);

8. Designate and hire Supervising Contractor;

9. Modify any Work Plan(s) for further response actions pursuant to Sections VI Paragraph 13(a) (Modification of the SOW or Related Work Plans) and VII Paragraph 18 (Settling Defendants' Obligation to Perform Further Response Actions).

72. The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate reports pursuant to Section X (Reporting Requirements):

Penalty Per Violation Per Day	Period of Noncompliance
$1250	1st day and beyond

73. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 86 of Section XXI (Covenants by Plaintiff), Settling Defendants shall be liable for a stipulated penalty:

i) In the amount of $1,000,000.00, if they fail to complete a material or substantial portion of the Work or if they are seriously deficient or late in their performance of the Work, or if they cause an endangerment to human health or the environment. For purposes of this subparagraph, the phrase "material portion of the Work" means essential to the effective completion of the remedy mandated by the ROD and the phrase "substantial portion of the Work" means greater than fifty percent (50%) of the Work as determined by EPA; or

ii) In the amount of $500,000.00, if they fail to complete twenty percent (20%) to fifty percent (50%) of the Work as determined by EPA; or

iii) in the amount of $100,000.00, if they fail to complete less than twenty percent (20%) of the Work as determined by EPA.

74. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (1) with respect to a deficient submission under Section XI (EPA Approval of Plans

and Other Submissions), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Settling Defendants of any deficiency; (2) with respect to a decision by the Director of the Waste Management Division, EPA Region IV, under Paragraph 66.b. or 67.a. of Section XIX (Dispute Resolution), during the period, if any, beginning on the 21st day after the date that Settling Defendants' reply to EPA's Statement of Position is received until the date that the Director issues a final decision regarding such dispute adverse to the Settling Defendants; or (3) with respect to judicial review by this Court of any dispute under Section XIX (Dispute Resolution), during the period, if any, beginning on the 31st day after the Court's receipt of the final submission regarding the dispute until the date that the Court issues a final decision regarding such dispute adverse to the Settling Defendants. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Consent Decree.

75. Following EPA's determination that Settling Defendants have failed to comply with a requirement of this Consent Decree, EPA may give Settling Defendants written notification of the same and describe the noncompliance. EPA may send the Settling

Defendants a written demand for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified the Settling Defendants of a violation.

76. All penalties accruing under this Section shall be due and payable to the United States within sixty (60) days of the Settling Defendants' receipt from EPA of a demand for payment of the penalties, unless Settling Defendants invoke the Dispute Resolution procedures under Section XIX (Dispute Resolution). All payments to the United States under this Section shall be paid by certified or cashier's check(s) made payable to "EPA Hazardous Substances Superfund," shall be mailed to:

U. S. Environmental Protection Agency
Region IV
Superfund Accounting
P.O. Box 100143
Atlanta, Georgia 30384
ATTENTION: Collection Officer for Superfund

and shall indicate that the payment is for stipulated penalties, and shall reference the EPA Region and Site/Spill ID #0408, the DOJ Case Number 90-11-3-1614, and the name and address of the party making payment. Copies of check(s) paid pursuant to this Section, and any accompanying transmittal letter(s), shall be

sent to the United States as provided in Section XXVI (Notices and Submissions), and to the United States Environmental Protection Agency, Region IV, Waste Programs Branch, Waste Management Division, Attention: Greg Armstrong, 61 Forsyth Street, SW, Atlanta, Georgia 30303.

77. The payment of penalties shall not alter in any way Settling Defendants' obligation to complete the performance of the Work required under this Consent Decree.

78. Penalties shall continue to accrue as provided in Paragraph 73 during any dispute resolution period, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of EPA that is not appealed to this Court, accrued penalties determined to be owing shall be paid to EPA within sixty (60) days of the agreement or the receipt of EPA's decision or order;

b. If the dispute is appealed to this Court and the United States prevails in whole or in part, Settling Defendants shall pay all accrued penalties determined by the Court to be owed to EPA within sixty (60) days of receipt of the Court's decision or order, except as provided in Subparagraph c below;

c. If the District Court's decision is appealed by any Party, Settling Defendants shall pay all accrued penalties determined by the District Court to be owing to the United States into an interest-bearing escrow account within sixty (60) days of receipt of the Court's decision or order. Penalties shall be paid into this account as they continue to accrue, at least every sixty (60) days. Within fifteen (15) days of receipt of the final appellate court decision, the escrow agent shall pay the balance of the account to EPA or to Settling Defendants to the extent that either prevails.

79. a. If Settling Defendants fail to pay stipulated penalties when due, the United States may institute proceedings to collect the penalties, as well as interest. Settling Defendants shall pay interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 75.

b. Nothing in this Consent Decree shall be construed as prohibiting, altering, or in any way limiting the ability of the United States to seek any other remedies or sanctions available by virtue of Settling Defendants' violation of this Decree or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section 122(l) of

CERCLA. Provided, however, that the United States shall not seek civil penalties pursuant to Section 122(l) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of a willful violation of the Consent Decree.

80. Notwithstanding any other provision of this Section, the United States may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Consent Decree.

XXI. COVENANTS BY PLAINTIFF

81. In consideration of the actions that will be performed and the payments that will be made by the Settling Defendants and the payments that will be made by the Settling Federal Agency under the terms of the Consent Decree, and except as specifically provided in Paragraphs 82, 83, and 85 of this Section, the United States covenants not to sue or to take administrative action against Settling Defendants and EPA covenants not to take administrative action against the Settling Federal Agency pursuant to Sections 106 and 107(a) of CERCLA relating to the Site (hereinafter Covenants). Except with respect to future liability, the United States' covenants not to sue or take administrative action against the Settling Defendants shall take effect upon the receipt by EPA of the payments required by

Paragraph 49 of Section XVI (Reimbursement of Response Costs), and EPA's covenants not to take administrative action against the Settling Federal Agency shall take effect upon receipt by EPA of the payment required by Paragraph 53. With respect to future liability, these covenants not to sue and covenants not to take administrative action shall take effect upon Certification of Completion of Remedial Action by EPA pursuant to Paragraph 45.b of Section XIV (Certification of Completion). The United States' covenants are conditioned upon the satisfactory performance by the Settling Defendants, and EPA's covenants not to take administrative action against the Settling Federal Agency are conditioned on the satisfactory performance by the Settling Federal Agency of its obligations under this Consent Decree. The United States' covenants and EPA's covenants not to take administrative action against the Settling Federal Agency extend only to the Settling Defendants and the Settling Federal Agency and do not extend to any other person.

82. United States' Pre-certification reservations. Notwithstanding any other provision of this Consent Decree, the United States reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking

to compel Settling Defendants, and EPA reserves the right to issue an administrative order seeking to compel the Settling Federal Agency, (1) to perform further response actions relating to the Site or (2) to reimburse the United States for additional costs of response relating to the Site if, prior to Certification of Completion of the Remedial Action:

(i) conditions at the Site, previously unknown to EPA, are discovered, or

(ii) information, previously unknown to EPA, is received, in whole or in part,

and these previously unknown conditions or information, together with any other relevant information, indicate that the Remedial Action is not protective of human health or the environment.

83. United States' Post-certification reservations. Notwithstanding any other provision of this Consent Decree, the United States reserves, and this Consent Decree is without prejudice to, the right to institute proceedings in this action or in a new action, or to issue an administrative order seeking to compel Settling Defendants, and EPA reserves the right to issue an administrative order seeking to compel the Settling Federal Agency, (1) to perform further response actions relating to the Site or (2) to reimburse the United States for additional

costs of response relating to the Site if, subsequent to Certification of Completion of the Remedial Action:

(i) conditions at the Site, previously unknown to EPA, are discovered, or

(ii) information, previously unknown to EPA, is received,

in whole or in part,

and these previously unknown conditions or this information together with other relevant information indicate that the Remedial Action is not protective of human health or the environment.

84. For purposes of Paragraph 82, the information and the conditions known to EPA shall include only that information and those conditions known to EPA as of the date the ROD was signed and set forth in the ROD and the administrative record supporting the ROD. For purposes of Paragraph 83, the information and the conditions known to EPA shall include only that information and those conditions known to EPA as of the date of Certification of Completion of the Remedial Action and set forth in the ROD, the administrative record supporting the ROD, the post-ROD administrative record, or in any information received by EPA

pursuant to the requirements of this Consent Decree prior to Certification of Completion of the Remedial Action.

85. General reservations of rights. The United States' covenants set forth above do not pertain to any matters other than those expressly specified in Paragraph 81. The United States reserves, and this Consent Decree is without prejudice to, all rights against Settling Defendants; and EPA and the federal natural resources trustees reserve, and this Consent Decree is without prejudice to, all rights against the Settling Federal Agency, with respect to all other matters, including but not limited to, the following:

(1) claims based on a failure by Settling Defendants or the Settling Federal Agency to meet a requirement of this Consent Decree;

(2) liability arising from the past, present, or future disposal, release, or threat of release of Waste Materials outside of the Site;

(3) liability for future disposal of Waste Material at the Site, other than as provided in the ROD, the Work, or otherwise ordered by EPA;

(4) liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;

(5) criminal liability;

(6) liability for violations of federal or state law which occur during or after implementation of the Remedial Action; and

(7) liability, prior to Certification of Completion of the Remedial Action, for additional response actions that EPA determines are necessary to achieve Performance Standards, but that cannot be required pursuant to Paragraph 13 (Modification of the SOW or Related Work Plans) or Paragraph 18; and

(8) previously incurred costs of response above the amounts reimbursed pursuant to Paragraph 49.

86. Work Takeover In the event EPA determines that Settling Defendants have ceased implementation of any portion of the Work, are seriously or repeatedly deficient or late in their performance of the Work, or are implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portions of the Work as EPA determines necessary. Settling Defendants may invoke the procedures set forth in Section XIX (Dispute Resolution), Paragraph 66, to dispute EPA's

determination that takeover of the Work is warranted under this Paragraph. Costs incurred by the United States in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Settling Defendants shall pay pursuant to Section XVI (Reimbursement of Response Costs).

87. Notwithstanding any other provision of this Consent Decree, the United States retains all authority and reserves all rights to take any and all response actions authorized by law.

XXII. COVENANTS BY SETTLING DEFENDANTS

88. Covenant Not to Sue. Subject to the reservations in Paragraph 89, Settling Defendants hereby covenant not to sue and agree not to assert any claims or causes of action against the United States with respect to the Site, or this Consent Decree, including, but not limited to:,

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund (established pursuant to the Internal Revenue Code, 26 U.S.C. § 9507) through CERCLA Sections 106(b)(2), 107, 111, 112, 113 or any other provision of law;

b. any claims against the United States, including any department, agency or instrumentality of the United States under CERCLA Sections 107 or 113 related to the Site, or

c. any claims arising out of response activities at the Site, including claims based on EPA's selection of response actions, oversight of response activities, or approval of plans for such activities.

89. The Settling Defendants reserve, and this Consent Decree is without prejudice to, claims against the United States, subject to the provisions of Chapter 171 of Title 28 of the United States Code, for money damages for injury or loss of property or personal injury or death caused by the negligent or wrongful act or omission of any employee of the United States while acting within the scope of his office or employment under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred. However, any such claim shall not include a claim for any damages caused, in whole or in part, by the act or omission of any person, including any contractor, who is not a federal employee as that term is defined in 28 U.S.C. § 2671; nor shall any such claim include a claim based on EPA's selection of response actions, or the oversight or approval of the Settling Defendants' plans or activities. The foregoing applies only to claims which are brought pursuant to

any statute other than CERCLA and for which the waiver of sovereign immunity is found in a statute other than CERCLA.

90. Nothing in this Consent Decree shall be deemed to constitute preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

91. Settling Defendants agree to waive all claims or causes of action that they may have for all matters relating to the Site, including for contribution, against the following persons:

a. any person (i) whose liability to Settling Defendants with respect to the Site is based solely on CERCLA § 107(a)(3) or (4), (ii) who arranged for the disposal, treatment, or transport for disposal or treatment, or accepted for transport for disposal or treatment, of only Municipal Solid Waste or Sewage Sludge owned by such person, and (iii) who is a Small Business, a Small Non-profit Organization, or the Owner, Operator, or Lessee of Residential Property; and

b. any person (i) whose liability to Settling Defendants with respect to the Site is based solely on CERCLA § 107(a)(3) or (4), and (ii) who arranged for the disposal, treatment, or transport for disposal or treatment, or accepted for transport for disposal or treatment, of fifty-five (55) gallons or less of

liquid materials containing hazardous substances, or 100 pounds or less of solid materials containing hazardous substances, except where EPA has determined that such material contributed or could contribute significantly to the costs of response at the Site.

XXIII. EFFECT OF SETTLEMENT; CONTRIBUTION PROTECTION

92. Nothing in this Consent Decree shall be construed to create any rights in, or grant any cause of action to, any person not a Party to this Consent Decree. The preceding sentence shall not be construed to waive or nullify any rights that any person not a signatory to this decree may have under applicable law. Each of the Parties expressly reserves any and all rights (including, but not limited to, any right to contribution), defenses, claims, demands, and causes of action which each Party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a Party hereto.

93. The Parties agree, and by entering this Consent Decree this Court finds, that the Settling Defendants and the Settling Federal Agency are entitled, as of the effective date of this Consent Decree, to protection from contribution actions or claims as provided by CERCLA Section 113(f)(2), 42 U.S.C. § 9613(f)(2)

for matters addressed in this Consent Decree. Matters addressed in this Consent Decree, for purposes of Section 113(f)(2), 42 U.S.C. § 9613(f)(2), except as reserved in Paragraph 82, 83 and 85, are:

a. All Past and Future Response Costs incurred or to be incurred by the United States including without limitation any such costs for which the United States has been or will be reimbursed by any other person;

b. All response actions performed or to be performed in accordance with the ROD and all Work performed or required to be performed by the Settling Defendants; and

c. All costs relating to such response actions incurred or to be incurred by the Settling Defendants and the United States.

94. The Settling Defendants agree that with respect to any suit or claim for contribution brought by them for matters related to this Consent Decree they will notify the United States in writing no later than sixty (60) days prior to the initiation of such suit or claim.

95. The Settling Defendants also agree that with respect to any suit or claim for contribution brought against them for matters related to this Consent Decree they shall notify in writing the United States within twenty (20) days of service of

the complaint on them. In addition, Settling Defendants shall notify the United States within twenty (20) days of service or receipt of any Motion for Summary Judgment; and within twenty (20) days of receipt of any order from a court setting a case for trial.

96. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, recovery of response costs, or other appropriate relief relating to the Site, Settling Defendants shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other such defenses based upon any contention that the claims raised by the United States in any such subsequent proceeding were or should have been brought in the instant case; provided, however, that nothing in this Paragraph affects the enforceability of the covenants set forth in Section XXI (Covenants by Plaintiff).

XXIV. ACCESS TO INFORMATION

97. Settling Defendants shall provide to EPA, within ten (10) days of receipt of EPA's written request sent by certified mail -- return receipt requested , copies of all documents and information within their possession or control or that of their

contractors or agents relating to activities at the Site or to the implementation of this Consent Decree, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work, or make all such documents and information available for inspection during normal working hours no later than ten (10) days following receipt of any such written request in the event that any requested materials cannot be located and copied within the aforesaid ten (10) day period. Settling Defendants shall also make available to EPA, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work during normal working hours no later than ten (10) days following Settling Defendants receipt of EPA's written request for access to such persons for such purposes.

98. a. Settling Defendants may assert business confidentiality claims covering part or all of the documents or information submitted to Plaintiff under this Consent Decree to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b).

Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when they are submitted to EPA, or if EPA has notified Settling Defendants that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA, the public may be given access to such documents or information without further notice to Settling Defendants.

b. The Settling Defendants may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Settling Defendants assert such a privilege in lieu of providing documents, they shall provide the Plaintiff with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the contents of the document, record, or information: and (6) the privilege asserted by Settling Defendants. However, no documents, reports or other information created or generated pursuant to the requirements of

the Consent Decree shall be withheld on the grounds that they are privileged.

99. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site that is within the possession or control of Settling Defendants, their successors, employees, contractor, and any other form of agents or assigns.

XXV. RETENTION OF RECORDS

100. Until 10 years after the Settling Defendants' receipt of EPA's notification pursuant to Paragraph 46.b of Section XIV (Certification of Completion of the Work), each Settling Defendant shall preserve and retain all records and documents now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or liability of any person for response actions conducted and to be conducted at the Site, regardless of any corporate retention policy to the contrary. Until 10 years after the Settling Defendants' receipt of EPA's notification pursuant to Paragraph 46.b of Section XIV (Certification of Completion), Settling Defendants shall also instruct their contractors and agents to

preserve all documents, records, and information of whatever kind, nature or description relating to the performance of the Work.

101. At the conclusion of this document retention period, each Settling Defendant shall notify the United States at least ninety (90) days prior to the destruction of any such records or documents, and, upon request by the United States, each Settling Defendant shall deliver any such records or documents to EPA. The Settling Defendants may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If any Settling Defendant asserts such a privilege, it shall provide the Plaintiff with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by any Settling Defendant. However, no documents, reports or other information created or generated pursuant to compliance with the requirements of the Consent Decree shall be withheld on the grounds that they are privileged.

102. Each Settling Defendant hereby certifies individually that, to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information relating to its potential liability regarding the Site since notification of potential liability by the United States or the State or the filing of suit against it regarding the Site and that it has fully complied with any and all EPA requests for information pursuant to Section 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. 6927. In addition, the Settling Federal Agency hereby certifies that (1) it has complied, and will continue to comply, with all applicable federal record retention laws, regulations, and policies; (2) to the best of its knowledge and belief, after reasonable inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information relating to its potential liability regarding the Site since notification of potential liability by EPA; and (3) it has fully complied with any and all EPA requests for information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) & 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 927.

XXVI. NOTICES AND SUBMISSIONS

103. Whenever, under the terms of this Consent Decree, written notice is required to be given or a report or other document is required to be sent by one Party to another, it shall be directed to the individuals at the addresses specified below, unless those individuals or their successors give notice of a change to the other Parties in writing. All notices and submissions shall be considered effective upon receipt, unless otherwise provided. Written notice as specified herein shall constitute complete satisfaction of any written notice requirement of the Consent Decree with respect to the United States, EPA, the Settling Federal Agency, the State, and the Settling Defendants, respectively.

As to the United States:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611

Re: DJ #90-11-3-1614

Chief, Environmental Defense Section
United States Department of Justice
Environment And Natural Resources Division
P.O. Box 23986
Washington, DC 20026-3986

Re: DJ #90-11-3-1448

As to EPA:

Richard D. Green
Acting Director, Waste Management Division
United States Environmental Protection Agency
Region 4
61 Forsyth Street, SW
Atlanta, GA 30303

David A. Lloyd
Remedial Project Manager
United States Environmental Protection Agency
Region 4
61 Forsyth Street. SW
Atlanta, GA 30303

As to the Settling Defendants:

Daryl H. Smith
Director, Department of Solid Waste
Hillsborough County
General Delivery
Tampa, Florida

As to the Non-Owner Settling Defendants:
See Appendix D

XXVII. EFFECTIVE DATE

104. The effective date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court, except as otherwise provided herein.

XXVIII. RETENTION OF JURISDICTION

105. This Court retains jurisdiction over both the subject matter of this Consent Decree and the Settling Defendants for the duration of the performance of the terms and provisions of this Consent Decree for the purpose of enabling any of the Parties to apply to the Court at any time for such further order, direction, and relief as may be necessary or appropriate for the construction or modification of this Consent Decree, or to effectuate or enforce compliance with its terms, or to resolve disputes in accordance with Section XIX (Dispute Resolution) hereof.

XXIX. APPENDICES

106. The following appendices are attached to and incorporated into this Consent Decree:

"Appendix A" is the ROD.

"Appendix B" is the SOW.

"Appendix C" is a map of the Site.

"Appendix D" is a list of Non-Owner Settling Defendants. "Appendix E" is the Notice of Entry of this Consent Decree to be recorded in the Clerk's Office, Hillsborough County, State of Florida, as provided for on page 18 supra.

XXX. COMMUNITY RELATIONS

107. Settling Defendants shall propose to EPA their participation in the community relations plan to be developed by EPA. EPA will determine the appropriate role for the Settling Defendants under the Plan. Settling Defendants shall also cooperate with EPA in providing information regarding the Work to the public. As requested by EPA, Settling Defendants shall participate in the preparation of such information for dissemination to the public and in public meetings which may be held or sponsored by EPA to explain activities at or relating to the Site.

XXXI. MODIFICATION

108. Schedules specified in this Consent Decree for completion of the Work may be modified by agreement of EPA and the Settling Defendants. All such modifications shall be made in writing.

109. Except as provided in Paragraph 13 ("Modification of the SOW or related Work Plans"), no material modifications shall be made to the SOW without written notification to and written approval of the United States, Settling Defendants, and the Court. Prior to providing its approval to any modification, the United States will provide the State with a reasonable opportunity to review and comment on the proposed modification. Modifications to the SOW that do not materially alter that document may be made by written agreement between EPA and the Settling Defendants, after providing the State with a reasonable opportunity to review and comment on the proposed modification.

110. Nothing in this Decree shall be deemed to alter the Court's power to enforce, supervise or approve modifications to this Consent Decree.

XXXII. LODGING AND OPPORTUNITY FOR PUBLIC COMMENT

111. This Consent Decree shall be lodged with the Court for a period of not less than thirty (30) days for public notice and comment in accordance with Section 122(d)(2) of CERCLA, 42 U.S.C. § 9622(d)(2), and 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations which indicate that the Consent Decree is inappropriate,

improper, or inadequate. Settling Defendants consent to the entry of this Consent Decree without further notice.

112. If for any reason the Court should decline to approve this Consent Decree in the form presented, this agreement is voidable at the sole discretion of any Party and the terms of the agreement may not be used as evidence in any litigation between the Parties.

XXXIII. SIGNATORIES/SERVICE

113. Each undersigned representative of a Settling Defendant to this Consent Decree and the Chief of the Environmental Enforcement Section of the Environment and Natural Resources Division of the Department of Justice certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind such Party to this document,

114. Each Settling Defendant hereby agrees not to oppose entry of this Consent Decree by this Court or to challenge any provision of this Consent Decree unless the United States has notified the Settling Defendants in writing that it no longer supports entry of the Consent Decree.

115. Each Settling Defendant shall identify, on the attached signature page, the name, address and telephone number

of an agent who is authorized to accept service of process by mail on behalf of that Party with respect to all matters arising under or relating to this Consent Decree. Settling Defendants hereby agree to accept service in that manner and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable local rules of this Court, including, but not limited to, service of a summons.

SO ORDERED THIS 11th DAY OF May, 1998.

United States District Judge

FILED
98 MAY 13 PM 1:12
CLERK, U.S. DISTRICT COURT
MIDDLE DISTRICT OF FLORIDA
TAMPA, FLORIDA

THE UNDERSIGNED PARTIES enter into this Consent Decree in the matter of United States v. Hillsborough County, Florida et al., relating to the Taylor Road Landfill Superfund Site.

FOR THE UNITED STATES OF AMERICA

Date: 1-7-98

Joel M. Gross
Chief
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Washington, D.C. 20530

Cheryl L. Smout
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611
(202) 514-5466

Date: 1-16-98

Melaine A. Williams
Environmental Defense Section
Environment & Natural Resources Division
U.S. Department of Justice
P.O. Box 23986
Washington, DC 20026-3986
(202) 514-0375

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida et al., relating to the Taylor Road Landfill Superfund Site.

FOR THE UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

Date: 9/25/97

Richard D. Green, Director
Waste Management Division
U.S. Environmental Protection
Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

David S. Engle
Assistant Regional Counsel
U.S. Environmental Protection
Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida, et al., relating to the Taylor Road Landfill Superfund Site.

HILLSBOROUGH COUNTY, FLORIDA

By: _____ Attested: _____
Chairman, Board of County Commissioners Deputy Clerk

Date: 8-20-97

Agent Authorized to Accept Services on Behalf of Above-signed Party:

Name: Emeline Acton, Esquire

Title: Hillsborough County Attorney
Address: 601 East Kennedy Blvd., 27th floor
Tampa, FL 33602

BOARD OF COUNTY COMMISSIONERS
HILLSBOROUGH COUNTY FLORIDA
DOCUMENT No. 97-1624

APPROVED BY COUNTY ATTORNEY
BY _____
Approved As To Form And
Legal Sufficiency

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida et al., relating to the Taylor Rd Landfill Superfund Site.

For: WASTE MANAGEMENT, INC., ACTING ON BEHALF OF ITS SUBSIDIARIES AND PREDECESSORS

Date: 10/3/97

Gerald A. Leone
Manager, Closed Sites-Southeast
Waste Management, Inc.
1765 The Exchange, Suite 500
Atlanta, GA 30339

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Herb Getz
Waste Management, Inc.

Title: General Counsel
Address: 3003 Butterfield RD, Oak Brook, IL 60523-1100
Tel. Number: 630/572-8800

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida et al., relating to the Taylor Road Landfill Superfund Site.

For: University of South Florida

Date: 11-6-97

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Henry W. Lavandera

Title: Associate General Counsel
Address: 4202 E. Fowler Ave., ADM 250
Tel. Number: 813/974-2131

with copies to

Susan K.S. Scarcelli
Salem, Saxon & Nielsen
One Barnett Plaza, Suite 3200
101 E. Kennedy Boulevard
Tampa, Florida 33602
Fax: 813-221-8811

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida et al., relating to the Taylor Road Landfill Superfund Site.

For:
UNIVERSITY COMMUNITY HOSPITAL

Date: 11/26/97

BY: Norman V. Stein
NORMAN V. STEIN, PRESIDENT

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Norman V. Stein

Title: President/CEO
Address: 3100 E. Fletcher Ave Tampa, FL 33613
Tel. Number: 813-972-9703

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida et al., relating to the Taylor Road Landfill Superfund Site.

For:

Date: 11/24/97

V. P.

FLEETWOOD ENTERPRISES, INC., acting on behalf of its Subsidiaries and their Predecessors

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: William H. Lear

Title: Vice President

Address: 3125 Myers St., Riverside, CA 92503

Tel. Number: 909 351-3744

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida et al., relating to the Taylor Road Landfill Superfund Site.

For: Laidlaw Waste Systems, Inc.

Date: 9/22/97

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: James M. Porter

Title: Attorney

Address: Holland & Knight LLP, 701 Brickell Ave,, Suite 3000
Miami, FL 33131

Tel. Number: 305-789-7747

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida et al., relating to the Taylor Road Landfill Superfund Site.

For: City of Tampa

Date: Nov. 5, 1997

ATTEST:

CITY CLERK

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Scott Steady

Title: Attorney

Address: P.O. Box 380 Tampa, FL 33601

Tel. Number: 813-221-2626

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida et al., relating to the Taylor Road Landfill Superfund Site.

For: CITY OF TEMPLE TERRACE, FLORIDA

Date: 9-23-97

Robert F. Woodard, Mayor
City of Temple Terrace
PO Box 16930
Temple Terrace, FL 33687

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: KATHERINE CASTOR

Title: ASSISTANT CITY ATTORNEY
Address: P.O. BOX 3310, TAMPA FL 33601
Tel. Number: 813-225-3020

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida et al., relating to the Taylor Road Landfill Superfund Site.

For: GTE FLORIDA INCORPORATED

Date: 10-28-97

Peter A Daks
PETER A. DAKS, PRESIDENT

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: ANTHONY P. GILLMAN

Title: ASSOCIATE GENERAL COUNSEL
Address: P. O. Box 110, FLTC0007, TAMPA, FL 33601
Tel. Number: 813-483-2615

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida, et al., relating to the Taylor Road Landfill Superfund Site.

THE DAVID J. JOSEPH COMPANY

By: Larry D Lewis Date: 8/25/97

Name: Larry D. Lewis

Title: Assistant Secretary

Address: P. O. Box 1078, Cincinnati, OH 45201

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Larry D. Lewis

Title: Assistant Secretary

Address: P. O. Box 1078, Cincinnati, OH 45201

Tel. Number: (513) 345-4312

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida et al., relating to the Taylor Road Landfill Superfund Site.

For: City of Plant City.

Date: 10/16/97

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Kenneth W. Buchman

Title: City Attorney
Address: 212 N. Collins Street, Plant City, FL 33566
Tel. Number: 813-752-3172

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida et al., relating to the Taylor Road Landfill Superfund Site.

For: J. C. Penney Company, Inc.

Date: _____ William H. Bailey, Jr.

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Frances V. Valdez

Title: Regulatory / Environmental Attorney
Address: J.C. Penney Company, Inc., P.O. Box 10001, Dallas, TX 75301
Tel. Number: (972) 431-1243
(972) 431-1134 fax

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida et al., relating to the Taylor Road Landfill Superfund Site.

For: FLORIDA COCA-COLA BOTTLING COMPANY

Date: September 26, 1997

Lowry F. Kline
Senior Vice President, General Counsel
and Secretary

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Brian E. Humphrey

Title: Attorney
Address: Miller & Martin, Suite 1000 Volunteer Bldg., 832 Georgia Ave., Chattanooga, TN 37402
Tel. Number: 423-785-8309

THE UNDERSIGNED PARTY enters into this Consent Decree in the matter of United States v. Hillsborough County, Florida et al., relating to the Taylor Road Landfill Superfund Site.

For: Sears, Roebuck and Co.

Date: November 5, 1997

Richard J. Barnett

Richard J. Barnett
Vice President, Law - Automotive
3333 Beverly Road
Hoffman Estates, IL 60179

Agent Authorized to Accept Service on Behalf of Above-signed Party:

Name: Frederick J. Kulevich

Title: Special Counsel - Mall Stores
Address: 3333 Beverly Road, Hoffman Estates, Illinois 60179
Tel. Number: 847-286-5310

3438

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IV

IN THE MATTER OF:	)	
Taylor Road Landfill Site Hillsborough County, Florida	)	Docket No. 97-02-C
	)	Proceeding Under Section 122(g)(4) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §9622(g)(4)
See Attachment A for List of Respondents	)	

04-97-0309

FLD 980494959

ADMINISTRATIVE ORDER ON CONSENT

I. JURISDICTION

This Administrative Order on Consent (Consent Order) is issued pursuant to the authority vested in the President of the United States by Section 122(g)(4) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (CERCLA), Pub. L. No. 99-499, 42 U.S.C. § 9622(g)(4), to reach settlements in actions under Sections 106(a) and 107(a) of CERCLA, 42 U.S.C. §§ 9606(a) and 9607(a). The authority vested in the President has been delegated to the Administrator of the United States Environmental Protection Agency (EPA) by Executive Order 12580, 52 Fed. Reg. 2923 (January 29, 1987) and delegated to the Regional Administrators of the EPA by EPA Delegation No. 14-14-E (issued September 13, 1987, amended by memorandum June 17, 1988), and re-delegated to the Director, Waste Management Division, EPA, Region IV by EPA Delegation No. 8-14-D, and further re-delegated to the Chief of the Waste Programs Branch (November 8, 1994).

This Consent Order is entered into voluntarily by and between EPA and those settling de minimis PRPs (Respondents) who have signed this Consent Order and are listed in Attachment A to this Consent Order. Respondents agree to undertake all actions required by the terms and conditions of this Consent Order. Respondents further consent to and will not contest EPA's jurisdiction to issue this Consent Order or to implement or enforce its terms.

EPA and the Respondents agree that the actions undertaken by the Respondents in accordance with this Consent Order do not constitute an admission of any liability by any Respondent. The Respondents do not admit and retain the right to controvert in any subsequent proceedings, other than proceedings to implement or enforce this Consent Order, the validity of the Statement of Facts or Determinations contained in this Consent Order.

II. STATEMENT OF PURPOSE

By entering into this Consent Order, the Mutual Objectives of the Parties are:

a. to reach a final settlement among the Parties with respect to the Site pursuant to Section 122(g) of CERCLA, 42 U.S.C. § 9622(g), that allows Respondents to make a cash payment, including a premium, to resolve their alleged civil liability under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607, for injunctive relief with regard to the Site and for response costs incurred and to be incurred at or in connection with the Site, thereby reducing litigation relating to the Site;

b. to simplify any remaining administrative and judicial enforcement activities concerning the Site by eliminating a substantial number of potentially responsible parties from further involvement at the Site; and

c. to obtain settlement with Respondents for their fair share of response costs incurred and to be incurred at or in connection with the Site by the EPA Hazardous Substance Superfund, and by private parties, to provide for contribution protection for Respondents with regard to the Site pursuant to Sections 113(f)(2) and 122(g)(5) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(g)(5).

III. DEFINITIONS

a. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9601, et seq.

b. "Consent Order" or "Order" shall mean this Administrative Order on Consent and all attachments attached hereto. In the event of conflict between this Order and any attachment, the Order shall control.

c. "Day" shall mean a calendar day. In computing any period of time under this Consent Order, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next working day.

d. "EPA" shall mean the United States Environmental Protection Agency and any successor departments, agencies or instrumentalities.

e. "EPA Hazardous Substance Superfund" shall mean the Hazardous Substance Superfund established by the Internal Revenue

Code, 26 U.S.C. § 9507.

f. "Interest" shall mean interest at the current rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a).

g. "Matters Addressed" shall mean all response actions which have been taken at the Site, or may in the future be undertaken at the Site, including, but not limited to, remedial actions required by EPA's Record of Decision, as authorized pursuant to CERCLA, 42 U.S.C. § 9601 et seq., and all costs incurred or to be incurred at the Site.

h. "Paragraph" shall mean a portion of this Consent Order identified by an arabic numeral.

i. "Parties" shall mean EPA and the Respondents.

j. "Respondents" shall mean those parties identified in Attachment A.

k. "Response costs" shall mean all costs of "response" as that term is defined by Section 101(25) of CERCLA, 42 U.S.C. § 9601(25).

l. "Record of Decision" or "ROD" shall mean the EPA Record of Decision relating to the Site signed on September 29, 1995, by the Regional Administrator, EPA Region VI, or his delegate, and all attachments thereto.

m. "Section" shall mean a portion of this Consent Order identified by a roman numeral.

n. "Site" shall mean the Taylor Road Landfill, and the areal extent of groundwater contamination therefrom. The Taylor Road

Landfill is located on county-owned property, approximately seven miles east of Tampa, Florida, in the Seffner-Thonotosassa area in Hillsborough County (County). Interstate 4 borders the property on the South with Pruett Road approximately 1500 feet to the North. Mango Road (State Road 579) borders the property to the West and Taylor Road borders the property to the East.

o. "United States" shall mean the United States of America, its departments, agencies and instrumentalities.

IV. STATEMENT OF FACTS

1. The Taylor Road Landfill Superfund Site is located on property owned by Hillsborough County, approximately seven miles east of Tampa, Florida, in the Seffner-Thonotosassa area. Interstate 4 borders the property on the South with Pruett Road approximately 1500 feet to the North. Mango Road (State Road 579) borders the property to the West and Taylor Road borders the property to the East.

2. The County property is 252 acres in size and contains three closed landfills. The 42-acre Taylor Road Landfill is located east of the 10.6-acre Florida Department of Transportation (FDOT) Borrow Pit Landfill, and southeast of the 64-acre Hillsborough Heights Landfill. The three landfills are located near many private residences, schools, and various commercial and industrial establishments.

3. The Site is located in an area characterized by karst geology, typical of most of Hillsborough County. The Site geology is recognized as a limestone ridge, covered by sand and clay.

Underlying the sand is a mixture of discontinuous clay and sand layers, all of which are above the Tampa Limestone which is characterized as highly weathered, fractured, and cavernous. The Site overlies the Floridan Aquifer, a source of water for much of the southeastern United States and is the principal source of potable water for the County, including a number of domestic wells within one mile of the Site.

4. On May 7, 1976, the Hillsborough County Department of Solid Waste was issued a construction permit by the Florida Department of Environmental Regulation (FDER) to construct the Taylor Road Landfill, then known as the New Northeast Sanitary Landfill. It was comprised of 42 acres of agricultural land to be operated as a trench landfill.

5. From May 1976 through February 1980, the County operated the Taylor Road Landfill which was utilized for the disposal of municipal, commercial, and industrial refuse. A total of 620,000 tons of waste is estimated to have been deposited in the Taylor Road Landfill, including an unknown quantity of hazardous substances.

6. In February 1980, the Taylor Road Landfill reached its capacity and landfill operation were moved to an adjacent 10.6 acre parcel known as the FDOT Borrow Pit Expansion (the Borrow Pit) on the west side of the Taylor Road Landfill.

7. On October 9, 1980, EPA filed a lawsuit against Hillsborough County in federal district court pursuant to Section 7003 of the Resource Conservation and Recovery Act (RCRA) alleging that conditions at the Taylor Road Landfill constituted an imminent

and substantial endangerment of public health and the environment. The complaint was amended twice to add violations of the Safe Drinking Water Act and CERCLA.

8. In October 1981, the Taylor Road Landfill was proposed for listing on the National Priorities List (NPL), as defined in Section 105 of CERCLA, as amended, 42 U.S.C. § 9605. In October 1983, the Site was officially listed on the NPL thereby requiring that the long term threat posed by the Site be addressed under CERCLA.

9. In October 1983, a Consent Decree was entered into by EPA, FDER, and the County settling the aforesaid lawsuit, whereby the County agreed to perform a maintenance and environmental monitoring program, to maintain methane gas control, and to construct a specified cap, cover, and drainage ditch for all three landfill areas. Also, the County agreed to extend water lines to serve the residents in a specified area within the plume of groundwater contamination generated by the Site.

10. On February 1, 1993, EPA entered into an Administrative Order on Consent with approximately 19 potentially responsible parties (PRPs), whereby the PRPs agreed to perform a Remedial Investigation/Feasibility Study (RI/FS) at the Site pursuant to CERCLA.

11. The RI/FS was completed in June 1995. Results of the RI/FS indicate that a plume carrying chemical constituents at concentrations above Florida drinking water standards still exists beneath the Site and may extend for relatively short distances offsite to the south and northeast of the Taylor Road Landfill.

12. Based on the results of the RI/FS, EPA prepared its Proposed Plan for remedial action at the Site. A public meeting was held in Tampa on July 27, 1995, to discuss the remedial alternatives under consideration and to answer any questions concerning the Proposed Plan for the Site.

13. After the close of a 30 day public comment period, EPA issued its Record of Decision (ROD) which documents EPA's plan for remediation of the Site. The ROD was issued on September 27, 1995, and requires the groundwater contamination problem at the Site to be addressed through natural attenuation with groundwater monitoring and expansion of the County water system to additional residences whose wells are threatened due to releases of hazardous substances from the Site. If the remedy is later found not to be protective of human health and/or the environment, then the ROD calls for expansion of the area supplied by the County water system and for collection and treatment of contaminated groundwater such that Florida groundwater guidance concentrations are not exceeded outside of a specified zone of compliance.

14. Appendix A of the ROD includes a Responsiveness Summary to any public comments received. The ROD is supported by an Administrative Record that contains the documents and information upon which EPA based its selection of the remedy. The Administrative Record is available for public review at EPA's Regional Office in Atlanta, Georgia and at the Thonotosassa Public Library in Thonotosassa, Florida.

15. EPA has incurred response costs at or in connection with the Site. For purposes of this Consent Order, the estimated past costs incurred by EPA at the Site, prior to February 23, 1996, are $1,408,782.09.

16. Information currently known to EPA indicates that each Respondent arranged for disposal or treatment, or arranged with a transporter for disposal or treatment, of a hazardous substance owned or possessed by such Respondent at the Site, or accepted a hazardous substance for transport to the Site.

17. Information currently known to EPA indicates that the amount of hazardous substances contributed to the Site by each Respondent is small compared to the total amount of hazardous substances at the Site, and that the hazardous substances contributed to the Site by each Respondent are not significantly more toxic or of significantly greater hazardous effect than other hazardous substances at the Site. Based on the information currently known, EPA has established a de minimis volumetric cutoff of one percent of the total volume of waste sent to the Site by PRPs whose waste has been determined by EPA to have contained hazardous substances.

18. In evaluating the settlement embodied in this Consent Order, EPA has considered the potential costs of remediating the Site taking into account possible cost overruns in completing remedial action and possible future costs if this remedial action is not protective of human health and/or the environment.

19. Payments required to be made by each Respondent pursuant to this Consent Order are a minor portion of the total response costs at the Site which EPA, based upon currently available information, estimates to range between approximately $5,175,047.64 and $9,935,047.64. This figure includes EPA's past costs, costs incurred by the 19 PRPs in conducting the RI/FS, and estimated future costs in implementing the remedy at the Site. The lower range of $5,175,047.64 does not include estimated costs for implementing the contingent remedy, whereas the $9,935,047.64 estimate does.

V. DETERMINATIONS

Based upon the Statement of Facts set forth above and on the Administrative Record for this Site, EPA has determined that:

1. The Taylor Road Landfill Superfund Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

2. Each Respondent is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

3. Each Respondent is a "potentially responsible party" under Sections 107(a) and 122(g)(1) of CERCLA, 42 U.S.C. §§ 9607(a) and 9622(g)(1).

4. There has been an actual or threatened "release" of a hazardous substance(s) from the Site as that term is defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

5. The actual or threatened "release" caused the incurrence of response costs.

6. Prompt settlement with the Respondents is practicable and in the public interest in accordance with Section 122(g)(1) of CERCLA, 42 U.S.C. § 9622(g)(1).

7. In accordance with Section 122(g)(1) of CERCLA, 42 U.S.C. § 9622(g)(1), payments required to be made by each Respondent pursuant to this Consent Order represent only a minor portion of the total response costs incurred or to be incurred at the Site.

8. The amount of hazardous substances contributed to the Site by each Respondent and the toxic or other hazardous effects of the hazardous substances contributed to the Site by each Respondent are minimal in comparison to other hazardous substances at the Site in accordance with Section 122(g)(1)(A) of CERCLA, 42 U.S.C. § 9622(g)(1)(A).

VI. ORDER

Based upon the Administrative Record for this Site and the Statement of Facts and Determinations set forth above, and in consideration of the promises and covenants set forth herein, it is hereby AGREED TO AND ORDERED:

PAYMENT

1. Each Respondent shall pay the amount specified in either Menu Option 1 or Menu Option 2 as set forth in the attached de minimis Cost Matrix to this Consent Order (Attachment B). Each Respondent shall be responsible for selecting its preferred payment option by marking the appropriate box and inserting the payment amount where indicated on the signature page found at the end of this Consent Order.

AFTER THIS CONSENT ORDER IS FINALIZED AND SIGNED BY EPA PURSUANT TO SECTION VI, PARAGRAPHS 19 AND 21, EPA WILL SEND A WRITTEN NOTICE TO THE RESPONDENTS WHICH WILL NOTIFY THEM OF THE ADDRESS WHERE PAYMENT MUST BE SENT AND THE FORM OF PAYMENT. PAYMENT IS DUE WITHIN THIRTY (30) DAYS AFTER THE DATE OF EPA'S WRITTEN NOTICE.

2. EPA has established two payment options (Menu Options) because there are contingencies which could significantly affect the scope and costs of remediation of the Site. Menu Option 1 (the best-case scenario) assumes that contamination at the Site will continue to naturally attenuate, and there will not be a need to implement the contingent remedy. The estimated future cost for implementing the ROD under the best case scenario is $2.64 million.

3. Menu Option 2 (the worst-case scenario) assumes that future monitoring data will reveal that natural attenuation of the contaminants at the Site will not occur and the need to implement the contingent remedy will materialize. If such a worst-case scenario occurs, the estimated future cost for implementing the ROD, including the contingent remedy, is $7.4 million.

4. The total cost of cleaning up the Site will be affected by EPA's final decisions concerning the need to implement the contingent remedy. The Menu Option approach takes this cost uncertainty into account and allows each Respondent to determine the level of risk it wishes to assume in entering into a settlement with EPA.

5. The amount to be paid by each Respondent under either Menu Option is set forth in Attachment B and includes a payment for: (a) past response costs incurred at or in connection with the Site by EPA totalling $1,408,782.09 through February 23, 1996; (b) past

costs incurred by the 19 PRPs in conducting the RI/FS at the Site; (c) estimated future response costs to be incurred at or in connection with the Site, based on either a "best-case scenario" or a "worst-case scenario" selected by each Respondent; and (d) a 50 percent premium on the estimated future costs to cover the risk that response costs to be incurred at or in connection with the Site will exceed the estimated costs of cleanup under either Menu Option, and the risk that costs may increase as a result of a later decision by EPA to modify the remedy or select a new remedy because the original remedy selected by EPA is determined not to be protective of human health and/or the environment. A number of the de minimis PRPs have contributed funds to conduct the RI/FS at the Site. A credit is included in this de minimis settlement offer for those PRPs. Under each settlement option (best-case or worst-case) there is a column in the de minimis Cost Matrix for a credit. This credit amount is limited to the amount a de minimis party has contributed towards the RI/FS or the total de minimis payment amount under either de minimis payment option, whichever is less.

6. Although Respondents who select Menu Option 1 will pay less money to settle now, they also will assume the risk that EPA may later decide that the contingent remedy will be required. If EPA determines that remedial actions required under the contingent remedy are necessary, and that as a result, the future costs of Site cleanup will increase above the $2.64 million estimated cost for the best-case scenario, EPA, in its discretion, may seek to require Respondents who have selected Menu Option 1 to perform response actions relating to the contingent remedy at the Site, and/or to

reimburse the United States for additional costs of response.

7. The settlement Menu Option selected by each Respondent will affect the scope of EPA's covenant not to sue, as well as the reservations of rights and contribution protection (Section VI, Paragraphs 10, 12, and 17) as they pertain to each Respondent. Respondents who select Menu Option 2 (the worst-case scenario payment) will receive a broader covenant not to sue and contribution protection than those that select Menu Option 1 (the best-case scenario payment). Respondents who select Menu Option 1 will not receive a covenant not to sue or contribution protection for costs related to the contingent remedy, should such work be required by EPA in the future.

FAILURE TO MAKE PAYMENT

8. If any Respondent fails to make full payment within the time required by Section VI, Paragraph 1, that Respondent shall pay Interest on the unpaid balance. In addition, if any Respondent fails to make full payment as required by Section VI, Paragraph 1, the United States may, in addition to any other available remedies or sanctions, bring an action against that Respondent seeking injunctive relief to compel payment and/or seeking civil penalties under Section 122(l) of CERCLA, 42 U.S.C. § 9622(l), for failure to make timely payment.

CERTIFICATION OF RESPONDENTS

9. By signing this Consent Order, each Respondent certifies, individually, that to the best of its knowledge and belief:

a. it has conducted a thorough, comprehensive, good faith search for documents, and has fully and accurately disclosed to EPA,

all information currently in its possession, or in the possession of its officers, directors, employees, contractors or agents, which relates in any way to the ownership, operation, or control of the Site, or to the ownership, possession, generation, treatment, transportation, storage or disposal of a hazardous substance, pollutant, or contaminant at or in connection with the Site;

b. it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents, or other information relating to its potential liability regarding the Site after notification of potential liability or the filing of a suit against it regarding the Site;

c. it has fully complied with any and all EPA requests for information regarding the Site pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927; and

d. the total volume (in cubic yards) attributed to it in the de minimis Cost Matrix is accurate.

COVENANTS BY EPA

10. In consideration of the payments that will be made by the Respondents under the terms of this Consent Order, and except as specifically provided in Section VI, Paragraphs 12, 13 and 14 of this Consent Order, EPA covenants not to sue any Respondent or take administrative action against any Respondent pursuant to Sections 106(a) or 107(a) of CERCLA, 42 U.S.C. §§ 9606(a) or 9607(a), and Section 7003 of RCRA, 42 U.S.C. § 6973, relating to the Matters Addressed in this Consent Order. With respect to present and future liability, these covenants shall take effect with respect to each

Respondent upon the receipt of the payments from that Respondent as required by Section VI, Paragraph 1 of this Consent Order. With respect to each Respondent, these covenants are conditioned upon the complete and satisfactory performance by that Respondent of its obligations under this Consent Order, and valid certification as set out in Section VI, Paragraph 9. These covenants extend only to the Respondents and do not extend to any other person or entity.

COVENANTS BY RESPONDENTS

11. The Respondents covenant and agree not to assert any claims or causes of action against the United States or any of its agencies or its contractors or employees with respect to the Matters Addressed in this Consent Order, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund (established pursuant to the Internal Revenue Code, 26 U.S.C. § 9507) through Sections 106(b)(2), 107, 111, 112 or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612 or 9613, or any other provision of law;

b. any claims arising out of response activities at the Site; and

c. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Site.

Nothing in this Consent Order shall be deemed to constitute preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d). Respondents covenant not to sue and agree not to assert any claims or causes of action against each other with respect to the Site pursuant to

Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613.

RESERVATIONS OF RIGHTS

12. The covenants by EPA set forth in Section VI, Paragraph 10, of this Consent Order do not pertain to any matters other than those expressly specified in Paragraph 10. The United States, including EPA, reserves, and this Consent Order is without prejudice to, all rights against each Respondent with respect to all other matters, including but not limited to the following:

a. claims based on a failure to make the payments required by Section VI, Paragraph 1 of this Consent Order;

b. criminal liability;

c. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments; or

d. liability arising from any future arrangement for disposal or treatment of a hazardous substance, pollutant or contaminant at the Site after the effective date of this Consent Order.

13. Notwithstanding any other provision in this Consent Order, the United States reserves, and this Consent Order is without prejudice to, the right to institute judicial or administrative proceedings against any individual Respondent seeking to compel that Respondent to perform response actions relating to the Site, and/or to reimburse the United States additional payment amounts, if:

a. information is discovered which indicates that such Respondent contributed a volume of waste: (i) exceeding the volume which that Respondent has certified as accurate under Paragraph 9 of

this Consent Order; or (ii) greater than one percent of the total volume of waste sent to the Site by PRPs whose waste has been determined by EPA to have contained hazardous substances; or (iii) of such greater toxic or other hazardous effects than contributed by other PRPs, thereby resulting in that Respondent no longer being eligible for a de minimis settlement; or

b. EPA determines that remedial actions required under the contingent remedy are necessary, and that as a result, the future costs of the Site cleanup will increase above the $2.64 million cost estimate of performing the work required in the ROD under a best-case scenario. This Paragraph 13(b) shall not apply to those Respondents who have elected to settle under Menu Option 2 (worst-case scenario).

14. If EPA determines that any Respondent's certification as to its total volume of waste sent to the Site was knowingly or deliberately false, EPA, in its discretion, may determine that the Respondent is no longer eligible for a de minimis settlement, and that this Consent Order shall be void ab initio as to that Respondent. In such event, such Respondent shall no longer be entitled to the covenant not to sue and contribution protection afforded under this Consent Order, and may be subject to criminal penalties pursuant to 18 U.S.C. § 1001.

EFFECT OF SETTLEMENT: CONTRIBUTION PROTECTION

15. Nothing in this Consent Order shall be construed to create any rights in, or grant any cause of action to, any person not a party to this Consent Order. The preceding sentence shall not be construed to waive or nullify any rights that any person not a

signatory to this Consent Order may have under applicable law. The United States, including EPA,, and the Respondents each reserve any and all rights (including, but not limited to, any right to contribution), defenses, claims, demands, and causes of action which each party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a party hereto.

16. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, recovery of response costs, or other relief relating to the Site, Respondents shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised in the subsequent proceeding were or should have been brought in the instant action; provided, however, that nothing in this Paragraph affects the enforceability of the covenant not to sue included in Paragraph 10.

17. Subject to the reservation of rights in Section VI, Paragraphs 12, 13, and 14, the Parties agree that each Respondent is entitled, as of the date of this Consent Order, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(g)(5) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(g)(5) for Matters Addressed in this Consent Order. Such protection with respect to each Respondent is conditioned upon that Respondent's compliance with the requirements of this Consent Order.

PARTIES BOUND

18. This Consent Order shall apply to and be binding upon EPA, and the Respondents and their heirs, successors and assigns. Any change in ownership or corporate status of a Respondent including, but not limited to, any transfer of assets or real or personal property, shall in no way alter any Respondent's responsibilities under this Consent Order. Each signatory to this Consent Order represents that he or she is fully authorized to enter into the terms and conditions of this Consent Order and to bind legally the Respondent which he or she represents.

PUBLIC COMMENT

19. This Consent Order shall be subject to a thirty-day public comment period pursuant to Section 122(i) of CERCLA, 42 U.S.C. § 9622(i). In accordance with Section 122(i)(3) of CERCLA, 42 U.S.C. § 9622(i)(3), EPA may withdraw or modify consent to this Consent Order if comments received disclose facts or considerations which indicate that this Consent Order is inappropriate, improper, or inadequate.

ATTORNEY GENERAL APPROVAL

20. The Attorney General or her designee must issue written approval of the settlement embodied in this Consent Order in accordance with Section 122(g)(4) of CERCLA, 42 U.S.C. § 9622(g)(4) before it can become final.

EFFECTIVE DATE

21. The effective date of this Consent Order shall be the date upon which EPA issues written notice to the Respondents that the public comment period pursuant to Section VI, Paragraph 19, of this

Consent Order has closed and that comments received if any, do not require modification of, or EPA withdrawal from this Consent Order, and that EPA has finalized this Consent Order.

NO PAYMENTS ARE TO BE MADE BY THE RESPONDENTS UNTIL AFTER RECEIPT OF WRITTEN NOTICE FROM EPA THAT THE CONSENT ORDER HAS BEEN FINALIZED. PAYMENT SHALL BE MADE WITHIN THIRTY (30) DAYS AFTER THE DATE OF EPA'S WRITTEN NOTICE IN ACCORDANCE WITH SECTION VI, PARAGRAPH 1.

INTEGRATION/ATTACHMENTS

22. This Consent Order and its attachments constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Consent Order. The Parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Consent Order. The following attachments are attached to and incorporated into this Consent Order:

"Attachment A" contains a list of the Respondents who have signed this Consent Order.

"Attachment B" is the De Minimis Cost Matrix for this settlement including the alphabetized list of de minimis PRPs, and the cost share and premium for each de minimis PRP under Menu Option 1 and Menu Option 2.

IT IS SO AGREED AND ORDERED:

U.S. Environmental Protection Agency

By: Franklin E. Hill, Chief
Program Services Branch
Waste Management Division

7/11/97
Date

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Pharmacia & Upjohn Company (Asgrow Florida Company of Plant City)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ 17,111.95

Pharmacia & Upjohn Company
(on behalf of Asgrow Florida Company)
Name of Respondent
7000 Portage Road, Kalamazoo, MI 49001
Address

By: Russell G. Downey
Name of Officer or Authorized Representative

Environmental Program Manager
Title

X Russell G. Downey
Signature

February 28, 1997
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

J. William Whitlock
Pharmacia & Upjohn Company
7000 Portage Rd., Kalamazoo, MI 49001
(616) 833-7595
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Beach Products, Inc./Beach Pharmaceuticals

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
✓	MENU OPTION 2 ("Worst-Case Scenario")	$ 5269.15

Beach Products, Inc. (including Beach Pharmaceuticals, a division of Beach Products, Inc.)
Name of Respondent

5220 South Manhattan Avenue
Address Tampa, FL 33611

By: Richard Stephen Jenkins — VP
Name of Officer or Authorized Representative — Title

[signature]
Signature — 3-3-97
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

Name and Address

Attorney
Gayle B. Carlson, Esq.
GAYLE B. CARLSON, P.A.
100 S. Ashley Dr., Suite 1300
Tampa, FL 33602
(813) 229-2900
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Foreline Security Corp. (DISSOLVED 1994)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
✓	MENU OPTION 2 ("Worst-Case Scenario")	$ 7,310.01

FORELINE SECURITY CORPORATION (DISSOLVED 1994)
Name of Respondent
3218 STONEYBROOK LANE TAMPA, FL 33618
Address

By: PATRICK J. HUGHES
Name of Officer or Authorized Representative

EXEC V.P.
Title

Signature

MARCH 5, 1997
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney
Gayle B. Carlson, Esq.
GAYLE B. CARLSON, P.A.
100 S. Ashley Drive, Suite 1300
Tampa, FL 33602
(813) 229-2900
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Larkin Contracting, Inc.

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
XX	MENU OPTION 2 ("Worst-Case Scenario")	$ 8,498.69

Larkin Contracting Inc.
Name of Respondent
6001 N. 50th Street, Tampa, Florida 33610
Address

By: Patrick J. Larkin
Name of Officer or Authorized Representative

President
Title

Patrick J Larkin
Signature

February 18, 1997
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney
Gayle B. Carlson
GAYLE B. CARLSON, P.A.
100 S. Ashley Dr., Suite 1300
Tampa, FL 33602
(813) 229-2900
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Lavino Shipping Company

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
____	MENU OPTION 1 ("Best-Case Scenario")	$____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ #6,233.71

Holly Chapman
Name of Respondent
118 North Royal Street #1200
Address Mobile, AL 36602

By: Donald V. Juneau
Name of Officer or Authorized Representative

Vice President of Finance
Title

Signature

May 06, 1997
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

Name and Address

Attorney

David Johnson
Lyons, Pipes & Cook
2 North Royal Street
( ) Mobile, AL 36602
Name, Address, Phone
334-432-4481

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: DSI Transports (Redwing Carriers)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
✓	MENU OPTION 1 ("Best-Case Scenario")	$ 1864.82
_____	MENU OPTION 2 ("Worst-Case Scenario")	$ _____

Redwing Carriers, Inc.
Name of Respondent

15660 JFK Blvd. Suite 600
Houston, Texas 77032
Address

By: Michael W. Orrick
Name of Officer or Authorized Representative

President
Title

Michael W. Orrick
Signature

3-19-97
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

F. Edward Hallman
Suite 1200, 285 Peachtree Center Avenue
Atlanta, Georgia 30303
Name and Address

Attorney

F. Edward Hallman
Suite 1200, 285 Peachtree Center Ave.
Atlanta, Georgia 30303
(404) 522-1500
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Reeves Southeastern Corporation/Southeastern Galvanizing

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
✓	MENU OPTION 2 ("Worst-Case Scenario")	$ 10,005.89

REEVES SOUTHEASTERN CORPORATION/SOUTHEASTERN GALVANIZING
Name of Respondent

9800 REEVES ROAD, TAMPA FLA.
Address

By: MILES L. LENHART
Name of Officer or Authorized Representative

CEO
Title

Signature

2/19/97
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____

Name and Address

Attorney

Gayle B. Carlson
~~GAYLE B. CARLSON, P.A.~~

(813) 229-2900
Name, Address, Phone

100 S. Ashley Drive, Suite 1300
Tampa, FL 33602

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: St. Petersburg Times

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ 2,000

ST. PETERSBURG TIMES
Name of Respondent
P.O. Box 1121 ST. PETERSBURG, FL 33731
Address

By: JUDITH ROALES
Name of Officer or Authorized Representative

EXVP & GM
Title

Judith Roales
Signature

2/3/97
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

SAME
Name and Address

Attorney

GEORGE K. RAHDERT
535 CENTRAL AV
ST. PETERSBURG, FL 33701
(813) 823-4191
Name, Address, Phone

ATTACHMENT A

TAYLOR ROAD LANDFILL SITE/HILLSBOROUGH COUNTY, FLORIDA
SETTLING DE MINIMIS PRPs

SETTLING PRP NAME	OPTION NUMBER	SETTLEMENT PAYMENT AMOUNT
Asgrow Florida Company of Plant City	2	17111.95
Beach Products, Inc.	2	5269.15
Foreline Security Corp.	2	7310.01
Larkin Contracting, Inc.	2	8498.69
Lavino Shipping Company	2	6233.71
Redwing Carriers	1	1864.82
Reeves Southeastern Corporation	2	10005.89
St. Petersburg Times	2	2000.00
*** Total ***		58294.22

ATTACHMENT B

TAYLOR ROAD LANDFILL SITE/HILLSBOROUGH COUNTY, FLORIDA
DE MINIMIS COST MATRIX

PRP NAME	VOLUME OF WASTE (CUBIC YDS.)	PERCENT WASTE-IN	EPA PAST COSTS $1,408,782.09	PRP PAST COSTS $1,126,265.55	FUT. COSTS OPTION 1 $2,640,000	PREMIUM OPTION 1 (50%)	PRP CREDIT OPTION 1	FUT. COSTS OPTION 2 $7,400,000	PREMIUM OPTION 2 (50%)	PRP CREDIT OPTION 2	TOTAL OPTION 1 BEST CASE	TOTAL OPTION 2 WORST CASE
Arch Development	240.000	0.03132	441.25	352.76	826.89	413.44	0.00	2317.79	1158.89	0.00	2034.34	4270.69
Asgrow Florida Company of Plant City	1924.460	0.25115	3538.21	2828.66	6630.46	3315.23	-16312.56	18585.39	9292.69	-17133.00	0.00	17111.95
Beach Products, Inc.	296.110	0.03864	544.41	435.24	1020.21	510.10	0.00	2859.67	1429.83	0.00	2509.96	5269.15
C & M Builders	43.300	0.00565	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Chemex, Co.	880.000	0.11485	1617.92	1293.46	3031.92	1515.96	0.00	8498.56	4249.28	0.00	7459.26	15659.22
Elmer's Auto Clinic	328.526	0.04287	604.01	482.88	1131.89	565.95	0.00	3172.73	1586.36	0.00	2784.73	5845.98
Foreline Security Corp.	410.800	0.05361	755.28	603.81	1415.36	707.68	0.00	3967.28	1983.64	0.00	3482.13	7310.01
J.E. Truck Services	173.200	0.02260	318.44	254.58	596.74	298.37	0.00	1672.67	836.34	0.00	1468.13	3082.03
Larkin Contracting, Inc.	477.600	0.06233	878.09	702.00	1645.51	822.75	0.00	4612.40	2306.20	0.00	4048.35	8498.69
Lavino Shipping Company	350.315	0.04572	644.07	514.91	1206.96	603.48	0.00	3383.15	1691.58	0.00	2969.42	6233.71
Lee's Refrigeration & Air Conditioning	142.890	0.01865	262.71	210.03	492.31	246.15	0.00	1379.95	689.98	0.00	1211.20	2542.67
Lionel Leisure, Inc.	40.000	0.00522	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Pacemaster, Inc.	1281.680	0.16727	2356.43	1883.87	4415.85	2207.93	0.00	12377.77	6188.88	0.00	10864.08	22806.95
Redding Disposal	4188.150	0.54658	7700.11	6155.94	14429.70	7214.85	0.00	40446.88	20223.44	0.00	35500.60	74526.37
Redwing Carriers	220.000	0.02871	404.48	323.37	757.98	378.99	0.00	2124.64	1062.32	0.00	1864.82	3914.81
Reeves Southeastern Corporation	562.300	0.07338	1033.82	826.49	1937.33	968.66	0.00	5430.39	2715.19	0.00	4766.30	10005.89
Sainer Construction Co.	380.000	0.04959	698.65	558.54	1309.24	654.62	0.00	3669.83	1834.92	0.00	3221.05	6761.94
St. Petersburg Times	40.000	0.00522	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Waste Aid Systems, Inc.	33.990	0.00444	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00

30141

04-96-0482

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IV

IN THE MATTER OF:	)
Taylor Road Landfill Site Hillsborough County, Florida	) Docket No. 96-14-C
	) Proceeding Under Section 122(g)(4) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §9622(g)(4)
See Attachment A for List of Respondents	)

ADMINISTRATIVE ORDER ON CONSENT

I. JURISDICTION

This Administrative Order on Consent (Consent Order) is issued pursuant to the authority vested in the President of the United States by Section 122(g)(4) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (CERCLA), Pub. L. No. 99-499, 42 U.S.C. § 9622(g)(4), to reach settlements in actions under Sections 106(a) and 107(a) of CERCLA, 42 U.S.C. §§ 9606(a) and 9607(a). The authority vested in the President has been delegated to the Administrator of the United States Environmental Protection Agency (EPA) by Executive Order 12580, 52 Fed. Reg. 2923 (January 29, 1987) and delegated to the Regional Administrators of the EPA by EPA Delegation No. 14-14-E (issued September 13, 1987, amended by memorandum June 17, 1988), and re-delegated to the Director, Waste Management Division, EPA, Region IV by EPA Delegation No. 8-14-D, and further re-delegated to the Chief of the Waste Programs Branch (November 8, 1994).

This Consent Order is entered into voluntarily by and between EPA and those settling de minimis PRPs (Respondents) who have signed this Consent Order and are listed in Attachment A to this Consent Order. Respondents agree to undertake all actions required by the terms and conditions of this Consent Order. Respondents further consent to and will not contest EPA's jurisdiction to issue this Consent Order or to implement or enforce its terms.

EPA and the Respondents agree that the actions undertaken by the Respondents in accordance with this Consent Order do not constitute an admission of any liability by any Respondent. The Respondents do not admit and retain the right to controvert in any subsequent proceedings, other than proceedings to implement or enforce this Consent Order, the validity of the Statement of Facts or Determinations contained in this Consent Order.

II. STATEMENT OF PURPOSE

By entering into this Consent Order, the Mutual Objectives of the Parties are:

a. to reach a final settlement among the Parties with respect to the Site pursuant to Section 122(g) of CERCLA, 42 U.S.C. § 9622(g), that allows Respondents to make a cash payment, including a premium, to resolve their alleged civil liability under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607, for injunctive relief with regard to the Site and for response costs incurred and to be incurred at or in connection with the Site, thereby reducing litigation relating to the Site;

b. to simplify any remaining administrative and judicial enforcement activities concerning the Site by eliminating a substantial number of potentially responsible parties from further involvement at the Site; and

c. to obtain settlement with Respondents for their fair share of response costs incurred and to be incurred at or in connection with the Site by the EPA Hazardous Substance Superfund, and by private parties, to provide for contribution protection for Respondents with regard to the Site pursuant to Sections 113(f)(2) and 122(g)(5) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(g)(5).

III. DEFINITIONS

a. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. § 9601, et seq.

b. "Consent Order" or "Order" shall mean this Administrative Order on Consent and all attachments attached hereto. In the event of conflict between this Order and any attachment, the Order shall control.

c. "Day" shall mean a calendar day. In computing any period of time under this Consent Order, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next working day.

d. "EPA" shall mean the United States Environmental Protection Agency and any successor departments, agencies or instrumentalities.

e. "EPA Hazardous Substance Superfund" shall mean the Hazardous Substance Superfund established by the Internal Revenue

Code, 26 U.S.C. § 9507.

f. "Interest" shall mean interest at the current rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a).

g. "Matters Addressed" shall mean all response actions which have been taken at the Site, or may in the future be undertaken at the Site, including, but not limited to, remedial actions required by EPA's Record of Decision, as authorized pursuant to CERCLA, 42 U.S.C. § 9601 et seq., and all costs incurred or to be incurred at the Site.

h. "Paragraph" shall mean a portion of this Consent Order identified by an arabic numeral.

i. "Parties" shall mean EPA and the Respondents.

j. "Respondents" shall mean those parties identified in Attachment A.

k. "Response costs" shall mean all costs of "response" as that term is defined by Section 101(25) of CERCLA, 42 U.S.C. § 9601(25).

l. "Record of Decision" or "ROD" shall mean the EPA Record of Decision relating to the Site signed on September 29, 1995, by the Regional Administrator, EPA Region VI, or his delegate, and all attachments thereto.

m. "Section" shall mean a portion of this Consent Order identified by a roman numeral.

n. "Site" shall mean the Taylor Road Landfill, and the areal extent of groundwater contamination therefrom. The Taylor Road

Landfill is located on county-owned property, approximately seven miles east of Tampa, Florida, in the Seffner-Thonotosassa area in Hillsborough County (County). Interstate 4 borders the property on the South with Pruett Road approximately 1500 feet to the North. Mango Road (State Road 579) borders the property to the West and Taylor Road borders the property to the East.

o. "United States" shall mean the United States of America, its departments, agencies and instrumentalities.

IV. STATEMENT OF FACTS

1. The Taylor Road Landfill Superfund Site is located on property owned by Hillsborough County, approximately seven miles east of Tampa, Florida, in the Seffner-Thonotosassa area. Interstate 4 borders the property on the South with Pruett Road approximately 1500 feet to the North. Mango Road (State Road 579) borders the property to the West and Taylor Road borders the property to the East.

2. The County property is 252 acres in size and contains three closed landfills. The 42-acre Taylor Road Landfill is located east of the 10.6-acre Florida Department of Transportation (FDOT) Borrow Pit Landfill, and southeast of the 64-acre Hillsborough Heights Landfill. The three landfills are located near many private residences, schools, and various commercial and industrial establishments.

3. The Site is located in an area characterized by karst geology, typical of most of Hillsborough County. The Site geology is recognized as a limestone ridge, covered by sand and clay.

Underlying the sand is a mixture of discontinuous clay and sand layers, all of which are above the Tampa Limestone which is characterized as highly weathered, fractured, and cavernous. The Site overlies the Floridan Aquifer, a source of water for much of the southeastern United States and is the principal source of potable water for the County, including a number of domestic wells within one mile of the Site.

4. On May 7, 1976, the Hillsborough County Department of Solid Waste was issued a construction permit by the Florida Department of Environmental Regulation (FDER) to construct the Taylor Road Landfill, then known as the New Northeast Sanitary Landfill. It was comprised of 42 acres of agricultural land to be operated as a trench landfill.

5. From May 1976 through February 1980, the County operated the Taylor Road Landfill which was utilized for the disposal of municipal, commercial, and industrial refuse. A total of 620,000 tons of waste is estimated to have been deposited in the Taylor Road Landfill, including an unknown quantity of hazardous substances.

6. In February 1980, the Taylor Road Landfill reached its capacity and landfill operation were moved to an adjacent 10.6 acre parcel known as the FDOT Borrow Pit Expansion (the Borrow Pit) on the west side of the Taylor Road Landfill.

7. On October 9, 1980, EPA filed a lawsuit against Hillsborough County in federal district court pursuant to Section 7003 of the Resource Conservation and Recovery Act (RCRA) alleging that conditions at the Taylor Road Landfill constituted an imminent

and substantial endangerment of public health and the environment. The complaint was amended twice to add violations of the Safe Drinking Water Act and CERCLA.

8. In October 1981, the Taylor Road Landfill was proposed for listing on the National Priorities List (NPL), as defined in Section 105 of CERCLA, as amended, 42 U.S.C. § 9605. In October 1983, the Site was officially listed on the NPL thereby requiring that the long term threat posed by the Site be addressed under CERCLA.

9. In October 1983, a Consent Decree was entered into by EPA, FDER, and the County settling the aforesaid lawsuit, whereby the County agreed to perform a maintenance and environmental monitoring program, to maintain methane gas control, and to construct a specified cap, cover, and drainage ditch for all three landfill areas. Also, the County agreed to extend water lines to serve the residents in a specified area within the plume of groundwater contamination generated by the Site.

10. On February 1, 1993, EPA entered into an Administrative Order on Consent with approximately 19 potentially responsible parties (PRPs), whereby the PRPs agreed to perform a Remedial Investigation/Feasibility Study (RI/FS) at the Site pursuant to CERCLA.

11. The RI/FS was completed in June 1995. Results of the RI/FS indicate that a plume carrying chemical constituents at concentrations above Florida drinking water standards still exists beneath the Site and may extend for relatively short distances offsite to the south and northeast of the Taylor Road Landfill.

12. Based on the results of the RI/FS, EPA prepared its Proposed Plan for remedial action at the Site. A public meeting was held in Tampa on July 27, 1995, to discuss the remedial alternatives under consideration and to answer any questions concerning the Proposed Plan for the Site.

13. After the close of a 30 day public comment period, EPA issued its Record of Decision (ROD) which documents EPA's plan for remediation of the Site. The ROD was issued on September 27, 1995, and requires the groundwater contamination problem at the Site to be addressed through natural attenuation with groundwater monitoring and expansion of the County water system to additional residences whose wells are threatened due to releases of hazardous substances from the Site. If the remedy is later found not to be protective of human health and/or the environment, then the ROD calls for expansion of the area supplied by the County water system and for collection and treatment of contaminated groundwater such that Florida groundwater guidance concentrations are not exceeded outside of a specified zone of compliance.

14. Appendix A of the ROD includes a Responsiveness Summary to any public comments received. The ROD is supported by an Administrative Record that contains the documents and information upon which EPA based its selection of the remedy. The Administrative Record is available for public review at EPA's Regional Office in Atlanta, Georgia and at the Thonotosassa Public Library in Thonotosassa, Florida.

15. EPA has incurred response costs at or in connection with the Site. For purposes of this Consent Order, the estimated past costs incurred by EPA at the Site, prior to February 23, 1996, are $1,385,846.59.

16. Information currently known to EPA indicates that each Respondent arranged for disposal or treatment, or arranged with a transporter for disposal or treatment, of a hazardous substance owned or possessed by such Respondent at the Site, or accepted a hazardous substance for transport to the Site.

17. Information currently known to EPA indicates that the amount of hazardous substances contributed to the Site by each Respondent is small compared to the total amount of hazardous substances at the Site, and that the hazardous substances contributed to the Site by each Respondent are not significantly more toxic or of significantly greater hazardous effect than other hazardous substances at the Site. Based on the information currently known, EPA has established a de minimis volumetric cutoff of one percent of the total volume of waste sent to the Site by PRPs whose waste has been determined by EPA to have contained hazardous substances.

18. In evaluating the settlement embodied in this Consent Order, EPA has considered the potential costs of remediating the Site taking into account possible cost overruns in completing remedial action and possible future costs if this remedial action is not protective of human health and/or the environment.

19. Payments required to be made by each Respondent pursuant to this Consent Order are a minor portion of the total response costs at the Site which EPA, based upon currently available information, estimates to range between approximately $5,152,112.14 and $9,912,112.14. This figure includes EPA's past costs, costs incurred by the 19 PRPs in conducting the RI/FS, and estimated future costs in implementing the remedy at the Site. The lower range of $5,152,112.14 does not include estimated costs for implementing the contingent remedy, whereas the $9,912,112.14 estimate does.

V. DETERMINATIONS

Based upon the Statement of Facts set forth above and on the Administrative Record for this Site, EPA has determined that:

1. The Taylor Road Landfill Superfund Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

2. Each Respondent is a "person" as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

3. Each Respondent is a "potentially responsible party" under Sections 107(a) and 122(g)(1) of CERCLA, 42 U.S.C. §§ 9607(a) and 9622(g)(1).

4. There has been an actual or threatened "release" of a hazardous substance(s) from the Site as that term is defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

5. The actual or threatened "release" caused the incurrence of response costs.

6. Prompt settlement with the Respondents is practicable and in the public interest in accordance with Section 122(g)(1) of CERCLA, 42 U.S.C. § 9622(g)(1).

7. In accordance with Section 122(g)(1) of CERCLA, 42 U.S.C. § 9622(g)(1), payments required to be made by each Respondent pursuant to this Consent Order represent only a minor portion of the total response costs incurred or to be incurred at the Site.

8. The amount of hazardous substances contributed to the Site by each Respondent and the toxic or other hazardous effects of the hazardous substances contributed to the Site by each Respondent are minimal in comparison to other hazardous substances at the Site in accordance with Section 122(g)(1)(A) of CERCLA, 42 U.S.C. § 9622(g)(1)(A).

VI. ORDER

Based upon the Administrative Record for this Site and the Statement of Facts and Determinations set forth above, and in consideration of the promises and covenants set forth herein, it is hereby AGREED TO AND ORDERED:

PAYMENT

1. Each Respondent shall pay the amount specified in either Menu Option 1 or Menu Option 2 as set forth in the attached de minimis Cost Matrix to this Consent Order (Attachment B). Each Respondent shall be responsible for selecting its preferred payment option by marking the appropriate box and inserting the payment amount where indicated on the signature page found at the end of this Consent Order.

AFTER THIS CONSENT ORDER IS FINALIZED AND SIGNED BY EPA PURSUANT TO SECTION VI, PARAGRAPHS 19 AND 21, EPA WILL SEND A WRITTEN NOTICE TO THE RESPONDENTS WHICH WILL NOTIFY THEM OF THE ADDRESS WHERE PAYMENT MUST BE SENT AND THE FORM OF PAYMENT. PAYMENT IS DUE WITHIN THIRTY (30) DAYS AFTER THE DATE OF EPA'S WRITTEN NOTICE.

2. EPA has established two payment options (Menu Options) because there are contingencies which could significantly affect the scope and costs of remediation of the Site. Menu Option 1 (the best-case scenario) assumes that contamination at the Site will continue to naturally attenuate, and there will not be a need to implement the contingent remedy. The estimated future cost for implementing the ROD under the best case scenario is $2.64 million.

3. Menu Option 2 (the worst-case scenario) assumes that future monitoring data will reveal that natural attenuation of the contaminants at the Site will not occur and the need to implement the contingent remedy will materialize. If such a worst-case scenario occurs, the estimated future cost for implementing the ROD, including the contingent remedy, is $7.4 million.

4. The total cost of cleaning up the Site will be affected by EPA's final decisions concerning the need to implement the contingent remedy. The Menu Option approach takes this cost uncertainty into account and allows each Respondent to determine the level of risk it wishes to assume in entering into a settlement with EPA.

5. The amount to be paid by each Respondent under either Menu Option is set forth in Attachment B and includes a payment for: (a) past response costs incurred at or in connection with the Site by EPA totalling $1,385,846.59 through February 23, 1996; (b) past

costs incurred by the 19 PRPs in conducting the RI/FS at the Site; (c) estimated future response costs to be incurred at or in connection with the Site, based on either a "best-case scenario" or a "worst-case scenario" selected by each Respondent; and (d) a 50 percent premium on the estimated future costs to cover the risk that response costs to be incurred at or in connection with the Site will exceed the estimated costs of cleanup under either Menu Option, and the risk that costs may increase as a result of a later decision by EPA to modify the remedy or select a new remedy because the original remedy selected by EPA is determined not to be protective of human health and/or the environment. A number of the de minimis PRPs have contributed funds to conduct the RI/FS at the Site. A credit is included in this de minimis settlement offer for those PRPs. Under each settlement option (best-case or worst-case) there is a column in the de minimis Cost Matrix for a credit. This credit amount is limited to the amount a de minimis party has contributed towards the RI/FS or the total de minimis payment amount under either de minimis payment option, whichever is less.

6. Although Respondents who select Menu Option 1 will pay less money to settle now, they also will assume the risk that EPA may later decide that the contingent remedy will be required. If EPA determines that remedial actions required under the contingent remedy are necessary, and that as a result, the future costs of Site cleanup will increase above the $2.64 million estimated cost for the best-case scenario, EPA, in its discretion, may seek to require Respondents who have selected Menu Option 1 to perform response actions relating to the contingent remedy at the Site, and/or to

reimburse the United States for additional costs of response.

7. The settlement Menu Option selected by each Respondent will affect the scope of EPA's covenant not to sue, as well as the reservations of rights and contribution protection (Section VI, Paragraphs 10, 12, and 17) as they pertain to each Respondent. Respondents who select Menu Option 2 (the worst-case scenario payment) will receive a broader covenant not to sue and contribution protection than those that select Menu Option 1 (the best-case scenario payment). Respondents who select Menu Option 1 will not receive a covenant not to sue or contribution protection for costs related to the contingent remedy, should such work be required by EPA in the future.

FAILURE TO MAKE PAYMENT

8. If any Respondent fails to make full payment within the time required by Section VI, Paragraph 1, that Respondent shall pay Interest on the unpaid balance. In addition, if any Respondent fails to make full payment as required by Section VI, Paragraph 1, the United States may, in addition to any other available remedies or sanctions, bring an action against that Respondent seeking injunctive relief to compel payment and/or seeking civil penalties under Section 122(l) of CERCLA, 42 U.S.C. § 9622(l), for failure to make timely payment.

CERTIFICATION OF RESPONDENTS

9. By signing this Consent Order, each Respondent certifies, individually, that to the best of its knowledge and belief:

a. it has conducted a thorough, comprehensive, good faith search for documents, and has fully and accurately disclosed to EPA,

all information currently in its possession, or in the possession of its officers, directors, employees, contractors or agents, which relates in any way to the ownership, operation, or control of the Site, or to the ownership, possession, generation, treatment, transportation, storage or disposal of a hazardous substance, pollutant, or contaminant at or in connection with the Site;

b. it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents, or other information relating to its potential liability regarding the Site after notification of potential liability or the filing of a suit against it regarding the Site;

c. it has fully complied with any and all EPA requests for information regarding the Site pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927; and

d. the total volume (in cubic yards) attributed to it in the de minimis Cost Matrix is accurate.

COVENANTS BY EPA

10. In consideration of the payments that will be made by the Respondents under the terms of this Consent Order, and except as specifically provided in Section VI, Paragraphs 12, 13 and 14 of this Consent Order, EPA covenants not to sue any Respondent or take administrative action against any Respondent pursuant to Sections 106(a) or 107(a) of CERCLA, 42 U.S.C. §§ 9606(a) or 9607(a), and Section 7003 of RCRA, 42 U.S.C. § 6973, relating to the Matters Addressed in this Consent Order. With respect to present and future liability, these covenants shall take effect with respect to each

Respondent upon the receipt of the payments from that Respondent as required by Section VI, Paragraph 1 of this Consent Order. With respect to each Respondent, these covenants are conditioned upon the complete and satisfactory performance by that Respondent of its obligations under this Consent Order, and valid certification as set out in Section VI, Paragraph 9. These covenants extend only to the Respondents and do not extend to any other person or entity.

COVENANTS BY RESPONDENTS

11. The Respondents covenant and agree not to assert any claims or causes of action against the United States or any of its agencies or its contractors or employees with respect to the Matters Addressed in this Consent Order, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substances Superfund (established pursuant to the Internal Revenue Code, 26 U.S.C. § 9507) through Sections 106(b)(2), 107, 111, 112 or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612 or 9613, or any other provision of law;

b. any claims arising out of response activities at the Site; and

c. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Site.

Nothing in this Consent Order shall be deemed to constitute preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d). Respondents covenant not to sue and agree not to assert any claims or causes of action against each other with respect to the Site pursuant to

Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613.

RESERVATIONS OF RIGHTS

12. The covenants by EPA set forth in Section VI, Paragraph 10, of this Consent Order do not pertain to any matters other than those expressly specified in Paragraph 10. The United States, including EPA, reserves, and this Consent Order is without prejudice to, all rights against each Respondent with respect to all other matters, including but not limited to the following:

a. claims based on a failure to make the payments required by Section VI, Paragraph 1 of this Consent Order;

b. criminal liability;

c. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments; or

d. liability arising from any future arrangement for disposal or treatment of a hazardous substance, pollutant or contaminant at the Site after the effective date of this Consent Order.

13. Notwithstanding any other provision in this Consent Order, the United States reserves, and this Consent Order is without prejudice to, the right to institute judicial or administrative proceedings against any individual Respondent seeking to compel that Respondent to perform response actions relating to the Site, and/or to reimburse the United States additional payment amounts, if:

a. information is discovered which indicates that such Respondent contributed a volume of waste: (i) exceeding the volume which that Respondent has certified as accurate under Paragraph 9 of

this Consent Order; or (ii) greater than one percent of the total volume of waste sent to the Site by PRPs whose waste has been determined by EPA to have contained hazardous substances; or (iii) of such greater toxic or other hazardous effects than contributed by other PRPs, thereby resulting in that Respondent no longer being eligible for a de minimis settlement; or

b. EPA determines that remedial actions required under the contingent remedy are necessary, and that as a result, the future costs of the Site cleanup will increase above the $2.64 million cost estimate of performing the work required in the ROD under a best-case scenario. This Paragraph 13(b) shall not apply to those Respondents who have elected to settle under Menu Option 2 (worst-case scenario).

14. If EPA determines that any Respondent's certification as to its total volume of waste sent to the Site was knowingly or deliberately false, EPA, in its discretion, may determine that the Respondent is no longer eligible for a de minimis settlement, and that this Consent Order shall be void ab initio as to that Respondent. In such event, such Respondent shall no longer be entitled to the covenant not to sue and contribution protection afforded under this Consent Order, and may be subject to criminal penalties pursuant to 18 U.S.C. § 1001.

EFFECT OF SETTLEMENT: CONTRIBUTION PROTECTION

15. Nothing in this Consent Order shall be construed to create any rights in, or grant any cause of action to, any person not a party to this Consent Order. The preceding sentence shall not be construed to waive or nullify any rights that any person not a

signatory to this Consent Order may have under applicable law. The United States, including EPA, and the Respondents each reserve any and all rights (including, but not limited to, any right to contribution), defenses, claims, demands, and causes of action which each party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a party hereto.

16. In any subsequent administrative or judicial proceeding initiated by the United States for injunctive relief, recovery of response costs, or other relief relating to the Site, Respondents shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon any contention that the claims raised in the subsequent proceeding were or should have been brought in the instant action; provided, however, that nothing in this Paragraph affects the enforceability of the covenant not to sue included in Paragraph 10.

17. Subject to the reservation of rights in Section VI, Paragraphs 12, 13, and 14, the Parties agree that each Respondent is entitled, as of the date of this Consent Order, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(g)(5) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(g)(5) for Matters Addressed in this Consent Order. Such protection with respect to each Respondent is conditioned upon that Respondent's compliance with the requirements of this Consent Order.

PARTIES BOUND

18. This Consent Order shall apply to and be binding upon EPA, and the Respondents and their heirs, successors and assigns. Any change in ownership or corporate status of a Respondent including, but not limited to, any transfer of assets or real or personal property, shall in no way alter any Respondent's responsibilities under this Consent Order. Each signatory to this Consent Order represents that he or she is fully authorized to enter into the terms and conditions of this Consent Order and to bind legally the Respondent which he or she represents.

PUBLIC COMMENT

19. This Consent Order shall be subject to a thirty-day public comment period pursuant to Section 122(i) of CERCLA, 42 U.S.C. § 9622(i). In accordance with Section 122(i)(3) of CERCLA, 42 U.S.C. § 9622(i)(3), EPA may withdraw or modify consent to this Consent Order if comments received disclose facts or considerations which indicate that this Consent Order is inappropriate, improper, or inadequate.

ATTORNEY GENERAL APPROVAL

20. The Attorney General or her designee must issue written approval of the settlement embodied in this Consent Order in accordance with Section 122(g)(4) of CERCLA, 42 U.S.C. § 9622(g)(4) before it can become final.

EFFECTIVE DATE

21. The effective date of this Consent Order shall be the date upon which EPA issues written notice to the Respondents that the public comment period pursuant to Section VI, Paragraph 19, of this

Consent Order has closed and that comments received if any, do not require modification of, or EPA withdrawal from this Consent Order, and that EPA has finalized this Consent Order.

NO PAYMENTS ARE TO BE MADE BY THE RESPONDENTS UNTIL AFTER RECEIPT OF WRITTEN NOTICE FROM EPA THAT THE CONSENT ORDER HAS BEEN FINALIZED. PAYMENT SHALL BE MADE WITHIN THIRTY (30) DAYS AFTER THE DATE OF EPA'S WRITTEN NOTICE IN ACCORDANCE WITH SECTION VI, PARAGRAPH 1.

INTEGRATION/ATTACHMENTS

22. This Consent Order and its attachments constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Consent Order. The Parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Consent Order. The following attachments are attached to and incorporated into this Consent Order:

"Attachment A" contains a list of the Respondents who have signed this Consent Order.

"Attachment B" is the De Minimis Cost Matrix including the alphabetized list of de minimis PRPs, and the cost share and premium for each de minimis PRP under Menu Option 1 and Menu Option 2.

IT IS SO AGREED AND ORDERED:

U.S. Environmental Protection Agency

By: _____
H. Kirk Lucius, Chief
Waste Programs Branch
Waste Management Division

9/18/96
Date

ATTACHMENT A

TAYLOR ROAD LANDFILL SITE/HILLSBOROUGH COUNTY, FLORIDA
SETTLING DE MINIMIS PRPs

SETTLING PRP NAME	OPTION NUMBER	SETTLEMENT PAYMENT AMOUNT
Acousti Engineering Company of Florida	2	2000.00
Agrico Terminal	2	0.00
Alumax Extrusions, Inc.	2	0.00
Ambulatory Care Center	2	28305.06
C.F. Industries	2	0.00
Chloride Metals Corp./Chloride, Inc.	2	34818.71
Fina	2	2000.00
Florida Steel Corp., Tampa Steel Mill	2	0.00
Gardinier, Inc.	2	2000.00
Gas Kwick, Inc.	2	2000.00
Gibson Homans of Florida, Inc.	2	14211.72
Handy City	2	2000.00
Hartz Mountain	2	19076.38
Helena Chemical Company	1	11646.47
Hunt-Wilde Corp./Pan American Plastics	2	11611.33
Jos. L. Rozier Machinery Company	2	15149.26
K Mart Corporation	2	2000.00
Moreland-McKesson Chemical Company	1	8667.89
Plant City Steel	2	38744.87
Purex Corporation, Ltd.	2	17777.72
Radiant Oil	2	2230.71
Scrap-All, Inc.	1	38821.50
Servonation	2	2000.00
South Florida Baptist Hospital	2	2000.00
Stone & Webster Engineering Corporation	2	3552.93
Tampa Soap and Chemical Company	2	0.00
Tampa Women's Health Center, Inc.	2	2769.15
Trafalgar Development	2	2131.75
Trans Florida Terminal	2	2000.00
W.R. Grace Company	2	2153.79
Weyerheauser Company	1	15671.20
*** Total ***		285340.44

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Acousti Engineering Company of Florida

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
____	MENU OPTION 1 ("Best-Case Scenario")	$_____
✓	MENU OPTION 2 ("Worst-Case Scenario")	$ 2,000

ACOUSTI ENGINEERING CO. OF FL
Name of Respondent
4656 34th Street, S.W., Orlando, FL 32811
Address

By: Robert A. Crozier
Name of Officer or Authorized Representative

Vice President
Title

Signature

August 29, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

_____
_____
( )_____
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Agrico Chemical Company (Agrico Terminal)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
✓	MENU OPTION 2 ("Worst-Case Scenario")	$ $ 0.00

IMC-Agrico Company
Name of Respondent
P. O. Box 2000, Mulberry, Florida 33860
Address

By: Lee F. Thurner
Name of Officer or Authorized Representative

Vice President
Title

Lee F. Thurner, Vice President
Signature

August 15, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

_____
_____
( )
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Alumax Extrusions, Inc.

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
XX	MENU OPTION 2 ("Worst-Case Scenario")	$ - 0 -

Alumax Extrusions, Inc.
Name of Respondent

c/o Alumax Inc.; 5655 Peachtree Parkway, Norcross, GA 30092
Address

By: R. P. Wolf
Name of Officer or Authorized Representative

Vice President
Title

R. P. Wolf
Signature

8/14/96
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

Alumax Inc.
5655 Peachtree Parkway; Norcross, GA 30092
Name and Address

Attorney

Bradley A. Hasten, Esq.
Senior Attorney

(770) 246-6647; (770) 246-6660 (fax)
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Ambulatory Surgery Center (Ambulatory Care Center)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$28,305.06

Ambulatory Surgery Center Group, Ltd.
by its General Partner Tampa Surgi-Center, Inc.
Name of Respondent

One Park Plaza, Nashville TN 37203
Address

By: Stephen T. Braun
Name of Officer or Authorized Representative

Senior Vice President
Title

Signature

August 28, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

CSC/Prentice - Hall Corp Services, Inc.
1201 Hays St. Tallahassee FL 32301
Name and Address

Attorney

_____
_____

( )
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: CF Industries, Inc.

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ 0.00

CF Industries, Inc.
Name of Respondent
P. O. Box 1480, Bartow, FL 33831
Address

By: A. L. Holmes
Name of Officer or Authorized Representative

V.P. of Phosphate Operations
Title

A L Holmes
Signature

Aug. 28, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

See below
Name and Address

Mark E. Grummer
Kirkland & Ellis
655 15th Street, N.W.
Suite 1200
Washington, D.C. 20005

Attorney

See below
(202) 879-5160
Name, Address, Phone

Mark E. Grummer
Kirkland & Ellis
655 15th Street, N.W.
Suite 1200
Washington, D.C. 20005

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: GNB Incorporated (Chloride Metals Corp./Chloride, Inc.)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ 34,818.71

GNB Technologies, Inc./Chloride Metals/Chloride, Inc.
Name of Respondent

375 Northridge Road, Suite 100, Atlanta, Georgia 30350
Address

By: STEVE E. EMMONS
Name of Officer or Authorized Representative

Manager, Environmental, Health and Safety
Title

Steven E. Emmons
Signature

8-29-96
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

Elias N. Chotas, Esquire
Dean, Mead, Egerton
800 North Magnolia Ave., Orlando, FL 32803
(407) 841-1200
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Fina Oil and Chemical Company

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
✓	MENU OPTION 2 ("Worst-Case Scenario")	$ 2,000.00

FINA OIL & CHEMICAL CO.
Name of Respondent
PO BOX 2159, DALLAS, TX 75221
Address

By: B.D. Gill
Name of ~~Officer or~~ Authorized Representative

Manager, Engineering & Construction.
Title

B D Gill
Signature

8/16/96
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

Jim Veach
P.O. Box 2159
Name and Address
DALLAS, TX 75221

Attorney

Jim Veach

(214) 750-2819
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Florida Steel Corporation (Florida Steel Corp., Tampa Steel Mill)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ -0-

* AmeriSteel Corporation (formerly known as Florida Steel Corporation)
Name of Respondent
P. O. Box 31328, Tampa, FL 33631-3328
Address

By: Thomas G. Creed — President
Name of Officer or Authorized Representative — Title

Signature — 8/26/96
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

_____
_____
( )
Name, Address, Phone

*Effective April 1, 1996, Florida Steel Corporation changed its corporate name to AmeriSteel Corporation.

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Cargill Fertilizer, Inc. (Gardinier, Inc.)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ 2,000.00

Cargill Fertilizer, Inc. (Gardinier, Inc.)
Name of Respondent
8813 Hwy. 41 South - Riverview, FL 33569
Address

By: Edgar O. Morris
Name of Officer or Authorized Representative

Edgar O. Morris
Signature

Manager
Environment, Health & Safety
Title

August 20, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

LaRaye Osborne
P.O. Box 5624
Minneapolis, MN 55440
(612) 742-6374
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Gas Kwick, Inc.

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ 2,000.00

Gas Kwick, Inc.
Name of Respondent

P.O. Box 5238 Tampa, Florida 33675
Address

By: Joseph Capitano
Name of Officer or Authorized Representative

President
Title

J Capitano
Signature

August 27, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____

_____
Name and Address

Attorney
Mark Bentley, Esquire
117 S. Albany Avenue
Tampa, Florida 33606
(813) 251-1106
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Baltimore Ennis Land Company, Inc. (Gibson Homans of Florida, Inc.)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
XX	MENU OPTION 2 ("Worst-Case Scenario")	$ 14,211.72*

Baltimore Ennis Land Company, Inc. (Gibson-Homans of Florida)
Name of Respondent
20200 Sheldon Road Cleveland, Ohio 44142
Address

By: Anthony Money
Name of Officer or Authorized Representative

President
Title

Signature

8/9/96
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

_____
_____
( )
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Handy City

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ 2,000.00

Handy City
Name of Respondent
One Town Center Rd., Boca Raton, FL 33486
Address

By: David M. Cleary — Senior Environmental Counse
Name of Officer or Authorized Representative — Title

Signature — August 23, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

_____
_____
( )
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Hartz Mountain

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
XX	MENU OPTION 2 ("Worst-Case Scenario")	$19,076.38

The Hartz Mountain Corporation
Name of Respondent
400 Plaza Drive
Address Secaucus, New Jersey 07094

By: William Salomon
Name of Officer or Authorized Representative

Executive Vice President
Title

Signature

August 26, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

Louis Maggiotto, Esq.
The Hartz Mountain Corporation
Name and Address 400 Plaza Drive
Secaucus, NJ 07094

Attorney

Curtis L. Michael
Horowitz, Rubino & Patton
400 Plaza Drive
( )Secaucus, NJ 07094
Name, Address, Phone
(201) 863-7988

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Helena Chemical Company

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
✓	MENU OPTION 1 ("Best-Case Scenario")	$11,646.47
_____	MENU OPTION 2 ("Worst-Case Scenario")	$_____

Helena Chemical Co.
Name of Respondent
6075 Poplar Ave, Memphis, TN 38119
Address

By: W. T. BRASWELL
Name of Officer or Authorized Representative

V.P., Technical Services
Title

W T Braswell
Signature

8/20/96
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process
(For this matter only)
Edward B. Brister
6075 Poplar Avenue, Suite 500
Name and Address
Memphis, TN 38119

Attorney
Charles H. Pangburn III
Taft, Stettinius & Hollister
1800 Star Bank Center
(513) 357-9389
Name, Address, Phone
425 Walnut Street
Cincinnati, OH 45202-3957

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Hunt-Wilde Corp./Pan American Plastics

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ 11,611.33

HUNT-WILDE CORPORATION/PAN AMERICAN PLASTICS
Name of Respondent
2835 OVERPASS ROAD, TAMPA, FL 33619
Address

By: DOUGLAS A. HUNT
Name of Officer or Authorized Representative

PRESIDENT
Title

Signature

AUG. 14, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

Name and Address

Attorney

( )
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Rozier Machinery Company (Jos. L. Rozier Machinery Company)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
✓	MENU OPTION 2 ("Worst-Case Scenario")	$ 15,149.26

ROZIER MACHINERY CO
Name of Respondent

1414 SWANN AVE #201, TAMPA, FL 33606
Address

By: G. ROBERT BLANCHARD, JR
Name of Officer or Authorized Representative

VICE PRESIDENT
Title

Signature

AUG 22, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

CARLTON FIELDS
Name and Address

Attorney
ROGER SCHWENKE
CARLTON FIELDS
PO BOX 3239, TAMPA, FL 33601-3239
(813) 223-7000
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Kmart Corporation

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$2,000.00

Kmart Corporation
Name of Respondent
3100 West Big Beaver Rd
Address Troy, MI 48084-3163

By: Louis Zelnick
Name of Officer or Authorized Representative

Environmental Law Attorney
Title Kmart Corporation

Louis Zelnick
Signature

8/12/96
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

Louis Zelnick, Esq.
Environmental Law Attorney
Kmart Corp.
(810) 637-6541
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: McKesson Corporation (Moreland-McKesson Chemical Company)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
X	MENU OPTION 1 ("Best-Case Scenario")	$ 8,667.89
_____	MENU OPTION 2 ("Worst-Case Scenario")	$ _____

McKESSON CORPORATION
Name of Respondent
1 POST STREET, SAN FRANCISCO, CA
Address

By: ALAN PEARCE
Name of Officer or Authorized Representative

ASSISTANT TREASURER
Title

Signature

26 AUGUST 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

The Prentice Hall Corp. System, Inc.
100 Peachtree Street
Name and Address
Atlanta, Georgia 30303

Attorney

David J. Bailey, Esq.
Jones, Day, Reavis & Pogue
(404) 521-3939
Name, Address, Phone
3500 Peachtree Center
303 Peachtree Street
Atlanta, Georgia 30308-3242

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Taylor-Wharton (Plant City Steel)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ 38,744.87

Harsco Corporation for Taylor-Wharton, Plant City Steel
Name of Respondent
P.O. Box 8888, Camp Hill, PA 17001-8888
Address

By: William C. Etzweiler
Name of Officer or Authorized Representative

Sr. Vice President & Chief Operating Officer
Title

Signature

August 23, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

Michele Monaghan Nicholas
P.O. Box 8888, Camp Hill, PA 17001-888

(717) 763-7064
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: The Dial Corporation (Purex Corporation, Ltd.)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ 17,777.72

Jane Melville
Name of Respondent
1850 N. Central Avenue Phoenix, AZ 85004
Address

By: Jane Melville
Name of Officer or Authorized Representative

Vice President, Product Supply
Title

Jane Melville
Signature

August 5, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

Not Applicable
Name and Address

Attorney

( )
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Radiant Oil

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ 2,230.71

Radiant Oil Company of Tampa, Inc.
Name of Respondent
P.O. Box 5238 Tampa, Florida 33675
Address

By: Joseph Capitano — Director
Name of Officer or Authorized Representative — Title

Signature — August 27, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

Mark Bentley, Esquire
117 S. Albany Avenue
Tampa, Florida 33606
(813) 251-1106
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Scrap-All, Inc.

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
X	MENU OPTION 1 ("Best-Case Scenario")	$ 38,821.50
_____	MENU OPTION 2 ("Worst-Case Scenario")	$_____

SCRAP-ALL, INC.
Name of Respondent

P.O. BOX 5567 TAMPA, FL 33675
Address

By: **MARK GOLDMAN**
Name of Officer or Authorized Representative

VICE PRESIDENT
Title

Signature

AUGUST 29, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

_____
_____
( )
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Service America (Servonation, Inc.)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
__x__	MENU OPTION 2 ("Worst-Case Scenario")	$2,000.00

Service America Corporation
Name of Respondent
100 First Stamford Place, Stamford, CT 06904
Address

By: Janet L. Steinmayer
Name of Officer or Authorized Representative

Corp. V.P. & General Counsel
Title

Signature

September 3, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

Attorney listed at right

Name and Address

Attorney

Carl T. Anderson
Alejandro J. Diaz

(203) 961-7400
Name, Address, Phone

Paul, Hastings, Janofsky & Walker LLP
1055 Washington Blvd. - 9th Floor
Stamford, CT 06901

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: South Florida Baptist Hospital

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
V	MENU OPTION 2 ("Worst-Case Scenario")	$ 2,000.00

South Florida Baptist Hospital
Name of Respondent
301 North Alexander Street, Plant City, Fl. 33566
Address

By: _____ Administrator/CFO
Name of Officer or Authorized Representative — Title

William H. Anderson — 8/13/96
Signature — Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

_____
_____
( )
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Stone & Webster Engineering Corporation

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
____	MENU OPTION 1 ("Best-Case Scenario")	$ ____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ 3,552.93

Stone + Webster Engineering Corp.
Name of Respondent
245 Summer St.
Address Boston, MA 02210

By: Michael T. McInerney Esq. — Senior Attorney
Name of Officer or Authorized Representative — Title

Signature — 8-19-96
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

Name and Address

Attorney

( )
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Tampa Soap & Chemical Corporation, a dissolved Florida corporation

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
✓	MENU OPTION 2 ("Worst-Case Scenario")	$ 0.00

Tampa Soap & Chemical Corporation, a dissolved
Name of Respondent Florida corporation
13910 County Road 448, Tavares, FL 32778
Address

By: Donald L. Plante, on behalf of the Trustees of the corporation

President
Title

Donald L Plante
Signature

August 21, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

Carlton Fields
One Harbour Place, 777 S. Harbour Island Blvd.
Name and Address Tampa, FL 33601-3239

Attorney

Laurel Lockett, Esquire
Carlton Fields
One Harbour Place, 777 S. Harbour Island Blvd.
(813) 223-7000
Name, Address, Phone Tampa, FL 33601-3239

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Tampa Women's Health Center, Inc.

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
____	MENU OPTION 1 ("Best-Case Scenario")	$ ____
V	MENU OPTION 2 ("Worst-Case Scenario")	$ 276915

TAMPA WOMAN'S HEALTH CENTER, INC.
Name of Respondent
2010 E. FLETCHER AVE TAMPA, FL 33612
Address

By: THOMAS CAHALAN — V. P.
Name of Officer or Authorized Representative — Title

Signature — 8/19/96
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

Name and Address

Attorney

( )
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Trafalgar Developers of Florida, Inc. (Trafalgar Development)

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
____	MENU OPTION 1 ("Best-Case Scenario")	$_____
XX	MENU OPTION 2 ("Worst-Case Scenario")	$ 2,131.75

Trafalgar Developers of Florida, Inc.
Name of Respondent

c/o Patricia Kimball Fletcher, Esq.
Shapo, Freedman & Fletcher, P.A.
200 South Biscayne Boulevard
Suite 4750
Miami, FL 33131

By: Fernando A. Nasmyth
Name of Officer or Authorized Representative

President
Title

Signature

8/12/96
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____

_____

_____
Name and Address

Attorney

Patricia Kimball Fletcher
Shapo, Freedman & Fletcher, P.A.
200 South Biscayne Boulevard
Suite 4750
Miami, FL 33131
(305) 358-4440

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Trans Florida Terminal

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
✓	MENU OPTION 2 ("Worst-Case Scenario")	$2000.00

Hydro Agri North America
successor corp to Trans Florida Terminal
Thomas M. Calcaterra V.P corporate
Name of Respondent
100 N. Tampa Street
Address Suite 3200
Tampa Fl. 33602

By: Thomas M. Calcaterra — Vice President
Name of Officer or Authorized Representative — Title

Signature — 9/5/96
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

_____
_____
( )
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: W.R. Grace & Co.

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		PAYMENT DUE
_____	MENU OPTION 1 ("Best-Case Scenario")	$_____
X	MENU OPTION 2 ("Worst-Case Scenario")	$ 2,153.79

W.R. Grace & Co.
Name of Respondent
One Town Center Rd., Boca Raton, FL 33486
Address

By: David M. Cleary
Name of Officer or Authorized Representative

Senior Environmental Counsel
Title

Signature

August 23, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process

_____
_____
Name and Address

Attorney

_____
_____
( )
Name, Address, Phone

TAYLOR ROAD LANDFILL SUPERFUND SITE
DE MINIMIS ADMINISTRATIVE ORDER ON CONSENT

Signature Page for Respondent: Weyerhaeuser Company

The undersigned duly authorized representative of the above-referenced Respondent agrees to enter into and be bound by all terms of the foregoing Administrative Order on Consent In the Matter of the Taylor Road Landfill Superfund Site and hereby selects the following Menu Option settlement. Please indicate your selected Option with a check mark and please refer to Attachment B to determine the payment amount required under the selected Option and enter that amount below.

		Payment Due
X	MENU OPTION 1 ("Best-Case Scenario")	$ 15,671.20
_____	MENU OPTION 2 ("Worst-Case Scenario")	$ _____

WEYERHAEUSER COMPANY
Name of Respondent

Tacoma, Washington 98477
Address

By: James P. Odendahl
Name of Officer or Authorized Representative

Director, OOE Toxic Solid Waste Team
Title

James P. Odendahl
Signature

August 19, 1996
Date

If different from above, the following is the name and address of Respondent's agent for service of process and, if Respondent has counsel, the name and address of counsel. Counsel may act as agent for service of process.

Agent for Service of Process:

Mr. Sandy D. McDade
Corporate Secretary
Weyerhaeuser Company, CH 2L26
Tacoma, WA 98477

Attorney:

Kimberly A. Hughes, Esq.
Weyerhaeuser Law Dept, CH 2J28
Tacoma, WA 98477
(206) 924-3440

ATTACHMENT B

TAYLOR ROAD LANDFILL SITE/HILLSBOROUGH COUNTY, FLORIDA
DE MINIMIS COST MATRIX

PRP NAME	VOLUME OF WASTE (CUBIC YDS.)	PERCENT WASTE-IN	EPA PAST COSTS $1,385,846.59	PRP PAST COSTS $1,126,265.55	FUT. COSTS OPTION 1 $2,640,000	PREMIUM OPTION 1 (50%)	PRP CREDIT OPTION 1	FUT. COSTS OPTION 2 $7,400,000	PREMIUM OPTION 2 (50%)	PRP CREDIT OPTION 2	TOTAL OPTION 1 BEST CASE	TOTAL OPTION 2 WORST CASE
Acousti Engineering Company of Florida	104.765	0.01367	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Agrico Terminal	762.080	0.09946	1378.31	1120.14	2625.64	1312.82	-6436.91	7359.75	3679.88	-13538.08	0.00	0.00
Alafia Supply	494.088	0.06448	893.62	726.23	1702.31	851.16	0.00	4771.63	2385.82	0.00	4173.32	8777.30
Alumax Extrusions, Inc.	132.000	0.01723	238.74	194.02	454.79	227.39	-1114.94	1274.78	637.39	-2344.93	0.00	0.00
Ambulatory Care Center	1593.337	0.20794	2881.73	2341.96	5489.62	2744.81	0.00	15387.58	7693.79	0.00	13458.12	28305.06
Aqua Nots	103.920	0.01356	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Arch Development	240.000	0.03132	434.07	352.76	826.89	413.44	0.00	2317.79	1158.89	0.00	2027.16	4263.51
Asgrow Florida Company of Plant City	1924.460	0.25115	3480.61	2828.66	6630.46	3315.23	-16254.96	18585.39	9292.69	-17133.00	0.00	17054.35
Auto Parts of Riverview	34.640	0.00452	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Beasley & Son, Inc.	1800.000	0.23491	3255.51	2645.72	6201.65	3100.83	0.00	17383.42	8691.71	0.00	15203.71	31976.36
Bilmarlin (Bill Marlin) LTD.	1680.040	0.21926	3038.55	2469.40	5788.35	2894.17	0.00	16224.91	8112.46	0.00	14190.47	29845.32
C & M Builders	43.300	0.00565	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
C.F. Industries	440.000	0.05742	795.79	646.73	1515.96	757.98	-3716.46	4249.28	2124.64	-7816.44	0.00	0.00
Car Care Center (Car Care Inc. of Tampa)	34.640	0.00452	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Chan Mar Development	240.000	0.03132	434.07	352.76	826.89	413.44	0.00	2317.79	1158.89	0.00	2027.16	4263.51
Chemex, Co.	880.000	0.11485	1591.58	1293.46	3031.92	1515.96	0.00	8498.56	4249.28	0.00	7432.92	15632.88
Chloride Metals Corp./Chloride, Inc.	1960.000	0.25579	3544.89	2880.90	6752.91	3376.46	0.00	18928.61	9464.31	0.00	16555.16	34818.71
Dixie Auto and Truck Parts	51.960	0.00678	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Eastern Oil Company	190.520	0.02486	344.58	280.04	656.41	328.21	0.00	1839.94	919.97	0.00	1609.24	3384.53
Elmer's Auto Clinic	328.526	0.04287	594.18	482.88	1131.89	565.95	0.00	3172.73	1586.36	0.00	2774.90	5836.15
Ferman Chevrolet	600.000	0.07830	1085.17	881.91	2067.22	1033.61	0.00	5794.47	2897.24	0.00	5067.91	10658.79
Fife-Florida Electric Supply, Inc.	40.000	0.00522	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Fina	77.940	0.01017	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Florida Mental Health Institute	2478.990	0.32352	4483.54	3643.73	8541.02	4270.51	0.00	23940.74	11970.37	0.00	20938.80	44038.38
Florida Steel Corp., Tampa Steel Mill	580.000	0.07569	1049.00	852.51	1998.31	999.16	-4898.98	5601.32	2800.66	-10303.49	0.00	0.00
Gardinier, Inc.	60.000	0.00783	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Gas Kwick, Inc.	103.920	0.01356	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
General Cable Company	2400.000	0.31321	4340.68	3527.63	8268.87	4134.44	0.00	23177.90	11588.95	0.00	20271.62	42635.16
Gibson Homans of Florida, Inc.	800.000	0.10440	1446.89	1175.88	2756.29	1378.15	0.00	7725.97	3862.98	0.00	6757.21	14211.72
Glenbrook Homes of Florida, Inc.	1919.090	0.25045	3470.90	2820.77	6611.96	3305.98	0.00	18533.53	9266.76	0.00	16209.61	34091.96
Handy City	105.000	0.01370	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Hardee Equipment Company	306.411	0.03999	554.18	450.38	1055.70	527.85	0.00	2959.15	1479.58	0.00	2588.11	5443.29
Hartz Mountain	1073.840	0.14014	1942.16	1578.38	3699.77	1849.88	0.00	10370.56	5185.28	0.00	9070.19	19076.38
Helena Chemical Company	1378.849	0.17995	2493.81	2026.70	4750.64	2375.32	0.00	13316.17	6658.09	0.00	11646.47	24494.77
Hospital & Welfare Bd of HC/Davis Island	66.625	0.00869	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Hunt-Wilde Corp./Pan American Plastics	653.620	0.08530	1182.15	960.72	2251.96	1125.98	0.00	6312.31	3156.15	0.00	5520.81	11611.33
J.E. Truck Services	173.200	0.02260	313.25	254.58	596.74	298.37	0.00	1672.67	836.34	0.00	1462.94	3076.84

Jerry's Auto	207.840	0.02712	375.90	305.49	716.08	358.04	0.00	2007.21	1003.60	0.00	1755.51	3692.20
Jos. L. Rozier Machinery Company	1817.220	0.23716	3286.65	2671.03	6260.98	3130.49	-15349.15	17549.72	8774.86	-17133.00	0.00	15149.26
K Mart Corporation	84.000	0.01096	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Kargo Service	40.000	0.00522	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Lavino Shipping Company	350.315	0.04572	633.59	514.91	1206.96	603.48	0.00	3383.15	1691.58	0.00	2958.94	6223.23
Lee's Refrigeration & Air Conditioning	142.890	0.01865	258.43	210.03	492.31	246.15	0.00	1379.95	689.98	0.00	1206.92	2538.39
Lionel Leisure, Inc.	40.000	0.00522	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Moreland-McKesson Chemical Company	1026.210	0.13393	1856.02	1508.37	3535.67	1767.83	0.00	9910.58	4955.29	0.00	8667.89	18230.26
Pacemaster, Inc.	1281.680	0.16727	2318.07	1883.87	4415.85	2207.93	0.00	12377.77	6188.88	0.00	10825.72	22768.59
Plant City Steel	2181.010	0.28464	3944.61	3205.75	7514.37	3757.19	0.00	21063.01	10531.50	0.00	18421.92	38744.87
Purex Corporation, Ltd.	1965.180	0.25647	3554.25	2888.51	6770.76	3385.38	-16598.90	18978.64	9489.32	-17133.00	0.00	17777.72
Radiant Oil	125.570	0.01639	227.11	184.57	432.63	216.32	0.00	1212.69	606.34	0.00	1060.63	2230.71
Redding Disposal	4188.150	0.54658	7574.75	6155.94	14429.70	7214.85	0.00	40446.88	20223.44	0.00	35375.24	74401.01
Redwing Carriers	220.000	0.02871	397.90	323.37	757.98	378.99	0.00	2124.64	1062.32	0.00	1858.24	3908.23
Riverview Automotive	155.880	0.02034	281.93	229.12	537.06	268.53	0.00	1505.40	752.70	0.00	1316.64	2769.15
Sainer Construction Co.	380.000	0.04959	687.27	558.54	1309.24	654.62	0.00	3669.83	1834.92	0.00	3209.67	6750.56
Scaglione Construction, Inc.	565.255	0.07377	1022.33	830.84	1947.51	973.75	0.00	5458.93	2729.46	0.00	4774.43	10041.56
Scrap-All, Inc.	4596.160	0.59983	8312.69	6755.65	15835.44	7917.72	0.00	44387.21	22193.61	0.00	38821.50	81649.16
Servonation	35.000	0.00457	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
South Florida Baptist Hospital	20.000	0.00261	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Southeastern Construction and Maintenance	50.050	0.00653	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
St. Petersburg Times	40.000	0.00522	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Stearns-Roger	220.000	0.02871	397.90	323.37	757.98	378.99	0.00	2124.64	1062.32	0.00	1858.24	3908.23
Stone & Webster Engineering Corporation	200.000	0.02610	361.72	293.97	689.07	344.54	0.00	1931.49	965.75	0.00	1689.30	3552.93
Tampa Armature Works, Inc.	60.000	0.00783	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Tampa Barge Service	140.000	0.01827	253.21	205.78	482.35	241.18	0.00	1352.04	676.02	0.00	1182.52	2487.05
Tampa Soap and Chemical Company	956.000	0.12476	1729.04	1405.17	3293.77	1646.88	-8074.86	9232.53	4616.26	-16983.00	0.00	0.00
Tampa Women's Health Center, Inc.	155.880	0.02034	281.93	229.12	537.06	268.53	0.00	1505.40	752.70	0.00	1316.64	2769.15
Thatcher Glass Corp.	3412.320	0.44533	6171.57	5015.58	11756.68	5878.34	0.00	32954.33	16477.17	0.00	28822.17	60618.65
Trafalgar Development	120.000	0.01566	217.03	176.38	413.44	206.72	0.00	1158.89	579.45	0.00	1013.57	2131.75
Trans Florida Terminal	34.640	0.00452	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
W.R. Grace Company	121.240	0.01582	219.28	178.20	417.72	208.86	0.00	1170.87	585.44	0.00	1024.06	2153.79
Ware Construction Co., Inc.	420.000	0.05481	759.62	617.34	1447.05	723.53	0.00	4056.13	2028.07	0.00	3547.54	7461.16
Waste Aid Systems, Inc.	33.990	0.00444	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Western Contracting	20.000	0.00261	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00	2000.00
Weyerheauser Company	3883.759	0.50685	7024.23	5708.53	13380.96	6690.48	-17133.00	37507.23	18753.62	-17133.00	15671.20	51860.61

10039593

First Five-Year Review Report

for

Taylor Road Landfill

Seffner

Hillsborough County, Florida

September, 2003

PREPARED BY:

U.S. Environmental Protection Agency
Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Approved by:

Winston A. Smith
Waste Division Director
U.S. EPA, Region 4

Date: 9/29/03

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Five-Year Review Report

Table of Contents

List of Acronyms vi

Executive Summary viii

Five-Year Review Summary Form xi

I. Introduction 1

II. Site Chronology 2

III. Background **4**
Physical Characteristics 4
Land and Resource Use 5
History of Contamination 6
Initial Response 7
Basis for Taking Action 8
Remedial Investigation 8
Baseline Risk Assessment 11
Feasibility Study 11

IV. Remedial Actions **13**
Remedy Selection 13
Remedy Implementation 14
System Operations/Operation and Maintenance (O&M) 16
Post-ROD Changes 17

V. Progress Since the Last Five-Year Review 17

VI. Five-Year Review Process 17
Administrative Components 18

Community Notification and Involvement 19
Document and Data Review 19
Compliance and Interior Wells 19
Domestic Supply Wells 22
Site Inspection 23
Interviews 25

VII. Technical Assessment 27
Question A: Is the remedy functioning as intended by the decision documents? 28
Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy selection still valid? 28
Question C: Has any other information come to light that could call into question the protectiveness of the remedy? 30

VIII. Issues 31

IX. Recommendations and Follow-up Actions 31

X. Protectiveness Statement(s) 33

XI. Next Review 34

Tables

Table 1 - Chronology of Site Events
Table 2 - Site Operation and Maintenance Costs
Table 3 - Occurrence and Distribution of Chemicals in Ground Water (1990-1993)
Table 4 - Five-Year Review Key Personnel
Table 5 - Ground Water Monitoring Data Summary
Table 6 - Interview Summary
Table 7 - Changes in Chemical-Specific Standards

Table 8 - Changes in Action-Specific Requirements
Table 9 - Changes in Location-Specific Requirements
Table 10 - Issues
Table 11 - Recommendations and Follow-up Actions

Attachments

1. Site Figures
II. List of Documents Reviewed
III. Site Inspection Checklist
IV. Site Photographs
V. Interview Records

Appendix

A. Florida Department of Environmental Protection Comments

List of Acronyms

1,1-DCE	1,1-dichloroethene
BRA	Baseline Risk Assessment
CFR	Code of Federal Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cis 1,2-DCE	cis 1,2-dichloroethene
COPC	contaminant of potential concern
EPA	United States Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
ft	foot/feet
FS	Feasibility Study
mg/L	milligrams per liter
MSL	mean sea level
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PCE	tetrachloroethene
PRP	Potentially Responsible Party
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investiagtion
ROD	Record of Decision
RP	Responsible Party
Site	Taylor Road Landfill Superfund Site
SWMD	Solid Waste Management Department
TCE	trichloroethene
U.S.	United States
ug/L	micrograms per liter
umhos/cm	micromhos per centimeter
VOC	volatile organic compound

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Executive Summary

The purpose of the Five-Year Review of the Taylor Road Landfill Superfund Site (the Site) is to evaluate the implementation and performance of the remedy selected as the final action to respond to risks associated with potential exposure to contaminated ground water in the Floridan aquifer that is present beneath or is attributable to the Site. The methods, findings, and conclusions of this evaluation are documented in this Five-Year Review Report. A determination is made as to whether the remedy is protective of human health and the environment based on the data and observations evaluated during the Five-Year Review. In addition, this Five-Year Review report identifies issues found during the review, and includes recommendations to address them. This statutory Five-Year Review was performed by EPA with the support of the Florida Department of Environmental Protection.

The Record of Decision for Taylor Road Landfill was signed on September 29, 1995, and selected Alternative 3, Collect and Treat Ground Water at Property Boundary on a Contingent Basis, as the remedy for the Site. The major components of this remedy include: institutional controls, extension of water lines and monitoring, and natural attenuation with contingent corrective action. In the Record of Decision, the Florida Primary and Secondary Standards and Minimum Criteria were established as the remediation levels for ground water, and the point of compliance was set as a ring of monitoring wells encircling the three landfills. An Explanation of Significant Difference was issued by EPA in August 2000 to remove Florida Secondary Drinking Water Standards from the federally-enforceable applicable, or relevant and appropriate requirements for this action. The Florida Department of Environmental Protection did not concur with EPA's change to the Record of Decision.

During the records and data review, site inspection, and interview process, a number of issues were identified relative to implementation of the remedy at the Site. These issues include: (1) Site access security (monitoring & maintenance of fences); (2) Ground water monitoring well maintenance; (3) Potential for un-permitted potable well installation in adjoining properties; (4) Operations & maintenance of landfill caps, leachate collection, gas collection and storm water management systems under RCRA; (5) Annual reporting for Ground Water Quality Statistical Evaluations; (6) Ground water quality concerns (mercury, oil & grease, and pH) of adjoining land owners should be affirmatively addressed; (7) Quantitative measurement and tracking of fill activities in landfill cap settlement areas; and, (8) Monitoring/ evaluation of potential environmental impacts from adjacent properties (commercial activities and dumping) should be performed.

Community involvement activities associated with the Five-Year Review include publication of a legal notice at the start of the Five-Year Review process, contacts and interviews with citizens/community groups identified in the Community Relations Plan, and issuance of a Fact Sheet and second legal notice upon completion of the Five-Year Review. Legal notices are published in the Tampa Tribune, and Fact Sheets will be sent to the Site mailing list and placed in the Information Repository. An inspection of the Information Repository, maintained at the

Thonotosassa Public Library on 10715 Maion St., Thonotosassa, FL 33592, indicates that the site file is up-to-date and readily accessible. Interviews with citizens and community groups indicate that there is an ongoing level of concern about the Site, but the remedy and its implementation by Hillsborough County are generally addressing these concerns.

The remedy at the Taylor Road Landfill currently protects human health and the environment because ground water monitoring at the compliance ring ensures contingent measures can be taken prior to impacts to domestic supply wells, institutional controls restrict the installation of new domestic supply wells in the impacted area, post-closure care of the landfills under RCRA minimizes ongoing impacts to the aquifer, and natural attenuation is demonstrated to be occurring. However, in order for the remedy to remain protective in the long-term, the following actions need to be taken to address issues identified during the Five-Year Review: repair fencing and improve enforcement of site access controls; improve routine maintenance of monitoring wells; perform a potable well survey in the vicinity of the site to ensure institutional controls are effective; ensure the long-term operation and maintenance of the landfills; resume annual ground water quality statistical evaluations; and, improve responsiveness to ongoing community concerns. Hillsborough County began implementing these actions following completion of the Five-Year review site inspection.

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Five-Year Review Summary Form

SITE IDENTIFICATION

Site name *(from WasteLAN)*: Taylor Road Landfill

EPA ID *(from WasteLAN)*: FLD980494959

Region: 4	**State:** FL	**City/County:** Seffner/Hillsborough

SITE STATUS

NPL status: X Final ☐ Deleted ☐ Other (specify) _____

Remediation status (choose all that apply): ☐ Under Construction ☐ Operating X Complete

Multiple OUs?* ☐ YES X NO	**Construction completion date:** 06 / 18 / 1999

Has site been put into reuse? X YES ☐ NO

REVIEW STATUS

Lead agency: X EPA ☐ State ☐ Tribe ☐ Other Federal Agency _____

Author name: William D. Keefer

Author title: RPM	**Author affiliation:** EPA Region4

Review period:** 05 / 29 / 2003 to 08 / 31 / 2003

Date(s) of site inspection: 06 / 19-20 / 2003

Type of review:

X Post-SARA ☐ Pre-SARA ☐ NPL-Removal only
☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead
☐ Regional Discretion

Review number: X 1 (first) ☐ 2 (second) ☐ 3 (third) ☐ Other (specify) _____

Triggering action:

☐ Actual RA Onsite Construction at OU #____ X Actual RA Start at OU# 00
☐ Construction Completion ☐ Previous Five-Year Review Report
☐ Other (specify) _____

Triggering action date *(from WasteLAN)*: 08 / 11 / 1998

Due date *(five years after triggering action date)*: 08 / 11 / 2003

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, cont'd.

Issues:

The following issues were identified during the Five-Year Review: (1) Site access security (monitoring & maintenance of fences); (2) Ground water monitoring well maintenance; (3) Potential for un-permitted potable well installation in adjoining properties; (4) Operations & maintenance of landfill caps, leachate collection, gas collection and storm water management systems under RCRA; (5) Annual reporting for Ground Water Quality Statistical Evaluations; (6) Ground water quality concerns (mercury, oil & grease, and pH) of adjoining land owners should be affirmatively addressed; (7) Quantitative measurement and tracking of fill activities in landfill cap settlement areas; and, (8) Monitoring/evaluation of potential environmental impacts from adjacent properties (commercial activities and dumping) should be performed.

Recommendations and Follow-up Actions:

Recommendations and follow-up actions for the identified issues include: (1) *Repair cut and damaged fences,* and Institute daily perimeter security checks (per 1983 CD); (2) Perform routine maintenance on wells TR2-S and 32D, Refit/replace well NE-23, Refit/replace well F-2, Abandon unused shallow wells, Lock and clearly label all wells, and Add well rehabilitation check to pump repair process; (3) Perform potable well survey on adjacent parcels (approximately 1-mile radius of Site); (4) Consideration of ground water impacts during RCRA *permit renewal negotiation; (5) Return to Annual reporting and evaluation of ground water trends; (6)* Prepare Fact Sheet presenting results of Five-Year Review and addressing community ground water quality concerns; (7) Perform routine civil surveying of landfill cap surfaces (bi-annual or when significant settlement is observed), and Include quantitative estimate of settlement fill activities (area, thickness and location); and, (8) Inventory products and wastes managed on adjacent or nearby properties, Request notification from FDEP District Office of nearby spills or releases, and Report/cleanup illegal dumping on adjacent properties.

Protectiveness Statement:

The remedy at the Taylor Road Landfill currently protects human health and the environment because ground water monitoring at the compliance ring ensures contingent measures can be taken prior to impacts to domestic supply wells, institutional controls restrict the installation of new domestic supply wells in the impacted area, post-closure care of the landfills under RCRA minimizes ongoing impacts to the aquifer, and natural attenuation is demonstrated to be occurring. However, in order for the remedy to remain protective in the long-term, the following actions need to be taken: repair fencing and improve enforcement of site access controls; improve routine maintenance of monitoring wells; perform a potable well survey in the vicinity of the site to ensure institutional controls are effective; ensure the long-term operation and maintenance of the landfills; resume annual ground water quality statistical evaluations; and, improve responsiveness to ongoing community concerns.

Other Comments:

Overall, Hillsborough County Solid Waste Management Department has done a commendable job of implementing the remedy and integrating RCRA and CERCLA operation and maintenance requirements for the Site. While these follow-up actions, if not implemented, would be expected to have a negative impact on the long-term effectiveness of the remedy, it is expected that Hillsborough County will be responsive to these recommendations. Most of the recommendations and follow-up actions for the Site are being implemented by Hillsborough County based on the debriefing at the conclusion of the site inspection.

Five-Year Review Report

I. Introduction

The purpose of the Five-Year Review of the Taylor Road Landfill Superfund Site (the Site) is to evaluate the implementation and performance of the remedy selected as the final action to respond to risks associated with potential exposure to contaminated ground water in the Floridan aquifer that is present beneath or is attributable to the Site. The methods, findings, and conclusions of this evaluation are documented in this Five-Year Review Report. A determination is made as to whether the remedy is protective of human health and the environment based on the data and observations evaluated during the Five-Year Review. In addition, this Five-Year Review report identifies issues found during the review, and includes recommendations to address them.

The Site is a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Enforcement-lead site, and Hillsborough County, Solid Waste Management Department, is the representative of the responsible parties (RP). Hillsborough County, Solid Waste Management Department, has cooperated during performance of the Five-Year Review, providing site access and other material support as requested. This Five-Year Review has been conducted to meet the statutory requirements of CERCLA §121, the National Contingency Plan (NCP), and specific requirements of the Record of Decision (ROD) for this action.

Specifically, CERCLA §121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The U.S. EPA has interpreted this requirement further in the NCP; 40 CFR §300.430(f)(4)(ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

This is the first Five-Year Review for the Taylor Road Landfill Superfund Site. The triggering action for this review is the date of the Remedial Action start, as shown in EPA's WasteLAN database: August 11, 1998. As the lead agency, U.S. EPA, Region 4, formed an in-house team consisting of the Remedial Project Manager, Community Involvement Coordinator, and a Senior Hydrogeologist from the Office of Technical Services to conduct the Five-Year Review. The Florida Department of Environmental Protection (FDEP) is the support agency for the Five-Year Review of this Site, and has participated in the planning, site inspection, and review of the draft Five-Year Review report. FDEP support included representatives of both the Hazardous Waste Cleanup Section for Superfund Sites and the Southwest District Office, Resource Conservation and Recovery Act (RCRA) section.

The Taylor Road Landfill Site consists of a single operable unit (OU) that encompasses ground water beneath and contiguous with the Site. The objective of the remedy is to prevent current or future exposure to contaminated ground water through provision of County water to residents and through natural attenuation or active treatment of groundwater should conditions indicate it is necessary. A significant contributing factor to the success of the natural attenuation component of the remedy is the operation and maintenance (O&M) of the closed landfills at the site. While the O&M of the landfills is regulated separately from Superfund under the FDEP RCRA program, the landfill O&M was inspected and evaluated as part of this Five-Year Review to assess its contribution to the long-term effectiveness of the ground water remedy.

II. Site Chronology

The chronology of significant events at the Taylor Road Landfill Superfund Site includes both CERCLA pre-remedial and remedial process milestones, as well as the September 1983 Consent Decree under RCRA that specified requirements for the cap, cover, site drainage, methane gas control, and thirty years of O&M for all three landfills. Table 1 summarizes the chronology of Site events.

Table 1: Chronology of Site Events

Event	Date
Initial discovery of problem or contamination	08/01/1979
Preliminary Assessment	08/01/1980
HRS Package	12/01/1982
Consent Decree - remedial measures implementation under RCRA	7/20/1983
NPL listing	09/08/1983
Site Inspection	11/01/1984
Removal Assessment	09/15/1992
Administrative Order on Consent - groundwater RI/FS	02/01/1993

Table 1: Chronology of Site Events

Event	Date
Remedial Investigation/Feasibility Study complete	09/29/1995
ROD signature	09/29/1995
Administrative Order on Consent	09/18/1996
Administrative Order on Consent	07/11/1997
Consent Decree - RD/RA	05/11/1998
Remedial design start	02/25/1998
Remedial design complete	08/11/1998
Remedial action start	08/11/1998
Construction completion date	06/18/1999
Explanation of Significant Difference	08/03/2000

III. Background

The Taylor Road Landfill Superfund Site is located in eastern Hillsborough County, Florida, on County-owned property, approximately 7 miles east of Tampa in the Seffner-Thonotosassa area. Interstate 4 borders the site to the south, and Mango Road (State Route 579) borders the site to the west. The County property is 252 acres in size and contains three closed landfills. The 42 acre Taylor Road Landfill is located east of the approximately 10 acre Florida Department of Transportation (FDOT) Borrow Pit Landfill and southeast of the 64 acre Hillsborough Heights Landfill. Only the Taylor Road Landfill is on the National Priorities List (NPL). Despite this fact, groundwater contamination has moved well beyond the boundaries of the Taylor Road Landfill. Accordingly, the two adjacent landfills have been evaluated to determine if they are contributing to groundwater contamination. Also located within the 252 acres of County property are five stormwater detention basins, County maintenance facilities, and a community recycling collection center/refuse collection area. The entire 252 acres of County property, containing all three landfills, and adjacent properties comprising the groundwater monitoring network are referred to collectively as the Site.

Physical Characteristics

The Taylor Road Landfill Superfund Site is located within an internally drained portion of the Polk Upland karst escarpment that is referred to as the Brandon Karst Terrain. The Site lies along a small ridge that extends northward from the Brandon Karst Terrain. In the vicinity of the Site are sinkholes, headlands of small drainage systems, and distinctive hills formed by the accumulation of marine and coastal sands. Based on U.S. Geological Survey topographic maps, the original land surface in the vicinity of the Site extended from a low of approximately 45-ft above mean sea level (MSL) to a high of slightly above 125-ft above MSL located on the small ridge on which the landfills were developed.

The hydrogeology of the Site is characterized by the presence of an ephemeral surficial aquifer in shallow sands above a leaky intermediate confining unit consisting of clays and sandy clays of the Hawthorn Group. The clays and sandy clays of the intermediate confining unit are discontinuous, blocky, and contain pipes and limestone pinnacles that are interconnected with the underlying Floridan aquifer. Due to the discontinuous nature of the Hawthorn Group in the vicinity of the Site, no intermediate aquifer system is considered to be present. The Floridan aquifer at the Site is comprised of the Tampa Member and underlying limestones. The Floridan aquifer is generally unconfined or very poorly confined at the Site.

The ecosystem of the Site is characterized primarily as disturbed grasslands containing manmade detention basins surrounded by an area of commercial/residential development containing small ponds and springs. The Site originally consisted of high pine, sandhill communities. Pockets of the original high pine communities remain in the vicinity of the Site, characterized primarily as Turkey Oak Barrens or Turkey Oak Sandhills. Although a variety of flora and fauna may be found in the vicinity of the Site, and possibly may include federal- and

state-listed species and state species of special concern, the immediate area around the landfills is not likely to serve as a significant habitat for these species. However, wading birds, small amphibians, reptiles, and mammals may use the stormwater runoff detention basins as a water source and intermittent foraging area. No perennial streams are present at the Site.

Land and Resource Use

The land surrounding the Taylor Road Landfill Superfund Site encompasses a variety of uses, including residential, commercial, and agricultural. The Site, as defined by the ring of compliance monitoring wells and 270-ft setback, includes all or part of 62 separate parcels ranging from approximately 0.1 acre to 80 acres in size. Excluding the property owned and maintained as landfill or buffer by Hillsborough County, the predominant land uses are residential and commercial. Agricultural use in the area is generally limited and non-intensive. In general, residential and particularly commercial land use has been expanding in recent years at the expense of agricultural areas. This mix of land uses is essentially unchanged and consistent with the land use identified in the ROD. A number of commercial properties have developed adjacent to the southwestern portion of the Site since remedy construction was completed.

Hillsborough County, Solid Waste Management Department, has actively sought compatible reuse opportunities for the landfill and buffer properties under their control; at the same time pursuing acquisition of property not already under their control within the compliance ring as such property becomes available. Current reuse of buffer zone property includes leases to the Hillsborough County survey and mapping organization, TRAC Aviation (runway and hanger facilities for remote control aircraft hobbyists), and a strip of property for use by the TA Travel Center. Leased properties are isolated from the landfills by fencing, and groundwater use is prohibited within the leased areas. Other reuse activities in place or being pursued include operation of a microturbine with recovered methane for electrical generation and provision of hay to the County transportation department for erosion control from mowing of the landfill caps and surrounding areas.

Private wells drilled into the upper Floridan aquifer have been the primary residential water supply in the area of the site. Extensions of County water service have focused on supply to areas within the compliance ring monitoring well setback. Currently, groundwater use within the compliance ring monitoring well setback is prohibited through implementation of institutional controls as a remedy component in the ROD. Anecdotal evidence of the effectiveness of the institutional controls was provided by Hillsborough County during the site inspection. Reportedly Armwood High School, located near the southern boundary of the compliance ring, applied for a permit to install an irrigation well. The local FDEP office contacted Hillsborough County about the advisability of granting the permit due to the presence of a use restriction notice in their files. Hillsborough County advised against granting the permit and contacted the appropriate school officials; the permit application was subsequently withdrawn. Due to the history of the area as a semi-rural agricultural community, the continued use of groundwater from the upper Floridan

aquifer by numerous nearby residences, and growth in the number of residences within the vicinity of the Site, un-permitted ground water use potentially may occur.

History of Contamination

The three landfills were developed sequentially. The first, known as the Taylor Road Landfill, was an FDOT borrow pit until it was permitted as a solid waste landfill for Hillsborough County in 1975. The Taylor Road Landfill was not constructed with a liner or leachate collection system. From May 1976 until February 1980, the County operated the Taylor Road Landfill, which was intended for disposal of residential, commercial, and industrial refuse. A total of 620,000 tons was disposed of in the landfill. An unknown quantity of hazardous waste is suspected to have been buried at this landfill. In the late1970s, two events precipitated the development of capacity problems within the Taylor Road Landfill. One of these events was the settling of a legal dispute with EPA by Tampa, during which the city agreed to close its incinerator by January 1, 1980. This event diverted an estimated 790 tons of refuse per day to the Taylor Road Landfill. At the same time, another local landfill was closed, adding 490 tons of solid waste per day to the Taylor Road Landfill disposal load. Because of the discontinuation of the incinerator operation, waste generated from area hospitals, clinics, and other health providers also began to be buried at the Taylor Road Landfill.

In February 1980, the Taylor Road Landfill reached its capacity, and landfill operations were moved to an adjacent 10 acre parcel known as the FDOT Borrow Pit Landfill. The Borrow Pit Landfill was developed to operate as a high-rise sanitary landfill for residential, commercial, industrial, and agricultural wastes; dead animals; and water treatment sludge. The Borrow Pit Landfill was constructed with a liner and a leachate collection system. The Borrow Pit Landfill was to serve as a temporary site, pending the design, permitting, and construction of a proposed 200 acre landfill on the adjacent property to the north. A total of 320,000 tons of waste was disposed of in the Borrow Pit Landfill.

The application to extend the Taylor Road Landfill was met by strong public opposition from a neighborhood group. Their petition claimed that the County failed to properly maintain the site. In January 1980, the permit was initially approved, with warnings, such as landfilling operations could not proceed should any determination be made that groundwater was being contaminated by the existing Taylor Road Landfill or the Borrow Pit Landfill. Ultimately the 200-acre landfill expansion project was rejected, resolving that no guarantee of an environmentally safe operation could be given, and that additional wastes deposited on the site would add to the existing potential hazards. The County continued to use the Borrow Pit Landfill until October 1980, when waste disposal operations were transferred to a third 64-acre property located north and west of the two previous landfills. This property is known as the Hillsborough Heights Landfill.

The Hillsborough Heights Landfill was opened under emergency order, and occupied a portion of the 200 acres that had previously been rejected. In the landfill's early months of operation,

infectious wastes from hospitals, clinics, laboratories, and doctors' offices were among the refuse disposed of there. The landfill remained open for four years. Approximately 3,500,000 tons of waste were disposed of in the Hillsborough Heights Landfill.

Results of sampling in the area in 1979 revealed the presence of volatile organic compounds (VOCs) and metals contamination in site monitoring wells and numerous private wells. Residents were advised to discontinue use of their wells. The County established a program of bottled water delivery to 95 residences within a specified radial distance of the Taylor Road Landfill, and authorized construction of County water lines to the affected areas. Further groundwater investigations revealed that a plume of VOCs was migrating off site into residential areas. Additionally, methane gas from the Taylor Road Landfill was detected near residences adjacent to the site in potentially explosive concentrations during this same timeframe. In April 1980, water delivery was expanded to 180 homes and businesses. About 400 residences and business were eventually connected to the County water supply.

Initial Response

In October 1980, EPA filed suit against Hillsborough County under RCRA and the Safe Drinking Water Act, alleging the existence of ground water contamination from soil and hazardous waste disposed at the Site. EPA sought injunctive relief and demanded the implementation of certain operational and remedial measures at the Site. The complaint also sought the abatement of hazards caused by methane gas released at or attributable to the Site. Due to the ground water contamination identified in October 1981, EPA began the process of adding the Taylor Road Landfill Superfund Site to the National Priorities List of uncontrolled waste sites under the federal Superfund program. As EPA was developing administrative procedures for the newly created Superfund program, it pursued cleanup of the Site under RCRA.

Under the Consent Decree signed in 1983 by EPA, FDEP (predecessor agency), and Hillsborough County, the County agreed to a 30-year maintenance and environmental monitoring program governing all three landfills on County property. The decree specified requirements for the cap, cover, and drainage ditch, as well as methane gas control. In February 1984, the County began installation of methane monitoring wells around all three landfills, and commenced construction of a gas collection system, cap, cover, and drainage system in compliance with the Consent Decree. In adition, the County installed a water supply system to serve residents in a specified area south of the landfills, and proceeded with a routine sampling program which is ongoing.

In 1986, EPA initiated a Forward Planning Study under the Superfund Program to investigate all potential contaminant sources in the vicinity of the Site. In 1987, EPA initiated an area-wide private well sampling effort that used information from the Forward Planning Study and previous data collection efforts. In September 1987, EPA notified Hillsborough County and Waste Management, Inc. that they were potentially responsible parties (PRP) relative to the Site ground water contamination. A search for additional PRP was initiated in 1988 at the request of

the existing PRP, and July 1992 Special Notice Letters were issued to approximately 45 PRP. In February 1993, an Administrative Order on Consent was signed by EPA and 19 PRP to perform a Remedial Investigation/Feasibility Study.

Basis for Taking Action

The Remedial Investigation (RI) of the Taylor Road Landfill Superfund Site was performed by ERM-South, Inc., and was completed in 1995. A Baseline Risk Assessment (BRA) was conducted by CDM Federal Programs Corporation for EPA, and a Feasibility Study (FS) addressing remedial alternatives was prepared by ERM-South, Inc. in 1995. Based on the findings and conclusions of the RI, BRA, and FS, it was determined by EPA that remedial action to address ground water contamination was warranted. A Proposed Plan identifying EPA's preferred remedial alternative was circulated for community input, and a ROD was signed by EPA in September 1995 selecting the remedy.

Remedial Investigation

The RI evaluated landfill leachate, surface water and sediment from the Site stormwater detention basins, and ground water from Site monitoring wells and selected private wells.. The leachate data were used to evaluate the contaminant source concentrations, and, since the leachate collection system is not accessible for exposure, these data were not used in the BRA. The analytical results for leachate indicated the presence of volatile organic compounds, semi-volatile organic compounds, one pesticide, and inorganics. The analytical results for surface water and sediment indicate that inorganics were detected in surface water, and that volatile organic compounds, semi-volatile organic compounds, pesticides, and inorganics were detected in sediment. The types and concentrations of chemicals detected in surface water and sediment were determined to be typical of other stormwater detention basins in the area. Although it also was determined that current human exposure to surface water and sediment was unlikely, potential future exposure was considered possible. Surface water and sediment data were evaluated in the BRA for human health risk and potential impacts to ecological receptors.

The ground water data selected for evaluation during the RI were generated from 12 quarterly ground water sampling events conducted by Hillsborough County from 1990 to 1992, and from sampling conducted by ERM-South, Inc. during August and September 1993. Figure 1 (Attachment 1) illustrates the locations of monitoring and private wells in the vicinity of the Site. Ground water samples were analyzed for physical parameters, selected metals, nutrients, and organic compounds. The ground water analytical data, validated and qualified, is summarized in Table 2 for those analytes that were positively detected at least once. This table shows the range of detections above the sample quantitation limit, the date the maximum concentration sample was collected, frequency of detection by year, and the maximum background concentration (from Well 27-D). The average concentrations were calculated based on positive detections only. A broad range of volatile organic compounds and inorganics at average concentrations exceeding applicable statutory thresholds were identified.

Table 2: Occurrence and Distribution of Chemicals in Ground Water (1990 - 1993)

DETECTABLE ANALYTE	Min.	Max.	Mean	Sampling Date of Maximum	Frequency of Detection (1)				Maximum in Background (Well 27-D)	Federal MCL (2)	Florida DER Groundwater Guidance (3)	USEPA Region III (4,5)		COPC (6)
	ug/L	ug/L	ug/L		1990	1991	1992	1993	ug/L	ug/L	ug/L	Risk Level =1E-06	HQ=0.1	
PURGEABLE ORGANICS														
1,1-DICHLOROETHANE	0.4	192	22	4/90	65/104	33/78	47/88	5/6					81	Y
1,1-DICHLOROETHENE	1	279	31	1/90	28/104	21/78	31/88	4/6	1	7	7**	0.044		Y
1,2-DICHLOROBENZENE	1	198	20	7/90	25/104	12/78	14/88	3/6		600	600**		37	Y
1,2-DICHLOROETHANE	1	3	1.9	7/91	7/104	2/78	0/88	0/6		5	3**	0.12		Y
1,3-DICHLOROBENZENE	*1*	*3*	*2.0*	*11/91*	*1/104*	*1/78*	*1/88*	*0/6*		*600*			*53*	*N*
1,2-DICHLOROPROPANE	1	6	2.0	7/91	13/104	7/78	11/88	1/6		5	5**	0.16		Y
1,4-DICHLOROBENZENE	1	45	5.7	4/91	26/104	20/78	13/88	3/6		75	75**	0.44		Y
CARBON DISULFIDE	2	3	2.5	11/91	0/104	2/78	0/88	0/6					2.1	N*
ACETONE	2	279	30	4/91	4/104	18/78	4/42	0/6	5				370	N
BENZENE	0.6	12	3.1	1/90	29/104	7/78	10/88	2/6		5	1**	0.36		Y
CHLOROBENZENE	1.1	5.3	3.1	10/92	4/104	4/78	7/88	1/6		100	100**		3.9	N*
CHLOROFORM	1	1	1	4/90	1/104	0/78	0/88	0/6		100	6****	0.15		Y
CHLOROMETHANE	2	2	2	8/93	0/104	0/78	0/88	1/6			2.7****	1.4		Y
DIBROMOCHLOROMETHANE	6	6	6	10/90	1/104	0/78	0/88	0/6			1****	0.13		Y
ETHYLBENZENE	1.4	18	5.7	7/91	1/104	3/78	1/88	0/6		700	700**/130***		130	Y
METHYLENE CHLORIDE	0.7	54	11	1/90	10/104	5/78	14/88	1/6		5	5**	4.1		Y
TETRACHLOROETHENE	0.8	145	23	4/90	44/104	13/78	18/88	2/6		5	3**	1.1		Y
TOLUENE	0.2	82	9	7/91	4/104	2/78	4/88	2/6		1000	1000**/40***		75	Y
trans-1,2-DICHLOROETHENE	0.3	135	32	1/90	51/104	29/78	7/88	2/6		100	100**		12	Y
cis-1,2-DICHLOROETHENE	3	45	16	8/93	NA	NA	NA	4/6		70	70**		6.1	Y
STYRENE	3	3	3	7/91	0/104	1/78	0/88	0/6		100	100**		160	N
TRICHLOROETHENE	1	180	19	10/92	56/104	28/78	43/88	4/6		5	3**	1.6		Y
VINYL CHLORIDE	1	105	24	4/90	28/104	16/78	23/88	3/6		2	1**	0.019		Y
XYLENES (TOTAL)	2	85	12	7/91	6/104	8/78	1/88	0/6		10000	10000**/20***		1200	N

DETECTABLE ANALYTE	Min.	Max.	Mean	Sampling Date of Maximum	Frequency of Detection (1)				Maximum in Background (Well 27-D)	Federal MCL (2)	Florida DER Groundwater Guidance (3)	USEPA Region III (4,5)		COPC (6)
	ug/L	ug/L	ug/L		1990	1991	1992	1993	ug/L	ug/L	ug/L	Risk Level =1E-06	HQ=0.1	
SELECTED INORGANICS														
ARSENIC	3.7	3.7	3.7	8/93	NA	NA	0/13	1/6		50	50**	0.038	1.1	N*
BARIUM	14.2	221	97	8/93	NA	NA	1/13	4/6		2000	2000**		260	N
CADMIUM	5	5	5	4/92	NA	NA	1/13	0/6		5	5**		1.8	N*
CHROMIUM	11	11	11	4/92	NA	NA	1/13	0/6		100	100**		3700	N
COPPER	200	200	200	1/91	0/16	1/5	0/11	0/6			1000***		140	N*
LEAD	1.3	13	4.5	4/92	NA	NA	3/13	6/6	2	15*	15*			N
MANGANESE	12.4	2380	320	8/93	5/12	2/5	6/20	3/6	311		50***		18	N*
MERCURY	0.2	42.3	4.5	7/90	60/104	12/29	27/59	0/6	2	2	2**		1.1	Y
NICKEL	40.7	95.4	68	8/93	NA	NA	NA	2/6		100	100**		73	Y
NITRATES	30	38700	5200	1/90	94/104	23/26	44/62	3/6	4460	10000	10000**		5800	N*
SELENIUM	2	2	2	8/93	NA	NA	NA	1/6		50	50**		18	N
VANADIUM	53.7	53.7	53.7	8/93	NA	NA	NA	1/6					26	N*
ZINC	10	403	64	1/91	8/12	4/5	5/13	1/6	159		5000**		1100	N

Source: CDM - BRA as presented in EPA/ROD/R04-95/239 1995.

NOTES:

(1) Frequency of detection = # of detections/# of samples.

(2) MCL = Maximum Contaminant Level. * - Value for lead is an action level. EPA, December 1993.

(3) Florida Department of Environmental Regulations Groundwater Guidance Concentrations. June 1994.
** - Primary Standard. *** - Secondary Standard. **** - Guidance Concentration.

(4) USEPA Region III - Risk-based Concentrations for tap water. January 7, 1994.

(5) HQ = Hazard Quotient.

(6) COPC = Chemical of Potential Concern. Y = Yes. N = No. N* = Not selected as a COPC, because the chemical was not detected or detected at a low frequency in the wells selected for risk assessment. N** = Concentrations detected in wells selected for the risk assessment did not exceed two times the background concentration.

Baseline Risk Assessment

The BRA was used to identify and select chemicals of potential concern (COPC) for ground water and surface water and sediment based on current or future risk to human or ecological receptors. Carcinogenic COPC were based on a risk level of 1E-06, and non-carcinogens were based on a Hazard Quotient of 0.1in order to consider potential exposure to multiple chemicals. COPC were also selected based on comparison to relevant promulgated standards (e.g., federal and state Maximum Contaminant Levels), regulatory guidance, and background concentrations.

The ground water current and future exposure pathway for the human health risk assessment identifies landfill waste as the chemical source, drinking water wells in the Floridan aquifer as the exposure points, and ingestion of ground water and inhalation of volatiles released from ground water as the feasible routes of human exposure. The current exposure pathways for leachate and surface water and sediment are considered to be incomplete, but the future exposure pathway for surface water and sediment may be completed. The exposure points for current ground water users are wells in the down gradient residential area, and on site monitoring well data were used for the future use scenario.

Toxicity assessment for the COPC is based on information contained in EPA's Integrated Risk Information System database for both carcinogenic and non-carcinogenic toxicity. The combination of a complete, or potentially complete, exposure pathway and toxicity information for the COPC allows risk characterization to be performed. Ground water was determined to contain COPC at concentrations posing an unacceptable risk to potential future users. Surface water and sediment, while containing elevated COPC concentrations, were not found to pose an unacceptable risk to human health. Likewise, an impact to pelagic aquatic biota and benthic organisms is suggested, but it was determined that this impact is unlikely to significantly affect the receptors. Based on the findings of the BRA, remedial action was necessary to prevent human exposure to contaminated ground water and to restore the ground water resource.

Feasibility Study

The FS evaluated four alternatives for remediation of ground water contamination at the Taylor Road Landfill Superfund Site. The following alternatives were evaluated:

(7) Alternative 1: No Action

(8) Alternative 2: Prevent Human Exposure to Contaminated Ground Water

(9) Alternative 3: Collect and Treat Ground Water at Point of Compliance on a Contingent Basis

(10) Alternative 4: Collect and Treat Ground Water at Landfill Perimeter

Each of the alternatives evaluated in the FS consists of several remedy components, and, for alternatives 2 and 3, contingent and non-contingent remedy components are defined as well. Comparative analysis of each alternative under contingent and non-contingent approaches was performed with respect to the nine evaluation criteria (*Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA,* EPA 1988). The FS provided the framework for EPA to determine an appropriate remedial action approach to address impacts from the Site to human health and the environment.

Alternative 1, No Action, provides a baseline for comparison to the other alternatives, and assumes no additional work will be performed to address ground water contamination. This alternative does assume the continuation of the maintenance and monitoring program being performed under RCRA.

Alternative 2, Prevent Human Exposure to Contaminated Ground Water, includes three remedy components: institutional controls restricting construction of new potable-water wells in areas affected by Taylor Road Landfill; provision of water from the County supply to residences surrounding the Site; and, natural attenuation of ground water contamination to levels below applicable, or relevant and appropriate requirements. The second component of this alternative is further divided into non-contingent and contingent approaches. The non-contingent approach, referred to as Alternative 2a, involves provision of County water service to approximately 490 residences in the vicinity of the Site, regardless of whether the ground water contaminant plume is enlarging. The contingent approach, Alternative 2b, involves extending County water service to about 20 existing residences within a 270-ft setback of the ring of compliance wells, installing four additional monitoring wells, and provision of County water supply to affected residents within one month if the contaminant plume grows in size.

Alternative 3, Collect and Treat Ground Water at Property Boundary on a Contingent Basis, consists of the same remedy components as Alternative 2b with the addition of the collection and treatment of groundwater along the southern boundary of the Site on a contingent basis in the event contaminant concentrations at the Site boundary begin increasing. The collection and treatment of ground water would be accomplished through the installation and operation of two extraction wells and a treatment system. The need for implementing this contingency would be triggered by increases observed in trend analysis of ground water monitoring data. Additionally, if increasing trends in vinyl chloride concentrations in the up-gradient or side-gradient monitoring wells were observed, then control (additional to the existing landfill gas collection system) and/or remediation of vapor-phase-transported constituents may be required.

Alternative 4, Collect and Treat Ground Water at Landfill Perimeter, is designed to comply with the CERCLA policy of compliance with drinking-water standards at the outer perimeter of waste contained in landfills. Alternative 4 includes all components of Alternative 2b plus collection, treatment, and disposal of groundwater. Unlike Alternative 3, ground water

treatment is not on a contingent basis. However, the potential for the need to address vapor-phase transport of vinyl chloride is recognized.

Comparative analysis of the various remedial alternatives relative to the nine criteria indicated that all alternatives were protective of human health and the environment to varying degrees. Alternative 1 is protective under current conditions, but may not remain protective in the future. Alternative 2a is protective of both current and future human exposure. Alternative 2b is protective under current conditions, and includes contingency to remain protective in the future. Under both contingent and non-contingent Alternative 2, exposure to contaminant concentrations below drinking-water standards may occur down gradient outside the area connected to County water supply. Alternatives 3 (with contingency) and 4 provide the most reliable control for potential low-level down gradient exposure through extraction and treatment of ground water. Estimated present-worth costs for each alternative were calculated as follows: Alternative 1 - $0, Alternative 2a - $4,600,000, Alternative 2b - $2,200,000, Alternative 3 (without contingency) - $2,200,000, Alternative 3 (with contingency) - $7,000,000, and Alternative 4 - $10,200,000.

IV. Remedial Actions

Remedy Selection

The EPA WasteLAN database defines one site-wide operable unit (OU) for the Taylor Road Landfill Site, and the remedial action selected in the ROD is expected to be the final action for this OU. The remedial action at the Taylor Road Landfill Superfund Site was designed to address ground water contamination since source control was accomplished through a prior RCRA action. The ROD for Taylor Road Landfill (EPA/ROD/R04-95/239) was signed on September 29, 1995, and selected Alternative 3, Collect and Treat Ground Water at Property Boundary on a Contingent Basis, as the remedy for the Site. The major components of this remedy include: institutional controls, extension of water lines and monitoring, and natural attenuation with contingent corrective action. In the ROD, the Florida Primary and Secondary Standards and Minimum Criteria were established as the remediation levels for ground water, and the point of compliance was set as the ring of monitoring wells encircling the three landfills.

The components of the remedy selected in the ROD are described as follows:

(1) **Institutional Controls.** Implementation of current and future controls to restrict construction of potable-water wells that would extract water affected by the Site;

(2) **Monitoring and Extension of Water Lines.** Modification of the existing ground water monitoring program to include quarterly monitoring of a "ring" of monitoring wells that define the point of compliance for Site ground water. Monitoring will be used to evaluate compliance with Florida Primary and Secondary Drinking Water Standards and Minimum Criteria as the remediation

levels. Provision of County water service to human receptors within a 270-ft setback of the compliance ring monitoring wells.

(11) Contingent expansion of the compliance ring monitoring wells. If quarterly sampling reveals an exceedance of remediation levels that is confirmed by subsequent sampling, the ring of monitoring wells will be expanded to encompass the revised compliance boundary.

(12) Expansion of the County water-supply network. The expansion of the County water-supply network to connect receptors within the setback zone, to support institutional controls, and to meet a one-month response time for connection of additional receptors should the area of impacted ground water increase in size.

3. **Natural Attenuation with Contingent Corrective Action.** Maintenance of ground water contaminant levels below remediation levels at the point of compliance will be achieved through natural attenuation or contingent corrective action.

- Natural attenuation. A reduction in contaminant concentrations through natural processes such as biodegradation.

- Contingent Corrective Action. The extraction and collection of ground water at the property boundary for treatment to control ground water flow and reduce contaminant concentrations to acceptable levels. Evaluation of the integrity of the landfill cover installed under RCRA also is a component of this contingency. This contingency would be triggered by exceedance of remediation levels at the point of compliance as evaluated annually by EPA and FDEP based on trend analysis and other site data.

Remedy Implementation

EPA issued a Statement of Work to the settling defendants at the Site pursuant to the Consent Decree following the ROD. The Statement of Work prescribes the approach to be used by the settling defendants, represented by Hillsborough County, to fully implement the selected remedy in the ROD, and identifies specific tasks and deliverables to be accomplished. The tasks and deliverables included the following: project planning; development and submittal of a Remedial Design/Remedial Action Work Plan; notification and support for a Final Construction Inspection; development and submittal of a Final Construction Report; and, development and submittal of a Remedial Action Report.

Hillsborough County prepared and submitted a Remedial Action Work Plan in April 1998 to accomplish the remedy objectives. The work plan provided for the installation of six

monitoring wells (four new and two replacements), as well as revision of the requirements for the existing ground water monitoring program. The new ground water monitoring program consisted of thirteen compliance ring wells, three additional interior wells, and one background well to be sampled quarterly for field parameters, volatile organic compounds, metals, mercury, and nitrates. Construction methods, sampling methods, and quality assurance/quality control requirements were specified as sub-plans within the work plan. Institutional controls implementation would consist of placement of a deed notice for the County property at the Site, and enforcement of existing ordinances prohibiting property development or installation of new potable supply wells in areas within 1,500-ft of County supply lines and/or requiring request of extension of such service. Approximately twenty residences within the compliance ring setback zone were identified for connection to the existing County water distribution network in the work plan. Quarterly reporting requirements for the ground water monitoring program were also set forth in the work plan.

Following regulatory review and discussion about the Remedial Action Work Plan, a Remedial Action Work Plan Addendum was issued in July 1998 revising the ground water monitoring plan. The revised ground water monitoring plan incorporates quarterly sampling of 18 ground water monitoring wells (11 existing and 7 to be installed); of which 13 comprise the compliance ring, 4 are additional interior monitoring points, and 1 is a background well. The analytical parameters for the ground water monitoring were also revised to include field parameters, volatile organic compounds, metals, mercury, chloride, nitrates, total dissolved solids, and sulfate.

Activities undertaken by Hillsborough County to implement the planned remedial action are documented in the Final Construction Report for the Taylor Road Landfill Superfund Site (April 16, 1999). As part of the institutional controls, Hillsborough County Solid Waste Management Department filed a "Notice of Entry of Consent Decree for the Taylor Road Landfill Superfund Site in Hillsborough County, Florida" with the Clerk of the Circuit Court in Hillsborough County in February 1998. This filing fulfills the requirement of the Consent Decree that all instruments conveying an interest in the Site shall contain a notice stating that the property is subject to the Consent Decree. Field construction activities to implement the remedy were begun in November 1998 with the construction of seven new monitoring wells and the rehabilitation of one damaged well. Following construction, the new and existing wells in the ground water monitoring plan were surveyed, and dedicated sampling equipment was installed. Five land parcels, with seven eligible receptors, were identified within the established compliance ring 270-ft setback that were not connected to County water supply. All seven property owners agreed to be connected to the County water supply network, and extension of water lines, meter placement, and connection to the structures was accomplished in February and March 1999. In summary, five homes, one trailer park, and one business were connected to the County water supply network. The first round of sampling of 23 monitoring wells (this includes 5 additional interior monitoring points added after the work plan addendum) under the updated ground water monitoring program was performed in April 1999.

System Operations/Operation and Maintenance

Operation and maintenance activities at the Site consists of those activities associated with upkeep of the landfills as required under the existing RCRA Consent Decree and the long-term care permit with FDEP, and those activities necessary for the ongoing implementation of the monitoring component of the CERCLA remedy. These activities are summarized as follows:

- **Landfill Operation and Maintenance.**
  - Monitoring of ground water, surface water and landfill gas;
  - Site inspections (daily, weekly, monthly, quarterly and after rainfall);
  - Repairs (facilities, monitoring wells, landfill cover, surface water management system, and landfill gas monitoring and recovery system);
  - Notification, record keeping and reporting; and,
  - Facility and system upgrades

- **Ground Water Operation and Maintenance**
  - Monitoring of ground water;
  - Monitoring well repair and replacement;
  - Maintenance of access agreements (off-site wells); and,
  - Notification, record keeping, and reporting.

Costs associated with Landfill and Ground Water operation and maintenance are tracked by Hillsborough County, and are summarized in Table 3. Since landfill operation and maintenance is performed by a dedicated on-site workforce, labor costs are included in the cost summary. Ground water operation and maintenance is performed by County employees who support multiple sites, and these labor costs are not included in the operation and maintenance summary. Additionally, landfill facility and system upgrades performed by Hillsborough County are tracked separately. Since 1998, upgrade projects, including re-routing of the Taylor Road Landfill gas collection system, installation of new gas collection wells at Taylor Road Landfill, and drainage improvements between the FDOT and Taylor Road Landfills, have been undertaken at a cost of approximately $500,000. The upgrades and improvements were performed as approved engineering solutions to observed negative changes in the efficiency of the Taylor Road Landfill gas collection system and to correct persistent erosion control problems between the landfills.

Table 3: Site Operation and Maintenance Costs

Year	Ground Water O&M Cost	Landfill O&M Cost
1998	$0	$864,209
1999	$101,495	$917,470

2000	$120,006	$727,047
2001	$120,000	$601,384
2002	$23,985	$745,788

Post-ROD Changes

An Explanation of Significant Difference was issued by EPA in August 2000 to remove Florida Secondary Drinking Water Standards from the federally-enforceable applicable, or relevant and appropriate requirements identified in the ROD. The rationale for this change is based on the fact that Secondary Drinking Water Standards are established to improve the taste, color and odor of drinking water, rather than address actual health threats. As such, EPA has determined that these standards are not applicable, or relevant and appropriate requirements, are not federally-enforceable (40 CFR Part 143), and are not needed to protect public health. The Florida Department of Environmental Protection did not concur with EPA's change to the ROD, and does retain authority to separately enforce Florida Secondary Drinking Water Standards at its discretion.

Based on the ROD and ESD for this Site, the final remediation levels for this action are the Florida Primary Drinking Water Standards for volatile organic compounds and metals and the Florida Minimum Criteria for Organoleptics as set forth in the *Groundwater Guidance Concentrations* (FDEP, 1994). The remedial action objectives, while not explicitly established in the ROD, can be inferred as: 1) eliminate current human exposure to ground water contaminants above remediation levels through provision of County water; 2) prevent future human exposure to ground water contamination above remediation levels through a combination of institutional controls, natural attenuation, and contingent treatment of ground water; and, 3) maintain ground water concentrations below remediation levels at the point-of-compliance through natural attenuation and/or contingent treatment.

V. Progress Since the Last Review

This report documents the first Five-Year Review for the Taylor Road Landfill Superfund Site; there have been no previous reviews.

VI. Five-Year Review Process

The Five-Year Review process for the Taylor Road Landfill Superfund Site consisted of project management, community involvement, document/data review, site inspection, interviews, and a determination as to the ongoing protectiveness of the remedy. As the lead agency, EPA Region 4 performed the Five-Year Review. The Florida Department of Environmental Protection is the support agency for this activity, and has been involved throughout the Five-Year Review process. Hillsborough County Solid Waste Management Department is the representative of the

responsible parties for the Site, and has cooperated during performance of the Five-Year Review providing site access and other material support as requested.

Administrative Components

Project management activities included identifying the EPA Region 4 team for the Five-Year Review, developing a schedule for the review activities, and notifying interested parties of the start of the Five-Year Review process. Key personnel involved in the Five-Year Review of the Site, along with organizations and roles, are presented in Table 4. Formal notification of the start of the Five-Year Review process was sent to Hillsborough County by letter on June 6, 2003, and other interested parties were furnished copies of the letter at the same time.

Table 4: Five-Year Review Key Personnel

Name	Organization	Role
David Keefer	EPA Region 4 61 Forsyth Street, SW Atlanta, GA 30303 (404) 562-8932	Remedial Project Manager
L'Tonya Spencer	EPA Region 4 61 Forsyth Street, SW Atlanta, GA 30303 (404) 562-8463	Community Involvement Coordinator
Bill O'Steen	EPA Region 4 61 Forsyth Street, SW Atlanta, GA 30303 (404) 562-8645	Senior Hydrogeologist
Kelsey Helton	Florida Department of Environmental Protection Twin Towers Office Building 2600 Blair Stone Rd Tallahassee, FL 32399 (850) 245-8969	Hazardous Waste Cleanup Section Chief
Wendy Murphy	Florida Department of Environmental Protection Twin Towers Office Building 2600 Blair Stone Rd Tallahassee, FL 32399 (850) 245-8967	State Project Manager
David Adams	Solid Waste Management Department 24th Floor County Center Tampa, FL 33601 (813) 276-2944	Environmental Manager

Community Notification and Involvement

Community involvement activities associated with the Five-Year Review include publication of a legal notice at the start of the Five-Year Review process, contacts and interviews with citizens/community groups identified in the Community Relations Plan (CDM, 1989), and issuance of a Fact Sheet and second legal notice upon completion of the Five-Year Review. Legal notices are published in the Tampa Tribune, and Fact Sheets will be sent to the Site mailing list and placed in the Information Repository. An inspection of the Information Repository, maintained at the Thonotosassa Public Library on 10715 Maion St., Thonotosassa, FL 33592, indicates that the site file is up-to-date and readily accessible.

Document and Data Review

Both the Administrative Record and Site File for the Taylor Road Landfill Superfund Site were reviewed and accessed to gather supporting information for the Five-Year Review. These sources contain the combined documentation of the decisions and actions taken at the Site; including relevant RCRA documentation for closure of the landfills. Attachment 2 contains a complete list of the supporting documentation used in development of this Five-Year Review Report. A significant portion of this documentation consists of routine reporting from Hillsborough County presenting the results of Domestic Supply Well sampling and analysis, Monitor Well sampling and analysis, and Landfill Operations reports. This data forms the basis of the technical assessment of remedy performance.

A technical review of the ground water monitoring data was performed to evaluate the remedy effectiveness and progress of natural attenuation. The monitoring data set used for this analysis includes compliance ring and interior monitoring wells for the period of January 1995 through January 2003. Table 5 summarizes these data. Additionally, a review of recent monthly monitoring data for domestic supply wells also was performed.

Compliance and Interior Wells

Concentration trends were evaluated for site contaminants that exceeded remediation levels in at least one sample obtained in the past year from a monitoring well. Additionally, because of its high concentrations and widespread distribution in ground water, trends in the concentration of manganese were also considered. The contaminants that are evaluated in this analysis include tetrachloroethene (PCE), trichloroethene (TCE), cis 1,2-dichloroethene (cis 1,2-DCE), vinyl chloride, 1,1-dichloroethene (1,1-DCE), methylene chloride, benzene, arsenic, mercury, nickel, nitrate, and manganese. A report titled "Taylor Road Landfill Superfund Site Groundwater Quality Statistical Evaluation, Hillsborough County, Florida" (SCS Engineers, 2003) includes a formal statistical trend analysis for these and other monitored contaminants. This report's conclusions regarding concentration trends are included in this section of the Report.

Table 5: Ground Water Monitoring Data Summary (1995 - 2003)

MONITORED CONTAMINANT	MINIMUM CONCENTRATION	MAXIMUM CONCENTRATION, WELL, AND DATE
1,1-Dichloroethane (ug/l)	<0.7 ug/L	64 ug/L TR-4D 7/10/95
1,1-Dichloroethene (ug/l)	<0.9 ug/L	130 ug/L TR-4D 7/12/99
1,2-Dichlorobenzene (ug/l)	<0.6 ug/L	72 ug/L, TR-4D 7/10/95
1,2-Dichloroethane (ug/l)	<0.9 ug/L	2 ug/L, F-2 1/21/97
1,3-Dichlorobenzene (ug/l)	<0.6 ug/L	7 ug/L 18-D 10/23/95
1,2-Dichloropropane (ug/l)	<1 ug/L	4 ug/L, 18-D 10/22/96
1,4-Dichlorobenzene (ug/l)	<0.7 ug/L	32 ug/L, TR-4D 7/10/95
1,2,4-Trimethylbenzene (ug/l)	<1 ug/L	2.7 ug/L, 18-D 10/25/01
Carbon disulfide (ug/l)	<0.5 ug/L	no detections
Acetone (ug/l)	<5 ug/L	23 ug/L, TR-4D 10/18/99
Benzene (ug/l)	<0.8 ug/L	5.7 ug/L, C-6 7/18/00
Bromomethane (ug/l)	<1 ug/L	2 ug/L, C-6 4/25/01
Chlorobenzene (ug/l)	<1 ug/L	11 ug/L, TR-4D 7/10/95
Chloroethane (ug/l)	<1 ug/L	15 ug/L, C-6 7/18/00
Chloroform (ug/l)	<1 ug/L	130 ug/L, TR-4D 7/10/95
Chloromethane (ug/l)	<1 ug/L	no detections
Dibromochloromethane (ug/l)	<0.4 ug/L	no detections
Dichlorodifluoromethane (ug/l)	<0.4 ug/L	2 ug/L, TR-4D 7/19/00
Ethylbenzene (ug/l)	<0.7 ug/L	no detections
Isopropylbenzene (ug/l)	<0.8 ug/L	2 ug/L, C-6 7/18/01
Methylene chloride (ug/l)	<1 ug/L	56 ug/L, F-2 4/8/96
Tetrachloroethene (ug/l)	<0.7 ug/L	14 ug/L, C-6 1/14/03
Toluene (ug/l)	<0.8 ug/L	2 ug/L, NE-23 10/23/95
trans-1,2-Dichloroethene (ug/l)	<1 ug/L	2 ug/L, F-15 49/96
cis-1,2-Dichloroethene (ug/l)	<0.5 ug/L	82 ug/L 18-D 7/10/95
Styrene (ug/l)	<1 ug/L	no detections
Trichloroethene (ug/l)	<1 ug/L	75 ug/L, TR-4D 7/12/99
Vinyl Chloride (ug/l)	<1 ug/L	100 ug/L, TR-4D 4/10/95; 18-D 7/8/96
Xylenes (ug/l)	<1 ug/L	3.5 ug/L, C-6 7/18/00
Arsenic (ug/l)	<5 ug/L	39 ug/L, F-1A 10/25/01
Barium (ug/l)	<10 ug/L	500 ug/L, TR-3D 1/13/00
Cadmium (ug/l)	<1 ug/L	2.8 ug/L, TR-3D 10/25/01
Chromium (ug/)	<1 ug/L	91 ug/L, 31-D 1/17/01
Copper (ug/l)	<5 ug/L	47 ug/L, F-3 7/14/99
Lead (ug/l)	<4 ug/L	21 ug/L, F-3 7/14/99
Manganese (ug/l)	<5 ug/L	5400 ug/L, TR-3D 1/13/00
Mercury (ug/l)	<0.2 ug/L	8.4 ug/L, 32-D 7/17/01
Nickel (ug/l)	<5 ug/L	1100 ug/L, 28-D 10/18/00
Selenium (ug/l)	<5 ug/L	11 ug/L, C-3 4/8/02
Vanadium (ug/l)	<10 ug/L	210 ug/L, C-3 4/13/99
Zinc (ug/l)	<20 ug/L	100 ug/L, F-3 7/14/99
Nitrates (mg/l)	<0.01 mg/L	33.6 mg/L, 30-D 10/22/96
Ammonia nitrogen (mg/l)	<0.02 mg/L	0.85 mg/L, F-12 7/15/02
pH (units)	5.92	8.06, C-9 1/16/01
Dissolved oxygen (mg/l)	0.18 mg/L	11.4 mg/L, C-6 1/14/03
Conductivity (umhos/cm)	6.08 umhos/cm	1220 umhos/cm, C-6 1/18/01; 4/9/02
Chloride (mg/l)	3.6 mg/L	60.7 mg/L, 18-D 4/7/97
Total dissolved solids (mg/l)	100 mg/L	880 mg/L, C-6 7/18/01
Sulfate (mg/l)	0.51 mg/L	76 mg/L, C-9 7/17/00
Sodium (mg/l)	0.5 mg/L	20 mg/L, F-4A 1/11/00, 7/15/02

Monitoring wells at the site are divided into compliance wells or interior wells. The conditions at the compliance wells are of the greatest concern.

Trichloroethene trends are shown on Figure 2 (Attachment 1). Figure 2 shows time-concentration plots for all wells where TCE has exceeded its 3 ug/L remediation level. This figure shows that for most of the monitoring wells where TCE has exceeded the remediation level, the concentrations are either decreasing, or showing no statistically significant trend. In the latter case, concentrations of TCE are close to the 3 ug/L standard. One well (C-6) is showing a statistically significant increase in the TCE concentration for the period of record, although the most recent samples from this well suggest that the concentrations of TCE at this well have stabilized. TCE is not a concern at any compliance monitoring well.

The concentration trends for cis 1,2-DCE are shown on Figure 3. Wells shown on this figure have either had cis 1,2-DCE at concentrations above the remediation level or have otherwise had repeated detections of this contaminant. Although recent concentrations of this contaminant have not exceeded its 70 ug/L standard, this contaminant can be degraded to produce vinyl chloride, which has a 1 ug/L remediation level.

The trend analyses indicate that cis 1,2-DCE is decreasing at two wells, increasing at two wells, and that there is no trend indicated at three wells. The time-concentration plots on Figure 3 suggest that even where there is no statistically discernable trend, concentrations of cis 1,2-DCE are probably decreasing. Where there is a statistically significant increasing concentration, recent concentration trends appear to either be downward or there is no current increasing trend. Cis 1,2-DCE is not a concern at any compliance monitoring well.

Figure 4 shows the vinyl chloride concentration trends. Most of the wells show either decreasing concentrations over time or show no trend and have vinyl chloride concentrations of less than 10 ug/L. Most of the wells that have had very high vinyl chloride concentrations have had recent concentrations of vinyl chloride that are much lower. Vinyl chloride is not a concern at any compliance monitoring well.

Two wells have statistically significant increasing concentrations of vinyl chloride. Well C-6 has shown an increasing vinyl chloride trend, with current concentrations hovering around 20 ug/L. This well also has shown increasing TCE concentrations in recent samples. Well TR-3D also has a trend of increasing concentrations. However, the most recent samples from this well have had vinyl chloride at less than the detection limit.

Figure 5 shows the time-concentration data for 1,1-DCE. Well TR-4D, with the most significant concentrations of 1,1-DCE, has shown a statistically significant increase in concentrations over time. However, the most recent samples from this well suggest either a decreasing concentration trend, or possibly that the maximum concentrations at this well have already been observed. 1,1-DCE is not a concern at any compliance monitoring well.

Figure 6 shows benzene concentration trends. This contaminant is showing either no trend or a decreasing concentration trend. Recent benzene concentrations are either close to or less than the 1 ug/L remediation level in all site monitoring wells.

Figure 7 shows the concentration trends for manganese. Manganese is apparently decreasing in concentration in at least five wells and is increasing in concentration at two wells. Concentrations of manganese are either decreasing or are stable at the two compliance wells shown on the figure. The statistically-based designation of F-2 as an increasing well and of 18-D, TR-3D, and C-2 as no-trend wells appears to be questionable, considering the data plotted on the figure. All of these wells are interior monitoring points.

Figure 8 shows trends for miscellaneous contaminants where there are data trends or contaminant detections that are noteworthy. TR-2D is the single compliance point monitoring well where there is a statistically significant increase of a contaminant of concern. Concentrations of nitrate at this well have increased to levels that approximate the 10 mg/L remediation level. It is unclear from the data if nitrate concentrations will continue to increase to levels higher than the standard or if the nitrate concentrations have stabilized at about 10 mg/L. At most of the other locations shown on Figure 8, concentrations of contaminants are decreasing. The notable exception to this general condition is at well C-6, where PCE, mercury, and nitrate are all apparently increasing. This well is also the location where several other contaminants are showing statistically significant concentration increases.

To summarize the evaluation of monitoring well trends, concentrations of all contaminants are remaining stable or are decreasing in most monitoring wells. With one exception, locations where concentrations are apparently increasing are interior wells. TR-2D is a compliance well where the nitrate concentration has increased over time to near its 10 mg/L MCL. It is unclear if this increasing concentration trend will continue into the future. Several contaminants have increased in concentration at well C-6, an interior well. These concentration trends have not been observed at well C-8, the compliance well located in relatively close proximity to C-6.

Domestic Supply Wells

Recent (2003) data from seven private water-supply wells were reviewed to determine if there were any concerns about site-related contamination reaching these wells. Five sample rounds from 2003 were available for six of these wells, and four samples were collected from the seventh well.

There may be indications of some very low-level contamination from the site that has reached some of these wells. Cis 1,2-DCE at a sub-microgram per liter concentration was detected in the most recent sample from two of the wells (identified by Hillsborough County as wells "P-18A" and "P-19"). In the most recent sample from well "P-24," 1,1-dichloroethane was reported at a concentration of 0.3 ug/L. A few other organic compounds have been detected in the most recent P-18A sample at comparably low concentrations, and dichlorofluoromethane was

detected at a concentration of between 1 and 2 ug/L in two samples from well "P-4." It is uncertain if any of this organic contamination is site related or if it is increasing in concentration. None of the detected organic contaminants are at concentrations that are of concern from a regulatory or risk-based perspective.

Inorganic constituents that have been detected in the private well samples do not indicate any impacts from the site. One notable occurrence is the low pH in the samples identified as being from well "P-22." The pH in samples from this well are inconsistent with what would be expected in ground water from the Floridan aquifer, which is the primary source of drinking water for this area. The P-22 samples are also characterized by both a very low dissolved solids content (also inconsistent with a Floridan aquifer source) and nitrate concentrations that are notably less than in the samples from the other private wells. P-22 appears to be completed in earth material that is dissimilar to the limestones of the Floridan aquifer. This well may be completed through a relict sand-filled sinkhole or in a locally saturated area of surficial sands.

Site Inspection

The Five-Year Review site inspection was performed on June 19 through 20, 2003. The EPA site inspection team consisted of David Keefer, L'Tonya Spencer, and Bill O'Steen. The Florida Department of Environmental Protection was represented by Kelsey Helton, and Hillsborough County was represented by Patty Berry, David Adams, and Walter Gray. A kick-off meeting was held at the Hillsborough County Solid Waste Management Department offices in downtown Tampa, Florida prior to beginning inspection activities at the Site. Following a Site tour, the EPA team divided as follows: David Keefer performed inspection of the landfill caps, gas collection system, leachate collection system, site perimeter, and landfill records; L'Tonya Spencer inspected the Site Information Repository and performed interviews; and, Bill O'Steen inspected the ground water monitoring network accompanied by Kelsey Helton. At the completion of the site inspection, a debriefing was held with Hillsborough County to discuss observations and findings.

Inspection of the landfill caps, gas collection system, liquids management system, site perimeter, and landfill records was performed on June 19, 2003, and is documented on the Site Inspection Checklist (Attachment 3). The caps for all three landfills (Taylor Road, FDOT, and Hillsborough Heights) were well vegetated and well maintained. Positive drainage was generally maintained throughout the cap surfaces, although a total of six localized areas of ponding (~100-500 square yards) were noted on the Taylor Road and Hillsborough Heights caps. These were generally shallow and likely attributable to subsidence. Repair through sod removal, clay fill, and topsoil/sod replacement was reportedly routine at these landfills. All side slopes were in excellent condition with no erosion or leachate seeps observed. Photographs of the landfill caps are included in Attachment 4. Due to heavy rainfall during the inspection, direct observation of the stormwater drainage and collection system was possible. The drainage swales and culverts were free-flowing and non-erosive off the caps, down the side slopes, and into the detention basins.

The gas collection systems at the Taylor Road and FDOT landfills had undergone significant modifications since the original installations. These modifications included the addition of new gas collection wells, condensate collection sumps, and re-routing of the gas through a central blower and flare system adjacent to the Hillsborough Heights landfill. The aboveground components of the gas collection system (wellheads, sampling points, piping, blowers, and flare) were operable and appeared to be in good condition and maintained. A microturbine generator had been recently installed between the blower and flare as an alternative energy technology demonstration.

Liquids management at the landfills is conducted through collection of condensate from sumps and gas extraction wells, and through a leachate collection system at the Hillsborough Heights landfill. Condensate from the sumps and gas extraction wells is routinely collected at the Taylor Road and Hillsborough Heights landfills, and is stored in the leachate holding tank. Leachate from the Hillsborough Heights landfill is collected from nine sumps and stored in a holding tank pending off-site disposal. The FDOT landfill gas extraction wells reportedly generate no collectable liquids.

Site access control is maintained through the use of a single entrance onto County property and perimeter fencing. The entrance to the Site is from State Route 579, and branches to a County recycling facility in the southwest corner of the property and to the facility maintenance shops and landfill areas to the north and east. Both the recycling facility and maintenance areas are manned, however positive access control (e.g., gate) to the landfill area is not present. A complete inspection of the perimeter fencing (6-ft chain link topped with 3 strands of barbed wire) was performed, and the following observations were noted: one open cut in the chain link fencing; one patched cut in the chain link fencing; seven locations with the barbed wire cut or pulled down; one unlocked gate; and, one section of 4-ft fencing along the southern perimeter. Facility personnel stated that casual trespassing was fairly common, and that trespassing for vandalism and theft had occurred in the facility maintenance area.

Verification of on-site documents and records was performed at the facility maintenance offices. The following documents were readily available and up-to-date: operations and maintenance manuals, as-built drawings, maintenance logs, operations and maintenance training records, gas generation records, ground water monitoring records, and leachate extraction records. The site-specific health and safety plan and Occupational Health and Safety Agency (OSHA) training records were maintained at the downtown County offices. Updates to the health and safety plan were maintained on-site as equipment- or activity-specific memoranda. No formal visitor/access log is maintained, but visitors are expected to report to the facility maintenance office. In general, maintenance of and access to applicable records was good.

Inspection of the ground water monitoring network was performed by Bill O'Steen. The inspection primarily consisted of observations of the access, security, and condition of the well heads and dedicated sampling equipment for the compliance ring monitoring wells and interior monitoring wells. General observations from the inspection include: shallow monitoring wells

completed above the water table should be properly abandoned; well identification markings should be maintained for all wells; and, a check of well condition (e.g., siltation, fouling, re-development) should be included with routine pump maintenance activities. Specific observations from the inspection include: well TR2-S was unlocked; well 32D had a cracked well pad; well NE-23 should be replaced by a properly constructed well (rather than the present open-hole completion); and, the well F-2 replacement needs to be installed as soon as possible. Overall, the inspection of the ground water monitoring network indicates that the monitoring component of the remedy is operating and functional.

During the post-inspection debriefing with Hillsborough County, the following issues were identified. For the landfill caps, routine documentation of settlement-fill activities should be included in the Monthly Operations Reports (i.e., area, thickness, and composition of fill material), and consideration should be given to the installation of settlement plates for re-surveying of the caps. Site access security should be improved by increasing the frequency of inspection and repair of the perimeter fencing, and routinely notifying law enforcement about trespassing. Documentation and records management should include a consolidated update to the health and safety plan, as well as on-site maintenance of OSHA training records. Noted general and specific repairs and improvements to the ground water monitoring network should be scheduled for implementation, and an updated potable well survey of adjacent properties should be conducted to ensure no un-permitted human exposures are taking place. Several positive observations were also discussed; specifically, the County's acquisition of additional properties within the setback zone and the ongoing facility upgrade program were noteworthy.

Interviews

Four interviews were conducted by L'Tonya Spencer on June 19 and 20, 2003 with eleven individuals representing the EPA, Florida Department of Environmental Protection, Hillsborough County, and the Taylor Road Civic Association. Each interview was conducted based on a set of fifteen prepared questions addressing a range of general and technical issues associated with the remedy. These questions and the Interview Records are presented in Attachment 5, and are summarized in Table 6.

Based on the interview comments, Hillsborough County is generally complying with the requirements and intent of the ROD and Consent Decree for this remedy. The remedy appears to be operating as designed, but there remains some public concern and skepticism regarding the effectiveness of the remedy. Specific concerns noted during the interviews that should be addressed include: properly communicating the change in laboratory reporting limits; evaluating potential environmental impacts from nearby properties; trespassers on the Site; dumping around the Site, Mercury detections below remediation levels; ground water issues not within the scope

Table 6: Interview Summary

No.	Name/Organization/Title	Comment Summary
1	David Keefer/EPA/RPM Bill O'Steen/EPA/Sr. Hydrogeologist Kelsey Helton/FDEP/Manager Patricia Berry/Hillsborough County SWMD/Landfill Sevices Manager David Adams/Hillsborough County SWMD/Environmental Manager Walter Gray/Hillsborough County SWMD/Environmental Scientist	- The County property is of increasing value as *undeveloped land, County personnel perform all* services, and the County considers relations with adjoining landowners to be amicable (SWMD). - New lab reporting requirements for documenting estimated concentrations between PQL and DL; the County wants to ensure this doesn't surprise citizens or regulators with "new" contaminants (SWMD) - Bi-annual statistical evaluation of ground water trends should revert to annual reporting (FDEP) - Fencing improvements made due to vandalism and theft (SWMD). - FDEP District office has good track record of notifying SWMD of any potable well permit applications. No new potable wells are known in the area, but no survey has been performed (SWMD). - Energy recovery program for methane gas is an innovative re-use activity at the facility through a DOE grant (SWMD). - Dispute with TA Travel Center regarding replacement/repair of monitoring well F-2 continues (SWMD). This should be resolved expeditiously (EPA/FDEP). - A mechanism to monitor/track impacts from potential leaks and spills on the adjacent TA Travel Center, Gator Ford and Interstate 4 properties should be considered (EPA).
2	Wayman Rose/Hillsborough County SWMD/Sr. Crewleader	- Ongoing work on odor control, but no elevated levels have been detected. - Erosion between FDOT and Taylor Road landfills is being addressed by significant re-sloping and re-grading effort. - Grass is mowed as needed, and no fertilizers, herbicides, or pesticides are used.
3	Andrew Baloon/Hillsborough County SWMD/Environmental Specialist I Dennis Zelman/Hillsborough County SWMD/Environmental Specialist I	- Vagrants have been seen on the property. - Some dumping occurs near the property. - Field crew are encouraged to report anything they observe. - Field crew is not aware of any complaints from adjacent property owners. - SWMD is diligent in compliance with safety and health requirements and quality assurance requirements.

4	Cam Oberting/Taylor Road Civic Association/President	- SWMD routinely checks potable wells, but a number of adjacent landowners do not have County water. - Mercury has been detected in private wells. - Only a limited number of property owners were connected to County water [*the impression is that this is fewer than expected/promised*]. - The SWMD ground water consultant is not trusted. - A nearby borrow pt [*not associated with Taylor Road Landfill*] was permitted without testing and over the objections of the local residents [*offered as an example of the County's unwillingness/inability to look out for the interests of the community*]. - There have been no recent problems with landfill gas. - Potable well sampling is stopped after a property is placed on County water, this doesn't help track down the Mercury problem. - SWMD does a good job communicating with residents and correcting problems brought to their attention. - Oil and grease was detected in groundwater, but SWMD stopped testing for it because the landfill was not considered to be the source. Records show that oil and grease were disposed at the landfill, but SWMD is ignoring this. - SWMD also has stopped testing homes with low pH. - Filters are on well water because of contamination, but not everyone can afford filters. - Leachate shows that the landfill caps are not impermeable, does SWMD intend to collect leachate forever?
	Lee Oberting/Taylor Road Civic Association/Board Member	

of this action (pH and oil & grease); and, the trigger for provision of County water. Successes that have occurred include: overall decreasing trends in ground water contaminants; demonstration of the effectiveness of the well permit institutional control; and, successful efforts for reuse of the County property. Hillsborough County should continue and extend its efforts to communicate informally and formally with nearby landowners to address the concerns and successes at the Site. Additionally, EPA will issue a Fact Sheet at the completion of the Five-Year Review to report the results of the review and address community concerns.

VII. Technical Assessment

The technical assessment of the performance and protectiveness of the Taylor Road Landfill Superfund Site remedy is based on historical information and data collected during the Five-Year Review process. As presented in the current Comprehensive Five-Year Review Guidance (EPA, 2001), this assessment is based on how each of three questions is answered. These questions are: A - Is the remedy functioning as intended by the decision documents?; B - Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at

the time of remedy selection still valid?; and, C - Has any other information come to light that could call into question the protectiveness of the remedy?. The EPA team for the Five-Year Review met on July 2, 2003 to answer these questions, and the answers, along with supporting rationale, are discussed below.

Question A: Is the Remedy Functioning as Intended by the Decision Documents?

The remedy selected in the ROD, as constructed by Hillsborough County and verified in the Final Construction Report, continues to function as intended. Ground water monitoring has been and continues to be performed to evaluate the progress of natural attenuation and to determine the need for contingent actions. Natural attenuation of contaminants in ground water is demonstrated to be occurring by the monitoring data. However, the contingent action criteria for expansion of the ground water monitoring compliance ring (two successive exceedances in a ring well) has been triggered on three occasions: October 1999 - addition of wells C-6 and C-7; April 2000 - addition of wells C-8 and C-9; and, May 2001 - addition of well C-10. Following the April 2000 expansion, one additional landowner was offered hook-up to County water, but this was refused. The contingent action criteria for requiring active groundwater treatment at the property boundary (regulatory evaluation of annual statistical and other data) has not been triggered. Currently, 14 compliance ring wells, 13 interior wells, and 1 background well are routinely monitored. Contaminant concentrations in some wells may have reached asymptotic levels at or near the remediation levels; however, continued operation and maintenance of the landfill caps is clearly necessary for these results to be sustained.

Current monitoring and operation and maintenance practices for the ground water remedy are generally adequate to maintain the effectiveness of the remedy. There were no indicators of problems that would jeopardize the performance of the remedy. There is room for improvement in the areas of well maintenance and in the implementation of institutional controls. There also may exist opportunities in the near future for optimization through reducing the number of interior wells sampled and/or the number of analytes requested. The frequency of monitoring and reporting is expected to remain unchanged for the foreseeable future. As previously noted, a significant element of the continued success of the ground water remedy is continuity in the operation and maintenance of the landfills. The commitment by Hillsborough County through the existing RCRA permit to the operation and maintenance of the landfills appears firm, and no problems are anticipated in this regard for the foreseeable future. Site access controls at the landfills show evidence of recurrent failure, but this is not expected to have resulted in any human exposure to ground water.

The answer to Question A is **Yes**.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of remedy selection still valid?

Changes have occurred in both the exposure assumptions and the cleanup levels established in the ROD and used in the baseline risk assessment, but the validity of the underlying basis for action and remediation levels remains sound. The changes in exposure assumptions are based on changes in land use in adjacent properties from residential and agricultural to commercial; a less restrictive type of use. Additionally, the baseline risk assessment was used to identify contaminant suites (i.e., volatile organic compounds and metals) and media posing excess risk, but contaminant-specific remediation levels were based on Florida Department of Environmental Protection standards. The changes in cleanup levels were associated with Florida Department of Environmental Protection revision of certain Minimum Criteria for Organoleptics constituents in the Ground Water Cleanup Target Levels (FAC 62-777). A total of six constituents were revised in the Ground Water Cleanup Target Levels (5 downward and 1 upward relative to the Minimum Criteria for Organoleptics standard), and none of these constituents has been detected at the Taylor Road Landfill Site. Changes to applicable, or relevant and appropriate standards are summarized in Tables 7 through 9.

Table 7: Changes in Chemical-Specific Standards

Contaminant	Media	Cleanup Level	Standard		Citation/Year
Acrolein	ground water	110 ug/L	Previous	110 ug/L	*Groundwater Guidance Concentrations (FDEP, 1994)*
			New	14 ug/L	*Target Cleanup Level (FAC 62-777, 1999)*
2-4 Dichlorophenol	ground water	4 ug/L	Previous	4 ug/L	*Groundwater Guidance Concentrations (FDEP, 1994)*
			New	0.5 ug/L	*Target Cleanup Level (FAC 62-777, 1999)*
3-4 Dichlorophenol	ground water	10 ug/L	Previous	10 ug/L	*Groundwater Guidance Concentrations (FDEP, 1994)*
			New	0.5 ug/L	*Target Cleanup Level (FAC 62-777, 1999)*
2,4-Dimethylphenol	ground water	400 ug/L	Previous	400 ug/L	*Groundwater Guidance Concentrations (FDEP, 1994)*
			New	140 ug/L	*Target Cleanup Level (FAC 62-777, 1999)*

Naphthalene	ground water	6.8 ug/L	Previous	6.8 ug/L	*Groundwater Guidance Concentrations (FDEP, 1994)*
			New	20 ug/L	*Target Cleanup Level (FAC 62-777, 1999)*
Vinyl Acetate	ground water	250 ug/L	Previous	250 ug/L	*Groundwater Guidance Concentrations (FDEP, 1994)*
			New	88 ug/L	*Target Cleanup Level (FAC 62-777, 1999)*

Table 8: Changes in Action-Specific Requirements

Action	Requirement		Prerequisite	Citation/Year
Ground water remediation	Previous	Florida Air Pollution Rules	air emissions during remedial activities	FAC 17-2.1
	New	No applicable changes		

Table 9: Changes in Location-Specific Requirements

Location	Requirement		Prerequisite	Citation/Year
Taylor Road Landfill Site	Previous	Hazardous Waste Warning Signs	perimeter and access control	FAC 17-736
	New	No applicable changes		
Taylor Road Landfill Site	Previous	Endangered Species Act	identification of species or habitat	50 CFR 402
	New	No applicable changes		

In general, the remedy is progressing as expected. No changes in site conditions, contaminant characteristics, exposure pathways, or relevant standards were observed or are known to have occurred that would call into question the ongoing protectiveness of the remedy. A periodic private well survey should be performed to ensure no un-permitted withdrawals are taking place in the vicinity of the landfill and to validate the exposure assumptions.

The answer to Question B is **Yes**.

Question C: Has Any Other Information Come to Light that Could Call into Question the Protectiveness of the Remedy?

No new information has come to light that would call into question the protectiveness of the remedy. The presence of the Site within the Brandon Karst terrain presents an ongoing threat of natural disaster through sinkhole collapse beneath one of the landfills. This threat was recognized during the decision-making process for both the RCRA corrective action and CERCLA remediation. Since construction of the landfill caps, subsidence of the caps appears to be consistent with volume loss through gas collection and settling. Additionally, this portion of Florida has experienced both drought and above-average rainfall since remedy construction that would tend to exacerbate areas susceptible to karst failure. During the monitoring period, no indication that sinkhole collapse is imminent or likely has been observed.

The answer to Question C is **No**.

VIII. Issues

During the course of the Five-Year Review document and data review, site inspection, and interviews, a number of issues were identified pertaining to remedy effectiveness. These issues and their impact on remedy protectiveness are summarized in Table 10.

Table 10: Issues

Issues	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
(1) Site access security (monitoring & maintenance of fences)	No	Yes
(2) Ground water monitoring well maintenance	No	Yes
(3) Potential for un-permitted potable well installation in adjoining properties	No	Yes
(4) Operations & maintenance of landfill caps, leachate collection, gas collection and storm water management systems under RCRA	No	Yes
(5) Annual reporting for Ground Water Quality Statistical Evaluations	No	Yes
(6) Ground water quality concerns (mercury, oil & grease, and pH) of adjoining land owners should be affirmatively addressed	No	Potentially
(7) Quantitative measurement and tracking of fill activities in landfill cap settlement areas	No	No

(8) Monitoring/evaluation of potential environmental impacts from adjacent properties (commercial activities and dumping) should be performed	No	No

IX. Recommendations and Follow-up Actions

Based on the issues identified during the Five-Year Review, recommendations and follow-up actions for the Taylor Road Landfill have been identified. These are summarized in Table 11.

Table 11: Recommendations and Follow-up Actions

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
(1)	- Repair cut and damaged fences - Institute daily perimeter security checks (per 1983 CD)	Hillsborough County SWMD	EPA	11/1/2003	No	Yes
(2)	- Perform routine maintenance on wells TR2-S and 32D - Refit/replace well NE-23 - Refit/replace well F-2 - Abandon unused shallow wells - Lock and clearly label all wells - Add well rehabilitation check to pump repair process	Hillsborough County SWMD	EPA	11/1/2003	No	Yes
(3)	Perform potable well survey on adjacent parcels (approximately 1-mile radius of Site)	Hillsborough County SWMD	EPA	11/1/2003	No	Yes
(4)	Consideration of ground water impacts during RCRA permit renewal negotiation	FDEP District Office	EPA	9/15/2013	No	Yes
(5)	Return to Annual reporting and evaluation of ground water trends	Hillsborough County SWMD	EPA and FDEP	6/27/2004	No	Yes

Issue	Recommendations and *Follow-up Actions*	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
(6)	Prepare Fact Sheet presenting results of *Five-Year Review* and addressing community ground water quality concerns	EPA	EPA and FDEP	10/1/2003	No	Potential
(7)	- Perform routine civil surveying of landfill cap surfaces (bi-annual or when significant settlement is observed) - Include quantitative estimate of settlement fill activities (area, thickness and location)	Hillsborough County SWMD	EPA	5/1/2004 (survey) 10/1/2003 (reports)	No	No
(8)	- Inventory products and wastes managed on adjacent or nearby properties - Request notification from FDEP District Office of nearby spills or releases - Report/cleanup illegal dumping on adjacent properties	Hillsborough County SWMD	EPA	11/1/2003	No	No

X. Protectiveness Statement

The remedy at the Taylor Road Landfill currently protects human health and the environment because ground water monitoring at the compliance ring ensures contingent measures can be taken prior to impacts to domestic supply wells, institutional controls restrict the installation of new domestic supply wells in the impacted area, post-closure care of the landfills under RCRA minimizes ongoing impacts to the aquifer, and natural attenuation is demonstrated to be occurring. However, in order for the remedy to remain protective in the long-term, the following actions need to be taken: repair fencing and improve enforcement of site access controls; improve routine maintenance of monitoring wells; perform a potable well survey in the vicinity of the site to ensure institutional controls are effective; ensure the long-term operation and maintenance of the landfills; resume annual ground water quality statistical evaluations; and, improve responsiveness to ongoing community concerns.

Overall, Hillsborough County Solid Waste Management Department has done a commendable job of implementing the remedy and integrating RCRA and CERCLA operation and maintenance requirements for the Site. While these follow-up actions, if not implemented, would be expected to have a negative impact on the long-term effectiveness of the remedy, it is expected that Hillsborough County will be responsive to these recommendations. Most of the recommendations and follow-up actions for the Site are being implemented by Hillsborough County based on the debriefing at the conclusion of the site inspection.

XI. Next Review

The next Five-Year Review for the Taylor Road Landfill Superfund Site will be a statutory review, and will be completed on August 11, 2008.

ATTACHMENT 1

SITE FIGURES

Figure 1 - Aerial Photograph of Taylor Road Landfill Site with Site Boundary and Compliance Monitoring Wells

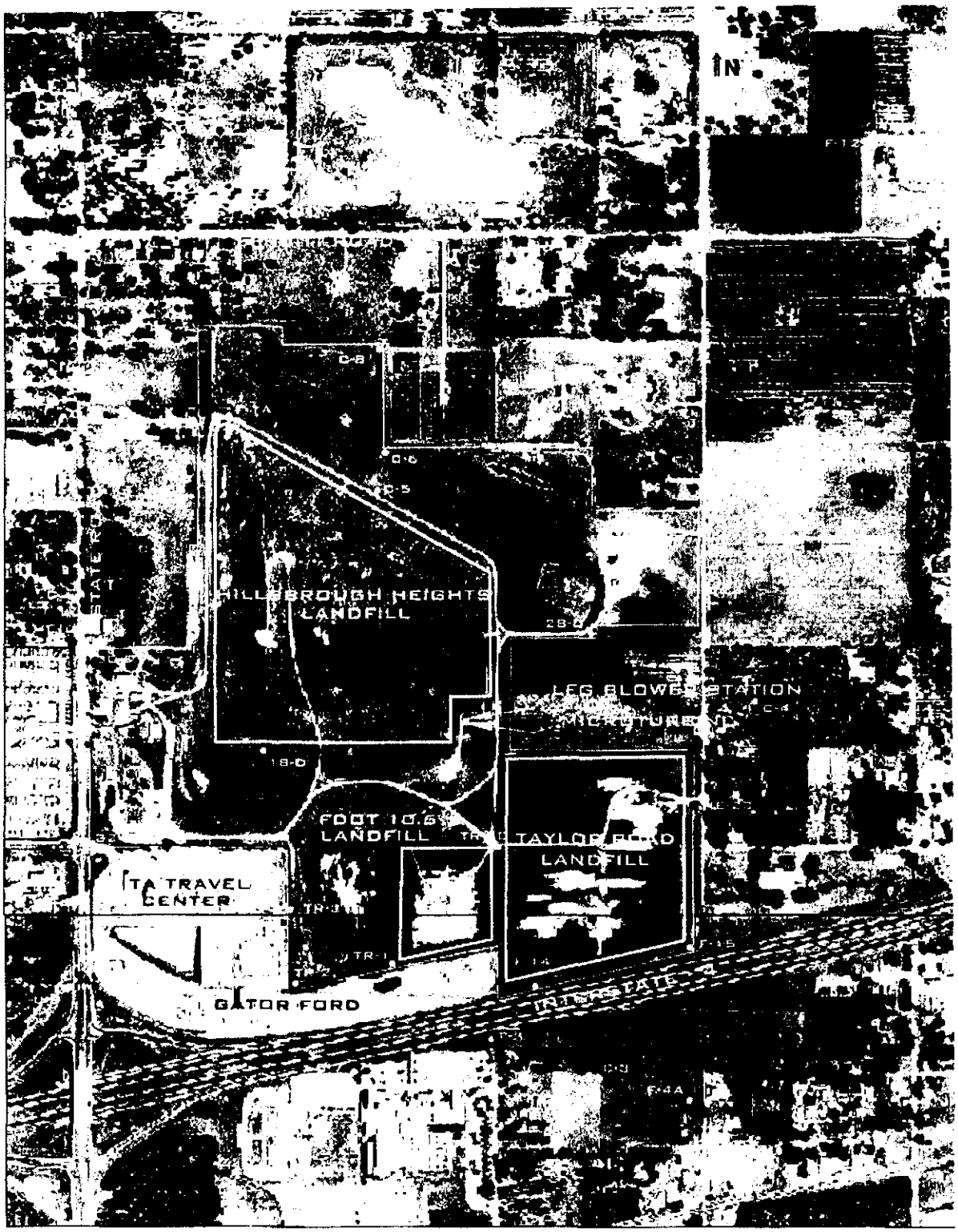
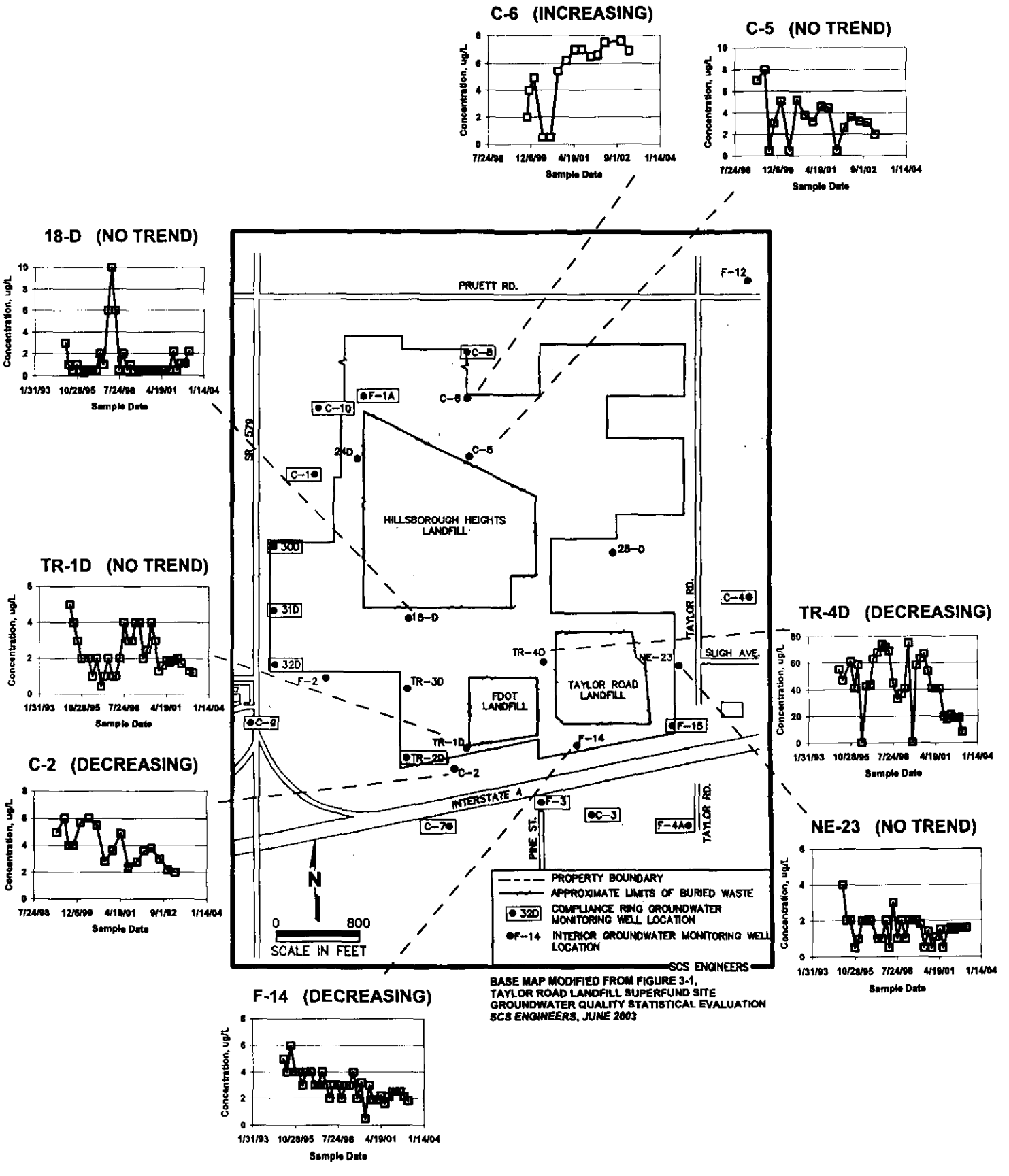
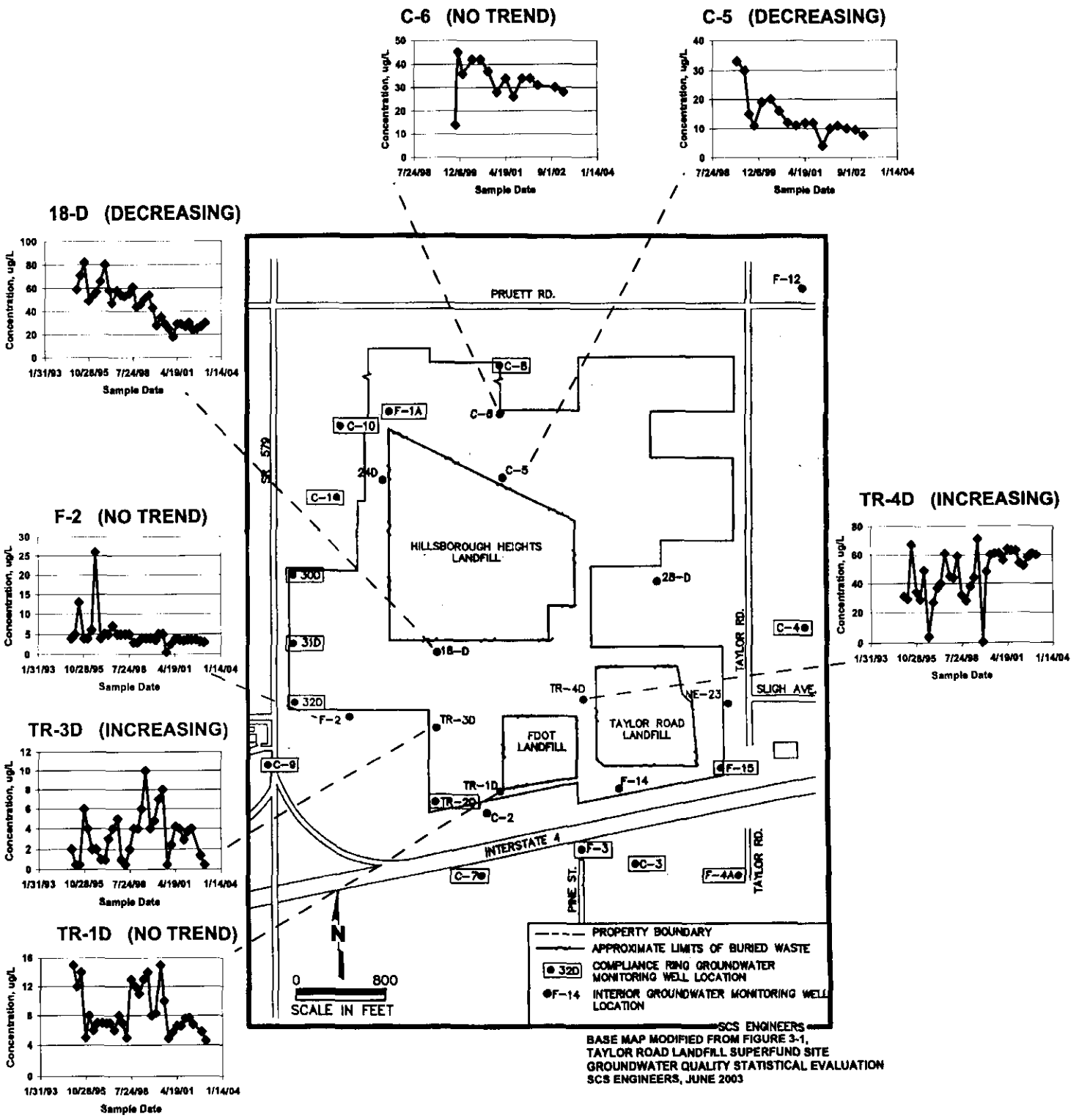


Figure 2.Trichloroethene Concentration Trends



BASE MAP MODIFIED FROM FIGURE 3-1,
TAYLOR ROAD LANDFILL SUPERFUND SITE
GROUNDWATER QUALITY STATISTICAL EVALUATION
SCS ENGINEERS, JUNE 2003

Figure 3. cis 1,2-Dichloroethene Concentration Trends



BASE MAP MODIFIED FROM FIGURE 3-1,
TAYLOR ROAD LANDFILL SUPERFUND SITE
GROUNDWATER QUALITY STATISTICAL EVALUATION
SCS ENGINEERS, JUNE 2003

Figure 4. Vinyl Chloride Concentration Trends

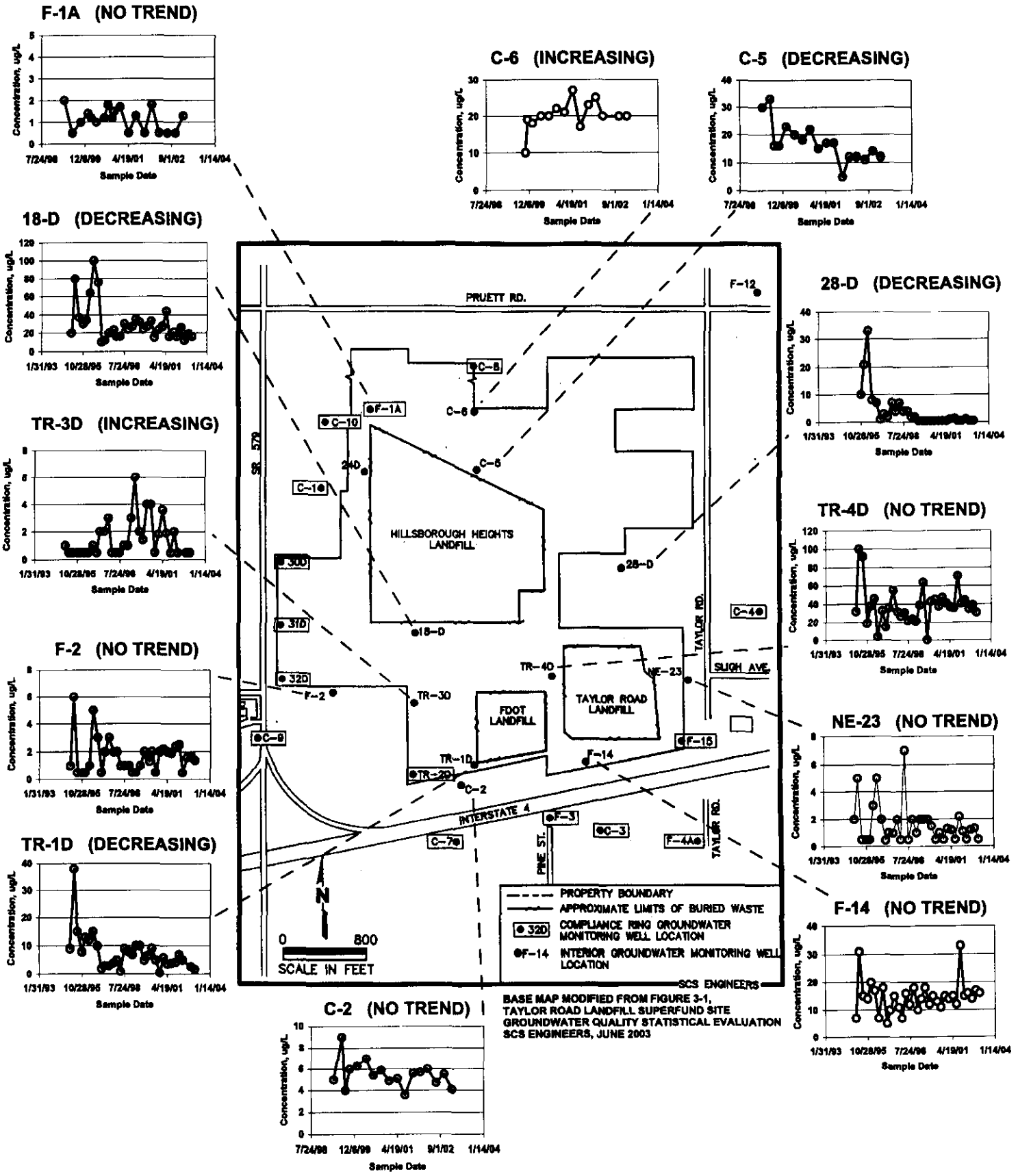
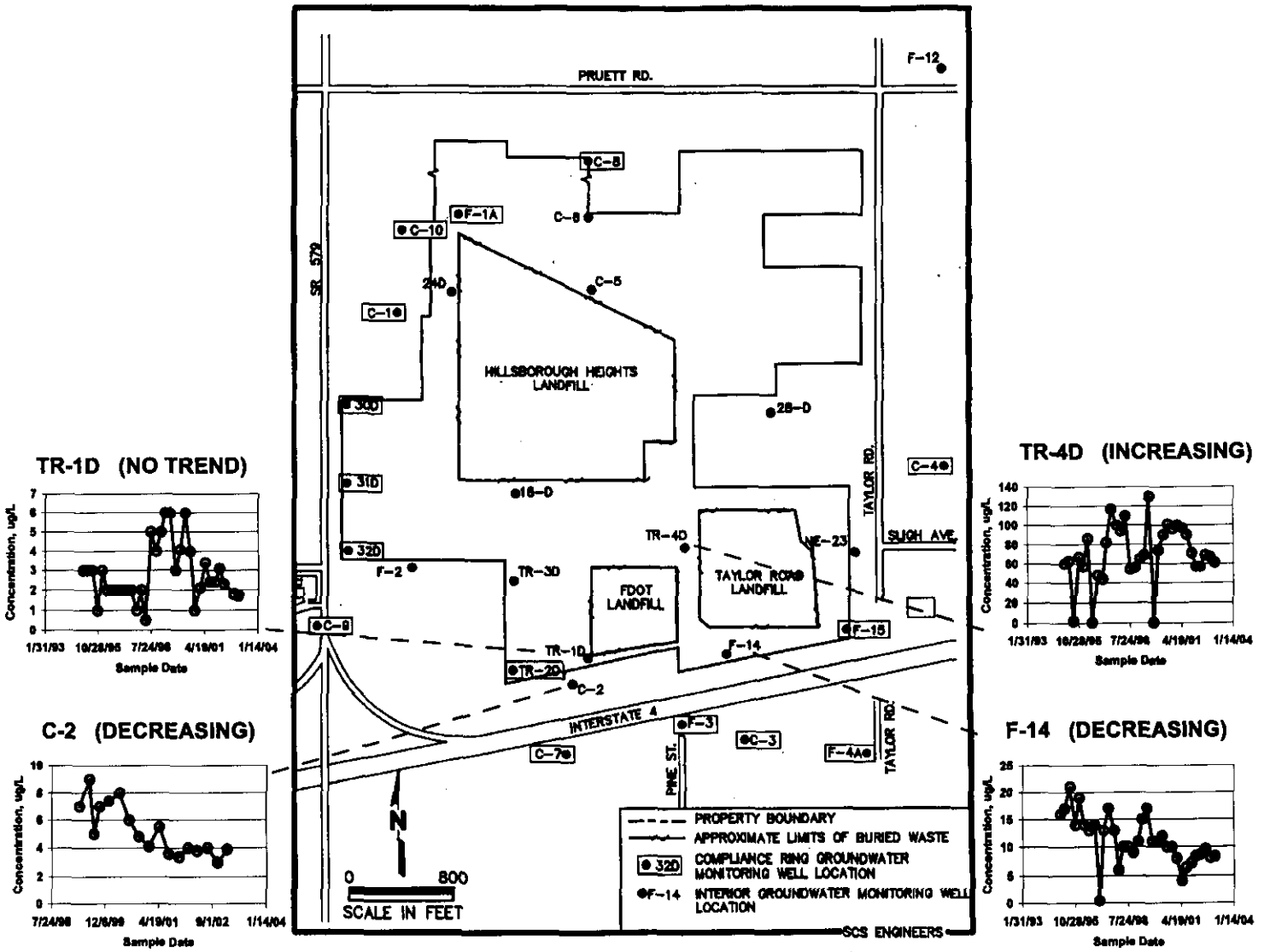
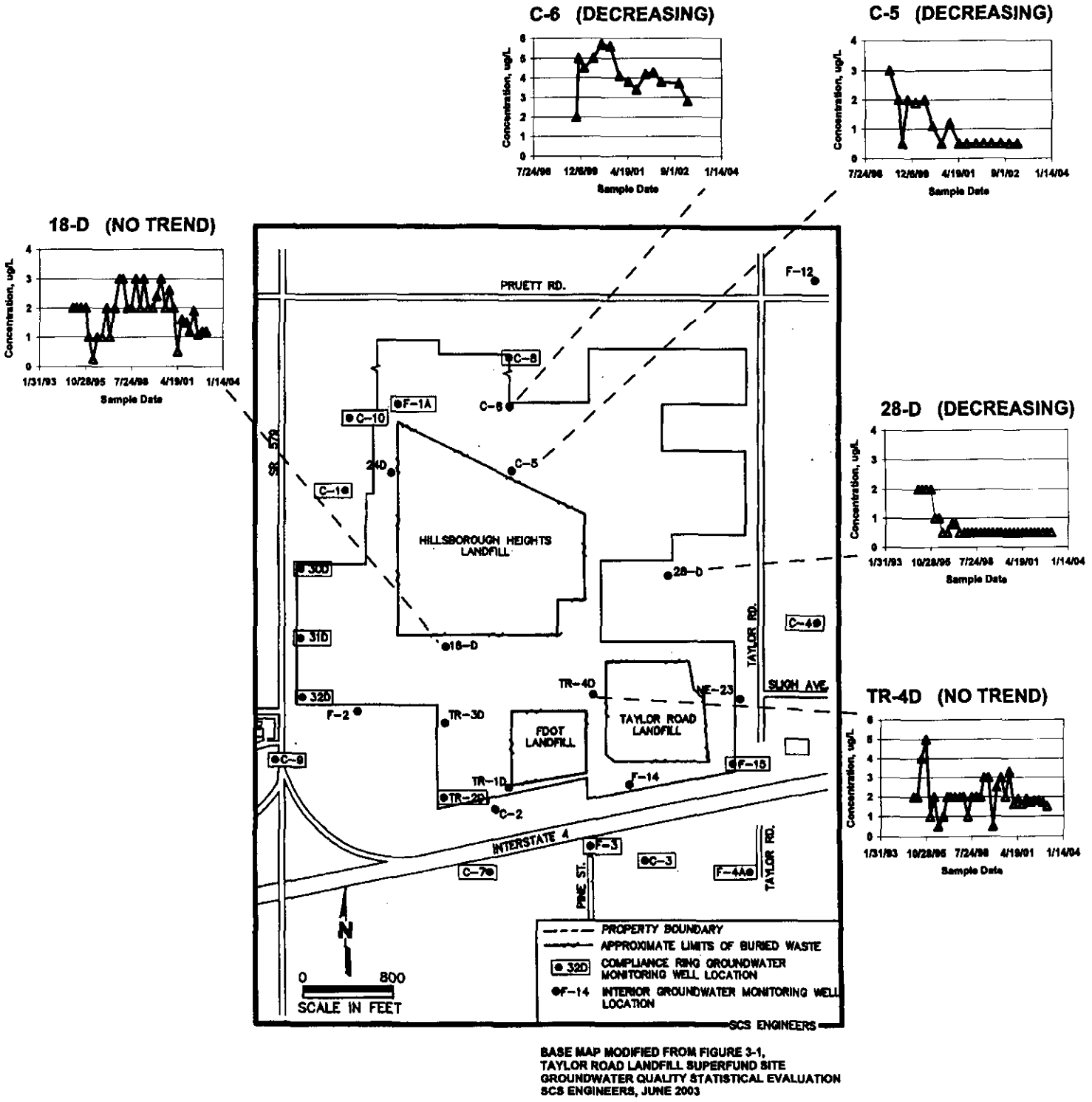


Figure 5. 1,1-Dichloroethene Concentration Trends



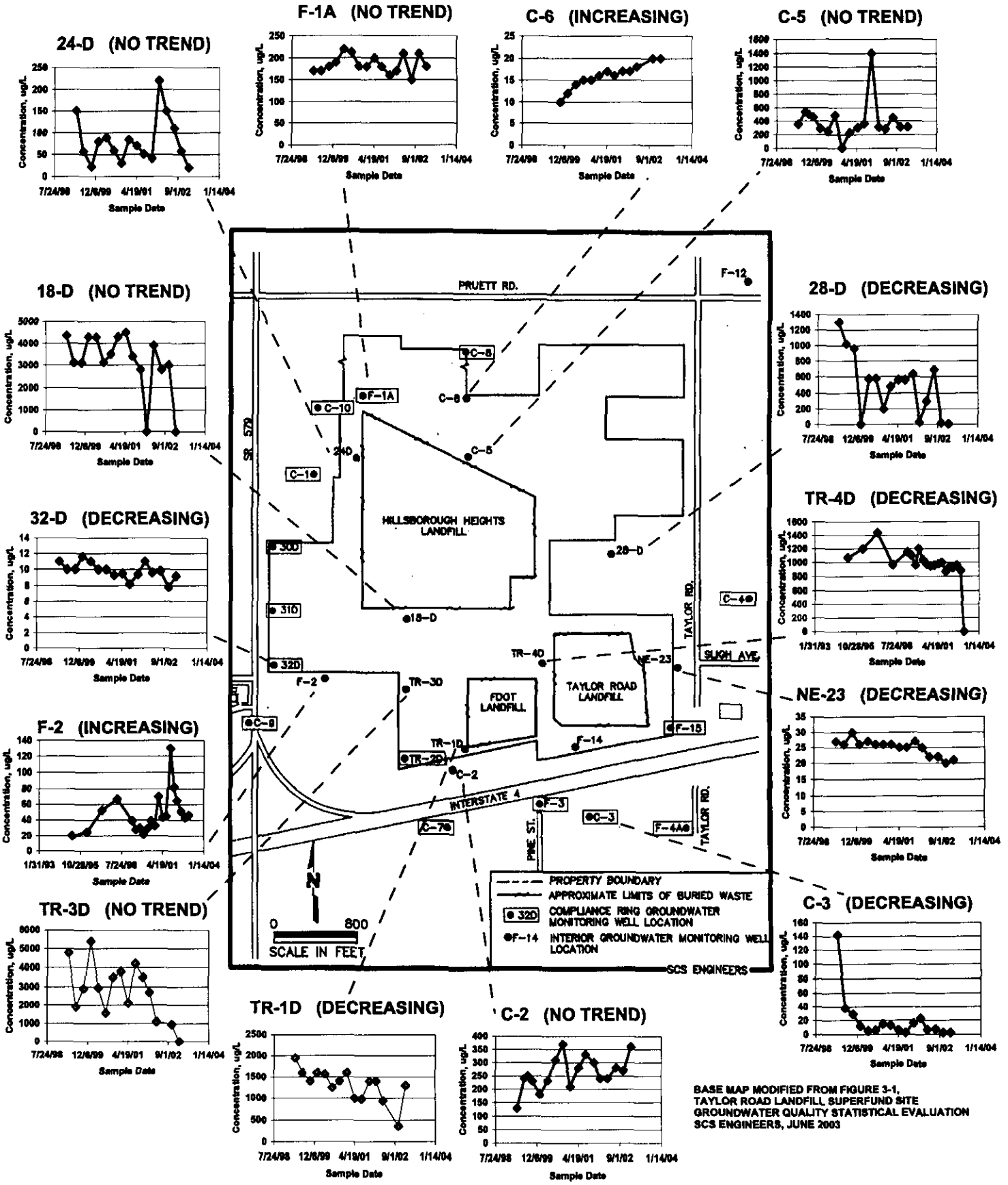
BASE MAP MODIFIED FROM FIGURE 3-1,
TAYLOR ROAD LANDFILL SUPERFUND SITE
GROUNDWATER QUALITY STATISTICAL EVALUATION
SCS ENGINEERS, JUNE 2003

Figure 6. Benzene Concentration Trends



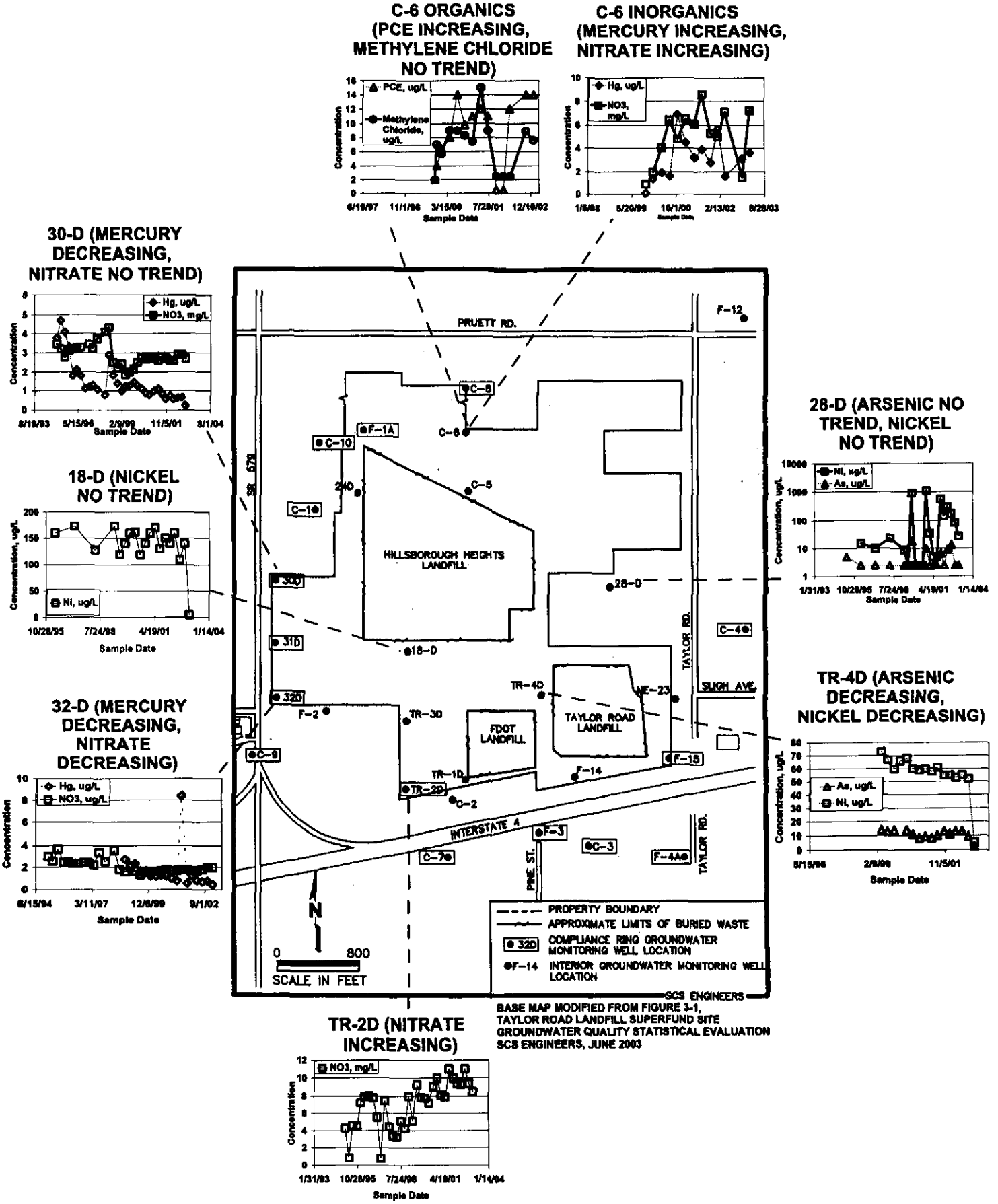
BASE MAP MODIFIED FROM FIGURE 3-1,
TAYLOR ROAD LANDFILL SUPERFUND SITE
GROUNDWATER QUALITY STATISTICAL EVALUATION
SCS ENGINEERS, JUNE 2003

Figure 7. Manganese Concentration Trends



BASE MAP MODIFIED FROM FIGURE 3-1,
TAYLOR ROAD LANDFILL SUPERFUND SITE
GROUNDWATER QUALITY STATISTICAL EVALUATION
SCS ENGINEERS, JUNE 2003

Figure 8. Concentration Trends for Miscellaneous Contaminants



ATTACHMENT 2

LIST OF DOCUMENTS REVIEWED

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Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, March 1999

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, April 1999

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, May 1999

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, June 1999

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, July1999

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Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, December 2001

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, January 2002

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, February 2002

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Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, January 2003

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, February 2003

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, Mach 2003

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, April 2003

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, May 2003

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, April 1999

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Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, April 2003

ATTACHMENT 3

SITE INSPECTION CHECKLIST

Site Inspection Checklist

I. SITE INFORMATION

Site name: Taylor Road Landfill	**Date of inspection:** June 19-20, 2003
Location and Region: Tampa, Hillsborough County, Florida - EPA Region 4.	**EPA ID:** FLD 980 494 959
Agency, office, or company leading the five-year review: EPA Region 4 (WMD/SSMB/NFL)	**Weather/temperature:** Overcast/rain/~85 degrees F

Remedy Includes: (Check all that apply)

- ☐ Landfill cover/containment
- ☐ Access controls
- ✔ Institutional controls
- ☐ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ✔ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls
- ✔ Other Impact cap system as part of overall groundwater protection.

Attachments: ☐ Inspection team roster attached ✔ Site map attached

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** Wayman Rose (Name) Sr. Crew Leader (Title) 6/19/03 (Date)
   Interviewed ✔ at site ☐ at office ☐ by phone Phone no. 813-744-5535
   Problems, suggestions; ✔ Report attached Interview form.

2. **O&M staff** (see attached Interview Form) (Name) _____ (Title) _____ (Date)
   Interviewed ☐ at site ☐ at office ☐ by phone Phone no. _____
   Problems, suggestions; ✔ Report attached _____

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency FDEP
Contact Kelley Helton _____ 6/19/03 _____
Name | Title | Date | Phone no.
Problems; suggestions; ☐ Report attached DEP does not concur with EPA ESD removing secondary MCL or ARARs for the site.

Agency _____
Contact _____ _____ _____ _____
Name | Title | Date | Phone no.
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name | Title | Date | Phone no.
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name | Title | Date | Phone no.
Problems; suggestions; ☐ Report attached _____

4. **Other interviews** (optional) ✔ Report attached.

Other interviews performed as a separate activity (see Interview Records)

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**

✔ O&M manual	✔ Readily available	✔ Up to date	☐ N/A
✔ As-built drawings	✔ Readily available	✔ Up to date	☐ N/A
✔ Maintenance logs	✔ Readily available	✔ Up to date	☐ N/A

Remarks As-built include improvements, maintenance records excellent.

2. **Site-Specific Health and Safety Plan** ☐ Readily available ☐ Up to date ☐ N/A
☐ Contingency plan/emergency response plan ☐ Readily available ☐ Up to date ☐ N/A
Remarks Maintained at county offices downtown. SOPs address must "reasonably anticipatable" events not consolidated in a single plan.

3. **O&M and OSHA Training Records** ✔ Readily available ✔ Up to date ☐ N/A
Remarks Maintained at county offices downtown

4. **Permits and Service Agreements**

☐ Air discharge permit	☐ Readily available	☐ Up to date	✔ N/A
☐ Effluent discharge	* ☐ Readily available	☐ Up to date	✔ N/A
☐ Waste disposal, POTW	☐ Readily available	☐ Up to date	☐ N/A
☐ Other permits	☐ Readily available	☐ Up to date	✔ N/A

Remarks * leachate treatment offsite at Valrico Plant (county-owned)

5. **Gas Generation Records** ✔ Readily available ✔ Up to date ☐ N/A
Remarks

6. ***Settlement Monument Records*** ☐ Readily available ☐ Up to date ✔ N/A
Remarks Not a feature of this facility. Re-surveying done as needed / Ponding is corrected as needed.

7. **Groundwater Monitoring Records** ✔ Readily available ✔ Up to date ☐ N/A
Remarks

8. **Leachate Extraction Records** ✔ Readily available ✔ Up to date ☐ N/A
Remarks

9. **Discharge Compliance Records**

☐ Air	☐ Readily available	☐ Up to date	✔ N/A
☐ Water (effluent)	☐ Readily available	☐ Up to date	✔ N/A

Remarks

10. **Daily Access/Security Logs** ☐ Readily available ☐ Up to date ✔ N/A
Remarks Visitors required to report at office; no log maintained.

IV. O&M COSTS

1. **O&M Organization**

☐ State in-house ☐ Contractor for State
☐ PRP in-house ☐ Contractor for PRP
☐ Federal Facility in-house ☐ Contractor for Federal Facility
✔ *Other* Hillsborough County is PRP and O & M organization is primarily in-house staff with some contract support.

2. **O&M Cost Records** –County to provide info as follow-up

✔ *Readily available* ✔ Up to date
✔ Funding mechanism/agreement in place
Original O&M cost estimate N/A ☐ Breakdown attached

Total annual cost by year for review period if available

From * To _____ _____ ☐ Breakdown attached
Date Date Total cost

From _____ To _____ _____ ☐ Breakdown attached
Date Date Total cost

From _____ To _____ _____ ☐ Breakdown attached
Date Date Total cost

From _____ To _____ _____ ☐ Breakdown attached
Date Date Total cost

From _____ To _____ _____ ☐ Breakdown attached
Date Date Total cost

* Maintained as part of county budget, cost spreadsheets provided.

3. **Unanticipated or Unusually High O&M Costs During Review Period**

Describe costs and reasons: Improvements to gas collection system at TRLF (routing to Hillsborough Heights); new gas wells at TRLF, drainage improvement between FDOT and TRLF. ~$500,000 in improvements.

V. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☐ N/A

A. Fencing

1. **Fencing damaged** ✔ Location shown on site map ✔ Gates secured ☐ N/A

Remarks Site reasonably secure, some damage to fences and gates(accidents/break-in, theft). One open cut identified.

B. Other Access Restrictions

1. **Signs and other security measures** ☐ Location shown on site map ☐ N/A
Remarks No trespassing sign every 50 feet along fence.

C. Institutional Controls (ICs)

1. **Implementation and enforcement** (Site Access Security)
Site conditions imply ICs not properly implemented ☐ Yes ✔ No ☐ N/A
Site conditions imply ICs not being fully enforced ✔ Yes ☐ No ☐ N/A

Type of monitoring (*e.g.*, self-reporting, drive by) O&M personnel on-site daily/self-reporting
Frequency daily (self-report)/monthy (visual inspection)
Responsible party/agency Hillsborough County
Contact Wayman Rose

Name	Title	Date	Phone no.

Reporting is up-to-date ✔ Yes ☐ No ☐ N/A
Reports are verified by the lead agency ✔ Yes ☐ No ☐ N/A

Specific requirements in deed or decision documents have been met ✔ Yes ☐ No ☐ N/A
Violations have been reported ✔ Yes ☐ No ☐ N/A
Other problems or suggestions: ☐ Report attached
Reporting is primarily internal to Hillsborough County, specific notification of each break of perimeter fencing not made to EPA, nor would it be useful. Annual summary would be adequate.

2. **Adequacy** ✔ ICs are adequate ☐ ICs are inadequate ☐ N/A
Remarks Improvement to site access physical security may be warranted. Groundwater use use restrictions seem to be working. Periodical well inventory in/adjacent to buffer may be warranted.

D. General

1. **Vandalism/trespassing** ✔ *Location shown on site map* ☐ *No vandalism evident*
Remarks Both vanadalism (including theft) and trespassing appear fairly common. Numerous locations along fenceline apparently used for illegal access. O&M staff report recurrent trespassing.

2. **Land use changes on site** ☐ N/A
Remarks Sold small strip of land to TA America, leased ~11 acres to TRAC, leased ~0.5 acre to County sheriff's office.

3. **Land use changes off site** ☐ N/A
Remarks Some new businesses established in SW adjacent property (TA America, Gator Ford).

VI. GENERAL SITE CONDITIONS

A. Roads ✔ Applicable ☐ N/A

1. **Roads damaged** ☐ Location shown on site map ✔ Roads adequate ☐ N/A
Remarks

B. Other Site Conditions

Remarks

VII. LANDFILL COVERS ✔ Applicable ☐ N/A

A. Landfill Surface

1. **Settlement** (Low spots) ☐ Location shown on site map ☐ Settlement not evident
Areal extent Depth 0.5-1 ft
Remarks Low areas (100-500 meters square) noted on TRLF and HH, actively being addressed.

2. **Cracks** ☐ Location shown on site map ✔ Cracking not evident
Lengths Widths Depths
Remarks

3. **Erosion** ☐ Location shown on site map ✔ Erosion not evident
Areal extent Depth
Remarks

4. **Holes** ☐ Location shown on site map ✔ Holes not evident
Areal extent Depth
Remarks

5. **Vegetative Cover** ✔ Grass ✔ Cover properly established ✔ No signs of stress
☐ Trees/Shrubs (indicate size and locations on a diagram)
Remarks_____

6. **Alternative Cover (armored rock, concrete, etc.)** ✔ N/A
Remarks_____

7. **Bulges** ☐ Location shown on site map ✔ Bulges not evident
Areal extent_____ Height_____
Remarks_____

8. **Wet Areas/Water Damage** ☐ Wet areas/water damage not evident
✔ Wet areas ☐ Location shown on site map Areal extent 6 X 100-500 yd3
✔ Ponding ☐ Location shown on site map Areal extent_____
☐ Seeps ☐ Location shown on site map Areal extent_____
☐ Soft subgrade ☐ Location shown on site map Areal extent_____
Remarks Actively filled to remediate (top soil removed, clay added, topsoil and vegetation re-established).

9. **Slope Instability** ☐ Slides ☐ Location shown on site map ✔ No evidence of slope instability
Areal extent_____
Remarks_____

B. Benches ☐ Applicable ✔ N/A
(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

1. **Flows Bypass Bench** ☐ Location shown on site map ☐ N/A or okay
Remarks Not fully benched, gentle contour grades leading to lined/unlined perimeter channels.

2. **Bench Breached** ☐ Location shown on site map ✔ N/A or okay
Remarks_____

3. **Bench Overtopped** ☐ Location shown on site map ✔ N/A or okay
Remarks_____

C. Letdown Channels ✔ Applicable ☐ N/A
(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

1. **Settlement** ☐ Location shown on site map ✔ No evidence of settlement
Areal extent_____ Depth_____
Remarks_____

2. **Material Degradation** ☐ Location shown on site map ✔ No evidence of degradation
Material type_____ Areal extent_____
Remarks_____

3. **Erosion** ☐ Location shown on site map ✔ No evidence of erosion
Areal extent_____ Depth_____
Remarks_____

4. **Undercutting** ☐ Location shown on site map ✔ No evidence of undercutting
Areal extent_____ Depth_____
Remarks_____

5. **Obstructions** Type_____ ✔ No obstructions
☐ Location shown on site map Areal extent_____
Size_____
Remarks_____

6. **Excessive Vegetative Growth** Type_____
✔ No evidence of excessive growth
✔ Vegetation in channels does not obstruct flow
☐ Location shown on site map Areal extent_____
Remarks_____

D. Cover Penetrations ☐ Applicable ☐ N/A

1. **Gas Vents** ✔ Active ☐ Passive
✔ Properly secured/locked ✔ Functioning ✔ Routinely sampled ✔ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance
☐ N/A
Remarks Leakage checked quarterly.

2. **Gas Monitoring Probes**
✔ Properly secured/locked ✔ Functioning ✔ Routinely sampled ✔ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ☐ N/A
Remarks_____

3. **Monitoring Wells** (within surface area of landfill)
✔ Properly secured/locked ✔ Functioning ✔ Routinely sampled ✔ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ☐ N/A
Remarks Interior wells have some maintenance issues, shallow wells are non-functional.

4. **Leachate Extraction Wells**
✔ Properly secured/~~locked~~ ✔ Functioning ✔ Routinely sampled ✔ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ☐ N/A
Remarks Within facility with restricted access.

5. **Settlement Monuments** ☐ Located ☐ Routinely surveyed ☐ N/A
Remarks Not present (pre-dates routine use).

E. Gas Collection and Treatment ✔ Applicable ☐ N/A

1. **Gas Treatment Facilities**
✔ Flaring ✔ Thermal destruction ✔ Collection for reuse
✔ Good condition ☐ Needs Maintenance
Remarks Micro-turbine installed 3/03 with DOE grant.

2. **Gas Collection Wells, Manifolds and Piping**
✔ Good condition ☐ Needs Maintenance
Remarks

3. **Gas Monitoring Facilities** (*e.g.*, gas monitoring of adjacent homes or buildings)
✔ Good condition ☐ Needs Maintenance ☐ N/A
Remarks Structure readings performed quarterly.

F. *Cover Drainage Layer* ☐ Applicable ✔ *N/A*

1. **Outlet Pipes Inspected** ☐ Functioning ☐ N/A
Remarks

2. **Outlet Rock Inspected** ☐ Functioning ☐ N/A
Remarks

G. Detention/Sedimentation Ponds ✔ Applicable ☐ N/A

1. **Siltation** Areal extent 8-9 acres Depth 5-10 feet ☐ N/A
✔ Siltation not evident
Remarks Four on site, typically dry.

2. **Erosion** Areal extent Depth
✔ Erosion not evident
Remarks

3. **Outlet Works** ☐ Functioning ✔ N/A
Remarks Evaporation/percolation.

4. **Dam** ☐ Functioning ✔ N/A
Remarks

H. Retaining Walls ☐ Applicable ✔ N/A

1. **Deformations** ☐ Location shown on site map ☐ Deformation not evident
Horizontal displacement_____ Vertical displacement_____
Rotational displacement_____
Remarks_____

2. **Degradation** ☐ Location shown on site map ☐ Degradation not evident
Remarks_____

I. Perimeter Ditches/Off-Site Discharge ✔ Applicable ☐ N/A

1. **Siltation** ☐ Location shown on site map ✔ Siltation not evident
Areal extent_____ Depth_____
Remarks Around landfill, route to detention basins.

2. **Vegetative Growth** ☐ Location shown on site map ☐ N/A
✔ Vegetation does not impede flow
Areal extent_____ Type_____
Remarks_____

3. **Erosion** ☐ Location shown on site map ✔ Erosion not evident
Areal extent_____ Depth_____
Remarks_____

4. **Discharge Structure** ✔ Functioning ☐ N/A
Remarks Small concrete pad or rip rap at discharge.

VIII. VERTICAL BARRIER WALLS ☐ Applicable ✔ N/A

1. **Settlement** ☐ Location shown on site map ☐ Settlement not evident
Areal extent_____ Depth_____
Remarks_____

2. **Performance Monitoring** Type of monitoring_____
☐ Performance not monitored
Frequency_____ ☐ Evidence of breaching
Head differential_____
Remarks_____

IX. GROUNDWATER/SURFACE WATER REMEDIES ✔ Applicable ☐ N/A

A. Groundwater Extraction Wells, Pumps, and Pipelines ☐ Applicable ✔ N/A

1. **Pumps, Wellhead Plumbing, and Electrical**
☐ Good condition ☐ All required wells properly operating ☐ Needs Maintenance ☐ N/A
Remarks_____

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
☐ Good condition ☐ Needs Maintenance
Remarks_____

3. **Spare Parts and Equipment**
☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided
Remarks_____

B. Surface Water Collection Structures, Pumps, and Pipelines ☐ Applicable ✔ N/A

1. **Collection Structures, Pumps, and Electrical**
☐ Good condition ☐ Needs Maintenance
Remarks_____

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
☐ Good condition ☐ Needs Maintenance
Remarks_____

3. **Spare Parts and Equipment**
☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided
Remarks_____

C. Treatment System ☐ Applicable ✔ N/A

1. **Treatment Train** (Check components that apply)
☐ Metals removal ☐ Oil/water separation ☐ Bioremediation
☐ Air stripping ☐ Carbon adsorbers
☐ Filters_____
☐ Additive (*e.g.*, chelation agent, flocculent)_____
☐ Others_____
☐ Good condition ☐ Needs Maintenance
☐ Sampling ports properly marked and functional
☐ Sampling/maintenance log displayed and up to date
☐ Equipment properly identified
☐ Quantity of groundwater treated annually_____
☐ Quantity of surface water treated annually_____
Remarks_____

2. **Electrical Enclosures and Panels** (properly rated and functional)
☐ N/A ☐ Good condition ☐ Needs Maintenance
Remarks_____

3. **Tanks, Vaults, Storage Vessels**
☐ N/A ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance
Remarks_____

4. **Discharge Structure and Appurtenances**
☐ N/A ☐ Good condition ☐ Needs Maintenance
Remarks_____

5. **Treatment Building(s)**
☐ N/A ☐ Good condition (esp. roof and doorways) ☐ Needs repair
☐ Chemicals and equipment properly stored
Remarks_____

6. **Monitoring Wells** (pump and treatment remedy)
☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
☐ All required wells located ☐ Needs Maintenance ☐ N/A
Remarks_____

D. Monitoring Data

6. Monitoring Data
✔ Is routinely submitted on time ✔ Is of acceptable quality

7. Monitoring data suggests:

✔ Groundwater plume is effectively contained ✔ Contaminant concentrations are declining

D. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)
✔ *Properly secured/locked* ✔ *Functioning* ✔ *Routinely sampled* ✔ *Good condition*
✔ All required wells located ✔ Needs Maintenance ☐ N/A
Remarks Some maintenance issues, one well unlocked.

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

Remedy is to control human exposure and monitor for natural attenuation. Remedy is generally being implemented as expected, and is operational and functional.

B. Adequacy of O&M

Describe issues and oservations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

O&M is generally adequate, but there are areas for improvement Some recommendations and follow-up actions are necessary to ensure long-term protectiveness.

C. Early Indicators of Potential Remedy Problems

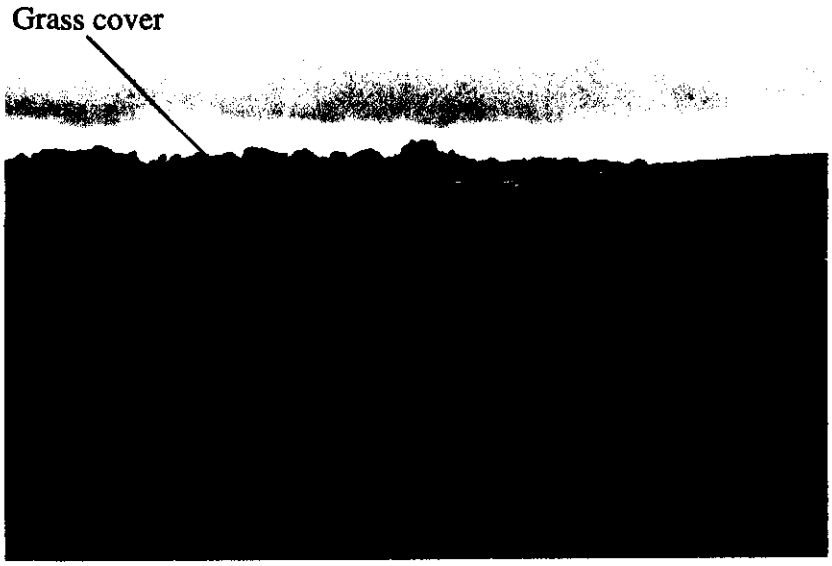
Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

None.

D.	**Opportunities for Optimization**
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. Improvement program has addressed most optimization possibilities consistent with land use/public protection. Plan for 2005 to replace/upgrade gas collection system for Hillsborough Heights landfill, including gas collection and treatment system, potentially eliminating need for flare with larger turbine sytem.

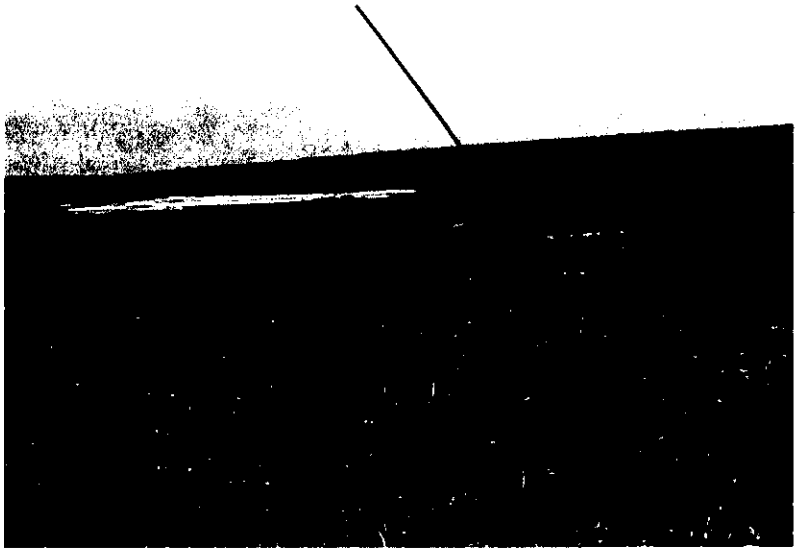
ATTACHMENT 4

SITE PHOTOGRAPHS



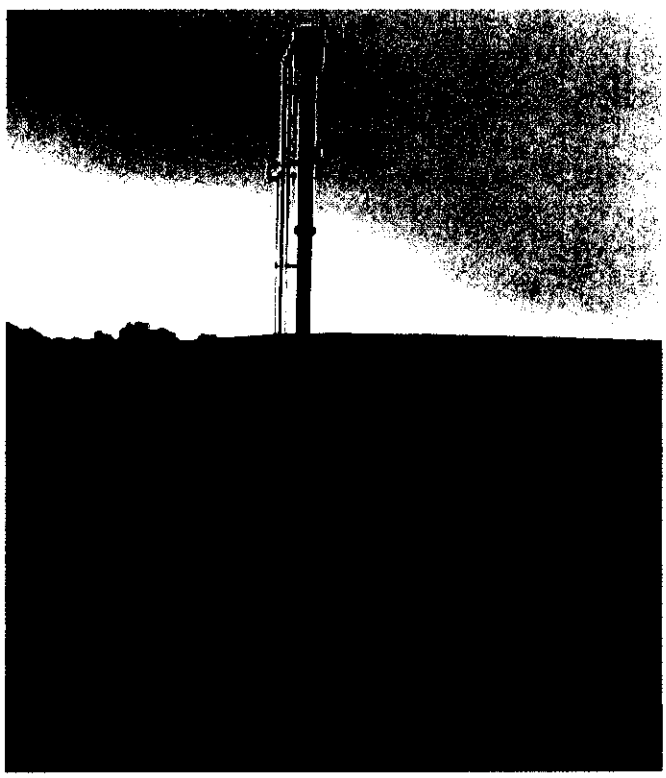
Taylor Road Landfill: Side slope with well-established grass cover.

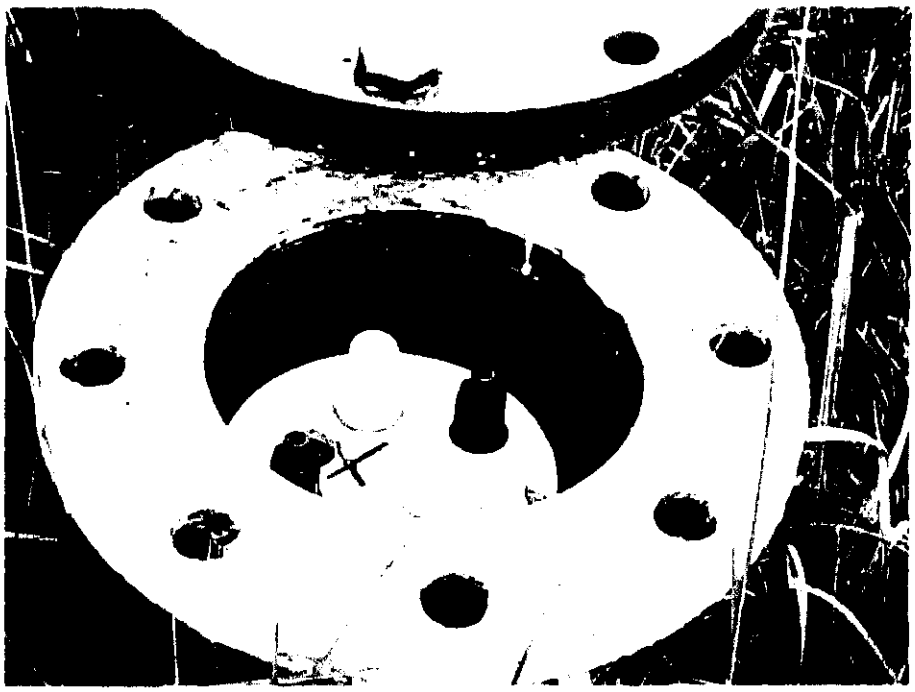
Taylor Road Landfill: Drainage along toe.



Taylor Road Landfill: Improvement/regrading of drainage adjacent to FDOT Landfill.

Taylor Road and Hillsborough Heights Landfills: Flare for combined flow landfill gas recovery system.





Taylor Road Landfill: Deep monitoring well with protective casing and dedicated sampling system.

Taylor Road Landfill: Top of unused shallow monitoring well. *Note: nearly at grade.*

ATTACHMENT 5

INTERVIEW RECORDS

INTERVIEW RECORD

Site Name: Taylor Road Landfill	**EPA ID No.:**
Subject: Sy- Review	**Time:** 1:00PM **Date:**
Type: ☐ Telephone ☒ Visit ☐ Other **Location of Visit:** Taylor Rd Landfill	☐ Incoming ☐ Outgoing

Contact Made By:

Name: Dawn Kerber / [illegible]	**Title:** RPM / CLC	**Organization:**

Individual Contacted:

Name: Wayman Rose	**Title:** Sr. Crew Leader	**Organization:**

Telephone No: **Fax No:** **E-Mail Address:**	**Street Address:** **City, State, Zip:**

Summary Of Conversation

Traveled along fence line to ensure no breaking / entering.
They have worked on odor control. Gas has no scent
& no high levels. It is thrashed out in system
In process of building up areas of erosion.
Grass in cut frequently or as needed. No fertilizer
or pesticides used.

Taylor Road Five Year Review Questions

1. What is your overall impression of the project?

2. What effects have the site operations had on the surrounding community?

3. Are you aware of any community concerns regarding the site, its operation or the administration?

4. Are you aware of any vandalism, trespassing or emergency responses from local authorities?

5. Are you or your neighbors using groundwater from the area? If so, how are you using it, and are you aware of any problems with groundwater?

6. Do you feel well informed about the site's activities/progress?
(Technical/Operators - Have there been routine communication/activities? If so, what were they and what were they in reference to?)

7. Do you have any complaints?
(Technical/Operators - Have there been any complaints, violations or other incidents related to the site requiring a response by your office? If so, give details of event(s) and results of responses.)

8. Do you feel well informed about the site's activities and progress?

9. Do you have any comments, suggestions, or recommendations regarding the site?
(Technical/Operators - Do you have any comments, suggestions, or recommendations regarding the site's management or operation?)

Technical/Operations

10. What is the current status of the operation?

11. Have any problems been encountered which required, or will require, changes to this remedial design or the ROD?

12. Have there been any problems or difficulties with the implementation of the remedy?

13. Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy?

14. Have there been unexpected O & M difficulties or costs at the site?

15. Have there been opportunities to optimize O&M, or sampling efforts?

INTERVIEW DOCUMENTATION FORM

The following is a list of individual interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date
Wayman Law	Sr. Geologist	Tetra Tech	6-19-03

INTERVIEW RECORD

Site Name: Taylor Road Landfill	EPA ID No.:
Subject: 5-year Review	Time: Date: 4/20/05
Type: ☐ Telephone ☒ Visit ☐ Other Location of Visit: Home of Oberting's	☐ Incoming ☐ Outgoing

Contact Made By:

Name: L'Tonya Spencer	Title: CIC	Organization:

Individual Contacted:

Name: Cam Oberting	Title:	Organization: Taylor Civic Road Organ
Telephone No: Fax No: E-Mail Address:	Street Address: City, State, Zip:	

Summary Of Conversation

County comes & check wells, but they are still on private wells.
Mercury was shown in private wells & they were hooked up to county water - One or two homes (VOCs)
Convenience store next to site => Marathon - mercury found on property
Dr. Sam Upchurch, county consultant, says nothing.
approved burrow pit across ff Taylor Rd site.
12 yrs Permit of digging
Burrow pit was permitted - but hasn't been tested.
No smells of gas - corrected gas coming into homes
After hooking up to county water, but doesn't check private wells any more. - Water comes from aquifer
Where is the mercury coming from?
County does a good job on keeping informed about activities & Solid Waste corrects problems.
Oil & grease was in wells & tested. Not coming from landfill - so not corrected (said it was docks)

ignores issues & expect them to go away.

At Checking wells that are

homes w/ children & low pH - not their responsibility & should does not test any more & be ?

filters are on wells b/c of contamination.

No records of dumping by county in 1981

of grease/oil reclassified as solid waste permit.
sludge

DEK (now DEP) made them shut it down

Why are there no records of grease/oil sludge at Solid Waste Dept.?

Clay cap is not impermeable - leachates are happening but county is pumping it - what happens if the county can't pump it?

How long will county pump it? forever & tax payers are paying for it.

INTERVIEW DOCUMENTATION FORM

The following is a list of individual interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date
ANDREW BALLOON	ENV I SPEC	HILL SOLID WASTE	6-23-03
DENNIS ZELAN	ENV I SPE	Hill Solid Waste	6-20-03

INTERVIEW RECORD

Site Name: Taylor Road	EPA ID No.:
Subject: Sur Review	Time: 9:00 AM Date: 6/20/03
Type: ☐ Telephone ☒ Visit ☐ Other Location of Visit: Taylor Road Landfill	☐ Incoming ☐ Outgoing

Contact Made By:

Name: L'Tonya Spencer	Title: CIC	Organization:

Individual Contacted:

Name: Attached	Title: Sampling Crew	Organization:

Telephone No: Fax No: E-Mail Address:	Street Address: City, State, Zip:

Summary Of Conversation

Vagrants on property / Dumping near property
Only responsible for area around water wells
Reports anything that they see wrong
Surface water / monitoring wells are maintained
No problems.
No complaints f/ community members.
Stickers f/ safety follows QAPP

Taylor Rd Landfill 6/19/03

INTERVIEW DOCUMENTATION FORM

The following is a list of individual interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date
David S. Adams	Enviro. Mgr	[illegible]	[illegible]
Bill O'Steen	Environmental Scientist	EPA	6/19/03
Kelsey Helton	Environmental Management	FDOP	6/19/03
[illegible]	[illegible]	SWMD	[illegible]
Patricia U. Berry	Landfill Succ. Section Mgr.	SWMD	6/19/03
W David Keefe	EPA RPM	R4/WMD	[illegible]
L'Tonya Spencer	EPA CIC	R4/WMD	6/19/03

INTERVIEW RECORD

Site Name: Taylor Road Landfill		**EPA ID No.:**	
Subject: 5 Year Review		**Time:**	**Date:** 6/4/03
Type: ☐ Telephone ☒ Visit ☐ Other **Location of Visit:** County Office (Hellertown)		☐ Incoming ☐ Outgoing	
David Keefer **Contact Made By:**			
Name: L'Tonya Spencer	**Title:** RPM/PIC	**Organization:** EPA	
Individual Contacted:			
Name: Lesl Hilferhal	**Title:**	**Organization:**	
Telephone No: **Fax No:** **E-Mail Address:**		**Street Address:** **City, State, Zip:**	

Summary Of Conversation

Notes and documentation from attached

Taylor Road - 5 year review 6/19/03

Property is becoming more valuable.
30 feet sold - for bldg entrance - Well F-2
trying to get well relocated to other side
damaged about 5 feet down.
Wells - some date back to late 70's early 80's
No contractor - County handles everything w/
a team of people - Contracted Lab f/ sampling
E Lab. - 1 year extension

- ~~Board~~ -
for 5 months no contact
Cam will call if she has questions
Cam gets copies of ADRs & Repository
gets copies as well
Construction improvements - Sent to board
Copy of info faxed to Cam.

- ~~No~~
Cam's main concern Travel Ctr/Redevelopment
- County is more of a buffer opposed to
nuisance.
- SOPs requires labs to report below
certified levels.
- Letters to private homeowners to explain new
contaminants that may show up. No
response to letter just yet.
- Relative / Standard comparisons may
be understood by Cam.

.3

6/19/03

- Leaks on property of TA travel Ctr & Water Fwd.
  Monitoring Wells are located below this area
  May need to see their data reports
  Hrs/Runoff
  They are on county water-distribution lines.

- TA travel Ctr wants to expand parking area to north & they were denied by Cty b/c of possible stormwater runoff.

ad

well

THE TAMPA TRIBUNE
Published Daily
Tampa, Hillsborough County, Florida

State of Florida }
County of Hillsborough } ss.

Before the undersigned authority personally appeared C. Pugh, who on oath says that she is Advertising Billing Supervisor of The Tampa Tribune, a daily newspaper published at Tampa in Hillsborough County, Florida, that the attached copy of advertisement being a LEGAL NOTICE

in the matter of U S ENVIRONMENTAL PROTECTION

was published in said newspaper in the issues of JUNE 18, 2003

Affiant further says that the said The Tampa Tribune is a newspaper published at Tampa in said Hillsborough County, Florida, and that the said newspaper has heretofore been continuously published in said Hillsborough County, Florida, each day and has been entered as second class mail matter at the post office in Tampa, in said Hillsborough County, Florida for a period of one year next preceding the first publication of the attached copy of advertisement, and affiant further says that she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Sworn to and subscribed by me, this 19 day of JUNE, A.D. 2003

Personally Known ✓ or Produced Identification
Type of Identification Produced

U.S. ENVIRONMENTAL PROTECTION AGENCY REGION 4 ANNOUNCES TAYLOR ROAD LANDFILL SUPERFUND SITE FIVE YEAR REVIEW

The United States Environmental Protection Agency (EPA) is conducting a five-year review of the Taylor Road Landfill Superfund Site. The site is located in unincorporated Hillsborough County, Florida, and is a closed municipal landfill owned and operated by Hillsborough County Solid Waste.

Sampling of the Taylor Road Landfill revealed the presence of volatile organic compounds (VOCs) and metals contamination in the monitoring wells and surface water runoff. As a result, the Remedial Action for the site was to collect and treat contaminated groundwater and leachate and to provide institutional controls to prevent usage of contaminated groundwater. The remedial action consisted of a ring of recovery and extraction wells with treatment of groundwater, the completion of a ring of monitoring and extraction wells in the upper Floridan aquifer, groundwater monitoring, the construction of the County water supply wells and provision of County water service to affected residences, with supplemental groundwater monitoring and annual trend analysis and contingent corrective action, if necessary. Additionally, the selected remedy includes a future innovative technology treatability study and five-year reviews of the site after implementation.

As a part of the five-year review process, EPA will begin in 2003, to review the remedy to ensure it is protective of human health and the environment. The review will include interviews with local residents and officials regarding the site and remedial activities, visit the site, examine pertinent records, evaluate the data collected since the last five-year review, and determine if the remedy is functioning as intended at the site.

If you have any questions, comments or concerns about the five-year review, you may contact the following:

David Godfrey, Remedial Project Manager
404-562-8927
1-800-435-9233 Toll Free

L'Tonya Spencer, Community Involvement Coordinator
404-562-8565
1-800-435-9233 Toll Free

U.S. EPA - Region 4
Waste Division
61 Forsyth Street
Atlanta, Georgia 30303

APPENDIX A

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMENTS

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

September 19, 2003

Mr. David Keefer
USEPA, Region IV
Atlanta Federal Center
61 Forsyth St., SW
Atlanta, GA 30303-8960

Dear Mr. Keefer:

FDEP has reviewed the draft July 2003 Five-Year Review (Review) for the Taylor Road Landfill Superfund site along with the June 27, 2003 Taylor Road Landfill Groundwater Quality Statistical Evaluation. The following is based on comparison of the remedy as defined in the original September 1995 Record of Decision (ROD) and the Remedial Action Objectives identified therein. As stated in the Review, the DEP did not concur with the ESD, which we assert inappropriately eliminated Florida's Secondary drinking water standards as an ARAR for the site and inappropriately used an ESD to fundamentally changed the site remedy.

The Five-Year Review concludes that the remedy currently protects human health and the environment because groundwater monitoring at the ring of wells ensures contingent measures can be taken prior to impacts to domestic wells; institutional controls restrict the installation of new domestic supply wells in the impacted area; RCRA post closure care of the landfill minimizes impacts to the aquifer; and monitoring indicates that natural attenuation is occurring. The Review makes specific recommendations for actions that should be taken in order to assure its continued protectiveness including repair and enforcement of access controls; improved routine maintenance of monitoring wells; conducting a potable well survey to ensure the effectiveness of the current institutional controls; continued long term O&M of the landfills; re-establishment of annual groundwater statistical evaluations; and improved responsiveness to ongoing community concerns.

Based on the current groundwater data, we agree that the remedy is currently protective of human health and environment, as defined by the original 1995 ROD. Future monitoring will show if the remedy remains protective and that adequate mechanisms are in place to ensure that exposure to site-related contamination does not occur. While it has been necessary to expand the compliance ring of wells 3 times since implementation of the remedy due to exceedances in primary and secondary standards; the most recent

(April 2003) monitoring results indicate that groundwater in the Ring Wells do not exceed primary or secondary drinking water standards or State groundwater cleanup target levels for site-related contaminants. As FDEP noted during the Five-Year Review process, Manganese continues to be above Florida's secondary standards in 9 of 13 Interior Wells, excluding the background well (F-12), which shows a concentration of 0.063 mg/l. Of particular note are the continued elevated levels of Manganese in F-1A (0.190 mg/l), a former Ring Well northwest of the site, along with the documented trend of increasing Manganese concentrations in Interior Wells C-6 and F-2 in zone I-1.

We strongly support the recommendation to update the potable well survey to confirm the adequacy of the existing institutional controls in preventing public exposure to site related contaminants. Newly identified private wells should be included in the Taylor Road private well monitoring program. We understand from the July 2003 Hillsborough Heights Domestic Supply Well Data Report that the County intends to repair the electrical control systems on private wells P-1A and P-4 so that monitoring of these domestic wells can resume in September 2003.

Thank you for providing FDEP with the opportunity to participate in the Superfund Five-Year Review for this site. We understand that FDEP's comments will be appended to the final Five-Year Review Report.

Sincerely,

Kelsey A Helton

Kelsey A. Helton
Environmental Manager
Hazardous Waste Cleanup

WMD/SSMB
RECEIVED

SEP 23 2003

EPA-REGION 4
ATLANTA, GA

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF FLORIDA

UNITED STATES OF AMERICA, Plaintiff, v. HILLSBOROUGH COUNTY, FLORIDA, WASTE MANAGEMENT, INC., acting on behalf of its subsidiaries and predecessors; UNIVERSITY OF SOUTH FLORIDA, acting for and on behalf of the Board of Regents, a public corporation of the State of Florida (including USF Medical Center and Florida Mental Health Institute); UNIVERSITY COMMUNITY HOSPITAL; FLEETWOOD ENTERPRISES, INC., acting on behalf of its Subsidiaries and their Predecessors ; LAIDLAW WASTE SYSTEMS, INC.; CITY OF TAMPA; CITY OF TEMPLE TERRACE, FLORIDA; GTE FLORIDA INCORPORATED; THE DAVID J. JOSEPH COMPANY; CITY OF PLANT CITY; J.C. PENNEY COMPANY, INC.; FLORIDA COCA-COLA BOTTLING COMPANY; and SEARS, ROEBUCK & COMPANY. Defendants.	CIVIL ACTION NO. 98-239-CIV-T-25F

JOINT MOTION FOR ENTRY OF CONSENT DECREE

All parties to this action respectfully move for entry of the Consent Decree which was lodged with this Court on February 4, 1998.

The Consent Decree was published in the Federal Register on February 19, 1998, in accordance with Department of Justice policy, 28 C.F.R. 50.7, and Section 122(d)(2) of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. § 9622(d)(2). The Notice provided that the United States Department of Justice would receive comments relating to the proposed Consent Decree for a thirty-day period, which period expired on March 23, 1998 (see attached Notice). The Department of Justice did not receive any comments on the Consent Decree by that date.

The parties each believe that entry of the Consent Decree is in the public interest. No comments to the contrary have been received. The parties, therefore, request that the Court execute and enter the Consent Decree lodged by the parties on February 4, 1998, by signing page 111 of the Consent Decree.

ON BEHALF OF THE UNITED STATES:

Cheryl L. Snout
Trial Attorney
Environmental Enforcement Section
Environment and Natural Resources
Division
P.O. Box 7611
U.S. Department of Justice
Washington, D.C. 20044

Signature Page for Joint Motion For Entry Of Consent Decree in United States v. Hillsborough County, Florida et al., Civil Action No., 98-239-CIV-T-25F (M.D. Fl.):

ON BEHALF OF:
HILLSBOROUGH COUNTY, FLORIDA:

_____

Kerri L. Barsch, Esquire
Greenberg Traurig
1221 Brickell Avenue
Miami, FL 33131

Signature Page for Joint Motion For Entry Of Consent Decree in United States v. Hillsborough County, Florida et al., Civil Action No., 98-239-CIV-T-25F (M.D. Fl.):

ON BEHALF OF:

WASTE MANAGEMENT, INC., acting on behalf of its subsidiaries and predecessors;

UNIVERSITY OF SOUTH FLORIDA, acting for and on behalf of the Board of Regents, a public corporation of the State of Florida (including USF Medical Center and Florida Mental Health Institute);

UNIVERSITY COMMUNITY HOSPITAL;

FLEETWOOD ENTERPRISES, INC., acting on behalf of its Subsidiaries and their Predecessors ;

LAIDLAW WASTE SYSTEMS, INC.;

CITY OF TAMPA;

CITY OF TEMPLE TERRACE, FLORIDA;

GTE FLORIDA INCORPORATED;

THE DAVID J. JOSEPH COMPANY;

CITY OF PLANT CITY;

J.C. PENNEY COMPANY, INC.;

FLORIDA COCA-COLA BOTTLING COMPANY;

and SEARS, ROEBUCK & COMPANY.

_____

Scott Steady, Esquire
Williams Reed
One Tampa City Center, Suite 2600
Tampa, FL 33602

10039593

First Five-Year Review Report

for

Taylor Road Landfill

Seffner

Hillsborough County, Florida

September, 2003

PREPARED BY:

U.S. Environmental Protection Agency
Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Approved by:

Winston A. Smith
Waste Division Director
U.S. EPA, Region 4

Date: 9/29/03

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Five-Year Review Report

Table of Contents

List of Acronyms vi

Executive Summary viii

Five-Year Review Summary Form xi

I. Introduction 1

II. Site Chronology 2

III. Background **4**
Physical Characteristics 4
Land and Resource Use 5
History of Contamination 6
Initial Response 7
Basis for Taking Action 8
Remedial Investigation 8
Baseline Risk Assessment 11
Feasibility Study 11

IV. Remedial Actions **13**
Remedy Selection 13
Remedy Implementation 14
System Operations/Operation and Maintenance (O&M) 16
Post-ROD Changes 17

V. Progress Since the Last Five-Year Review 17

VI. Five-Year Review Process 17
Administrative Components 18

Community Notification and Involvement 19
Document and Data Review 19
Compliance and Interior Wells 19
Domestic Supply Wells 22
Site Inspection 23
Interviews 25

VII. Technical Assessment 27
Question A: Is the remedy functioning as intended by the decision documents? 28
Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy selection still valid? 28
Question C: Has any other information come to light that could call into question the protectiveness of the remedy? 30

VIII. Issues 31

IX. Recommendations and Follow-up Actions 31

X. Protectiveness Statement(s) 33

XI. Next Review 34

Tables

Table 1 - Chronology of Site Events
Table 2 - Site Operation and Maintenance Costs
Table 3 - Occurrence and Distribution of Chemicals in Ground Water (1990-1993)
Table 4 - Five-Year Review Key Personnel
Table 5 - Ground Water Monitoring Data Summary
Table 6 - Interview Summary
Table 7 - Changes in Chemical-Specific Standards

Table 8 - Changes in Action-Specific Requirements
Table 9 - Changes in Location-Specific Requirements
Table 10 - Issues
Table 11 - Recommendations and Follow-up Actions

Attachments

1. Site Figures
II. List of Documents Reviewed
III. Site Inspection Checklist
IV. Site Photographs
V. Interview Records

Appendix

A. Florida Department of Environmental Protection Comments

List of Acronyms

1,1-DCE	1,1-dichloroethene
BRA	Baseline Risk Assessment
CFR	Code of Federal Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cis 1,2-DCE	cis 1,2-dichloroethene
COPC	contaminant of potential concern
EPA	United States Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
ft	foot/feet
FS	Feasibility Study
mg/L	milligrams per liter
MSL	mean sea level
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PCE	tetrachloroethene
PRP	Potentially Responsible Party
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investiagtion
ROD	Record of Decision
RP	Responsible Party
Site	Taylor Road Landfill Superfund Site
SWMD	Solid Waste Management Department
TCE	trichloroethene
U.S.	United States
ug/L	micrograms per liter
umhos/cm	micromhos per centimeter
VOC	volatile organic compound

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Executive Summary

The purpose of the Five-Year Review of the Taylor Road Landfill Superfund Site (the Site) is to evaluate the implementation and performance of the remedy selected as the final action to respond to risks associated with potential exposure to contaminated ground water in the Floridan aquifer that is present beneath or is attributable to the Site. The methods, findings, and conclusions of this evaluation are documented in this Five-Year Review Report. A determination is made as to whether the remedy is protective of human health and the environment based on the data and observations evaluated during the Five-Year Review. In addition, this Five-Year Review report identifies issues found during the review, and includes recommendations to address them. This statutory Five-Year Review was performed by EPA with the support of the Florida Department of Environmental Protection.

The Record of Decision for Taylor Road Landfill was signed on September 29, 1995, and selected Alternative 3, Collect and Treat Ground Water at Property Boundary on a Contingent Basis, as the remedy for the Site. The major components of this remedy include: institutional controls, extension of water lines and monitoring, and natural attenuation with contingent corrective action. In the Record of Decision, the Florida Primary and Secondary Standards and Minimum Criteria were established as the remediation levels for ground water, and the point of compliance was set as a ring of monitoring wells encircling the three landfills. An Explanation of Significant Difference was issued by EPA in August 2000 to remove Florida Secondary Drinking Water Standards from the federally-enforceable applicable, or relevant and appropriate requirements for this action. The Florida Department of Environmental Protection did not concur with EPA's change to the Record of Decision.

During the records and data review, site inspection, and interview process, a number of issues were identified relative to implementation of the remedy at the Site. These issues include: (1) Site access security (monitoring & maintenance of fences); (2) Ground water monitoring well maintenance; (3) Potential for un-permitted potable well installation in adjoining properties; (4) Operations & maintenance of landfill caps, leachate collection, gas collection and storm water management systems under RCRA; (5) Annual reporting for Ground Water Quality Statistical Evaluations; (6) Ground water quality concerns (mercury, oil & grease, and pH) of adjoining land owners should be affirmatively addressed; (7) Quantitative measurement and tracking of fill activities in landfill cap settlement areas; and, (8) Monitoring/ evaluation of potential environmental impacts from adjacent properties (commercial activities and dumping) should be performed.

Community involvement activities associated with the Five-Year Review include publication of a legal notice at the start of the Five-Year Review process, contacts and interviews with citizens/community groups identified in the Community Relations Plan, and issuance of a Fact Sheet and second legal notice upon completion of the Five-Year Review. Legal notices are published in the Tampa Tribune, and Fact Sheets will be sent to the Site mailing list and placed in the Information Repository. An inspection of the Information Repository, maintained at the

Thonotosassa Public Library on 10715 Maion St., Thonotosassa, FL 33592, indicates that the site file is up-to-date and readily accessible. Interviews with citizens and community groups indicate that there is an ongoing level of concern about the Site, but the remedy and its implementation by Hillsborough County are generally addressing these concerns.

The remedy at the Taylor Road Landfill currently protects human health and the environment because ground water monitoring at the compliance ring ensures contingent measures can be taken prior to impacts to domestic supply wells, institutional controls restrict the installation of new domestic supply wells in the impacted area, post-closure care of the landfills under RCRA minimizes ongoing impacts to the aquifer, and natural attenuation is demonstrated to be occurring. However, in order for the remedy to remain protective in the long-term, the following actions need to be taken to address issues identified during the Five-Year Review: repair fencing and improve enforcement of site access controls; improve routine maintenance of monitoring wells; perform a potable well survey in the vicinity of the site to ensure institutional controls are effective; ensure the long-term operation and maintenance of the landfills; resume annual ground water quality statistical evaluations; and, improve responsiveness to ongoing community concerns. Hillsborough County began implementing these actions following completion of the Five-Year review site inspection.

[This page intentionally left blank.]

Five-Year Review Summary Form

SITE IDENTIFICATION

Site name *(from WasteLAN)*: Taylor Road Landfill

EPA ID *(from WasteLAN)*: FLD980494959

Region: 4	**State:** FL	**City/County:** Seffner/Hillsborough

SITE STATUS

NPL status: X Final ☐ Deleted ☐ Other (specify) _____

Remediation status (choose all that apply): ☐ Under Construction ☐ Operating X Complete

Multiple OUs?* ☐ YES X NO	**Construction completion date:** 06 / 18 / 1999

Has site been put into reuse? X YES ☐ NO

REVIEW STATUS

Lead agency: X EPA ☐ State ☐ Tribe ☐ Other Federal Agency _____

Author name: William D. Keefer

Author title: RPM	**Author affiliation:** EPA Region4

Review period:** 05 / 29 / 2003 to 08 / 31 / 2003

Date(s) of site inspection: 06 / 19-20 / 2003

Type of review:

X Post-SARA ☐ Pre-SARA ☐ NPL-Removal only
☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead
☐ Regional Discretion

Review number: X 1 (first) ☐ 2 (second) ☐ 3 (third) ☐ Other (specify) _____

Triggering action:

☐ Actual RA Onsite Construction at OU #____ X Actual RA Start at OU# 00
☐ Construction Completion ☐ Previous Five-Year Review Report
☐ Other (specify) _____

Triggering action date *(from WasteLAN)*: 08 / 11 / 1998

Due date *(five years after triggering action date)*: 08 / 11 / 2003

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, cont'd.

Issues:

The following issues were identified during the Five-Year Review: (1) Site access security (monitoring & maintenance of fences); (2) Ground water monitoring well maintenance; (3) Potential for un-permitted potable well installation in adjoining properties; (4) Operations & maintenance of landfill caps, leachate collection, gas collection and storm water management systems under RCRA; (5) Annual reporting for Ground Water Quality Statistical Evaluations; (6) Ground water quality concerns (mercury, oil & grease, and pH) of adjoining land owners should be affirmatively addressed; (7) Quantitative measurement and tracking of fill activities in landfill cap settlement areas; and, (8) Monitoring/evaluation of potential environmental impacts from adjacent properties (commercial activities and dumping) should be performed.

Recommendations and Follow-up Actions:

Recommendations and follow-up actions for the identified issues include: (1) *Repair cut and damaged fences,* and Institute daily perimeter security checks (per 1983 CD); (2) Perform routine maintenance on wells TR2-S and 32D, Refit/replace well NE-23, Refit/replace well F-2, Abandon unused shallow wells, Lock and clearly label all wells, and Add well rehabilitation check to pump repair process; (3) Perform potable well survey on adjacent parcels (approximately 1-mile radius of Site); (4) Consideration of ground water impacts during RCRA *permit renewal negotiation; (5) Return to Annual reporting and evaluation of ground water trends;* (6) Prepare Fact Sheet presenting results of Five-Year Review and addressing community ground water quality concerns; (7) Perform routine civil surveying of landfill cap surfaces (bi-annual or when significant settlement is observed), and Include quantitative estimate of settlement fill activities (area, thickness and location); and, (8) Inventory products and wastes managed on adjacent or nearby properties, Request notification from FDEP District Office of nearby spills or releases, and Report/cleanup illegal dumping on adjacent properties.

Protectiveness Statement:

The remedy at the Taylor Road Landfill currently protects human health and the environment because ground water monitoring at the compliance ring ensures contingent measures can be taken prior to impacts to domestic supply wells, institutional controls restrict the installation of new domestic supply wells in the impacted area, post-closure care of the landfills under RCRA minimizes ongoing impacts to the aquifer, and natural attenuation is demonstrated to be occurring. However, in order for the remedy to remain protective in the long-term, the following actions need to be taken: repair fencing and improve enforcement of site access controls; improve routine maintenance of monitoring wells; perform a potable well survey in the vicinity of the site to ensure institutional controls are effective; ensure the long-term operation and maintenance of the landfills; resume annual ground water quality statistical evaluations; and, improve responsiveness to ongoing community concerns.

Other Comments:

Overall, Hillsborough County Solid Waste Management Department has done a commendable job of implementing the remedy and integrating RCRA and CERCLA operation and maintenance requirements for the Site. While these follow-up actions, if not implemented, would be expected to have a negative impact on the long-term effectiveness of the remedy, it is expected that Hillsborough County will be responsive to these recommendations. Most of the recommendations and follow-up actions for the Site are being implemented by Hillsborough County based on the debriefing at the conclusion of the site inspection.

Five-Year Review Report

I. Introduction

The purpose of the Five-Year Review of the Taylor Road Landfill Superfund Site (the Site) is to evaluate the implementation and performance of the remedy selected as the final action to respond to risks associated with potential exposure to contaminated ground water in the Floridan aquifer that is present beneath or is attributable to the Site. The methods, findings, and conclusions of this evaluation are documented in this Five-Year Review Report. A determination is made as to whether the remedy is protective of human health and the environment based on the data and observations evaluated during the Five-Year Review. In addition, this Five-Year Review report identifies issues found during the review, and includes recommendations to address them.

The Site is a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Enforcement-lead site, and Hillsborough County, Solid Waste Management Department, is the representative of the responsible parties (RP). Hillsborough County, Solid Waste Management Department, has cooperated during performance of the Five-Year Review, providing site access and other material support as requested. This Five-Year Review has been conducted to meet the statutory requirements of CERCLA §121, the National Contingency Plan (NCP), and specific requirements of the Record of Decision (ROD) for this action.

Specifically, CERCLA §121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The U.S. EPA has interpreted this requirement further in the NCP; 40 CFR §300.430(f)(4)(ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

This is the first Five-Year Review for the Taylor Road Landfill Superfund Site. The triggering action for this review is the date of the Remedial Action start, as shown in EPA's WasteLAN database: August 11, 1998. As the lead agency, U.S. EPA, Region 4, formed an in-house team consisting of the Remedial Project Manager, Community Involvement Coordinator, and a Senior Hydrogeologist from the Office of Technical Services to conduct the Five-Year Review. The Florida Department of Environmental Protection (FDEP) is the support agency for the Five-Year Review of this Site, and has participated in the planning, site inspection, and review of the draft Five-Year Review report. FDEP support included representatives of both the Hazardous Waste Cleanup Section for Superfund Sites and the Southwest District Office, Resource Conservation and Recovery Act (RCRA) section.

The Taylor Road Landfill Site consists of a single operable unit (OU) that encompasses ground water beneath and contiguous with the Site. The objective of the remedy is to prevent current or future exposure to contaminated ground water through provision of County water to residents and through natural attenuation or active treatment of groundwater should conditions indicate it is necessary. A significant contributing factor to the success of the natural attenuation component of the remedy is the operation and maintenance (O&M) of the closed landfills at the site. While the O&M of the landfills is regulated separately from Superfund under the FDEP RCRA program, the landfill O&M was inspected and evaluated as part of this Five-Year Review to assess its contribution to the long-term effectiveness of the ground water remedy.

II. Site Chronology

The chronology of significant events at the Taylor Road Landfill Superfund Site includes both CERCLA pre-remedial and remedial process milestones, as well as the September 1983 Consent Decree under RCRA that specified requirements for the cap, cover, site drainage, methane gas control, and thirty years of O&M for all three landfills. Table 1 summarizes the chronology of Site events.

Table 1: Chronology of Site Events

Event	Date
Initial discovery of problem or contamination	08/01/1979
Preliminary Assessment	08/01/1980
HRS Package	12/01/1982
Consent Decree - remedial measures implementation under RCRA	7/20/1983
NPL listing	09/08/1983
Site Inspection	11/01/1984
Removal Assessment	09/15/1992
Administrative Order on Consent - groundwater RI/FS	02/01/1993

Table 1: Chronology of Site Events

Event	Date
Remedial Investigation/Feasibility Study complete	09/29/1995
ROD signature	09/29/1995
Administrative Order on Consent	09/18/1996
Administrative Order on Consent	07/11/1997
Consent Decree - RD/RA	05/11/1998
Remedial design start	02/25/1998
Remedial design complete	08/11/1998
Remedial action start	08/11/1998
Construction completion date	06/18/1999
Explanation of Significant Difference	08/03/2000

III. Background

The Taylor Road Landfill Superfund Site is located in eastern Hillsborough County, Florida, on County-owned property, approximately 7 miles east of Tampa in the Seffner-Thonotosassa area. Interstate 4 borders the site to the south, and Mango Road (State Route 579) borders the site to the west. The County property is 252 acres in size and contains three closed landfills. The 42 acre Taylor Road Landfill is located east of the approximately 10 acre Florida Department of Transportation (FDOT) Borrow Pit Landfill and southeast of the 64 acre Hillsborough Heights Landfill. Only the Taylor Road Landfill is on the National Priorities List (NPL). Despite this fact, groundwater contamination has moved well beyond the boundaries of the Taylor Road Landfill. Accordingly, the two adjacent landfills have been evaluated to determine if they are contributing to groundwater contamination. Also located within the 252 acres of County property are five stormwater detention basins, County maintenance facilities, and a community recycling collection center/refuse collection area. The entire 252 acres of County property, containing all three landfills, and adjacent properties comprising the groundwater monitoring network are referred to collectively as the Site.

Physical Characteristics

The Taylor Road Landfill Superfund Site is located within an internally drained portion of the Polk Upland karst escarpment that is referred to as the Brandon Karst Terrain. The Site lies along a small ridge that extends northward from the Brandon Karst Terrain. In the vicinity of the Site are sinkholes, headlands of small drainage systems, and distinctive hills formed by the accumulation of marine and coastal sands. Based on U.S. Geological Survey topographic maps, the original land surface in the vicinity of the Site extended from a low of approximately 45-ft above mean sea level (MSL) to a high of slightly above 125-ft above MSL located on the small ridge on which the landfills were developed.

The hydrogeology of the Site is characterized by the presence of an ephemeral surficial aquifer in shallow sands above a leaky intermediate confining unit consisting of clays and sandy clays of the Hawthorn Group. The clays and sandy clays of the intermediate confining unit are discontinuous, blocky, and contain pipes and limestone pinnacles that are interconnected with the underlying Floridan aquifer. Due to the discontinuous nature of the Hawthorn Group in the vicinity of the Site, no intermediate aquifer system is considered to be present. The Floridan aquifer at the Site is comprised of the Tampa Member and underlying limestones. The Floridan aquifer is generally unconfined or very poorly confined at the Site.

The ecosystem of the Site is characterized primarily as disturbed grasslands containing manmade detention basins surrounded by an area of commercial/residential development containing small ponds and springs. The Site originally consisted of high pine, sandhill communities. Pockets of the original high pine communities remain in the vicinity of the Site, characterized primarily as Turkey Oak Barrens or Turkey Oak Sandhills. Although a variety of flora and fauna may be found in the vicinity of the Site, and possibly may include federal- and

state-listed species and state species of special concern, the immediate area around the landfills is not likely to serve as a significant habitat for these species. However, wading birds, small amphibians, reptiles, and mammals may use the stormwater runoff detention basins as a water source and intermittent foraging area. No perennial streams are present at the Site.

Land and Resource Use

The land surrounding the Taylor Road Landfill Superfund Site encompasses a variety of uses, including residential, commercial, and agricultural. The Site, as defined by the ring of compliance monitoring wells and 270-ft setback, includes all or part of 62 separate parcels ranging from approximately 0.1 acre to 80 acres in size. Excluding the property owned and maintained as landfill or buffer by Hillsborough County, the predominant land uses are residential and commercial. Agricultural use in the area is generally limited and non-intensive. In general, residential and particularly commercial land use has been expanding in recent years at the expense of agricultural areas. This mix of land uses is essentially unchanged and consistent with the land use identified in the ROD. A number of commercial properties have developed adjacent to the southwestern portion of the Site since remedy construction was completed.

Hillsborough County, Solid Waste Management Department, has actively sought compatible reuse opportunities for the landfill and buffer properties under their control; at the same time pursuing acquisition of property not already under their control within the compliance ring as such property becomes available. Current reuse of buffer zone property includes leases to the Hillsborough County survey and mapping organization, TRAC Aviation (runway and hanger facilities for remote control aircraft hobbyists), and a strip of property for use by the TA Travel Center. Leased properties are isolated from the landfills by fencing, and groundwater use is prohibited within the leased areas. Other reuse activities in place or being pursued include operation of a microturbine with recovered methane for electrical generation and provision of hay to the County transportation department for erosion control from mowing of the landfill caps and surrounding areas.

Private wells drilled into the upper Floridan aquifer have been the primary residential water supply in the area of the site. Extensions of County water service have focused on supply to areas within the compliance ring monitoring well setback. Currently, groundwater use within the compliance ring monitoring well setback is prohibited through implementation of institutional controls as a remedy component in the ROD. Anecdotal evidence of the effectiveness of the institutional controls was provided by Hillsborough County during the site inspection. Reportedly Armwood High School, located near the southern boundary of the compliance ring, applied for a permit to install an irrigation well. The local FDEP office contacted Hillsborough County about the advisability of granting the permit due to the presence of a use restriction notice in their files. Hillsborough County advised against granting the permit and contacted the appropriate school officials; the permit application was subsequently withdrawn. Due to the history of the area as a semi-rural agricultural community, the continued use of groundwater from the upper Floridan

aquifer by numerous nearby residences, and growth in the number of residences within the vicinity of the Site, un-permitted ground water use potentially may occur.

History of Contamination

The three landfills were developed sequentially. The first, known as the Taylor Road Landfill, was an FDOT borrow pit until it was permitted as a solid waste landfill for Hillsborough County in 1975. The Taylor Road Landfill was not constructed with a liner or leachate collection system. From May 1976 until February 1980, the County operated the Taylor Road Landfill, which was intended for disposal of residential, commercial, and industrial refuse. A total of 620,000 tons was disposed of in the landfill. An unknown quantity of hazardous waste is suspected to have been buried at this landfill. In the late1970s, two events precipitated the development of capacity problems within the Taylor Road Landfill. One of these events was the settling of a legal dispute with EPA by Tampa, during which the city agreed to close its incinerator by January 1, 1980. This event diverted an estimated 790 tons of refuse per day to the Taylor Road Landfill. At the same time, another local landfill was closed, adding 490 tons of solid waste per day to the Taylor Road Landfill disposal load. Because of the discontinuation of the incinerator operation, waste generated from area hospitals, clinics, and other health providers also began to be buried at the Taylor Road Landfill.

In February 1980, the Taylor Road Landfill reached its capacity, and landfill operations were moved to an adjacent 10 acre parcel known as the FDOT Borrow Pit Landfill. The Borrow Pit Landfill was developed to operate as a high-rise sanitary landfill for residential, commercial, industrial, and agricultural wastes; dead animals; and water treatment sludge. The Borrow Pit Landfill was constructed with a liner and a leachate collection system. The Borrow Pit Landfill was to serve as a temporary site, pending the design, permitting, and construction of a proposed 200 acre landfill on the adjacent property to the north. A total of 320,000 tons of waste was disposed of in the Borrow Pit Landfill.

The application to extend the Taylor Road Landfill was met by strong public opposition from a neighborhood group. Their petition claimed that the County failed to properly maintain the site. In January 1980, the permit was initially approved, with warnings, such as landfilling operations could not proceed should any determination be made that groundwater was being contaminated by the existing Taylor Road Landfill or the Borrow Pit Landfill. Ultimately the 200-acre landfill expansion project was rejected, resolving that no guarantee of an environmentally safe operation could be given, and that additional wastes deposited on the site would add to the existing potential hazards. The County continued to use the Borrow Pit Landfill until October 1980, when waste disposal operations were transferred to a third 64-acre property located north and west of the two previous landfills. This property is known as the Hillsborough Heights Landfill.

The Hillsborough Heights Landfill was opened under emergency order, and occupied a portion of the 200 acres that had previously been rejected. In the landfill's early months of operation,

infectious wastes from hospitals, clinics, laboratories, and doctors' offices were among the refuse disposed of there. The landfill remained open for four years. Approximately 3,500,000 tons of waste were disposed of in the Hillsborough Heights Landfill.

Results of sampling in the area in 1979 revealed the presence of volatile organic compounds (VOCs) and metals contamination in site monitoring wells and numerous private wells. Residents were advised to discontinue use of their wells. The County established a program of bottled water delivery to 95 residences within a specified radial distance of the Taylor Road Landfill, and authorized construction of County water lines to the affected areas. Further groundwater investigations revealed that a plume of VOCs was migrating off site into residential areas. Additionally, methane gas from the Taylor Road Landfill was detected near residences adjacent to the site in potentially explosive concentrations during this same timeframe. In April 1980, water delivery was expanded to 180 homes and businesses. About 400 residences and business were eventually connected to the County water supply.

Initial Response

In October 1980, EPA filed suit against Hillsborough County under RCRA and the Safe Drinking Water Act, alleging the existence of ground water contamination from soil and hazardous waste disposed at the Site. EPA sought injunctive relief and demanded the implementation of certain operational and remedial measures at the Site. The complaint also sought the abatement of hazards caused by methane gas released at or attributable to the Site. Due to the ground water contamination identified in October 1981, EPA began the process of adding the Taylor Road Landfill Superfund Site to the National Priorities List of uncontrolled waste sites under the federal Superfund program. As EPA was developing administrative procedures for the newly created Superfund program, it pursued cleanup of the Site under RCRA.

Under the Consent Decree signed in 1983 by EPA, FDEP (predecessor agency), and Hillsborough County, the County agreed to a 30-year maintenance and environmental monitoring program governing all three landfills on County property. The decree specified requirements for the cap, cover, and drainage ditch, as well as methane gas control. In February 1984, the County began installation of methane monitoring wells around all three landfills, and commenced construction of a gas collection system, cap, cover, and drainage system in compliance with the Consent Decree. In adition, the County installed a water supply system to serve residents in a specified area south of the landfills, and proceeded with a routine sampling program which is ongoing.

In 1986, EPA initiated a Forward Planning Study under the Superfund Program to investigate all potential contaminant sources in the vicinity of the Site. In 1987, EPA initiated an area-wide private well sampling effort that used information from the Forward Planning Study and previous data collection efforts. In September 1987, EPA notified Hillsborough County and Waste Management, Inc. that they were potentially responsible parties (PRP) relative to the Site ground water contamination. A search for additional PRP was initiated in 1988 at the request of

the existing PRP, and July 1992 Special Notice Letters were issued to approximately 45 PRP. In February 1993, an Administrative Order on Consent was signed by EPA and 19 PRP to perform a Remedial Investigation/Feasibility Study.

Basis for Taking Action

The Remedial Investigation (RI) of the Taylor Road Landfill Superfund Site was performed by ERM-South, Inc., and was completed in 1995. A Baseline Risk Assessment (BRA) was conducted by CDM Federal Programs Corporation for EPA, and a Feasibility Study (FS) addressing remedial alternatives was prepared by ERM-South, Inc. in 1995. Based on the findings and conclusions of the RI, BRA, and FS, it was determined by EPA that remedial action to address ground water contamination was warranted. A Proposed Plan identifying EPA's preferred remedial alternative was circulated for community input, and a ROD was signed by EPA in September 1995 selecting the remedy.

Remedial Investigation

The RI evaluated landfill leachate, surface water and sediment from the Site stormwater detention basins, and ground water from Site monitoring wells and selected private wells.. The leachate data were used to evaluate the contaminant source concentrations, and, since the leachate collection system is not accessible for exposure, these data were not used in the BRA. The analytical results for leachate indicated the presence of volatile organic compounds, semi-volatile organic compounds, one pesticide, and inorganics. The analytical results for surface water and sediment indicate that inorganics were detected in surface water, and that volatile organic compounds, semi-volatile organic compounds, pesticides, and inorganics were detected in sediment. The types and concentrations of chemicals detected in surface water and sediment were determined to be typical of other stormwater detention basins in the area. Although it also was determined that current human exposure to surface water and sediment was unlikely, potential future exposure was considered possible. Surface water and sediment data were evaluated in the BRA for human health risk and potential impacts to ecological receptors.

The ground water data selected for evaluation during the RI were generated from 12 quarterly ground water sampling events conducted by Hillsborough County from 1990 to 1992, and from sampling conducted by ERM-South, Inc. during August and September 1993. Figure 1 (Attachment 1) illustrates the locations of monitoring and private wells in the vicinity of the Site. Ground water samples were analyzed for physical parameters, selected metals, nutrients, and organic compounds. The ground water analytical data, validated and qualified, is summarized in Table 2 for those analytes that were positively detected at least once. This table shows the range of detections above the sample quantitation limit, the date the maximum concentration sample was collected, frequency of detection by year, and the maximum background concentration (from Well 27-D). The average concentrations were calculated based on positive detections only. A broad range of volatile organic compounds and inorganics at average concentrations exceeding applicable statutory thresholds were identified.

Table 2: Occurrence and Distribution of Chemicals in Ground Water (1990 - 1993)

DETECTABLE ANALYTE	Min.	Max.	Mean	Sampling Date of Maximum	Frequency of Detection (1)				Maximum in Background (Well 27-D)	Federal MCL (2)	Florida DER Groundwater Guidance (3)	USEPA Region III (4,5)		COPC (6)
	ug/L	ug/L	ug/L		1990	1991	1992	1993	ug/L	ug/L	ug/L	Risk Level =1E-06	HQ=0.1	
PURGEABLE ORGANICS														
1,1-DICHLOROETHANE	0.4	192	22	4/90	65/104	33/78	47/88	5/6					81	Y
1,1-DICHLOROETHENE	1	279	31	1/90	28/104	21/78	31/88	4/6	1	7	7**	0.044		Y
1,2-DICHLOROBENZENE	1	198	20	7/90	25/104	12/78	14/88	3/6		600	600**		37	Y
1,2-DICHLOROETHANE	1	3	1.9	7/91	7/104	2/78	0/88	0/6		5	3**	0.12		Y
1,3-DICHLOROBENZENE	*1*	*3*	*2.0*	*11/91*	*1/104*	*1/78*	*1/88*	*0/6*		*600*			*53*	*N*
1,2-DICHLOROPROPANE	1	6	2.0	7/91	13/104	7/78	11/88	1/6		5	5**	0.16		Y
1,4-DICHLOROBENZENE	1	45	5.7	4/91	26/104	20/78	13/88	3/6		75	75**	0.44		Y
CARBON DISULFIDE	2	3	2.5	11/91	0/104	2/78	0/88	0/6					2.1	N*
ACETONE	2	279	30	4/91	4/104	18/78	4/42	0/6	5				370	N
BENZENE	0.6	12	3.1	1/90	29/104	7/78	10/88	2/6		5	1**	0.36		Y
CHLOROBENZENE	1.1	5.3	3.1	10/92	4/104	4/78	7/88	1/6		100	100**		3.9	N*
CHLOROFORM	1	1	1	4/90	1/104	0/78	0/88	0/6		100	6****	0.15		Y
CHLOROMETHANE	2	2	2	8/93	0/104	0/78	0/88	1/6			2.7****	1.4		Y
DIBROMOCHLOROMETHANE	6	6	6	10/90	1/104	0/78	0/88	0/6			1****	0.13		Y
ETHYLBENZENE	1.4	18	5.7	7/91	1/104	3/78	1/88	0/6		700	700**/130***		130	Y
METHYLENE CHLORIDE	0.7	54	11	1/90	10/104	5/78	14/88	1/6		5	5**	4.1		Y
TETRACHLOROETHENE	0.8	145	23	4/90	44/104	13/78	18/88	2/6		5	3**	1.1		Y
TOLUENE	0.2	82	9	7/91	4/104	2/78	4/88	2/6		1000	1000**/40***		75	Y
trans-1,2-DICHLOROETHENE	0.3	135	32	1/90	51/104	29/78	7/88	2/6		100	100**		12	Y
cis-1,2-DICHLOROETHENE	3	45	16	8/93	NA	NA	NA	4/6		70	70**		6.1	Y
STYRENE	3	3	3	7/91	0/104	1/78	0/88	0/6		100	100**		160	N
TRICHLOROETHENE	1	180	19	10/92	56/104	28/78	43/88	4/6		5	3**	1.6		Y
VINYL CHLORIDE	1	105	24	4/90	28/104	16/78	23/88	3/6		2	1**	0.019		Y
XYLENES (TOTAL)	2	85	12	7/91	6/104	8/78	1/88	0/6		10000	10000**/20***		1200	N

DETECTABLE ANALYTE	Min.	Max.	Mean	Sampling Date of Maximum	Frequency of Detection (1)				Maximum in Background (Well 27-D)	Federal MCL (2)	Florida DER Groundwater Guidance (3)	USEPA Region III (4,5)		COPC (6)
	ug/L	ug/L	ug/L		1990	1991	1992	1993	ug/L	ug/L	ug/L	Risk Level =1E-06	HQ=0.1	
SELECTED INORGANICS														
ARSENIC	3.7	3.7	3.7	8/93	NA	NA	0/13	1/6		50	50**	0.038	1.1	N*
BARIUM	14.2	221	97	8/93	NA	NA	1/13	4/6		2000	2000**		260	N
CADMIUM	5	5	5	4/92	NA	NA	1/13	0/6		5	5**		1.8	N*
CHROMIUM	11	11	11	4/92	NA	NA	1/13	0/6		100	100**		3700	N
COPPER	200	200	200	1/91	0/16	1/5	0/11	0/6			1000***		140	N*
LEAD	1.3	13	4.5	4/92	NA	NA	3/13	6/6	2	15*	15*			N
MANGANESE	12.4	2380	320	8/93	5/12	2/5	6/20	3/6	311		50***		18	N*
MERCURY	0.2	42.3	4.5	7/90	60/104	12/29	27/59	0/6	2	2	2**		1.1	Y
NICKEL	40.7	95.4	68	8/93	NA	NA	NA	2/6		100	100**		73	Y
NITRATES	30	38700	5200	1/90	94/104	23/26	44/62	3/6	4460	10000	10000**		5800	N*
SELENIUM	2	2	2	8/93	NA	NA	NA	1/6		50	50**		18	N
VANADIUM	53.7	53.7	53.7	8/93	NA	NA	NA	1/6					26	N*
ZINC	10	403	64	1/91	8/12	4/5	5/13	1/6	159		5000**		1100	N

Source: CDM - BRA as presented in EPA/ROD/R04-95/239 1995.

NOTES:

(1) Frequency of detection = # of detections/# of samples.

(2) MCL = Maximum Contaminant Level. * - Value for lead is an action level. EPA, December 1993.

(3) Florida Department of Environmental Regulations Groundwater Guidance Concentrations. June 1994.
** - Primary Standard. *** - Secondary Standard. **** - Guidance Concentration.

(4) USEPA Region III - Risk-based Concentrations for tap water. January 7, 1994.

(5) HQ = Hazard Quotient.

(6) COPC = Chemical of Potential Concern. Y = Yes. N = No. N* = Not selected as a COPC, because the chemical was not detected or detected at a low frequency in the wells selected for risk assessment. N** = Concentrations detected in wells selected for the risk assessment did not exceed two times the background concentration.

Baseline Risk Assessment

The BRA was used to identify and select chemicals of potential concern (COPC) for ground water and surface water and sediment based on current or future risk to human or ecological receptors. Carcinogenic COPC were based on a risk level of 1E-06, and non-carcinogens were based on a Hazard Quotient of 0.1in order to consider potential exposure to multiple chemicals. COPC were also selected based on comparison to relevant promulgated standards (e.g., federal and state Maximum Contaminant Levels), regulatory guidance, and background concentrations.

The ground water current and future exposure pathway for the human health risk assessment identifies landfill waste as the chemical source, drinking water wells in the Floridan aquifer as the exposure points, and ingestion of ground water and inhalation of volatiles released from ground water as the feasible routes of human exposure. The current exposure pathways for leachate and surface water and sediment are considered to be incomplete, but the future exposure pathway for surface water and sediment may be completed. The exposure points for current ground water users are wells in the down gradient residential area, and on site monitoring well data were used for the future use scenario.

Toxicity assessment for the COPC is based on information contained in EPA's Integrated Risk Information System database for both carcinogenic and non-carcinogenic toxicity. The combination of a complete, or potentially complete, exposure pathway and toxicity information for the COPC allows risk characterization to be performed. Ground water was determined to contain COPC at concentrations posing an unacceptable risk to potential future users. Surface water and sediment, while containing elevated COPC concentrations, were not found to pose an unacceptable risk to human health. Likewise, an impact to pelagic aquatic biota and benthic organisms is suggested, but it was determined that this impact is unlikely to significantly affect the receptors. Based on the findings of the BRA, remedial action was necessary to prevent human exposure to contaminated ground water and to restore the ground water resource.

Feasibility Study

The FS evaluated four alternatives for remediation of ground water contamination at the Taylor Road Landfill Superfund Site. The following alternatives were evaluated:

(7) Alternative 1: No Action

(8) Alternative 2: Prevent Human Exposure to Contaminated Ground Water

(9) Alternative 3: Collect and Treat Ground Water at Point of Compliance on a Contingent Basis

(10) Alternative 4: Collect and Treat Ground Water at Landfill Perimeter

Each of the alternatives evaluated in the FS consists of several remedy components, and, for alternatives 2 and 3, contingent and non-contingent remedy components are defined as well. Comparative analysis of each alternative under contingent and non-contingent approaches was performed with respect to the nine evaluation criteria (*Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA,* EPA 1988). The FS provided the framework for EPA to determine an appropriate remedial action approach to address impacts from the Site to human health and the environment.

Alternative 1, No Action, provides a baseline for comparison to the other alternatives, and assumes no additional work will be performed to address ground water contamination. This alternative does assume the continuation of the maintenance and monitoring program being performed under RCRA.

Alternative 2, Prevent Human Exposure to Contaminated Ground Water, includes three remedy components: institutional controls restricting construction of new potable-water wells in areas affected by Taylor Road Landfill; provision of water from the County supply to residences surrounding the Site; and, natural attenuation of ground water contamination to levels below applicable, or relevant and appropriate requirements. The second component of this alternative is further divided into non-contingent and contingent approaches. The non-contingent approach, referred to as Alternative 2a, involves provision of County water service to approximately 490 residences in the vicinity of the Site, regardless of whether the ground water contaminant plume is enlarging. The contingent approach, Alternative 2b, involves extending County water service to about 20 existing residences within a 270-ft setback of the ring of compliance wells, installing four additional monitoring wells, and provision of County water supply to affected residents within one month if the contaminant plume grows in size.

Alternative 3, Collect and Treat Ground Water at Property Boundary on a Contingent Basis, consists of the same remedy components as Alternative 2b with the addition of the collection and treatment of groundwater along the southern boundary of the Site on a contingent basis in the event contaminant concentrations at the Site boundary begin increasing. The collection and treatment of ground water would be accomplished through the installation and operation of two extraction wells and a treatment system. The need for implementing this contingency would be triggered by increases observed in trend analysis of ground water monitoring data. Additionally, if increasing trends in vinyl chloride concentrations in the up-gradient or side-gradient monitoring wells were observed, then control (additional to the existing landfill gas collection system) and/or remediation of vapor-phase-transported constituents may be required.

Alternative 4, Collect and Treat Ground Water at Landfill Perimeter, is designed to comply with the CERCLA policy of compliance with drinking-water standards at the outer perimeter of waste contained in landfills. Alternative 4 includes all components of Alternative 2b plus collection, treatment, and disposal of groundwater. Unlike Alternative 3, ground water

treatment is not on a contingent basis. However, the potential for the need to address vapor-phase transport of vinyl chloride is recognized.

Comparative analysis of the various remedial alternatives relative to the nine criteria indicated that all alternatives were protective of human health and the environment to varying degrees. Alternative 1 is protective under current conditions, but may not remain protective in the future. Alternative 2a is protective of both current and future human exposure. Alternative 2b is protective under current conditions, and includes contingency to remain protective in the future. Under both contingent and non-contingent Alternative 2, exposure to contaminant concentrations below drinking-water standards may occur down gradient outside the area connected to County water supply. Alternatives 3 (with contingency) and 4 provide the most reliable control for potential low-level down gradient exposure through extraction and treatment of ground water. Estimated present-worth costs for each alternative were calculated as follows: Alternative 1 - $0, Alternative 2a - $4,600,000, Alternative 2b - $2,200,000, Alternative 3 (without contingency) - $2,200,000, Alternative 3 (with contingency) - $7,000,000, and Alternative 4 - $10,200,000.

IV. Remedial Actions

Remedy Selection

The EPA WasteLAN database defines one site-wide operable unit (OU) for the Taylor Road Landfill Site, and the remedial action selected in the ROD is expected to be the final action for this OU. The remedial action at the Taylor Road Landfill Superfund Site was designed to address ground water contamination since source control was accomplished through a prior RCRA action. The ROD for Taylor Road Landfill (EPA/ROD/R04-95/239) was signed on September 29, 1995, and selected Alternative 3, Collect and Treat Ground Water at Property Boundary on a Contingent Basis, as the remedy for the Site. The major components of this remedy include: institutional controls, extension of water lines and monitoring, and natural attenuation with contingent corrective action. In the ROD, the Florida Primary and Secondary Standards and Minimum Criteria were established as the remediation levels for ground water, and the point of compliance was set as the ring of monitoring wells encircling the three landfills.

The components of the remedy selected in the ROD are described as follows:

(1) **Institutional Controls.** Implementation of current and future controls to restrict construction of potable-water wells that would extract water affected by the Site;

(2) **Monitoring and Extension of Water Lines.** Modification of the existing ground water monitoring program to include quarterly monitoring of a "ring" of monitoring wells that define the point of compliance for Site ground water. Monitoring will be used to evaluate compliance with Florida Primary and Secondary Drinking Water Standards and Minimum Criteria as the remediation

levels. Provision of County water service to human receptors within a 270-ft setback of the compliance ring monitoring wells.

(11) Contingent expansion of the compliance ring monitoring wells. If quarterly sampling reveals an exceedance of remediation levels that is confirmed by subsequent sampling, the ring of monitoring wells will be expanded to encompass the revised compliance boundary.

(12) Expansion of the County water-supply network. The expansion of the County water-supply network to connect receptors within the setback zone, to support institutional controls, and to meet a one-month response time for connection of additional receptors should the area of impacted ground water increase in size.

3. **Natural Attenuation with Contingent Corrective Action.** Maintenance of ground water contaminant levels below remediation levels at the point of compliance will be achieved through natural attenuation or contingent corrective action.

- Natural attenuation. A reduction in contaminant concentrations through natural processes such as biodegradation.

- Contingent Corrective Action. The extraction and collection of ground water at the property boundary for treatment to control ground water flow and reduce contaminant concentrations to acceptable levels. Evaluation of the integrity of the landfill cover installed under RCRA also is a component of this contingency. This contingency would be triggered by exceedance of remediation levels at the point of compliance as evaluated annually by EPA and FDEP based on trend analysis and other site data.

Remedy Implementation

EPA issued a Statement of Work to the settling defendants at the Site pursuant to the Consent Decree following the ROD. The Statement of Work prescribes the approach to be used by the settling defendants, represented by Hillsborough County, to fully implement the selected remedy in the ROD, and identifies specific tasks and deliverables to be accomplished. The tasks and deliverables included the following: project planning; development and submittal of a Remedial Design/Remedial Action Work Plan; notification and support for a Final Construction Inspection; development and submittal of a Final Construction Report; and, development and submittal of a Remedial Action Report.

Hillsborough County prepared and submitted a Remedial Action Work Plan in April 1998 to accomplish the remedy objectives. The work plan provided for the installation of six

monitoring wells (four new and two replacements), as well as revision of the requirements for the existing ground water monitoring program. The new ground water monitoring program consisted of thirteen compliance ring wells, three additional interior wells, and one background well to be sampled quarterly for field parameters, volatile organic compounds, metals, mercury, and nitrates. Construction methods, sampling methods, and quality assurance/quality control requirements were specified as sub-plans within the work plan. Institutional controls implementation would consist of placement of a deed notice for the County property at the Site, and enforcement of existing ordinances prohibiting property development or installation of new potable supply wells in areas within 1,500-ft of County supply lines and/or requiring request of extension of such service. Approximately twenty residences within the compliance ring setback zone were identified for connection to the existing County water distribution network in the work plan. Quarterly reporting requirements for the ground water monitoring program were also set forth in the work plan.

Following regulatory review and discussion about the Remedial Action Work Plan, a Remedial Action Work Plan Addendum was issued in July 1998 revising the ground water monitoring plan. The revised ground water monitoring plan incorporates quarterly sampling of 18 ground water monitoring wells (11 existing and 7 to be installed); of which 13 comprise the compliance ring, 4 are additional interior monitoring points, and 1 is a background well. The analytical parameters for the ground water monitoring were also revised to include field parameters, volatile organic compounds, metals, mercury, chloride, nitrates, total dissolved solids, and sulfate.

Activities undertaken by Hillsborough County to implement the planned remedial action are documented in the Final Construction Report for the Taylor Road Landfill Superfund Site (April 16, 1999). As part of the institutional controls, Hillsborough County Solid Waste Management Department filed a "Notice of Entry of Consent Decree for the Taylor Road Landfill Superfund Site in Hillsborough County, Florida" with the Clerk of the Circuit Court in Hillsborough County in February 1998. This filing fulfills the requirement of the Consent Decree that all instruments conveying an interest in the Site shall contain a notice stating that the property is subject to the Consent Decree. Field construction activities to implement the remedy were begun in November 1998 with the construction of seven new monitoring wells and the rehabilitation of one damaged well. Following construction, the new and existing wells in the ground water monitoring plan were surveyed, and dedicated sampling equipment was installed. Five land parcels, with seven eligible receptors, were identified within the established compliance ring 270-ft setback that were not connected to County water supply. All seven property owners agreed to be connected to the County water supply network, and extension of water lines, meter placement, and connection to the structures was accomplished in February and March 1999. In summary, five homes, one trailer park, and one business were connected to the County water supply network. The first round of sampling of 23 monitoring wells (this includes 5 additional interior monitoring points added after the work plan addendum) under the updated ground water monitoring program was performed in April 1999.

System Operations/Operation and Maintenance

Operation and maintenance activities at the Site consists of those activities associated with upkeep of the landfills as required under the existing RCRA Consent Decree and the long-term care permit with FDEP, and those activities necessary for the ongoing implementation of the monitoring component of the CERCLA remedy. These activities are summarized as follows:

- **Landfill Operation and Maintenance.**
  - Monitoring of ground water, surface water and landfill gas;
  - Site inspections (daily, weekly, monthly, quarterly and after rainfall);
  - Repairs (facilities, monitoring wells, landfill cover, surface water management system, and landfill gas monitoring and recovery system);
  - Notification, record keeping and reporting; and,
  - Facility and system upgrades

- **Ground Water Operation and Maintenance**
  - Monitoring of ground water;
  - Monitoring well repair and replacement;
  - Maintenance of access agreements (off-site wells); and,
  - Notification, record keeping, and reporting.

Costs associated with Landfill and Ground Water operation and maintenance are tracked by Hillsborough County, and are summarized in Table 3. Since landfill operation and maintenance is performed by a dedicated on-site workforce, labor costs are included in the cost summary. Ground water operation and maintenance is performed by County employees who support multiple sites, and these labor costs are not included in the operation and maintenance summary. Additionally, landfill facility and system upgrades performed by Hillsborough County are tracked separately. Since 1998, upgrade projects, including re-routing of the Taylor Road Landfill gas collection system, installation of new gas collection wells at Taylor Road Landfill, and drainage improvements between the FDOT and Taylor Road Landfills, have been undertaken at a cost of approximately $500,000. The upgrades and improvements were performed as approved engineering solutions to observed negative changes in the efficiency of the Taylor Road Landfill gas collection system and to correct persistent erosion control problems between the landfills.

Table 3: Site Operation and Maintenance Costs

Year	Ground Water O&M Cost	Landfill O&M Cost
1998	$0	$864,209
1999	$101,495	$917,470

2000	$120,006	$727,047
2001	$120,000	$601,384
2002	$23,985	$745,788

Post-ROD Changes

An Explanation of Significant Difference was issued by EPA in August 2000 to remove Florida Secondary Drinking Water Standards from the federally-enforceable applicable, or relevant and appropriate requirements identified in the ROD. The rationale for this change is based on the fact that Secondary Drinking Water Standards are established to improve the taste, color and odor of drinking water, rather than address actual health threats. As such, EPA has determined that these standards are not applicable, or relevant and appropriate requirements, are not federally-enforceable (40 CFR Part 143), and are not needed to protect public health. The Florida Department of Environmental Protection did not concur with EPA's change to the ROD, and does retain authority to separately enforce Florida Secondary Drinking Water Standards at its discretion.

Based on the ROD and ESD for this Site, the final remediation levels for this action are the Florida Primary Drinking Water Standards for volatile organic compounds and metals and the Florida Minimum Criteria for Organoleptics as set forth in the *Groundwater Guidance Concentrations* (FDEP, 1994). The remedial action objectives, while not explicitly established in the ROD, can be inferred as: 1) eliminate current human exposure to ground water contaminants above remediation levels through provision of County water; 2) prevent future human exposure to ground water contamination above remediation levels through a combination of institutional controls, natural attenuation, and contingent treatment of ground water; and, 3) maintain ground water concentrations below remediation levels at the point-of-compliance through natural attenuation and/or contingent treatment.

V. Progress Since the Last Review

This report documents the first Five-Year Review for the Taylor Road Landfill Superfund Site; there have been no previous reviews.

VI. Five-Year Review Process

The Five-Year Review process for the Taylor Road Landfill Superfund Site consisted of project management, community involvement, document/data review, site inspection, interviews, and a determination as to the ongoing protectiveness of the remedy. As the lead agency, EPA Region 4 performed the Five-Year Review. The Florida Department of Environmental Protection is the support agency for this activity, and has been involved throughout the Five-Year Review process. Hillsborough County Solid Waste Management Department is the representative of the

responsible parties for the Site, and has cooperated during performance of the Five-Year Review providing site access and other material support as requested.

Administrative Components

Project management activities included identifying the EPA Region 4 team for the Five-Year Review, developing a schedule for the review activities, and notifying interested parties of the start of the Five-Year Review process. Key personnel involved in the Five-Year Review of the Site, along with organizations and roles, are presented in Table 4. Formal notification of the start of the Five-Year Review process was sent to Hillsborough County by letter on June 6, 2003, and other interested parties were furnished copies of the letter at the same time.

Table 4: Five-Year Review Key Personnel

Name	Organization	Role
David Keefer	EPA Region 4 61 Forsyth Street, SW Atlanta, GA 30303 (404) 562-8932	Remedial Project Manager
L'Tonya Spencer	EPA Region 4 61 Forsyth Street, SW Atlanta, GA 30303 (404) 562-8463	Community Involvement Coordinator
Bill O'Steen	EPA Region 4 61 Forsyth Street, SW Atlanta, GA 30303 (404) 562-8645	Senior Hydrogeologist
Kelsey Helton	Florida Department of Environmental Protection Twin Towers Office Building 2600 Blair Stone Rd Tallahassee, FL 32399 (850) 245-8969	Hazardous Waste Cleanup Section Chief
Wendy Murphy	Florida Department of Environmental Protection Twin Towers Office Building 2600 Blair Stone Rd Tallahassee, FL 32399 (850) 245-8967	State Project Manager
David Adams	Solid Waste Management Department 24th Floor County Center Tampa, FL 33601 (813) 276-2944	Environmental Manager

Community Notification and Involvement

Community involvement activities associated with the Five-Year Review include publication of a legal notice at the start of the Five-Year Review process, contacts and interviews with citizens/community groups identified in the Community Relations Plan (CDM, 1989), and issuance of a Fact Sheet and second legal notice upon completion of the Five-Year Review. Legal notices are published in the Tampa Tribune, and Fact Sheets will be sent to the Site mailing list and placed in the Information Repository. An inspection of the Information Repository, maintained at the Thonotosassa Public Library on 10715 Maion St., Thonotosassa, FL 33592, indicates that the site file is up-to-date and readily accessible.

Document and Data Review

Both the Administrative Record and Site File for the Taylor Road Landfill Superfund Site were reviewed and accessed to gather supporting information for the Five-Year Review. These sources contain the combined documentation of the decisions and actions taken at the Site; including relevant RCRA documentation for closure of the landfills. Attachment 2 contains a complete list of the supporting documentation used in development of this Five-Year Review Report. A significant portion of this documentation consists of routine reporting from Hillsborough County presenting the results of Domestic Supply Well sampling and analysis, Monitor Well sampling and analysis, and Landfill Operations reports. This data forms the basis of the technical assessment of remedy performance.

A technical review of the ground water monitoring data was performed to evaluate the remedy effectiveness and progress of natural attenuation. The monitoring data set used for this analysis includes compliance ring and interior monitoring wells for the period of January 1995 through January 2003. Table 5 summarizes these data. Additionally, a review of recent monthly monitoring data for domestic supply wells also was performed.

Compliance and Interior Wells

Concentration trends were evaluated for site contaminants that exceeded remediation levels in at least one sample obtained in the past year from a monitoring well. Additionally, because of its high concentrations and widespread distribution in ground water, trends in the concentration of manganese were also considered. The contaminants that are evaluated in this analysis include tetrachloroethene (PCE), trichloroethene (TCE), cis 1,2-dichloroethene (cis 1,2-DCE), vinyl chloride, 1,1-dichloroethene (1,1-DCE), methylene chloride, benzene, arsenic, mercury, nickel, nitrate, and manganese. A report titled "Taylor Road Landfill Superfund Site Groundwater Quality Statistical Evaluation, Hillsborough County, Florida" (SCS Engineers, 2003) includes a formal statistical trend analysis for these and other monitored contaminants. This report's conclusions regarding concentration trends are included in this section of the Report.

Table 5: Ground Water Monitoring Data Summary (1995 - 2003)

MONITORED CONTAMINANT	MINIMUM CONCENTRATION	MAXIMUM CONCENTRATION, WELL, AND DATE
1,1-Dichloroethane (ug/l)	<0.7 ug/L	64 ug/L TR-4D 7/10/95
1,1-Dichloroethene (ug/l)	<0.9 ug/L	130 ug/L TR-4D 7/12/99
1,2-Dichlorobenzene (ug/l)	<0.6 ug/L	72 ug/L, TR-4D 7/10/95
1,2-Dichloroethane (ug/l)	<0.9 ug/L	2 ug/L, F-2 1/21/97
1,3-Dichlorobenzene (ug/l)	<0.6 ug/L	7 ug/L 18-D 10/23/95
1,2-Dichloropropane (ug/l)	<1 ug/L	4 ug/L, 18-D 10/22/96
1,4-Dichlorobenzene (ug/l)	<0.7 ug/L	32 ug/L, TR-4D 7/10/95
1,2,4-Trimethylbenzene (ug/l)	<1 ug/L	2.7 ug/L, 18-D 10/25/01
Carbon disulfide (ug/l)	<0.5 ug/L	no detections
Acetone (ug/l)	<5 ug/L	23 ug/L, TR-4D 10/18/99
Benzene (ug/l)	<0.8 ug/L	5.7 ug/L, C-6 7/18/00
Bromomethane (ug/l)	<1 ug/L	2 ug/L, C-6 4/25/01
Chlorobenzene (ug/l)	<1 ug/L	11 ug/L, TR-4D 7/10/95
Chloroethane (ug/l)	<1 ug/L	15 ug/L, C-6 7/18/00
Chloroform (ug/l)	<1 ug/L	130 ug/L, TR-4D 7/10/95
Chloromethane (ug/l)	<1 ug/L	no detections
Dibromochloromethane (ug/l)	<0.4 ug/L	no detections
Dichlorodifluoromethane (ug/l)	<0.4 ug/L	2 ug/L, TR-4D 7/19/00
Ethylbenzene (ug/l)	<0.7 ug/L	no detections
Isopropylbenzene (ug/l)	<0.8 ug/L	2 ug/L, C-6 7/18/01
Methylene chloride (ug/l)	<1 ug/L	56 ug/L, F-2 4/8/96
Tetrachloroethene (ug/l)	<0.7 ug/L	14 ug/L, C-6 1/14/03
Toluene (ug/l)	<0.8 ug/L	2 ug/L, NE-23 10/23/95
trans-1,2-Dichloroethene (ug/l)	<1 ug/L	2 ug/L, F-15 49/96
cis-1,2-Dichloroethene (ug/l)	<0.5 ug/L	82 ug/L 18-D 7/10/95
Styrene (ug/l)	<1 ug/L	no detections
Trichloroethene (ug/l)	<1 ug/L	75 ug/L, TR-4D 7/12/99
Vinyl Chloride (ug/l)	<1 ug/L	100 ug/L, TR-4D 4/10/95; 18-D 7/8/96
Xylenes (ug/l)	<1 ug/L	3.5 ug/L, C-6 7/18/00
Arsenic (ug/l)	<5 ug/L	39 ug/L, F-1A 10/25/01
Barium (ug/l)	<10 ug/L	500 ug/L, TR-3D 1/13/00
Cadmium (ug/l)	<1 ug/L	2.8 ug/L, TR-3D 10/25/01
Chromium (ug/)	<1 ug/L	91 ug/L, 31-D 1/17/01
Copper (ug/l)	<5 ug/L	47 ug/L, F-3 7/14/99
Lead (ug/l)	<4 ug/L	21 ug/L, F-3 7/14/99
Manganese (ug/l)	<5 ug/L	5400 ug/L, TR-3D 1/13/00
Mercury (ug/l)	<0.2 ug/L	8.4 ug/L, 32-D 7/17/01
Nickel (ug/l)	<5 ug/L	1100 ug/L, 28-D 10/18/00
Selenium (ug/l)	<5 ug/L	11 ug/L, C-3 4/8/02
Vanadium (ug/l)	<10 ug/L	210 ug/L, C-3 4/13/99
Zinc (ug/l)	<20 ug/L	100 ug/L, F-3 7/14/99
Nitrates (mg/l)	<0.01 mg/L	33.6 mg/L, 30-D 10/22/96
Ammonia nitrogen (mg/l)	<0.02 mg/L	0.85 mg/L, F-12 7/15/02
pH (units)	5.92	8.06, C-9 1/16/01
Dissolved oxygen (mg/l)	0.18 mg/L	11.4 mg/L, C-6 1/14/03
Conductivity (umhos/cm)	6.08 umhos/cm	1220 umhos/cm, C-6 1/18/01; 4/9/02
Chloride (mg/l)	3.6 mg/L	60.7 mg/L, 18-D 4/7/97
Total dissolved solids (mg/l)	100 mg/L	880 mg/L, C-6 7/18/01
Sulfate (mg/l)	0.51 mg/L	76 mg/L, C-9 7/17/00
Sodium (mg/l)	0.5 mg/L	20 mg/L, F-4A 1/11/00, 7/15/02

Monitoring wells at the site are divided into compliance wells or interior wells. The conditions at the compliance wells are of the greatest concern.

Trichloroethene trends are shown on Figure 2 (Attachment 1). Figure 2 shows time-concentration plots for all wells where TCE has exceeded its 3 ug/L remediation level. This figure shows that for most of the monitoring wells where TCE has exceeded the remediation level, the concentrations are either decreasing, or showing no statistically significant trend. In the latter case, concentrations of TCE are close to the 3 ug/L standard. One well (C-6) is showing a statistically significant increase in the TCE concentration for the period of record, although the most recent samples from this well suggest that the concentrations of TCE at this well have stabilized. TCE is not a concern at any compliance monitoring well.

The concentration trends for cis 1,2-DCE are shown on Figure 3. Wells shown on this figure have either had cis 1,2-DCE at concentrations above the remediation level or have otherwise had repeated detections of this contaminant. Although recent concentrations of this contaminant have not exceeded its 70 ug/L standard, this contaminant can be degraded to produce vinyl chloride, which has a 1 ug/L remediation level.

The trend analyses indicate that cis 1,2-DCE is decreasing at two wells, increasing at two wells, and that there is no trend indicated at three wells. The time-concentration plots on Figure 3 suggest that even where there is no statistically discernable trend, concentrations of cis 1,2-DCE are probably decreasing. Where there is a statistically significant increasing concentration, recent concentration trends appear to either be downward or there is no current increasing trend. Cis 1,2-DCE is not a concern at any compliance monitoring well.

Figure 4 shows the vinyl chloride concentration trends. Most of the wells show either decreasing concentrations over time or show no trend and have vinyl chloride concentrations of less than 10 ug/L. Most of the wells that have had very high vinyl chloride concentrations have had recent concentrations of vinyl chloride that are much lower. Vinyl chloride is not a concern at any compliance monitoring well.

Two wells have statistically significant increasing concentrations of vinyl chloride. Well C-6 has shown an increasing vinyl chloride trend, with current concentrations hovering around 20 ug/L. This well also has shown increasing TCE concentrations in recent samples. Well TR-3D also has a trend of increasing concentrations. However, the most recent samples from this well have had vinyl chloride at less than the detection limit.

Figure 5 shows the time-concentration data for 1,1-DCE. Well TR-4D, with the most significant concentrations of 1,1-DCE, has shown a statistically significant increase in concentrations over time. However, the most recent samples from this well suggest either a decreasing concentration trend, or possibly that the maximum concentrations at this well have already been observed. 1,1-DCE is not a concern at any compliance monitoring well.

Figure 6 shows benzene concentration trends. This contaminant is showing either no trend or a decreasing concentration trend. Recent benzene concentrations are either close to or less than the 1 ug/L remediation level in all site monitoring wells.

Figure 7 shows the concentration trends for manganese. Manganese is apparently decreasing in concentration in at least five wells and is increasing in concentration at two wells. Concentrations of manganese are either decreasing or are stable at the two compliance wells shown on the figure. The statistically-based designation of F-2 as an increasing well and of 18-D, TR-3D, and C-2 as no-trend wells appears to be questionable, considering the data plotted on the figure. All of these wells are interior monitoring points.

Figure 8 shows trends for miscellaneous contaminants where there are data trends or contaminant detections that are noteworthy. TR-2D is the single compliance point monitoring well where there is a statistically significant increase of a contaminant of concern. Concentrations of nitrate at this well have increased to levels that approximate the 10 mg/L remediation level. It is unclear from the data if nitrate concentrations will continue to increase to levels higher than the standard or if the nitrate concentrations have stabilized at about 10 mg/L. At most of the other locations shown on Figure 8, concentrations of contaminants are decreasing. The notable exception to this general condition is at well C-6, where PCE, mercury, and nitrate are all apparently increasing. This well is also the location where several other contaminants are showing statistically significant concentration increases.

To summarize the evaluation of monitoring well trends, concentrations of all contaminants are remaining stable or are decreasing in most monitoring wells. With one exception, locations where concentrations are apparently increasing are interior wells. TR-2D is a compliance well where the nitrate concentration has increased over time to near its 10 mg/L MCL. It is unclear if this increasing concentration trend will continue into the future. Several contaminants have increased in concentration at well C-6, an interior well. These concentration trends have not been observed at well C-8, the compliance well located in relatively close proximity to C-6.

Domestic Supply Wells

Recent (2003) data from seven private water-supply wells were reviewed to determine if there were any concerns about site-related contamination reaching these wells. Five sample rounds from 2003 were available for six of these wells, and four samples were collected from the seventh well.

There may be indications of some very low-level contamination from the site that has reached some of these wells. Cis 1,2-DCE at a sub-microgram per liter concentration was detected in the most recent sample from two of the wells (identified by Hillsborough County as wells "P-18A" and "P-19"). In the most recent sample from well "P-24," 1,1-dichloroethane was reported at a concentration of 0.3 ug/L. A few other organic compounds have been detected in the most recent P-18A sample at comparably low concentrations, and dichlorofluoromethane was

detected at a concentration of between 1 and 2 ug/L in two samples from well "P-4." It is uncertain if any of this organic contamination is site related or if it is increasing in concentration. None of the detected organic contaminants are at concentrations that are of concern from a regulatory or risk-based perspective.

Inorganic constituents that have been detected in the private well samples do not indicate any impacts from the site. One notable occurrence is the low pH in the samples identified as being from well "P-22." The pH in samples from this well are inconsistent with what would be expected in ground water from the Floridan aquifer, which is the primary source of drinking water for this area. The P-22 samples are also characterized by both a very low dissolved solids content (also inconsistent with a Floridan aquifer source) and nitrate concentrations that are notably less than in the samples from the other private wells. P-22 appears to be completed in earth material that is dissimilar to the limestones of the Floridan aquifer. This well may be completed through a relict sand-filled sinkhole or in a locally saturated area of surficial sands.

Site Inspection

The Five-Year Review site inspection was performed on June 19 through 20, 2003. The EPA site inspection team consisted of David Keefer, L'Tonya Spencer, and Bill O'Steen. The Florida Department of Environmental Protection was represented by Kelsey Helton, and Hillsborough County was represented by Patty Berry, David Adams, and Walter Gray. A kick-off meeting was held at the Hillsborough County Solid Waste Management Department offices in downtown Tampa, Florida prior to beginning inspection activities at the Site. Following a Site tour, the EPA team divided as follows: David Keefer performed inspection of the landfill caps, gas collection system, leachate collection system, site perimeter, and landfill records; L'Tonya Spencer inspected the Site Information Repository and performed interviews; and, Bill O'Steen inspected the ground water monitoring network accompanied by Kelsey Helton. At the completion of the site inspection, a debriefing was held with Hillsborough County to discuss observations and findings.

Inspection of the landfill caps, gas collection system, liquids management system, site perimeter, and landfill records was performed on June 19, 2003, and is documented on the Site Inspection Checklist (Attachment 3). The caps for all three landfills (Taylor Road, FDOT, and Hillsborough Heights) were well vegetated and well maintained. Positive drainage was generally maintained throughout the cap surfaces, although a total of six localized areas of ponding (~100-500 square yards) were noted on the Taylor Road and Hillsborough Heights caps. These were generally shallow and likely attributable to subsidence. Repair through sod removal, clay fill, and topsoil/sod replacement was reportedly routine at these landfills. All side slopes were in excellent condition with no erosion or leachate seeps observed. Photographs of the landfill caps are included in Attachment 4. Due to heavy rainfall during the inspection, direct observation of the stormwater drainage and collection system was possible. The drainage swales and culverts were free-flowing and non-erosive off the caps, down the side slopes, and into the detention basins.

The gas collection systems at the Taylor Road and FDOT landfills had undergone significant modifications since the original installations. These modifications included the addition of new gas collection wells, condensate collection sumps, and re-routing of the gas through a central blower and flare system adjacent to the Hillsborough Heights landfill. The aboveground components of the gas collection system (wellheads, sampling points, piping, blowers, and flare) were operable and appeared to be in good condition and maintained. A microturbine generator had been recently installed between the blower and flare as an alternative energy technology demonstration.

Liquids management at the landfills is conducted through collection of condensate from sumps and gas extraction wells, and through a leachate collection system at the Hillsborough Heights landfill. Condensate from the sumps and gas extraction wells is routinely collected at the Taylor Road and Hillsborough Heights landfills, and is stored in the leachate holding tank. Leachate from the Hillsborough Heights landfill is collected from nine sumps and stored in a holding tank pending off-site disposal. The FDOT landfill gas extraction wells reportedly generate no collectable liquids.

Site access control is maintained through the use of a single entrance onto County property and perimeter fencing. The entrance to the Site is from State Route 579, and branches to a County recycling facility in the southwest corner of the property and to the facility maintenance shops and landfill areas to the north and east. Both the recycling facility and maintenance areas are manned, however positive access control (e.g., gate) to the landfill area is not present. A complete inspection of the perimeter fencing (6-ft chain link topped with 3 strands of barbed wire) was performed, and the following observations were noted: one open cut in the chain link fencing; one patched cut in the chain link fencing; seven locations with the barbed wire cut or pulled down; one unlocked gate; and, one section of 4-ft fencing along the southern perimeter. Facility personnel stated that casual trespassing was fairly common, and that trespassing for vandalism and theft had occurred in the facility maintenance area.

Verification of on-site documents and records was performed at the facility maintenance offices. The following documents were readily available and up-to-date: operations and maintenance manuals, as-built drawings, maintenance logs, operations and maintenance training records, gas generation records, ground water monitoring records, and leachate extraction records. The site-specific health and safety plan and Occupational Health and Safety Agency (OSHA) training records were maintained at the downtown County offices. Updates to the health and safety plan were maintained on-site as equipment- or activity-specific memoranda. No formal visitor/access log is maintained, but visitors are expected to report to the facility maintenance office. In general, maintenance of and access to applicable records was good.

Inspection of the ground water monitoring network was performed by Bill O'Steen. The inspection primarily consisted of observations of the access, security, and condition of the well heads and dedicated sampling equipment for the compliance ring monitoring wells and interior monitoring wells. General observations from the inspection include: shallow monitoring wells

completed above the water table should be properly abandoned; well identification markings should be maintained for all wells; and, a check of well condition (e.g., siltation, fouling, re-development) should be included with routine pump maintenance activities. Specific observations from the inspection include: well TR2-S was unlocked; well 32D had a cracked well pad; well NE-23 should be replaced by a properly constructed well (rather than the present open-hole completion); and, the well F-2 replacement needs to be installed as soon as possible. Overall, the inspection of the ground water monitoring network indicates that the monitoring component of the remedy is operating and functional.

During the post-inspection debriefing with Hillsborough County, the following issues were identified. For the landfill caps, routine documentation of settlement-fill activities should be included in the Monthly Operations Reports (i.e., area, thickness, and composition of fill material), and consideration should be given to the installation of settlement plates for re-surveying of the caps. Site access security should be improved by increasing the frequency of inspection and repair of the perimeter fencing, and routinely notifying law enforcement about trespassing. Documentation and records management should include a consolidated update to the health and safety plan, as well as on-site maintenance of OSHA training records. Noted general and specific repairs and improvements to the ground water monitoring network should be scheduled for implementation, and an updated potable well survey of adjacent properties should be conducted to ensure no un-permitted human exposures are taking place. Several positive observations were also discussed; specifically, the County's acquisition of additional properties within the setback zone and the ongoing facility upgrade program were noteworthy.

Interviews

Four interviews were conducted by L'Tonya Spencer on June 19 and 20, 2003 with eleven individuals representing the EPA, Florida Department of Environmental Protection, Hillsborough County, and the Taylor Road Civic Association. Each interview was conducted based on a set of fifteen prepared questions addressing a range of general and technical issues associated with the remedy. These questions and the Interview Records are presented in Attachment 5, and are summarized in Table 6.

Based on the interview comments, Hillsborough County is generally complying with the requirements and intent of the ROD and Consent Decree for this remedy. The remedy appears to be operating as designed, but there remains some public concern and skepticism regarding the effectiveness of the remedy. Specific concerns noted during the interviews that should be addressed include: properly communicating the change in laboratory reporting limits; evaluating potential environmental impacts from nearby properties; trespassers on the Site; dumping around the Site, Mercury detections below remediation levels; ground water issues not within the scope

Table 6: Interview Summary

No.	Name/Organization/Title	Comment Summary
1	David Keefer/EPA/RPM Bill O'Steen/EPA/Sr. Hydrogeologist Kelsey Helton/FDEP/Manager Patricia Berry/Hillsborough County SWMD/Landfill Sevices Manager David Adams/Hillsborough County SWMD/Environmental Manager Walter Gray/Hillsborough County SWMD/Environmental Scientist	- The County property is of increasing value as *undeveloped land, County personnel perform all* services, and the County considers relations with adjoining landowners to be amicable (SWMD). - New lab reporting requirements for documenting estimated concentrations between PQL and DL; the County wants to ensure this doesn't surprise citizens or regulators with "new" contaminants (SWMD) - Bi-annual statistical evaluation of ground water trends should revert to annual reporting (FDEP) - Fencing improvements made due to vandalism and theft (SWMD). - FDEP District office has good track record of notifying SWMD of any potable well permit applications. No new potable wells are known in the area, but no survey has been performed (SWMD). - Energy recovery program for methane gas is an innovative re-use activity at the facility through a DOE grant (SWMD). - Dispute with TA Travel Center regarding replacement/repair of monitoring well F-2 continues (SWMD). This should be resolved expeditiously (EPA/FDEP). - A mechanism to monitor/track impacts from potential leaks and spills on the adjacent TA Travel Center, Gator Ford and Interstate 4 properties should be considered (EPA).
2	Wayman Rose/Hillsborough County SWMD/Sr. Crewleader	- Ongoing work on odor control, but no elevated levels have been detected. - Erosion between FDOT and Taylor Road landfills is being addressed by significant re-sloping and re-grading effort. - Grass is mowed as needed, and no fertilizers, herbicides, or pesticides are used.
3	Andrew Baloon/Hillsborough County SWMD/Environmental Specialist I Dennis Zelman/Hillsborough County SWMD/Environmental Specialist I	- Vagrants have been seen on the property. - Some dumping occurs near the property. - Field crew are encouraged to report anything they observe. - Field crew is not aware of any complaints from adjacent property owners. - SWMD is diligent in compliance with safety and health requirements and quality assurance requirements.

4	Cam Oberting/Taylor Road Civic Association/President	- SWMD routinely checks potable wells, but a number of adjacent landowners do not have County water. - Mercury has been detected in private wells. - Only a limited number of property owners were connected to County water [*the impression is that this is fewer than expected/promised*]. - The SWMD ground water consultant is not trusted. - A nearby borrow pt [*not associated with Taylor Road Landfill*] was permitted without testing and over the objections of the local residents [*offered as an example of the County's unwillingness/inability to look out for the interests of the community*]. - There have been no recent problems with landfill gas. - Potable well sampling is stopped after a property is placed on County water, this doesn't help track down the Mercury problem. - SWMD does a good job communicating with residents and correcting problems brought to their attention. - Oil and grease was detected in groundwater, but SWMD stopped testing for it because the landfill was not considered to be the source. Records show that oil and grease were disposed at the landfill, but SWMD is ignoring this. - SWMD also has stopped testing homes with low pH. - Filters are on well water because of contamination, but not everyone can afford filters. - Leachate shows that the landfill caps are not impermeable, does SWMD intend to collect leachate forever?
	Lee Oberting/Taylor Road Civic Association/Board Member	

of this action (pH and oil & grease); and, the trigger for provision of County water. Successes that have occurred include: overall decreasing trends in ground water contaminants; demonstration of the effectiveness of the well permit institutional control; and, successful efforts for reuse of the County property. Hillsborough County should continue and extend its efforts to communicate informally and formally with nearby landowners to address the concerns and successes at the Site. Additionally, EPA will issue a Fact Sheet at the completion of the Five-Year Review to report the results of the review and address community concerns.

VII. Technical Assessment

The technical assessment of the performance and protectiveness of the Taylor Road Landfill Superfund Site remedy is based on historical information and data collected during the Five-Year Review process. As presented in the current Comprehensive Five-Year Review Guidance (EPA, 2001), this assessment is based on how each of three questions is answered. These questions are: A - Is the remedy functioning as intended by the decision documents?; B - Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at

the time of remedy selection still valid?; and, C - Has any other information come to light that could call into question the protectiveness of the remedy?. The EPA team for the Five-Year Review met on July 2, 2003 to answer these questions, and the answers, along with supporting rationale, are discussed below.

Question A: Is the Remedy Functioning as Intended by the Decision Documents?

The remedy selected in the ROD, as constructed by Hillsborough County and verified in the Final Construction Report, continues to function as intended. Ground water monitoring has been and continues to be performed to evaluate the progress of natural attenuation and to determine the need for contingent actions. Natural attenuation of contaminants in ground water is demonstrated to be occurring by the monitoring data. However, the contingent action criteria for expansion of the ground water monitoring compliance ring (two successive exceedances in a ring well) has been triggered on three occasions: October 1999 - addition of wells C-6 and C-7; April 2000 - addition of wells C-8 and C-9; and, May 2001 - addition of well C-10. Following the April 2000 expansion, one additional landowner was offered hook-up to County water, but this was refused. The contingent action criteria for requiring active groundwater treatment at the property boundary (regulatory evaluation of annual statistical and other data) has not been triggered. Currently, 14 compliance ring wells, 13 interior wells, and 1 background well are routinely monitored. Contaminant concentrations in some wells may have reached asymptotic levels at or near the remediation levels; however, continued operation and maintenance of the landfill caps is clearly necessary for these results to be sustained.

Current monitoring and operation and maintenance practices for the ground water remedy are generally adequate to maintain the effectiveness of the remedy. There were no indicators of problems that would jeopardize the performance of the remedy. There is room for improvement in the areas of well maintenance and in the implementation of institutional controls. There also may exist opportunities in the near future for optimization through reducing the number of interior wells sampled and/or the number of analytes requested. The frequency of monitoring and reporting is expected to remain unchanged for the foreseeable future. As previously noted, a significant element of the continued success of the ground water remedy is continuity in the operation and maintenance of the landfills. The commitment by Hillsborough County through the existing RCRA permit to the operation and maintenance of the landfills appears firm, and no problems are anticipated in this regard for the foreseeable future. Site access controls at the landfills show evidence of recurrent failure, but this is not expected to have resulted in any human exposure to ground water.

The answer to Question A is **Yes**.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of remedy selection still valid?

Changes have occurred in both the exposure assumptions and the cleanup levels established in the ROD and used in the baseline risk assessment, but the validity of the underlying basis for action and remediation levels remains sound. The changes in exposure assumptions are based on changes in land use in adjacent properties from residential and agricultural to commercial; a less restrictive type of use. Additionally, the baseline risk assessment was used to identify contaminant suites (i.e., volatile organic compounds and metals) and media posing excess risk, but contaminant-specific remediation levels were based on Florida Department of Environmental Protection standards. The changes in cleanup levels were associated with Florida Department of Environmental Protection revision of certain Minimum Criteria for Organoleptics constituents in the Ground Water Cleanup Target Levels (FAC 62-777). A total of six constituents were revised in the Ground Water Cleanup Target Levels (5 downward and 1 upward relative to the Minimum Criteria for Organoleptics standard), and none of these constituents has been detected at the Taylor Road Landfill Site. Changes to applicable, or relevant and appropriate standards are summarized in Tables 7 through 9.

Table 7: Changes in Chemical-Specific Standards

Contaminant	Media	Cleanup Level	Standard		Citation/Year
Acrolein	ground water	110 ug/L	Previous	110 ug/L	*Groundwater Guidance Concentrations (FDEP, 1994)*
			New	14 ug/L	*Target Cleanup Level (FAC 62-777, 1999)*
2-4 Dichlorophenol	ground water	4 ug/L	Previous	4 ug/L	*Groundwater Guidance Concentrations (FDEP, 1994)*
			New	0.5 ug/L	*Target Cleanup Level (FAC 62-777, 1999)*
3-4 Dichlorophenol	ground water	10 ug/L	Previous	10 ug/L	*Groundwater Guidance Concentrations (FDEP, 1994)*
			New	0.5 ug/L	*Target Cleanup Level (FAC 62-777, 1999)*
2,4-Dimethylphenol	ground water	400 ug/L	Previous	400 ug/L	*Groundwater Guidance Concentrations (FDEP, 1994)*
			New	140 ug/L	*Target Cleanup Level (FAC 62-777, 1999)*

Naphthalene	ground water	6.8 ug/L	Previous	6.8 ug/L	*Groundwater Guidance Concentrations (FDEP, 1994)*
			New	20 ug/L	*Target Cleanup Level (FAC 62-777, 1999)*
Vinyl Acetate	ground water	250 ug/L	Previous	250 ug/L	*Groundwater Guidance Concentrations (FDEP, 1994)*
			New	88 ug/L	*Target Cleanup Level (FAC 62-777, 1999)*

Table 8: Changes in Action-Specific Requirements

Action	Requirement		Prerequisite	Citation/Year
Ground water remediation	Previous	Florida Air Pollution Rules	air emissions during remedial activities	FAC 17-2.1
	New	No applicable changes		

Table 9: Changes in Location-Specific Requirements

Location	Requirement		Prerequisite	Citation/Year
Taylor Road Landfill Site	Previous	Hazardous Waste Warning Signs	perimeter and access control	FAC 17-736
	New	No applicable changes		
Taylor Road Landfill Site	Previous	Endangered Species Act	identification of species or habitat	50 CFR 402
	New	No applicable changes		

In general, the remedy is progressing as expected. No changes in site conditions, contaminant characteristics, exposure pathways, or relevant standards were observed or are known to have occurred that would call into question the ongoing protectiveness of the remedy. A periodic private well survey should be performed to ensure no un-permitted withdrawals are taking place in the vicinity of the landfill and to validate the exposure assumptions.

The answer to Question B is **Yes**.

Question C: Has Any Other Information Come to Light that Could Call into Question the Protectiveness of the Remedy?

No new information has come to light that would call into question the protectiveness of the remedy. The presence of the Site within the Brandon Karst terrain presents an ongoing threat of natural disaster through sinkhole collapse beneath one of the landfills. This threat was recognized during the decision-making process for both the RCRA corrective action and CERCLA remediation. Since construction of the landfill caps, subsidence of the caps appears to be consistent with volume loss through gas collection and settling. Additionally, this portion of Florida has experienced both drought and above-average rainfall since remedy construction that would tend to exacerbate areas susceptible to karst failure. During the monitoring period, no indication that sinkhole collapse is imminent or likely has been observed.

The answer to Question C is **No**.

VIII. Issues

During the course of the Five-Year Review document and data review, site inspection, and interviews, a number of issues were identified pertaining to remedy effectiveness. These issues and their impact on remedy protectiveness are summarized in Table 10.

Table 10: Issues

Issues	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
(1) Site access security (monitoring & maintenance of fences)	No	Yes
(2) Ground water monitoring well maintenance	No	Yes
(3) Potential for un-permitted potable well installation in adjoining properties	No	Yes
(4) Operations & maintenance of landfill caps, leachate collection, gas collection and storm water management systems under RCRA	No	Yes
(5) Annual reporting for Ground Water Quality Statistical Evaluations	No	Yes
(6) Ground water quality concerns (mercury, oil & grease, and pH) of adjoining land owners should be affirmatively addressed	No	Potentially
(7) Quantitative measurement and tracking of fill activities in landfill cap settlement areas	No	No

(8) Monitoring/evaluation of potential environmental impacts from adjacent properties (commercial activities and dumping) should be performed	No	No

IX. Recommendations and Follow-up Actions

Based on the issues identified during the Five-Year Review, recommendations and follow-up actions for the Taylor Road Landfill have been identified. These are summarized in Table 11.

Table 11: Recommendations and Follow-up Actions

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
(1)	- Repair cut and damaged fences - Institute daily perimeter security checks (per 1983 CD)	Hillsborough County SWMD	EPA	11/1/2003	No	Yes
(2)	- Perform routine maintenance on wells TR2-S and 32D - Refit/replace well NE-23 - Refit/replace well F-2 - Abandon unused shallow wells - Lock and clearly label all wells - Add well rehabilitation check to pump repair process	Hillsborough County SWMD	EPA	11/1/2003	No	Yes
(3)	Perform potable well survey on adjacent parcels (approximately 1-mile radius of Site)	Hillsborough County SWMD	EPA	11/1/2003	No	Yes
(4)	Consideration of ground water impacts during RCRA permit renewal negotiation	FDEP District Office	EPA	9/15/2013	No	Yes
(5)	Return to Annual reporting and evaluation of ground water trends	Hillsborough County SWMD	EPA and FDEP	6/27/2004	No	Yes

Issue	Recommendations and *Follow-up Actions*	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
(6)	Prepare Fact Sheet presenting results of *Five-Year Review* and addressing community ground water quality concerns	EPA	EPA and FDEP	10/1/2003	No	Potential
(7)	- Perform routine civil surveying of landfill cap surfaces (bi-annual or when significant settlement is observed) - Include quantitative estimate of settlement fill activities (area, thickness and location)	Hillsborough County SWMD	EPA	5/1/2004 (survey) 10/1/2003 (reports)	No	No
(8)	- Inventory products and wastes managed on adjacent or nearby properties - Request notification from FDEP District Office of nearby spills or releases - Report/cleanup illegal dumping on adjacent properties	Hillsborough County SWMD	EPA	11/1/2003	No	No

X. Protectiveness Statement

The remedy at the Taylor Road Landfill currently protects human health and the environment because ground water monitoring at the compliance ring ensures contingent measures can be taken prior to impacts to domestic supply wells, institutional controls restrict the installation of new domestic supply wells in the impacted area, post-closure care of the landfills under RCRA minimizes ongoing impacts to the aquifer, and natural attenuation is demonstrated to be occurring. However, in order for the remedy to remain protective in the long-term, the following actions need to be taken: repair fencing and improve enforcement of site access controls; improve routine maintenance of monitoring wells; perform a potable well survey in the vicinity of the site to ensure institutional controls are effective; ensure the long-term operation and maintenance of the landfills; resume annual ground water quality statistical evaluations; and, improve responsiveness to ongoing community concerns.

Overall, Hillsborough County Solid Waste Management Department has done a commendable job of implementing the remedy and integrating RCRA and CERCLA operation and maintenance requirements for the Site. While these follow-up actions, if not implemented, would be expected to have a negative impact on the long-term effectiveness of the remedy, it is expected that Hillsborough County will be responsive to these recommendations. Most of the recommendations and follow-up actions for the Site are being implemented by Hillsborough County based on the debriefing at the conclusion of the site inspection.

XI. Next Review

The next Five-Year Review for the Taylor Road Landfill Superfund Site will be a statutory review, and will be completed on August 11, 2008.

ATTACHMENT 1

SITE FIGURES

Figure 1 - Aerial Photograph of Taylor Road Landfill Site with Site Boundary and Compliance Monitoring Wells

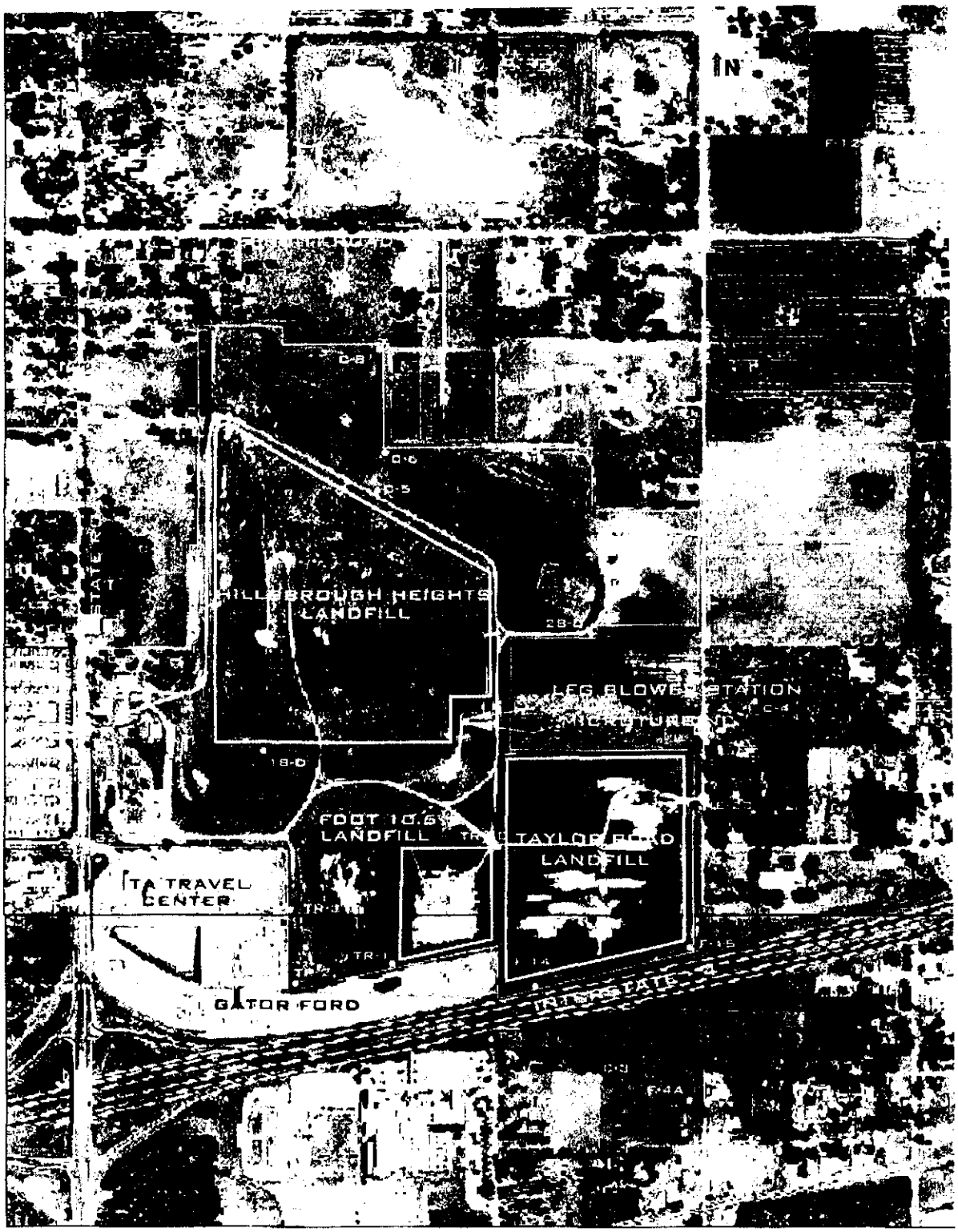
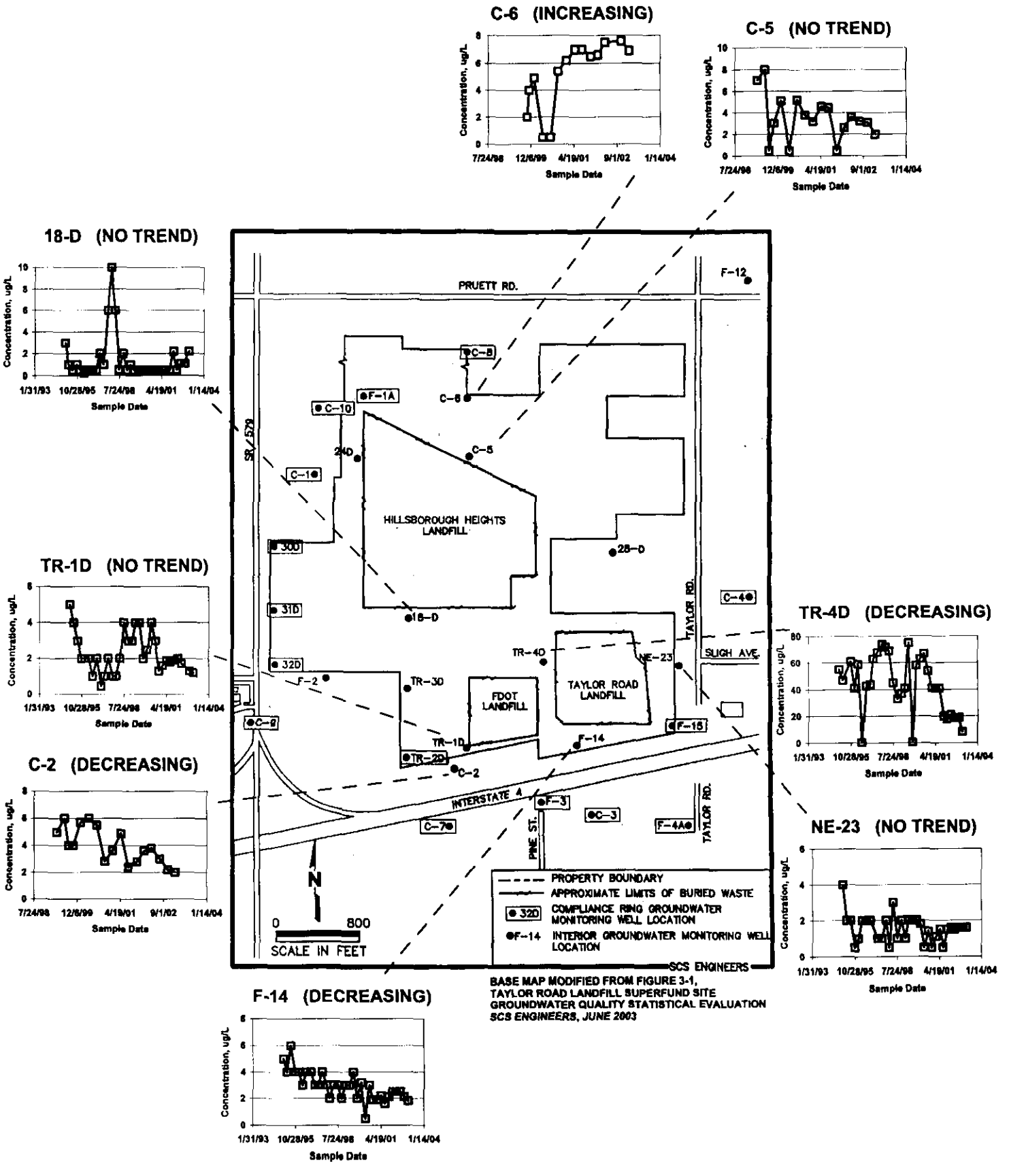
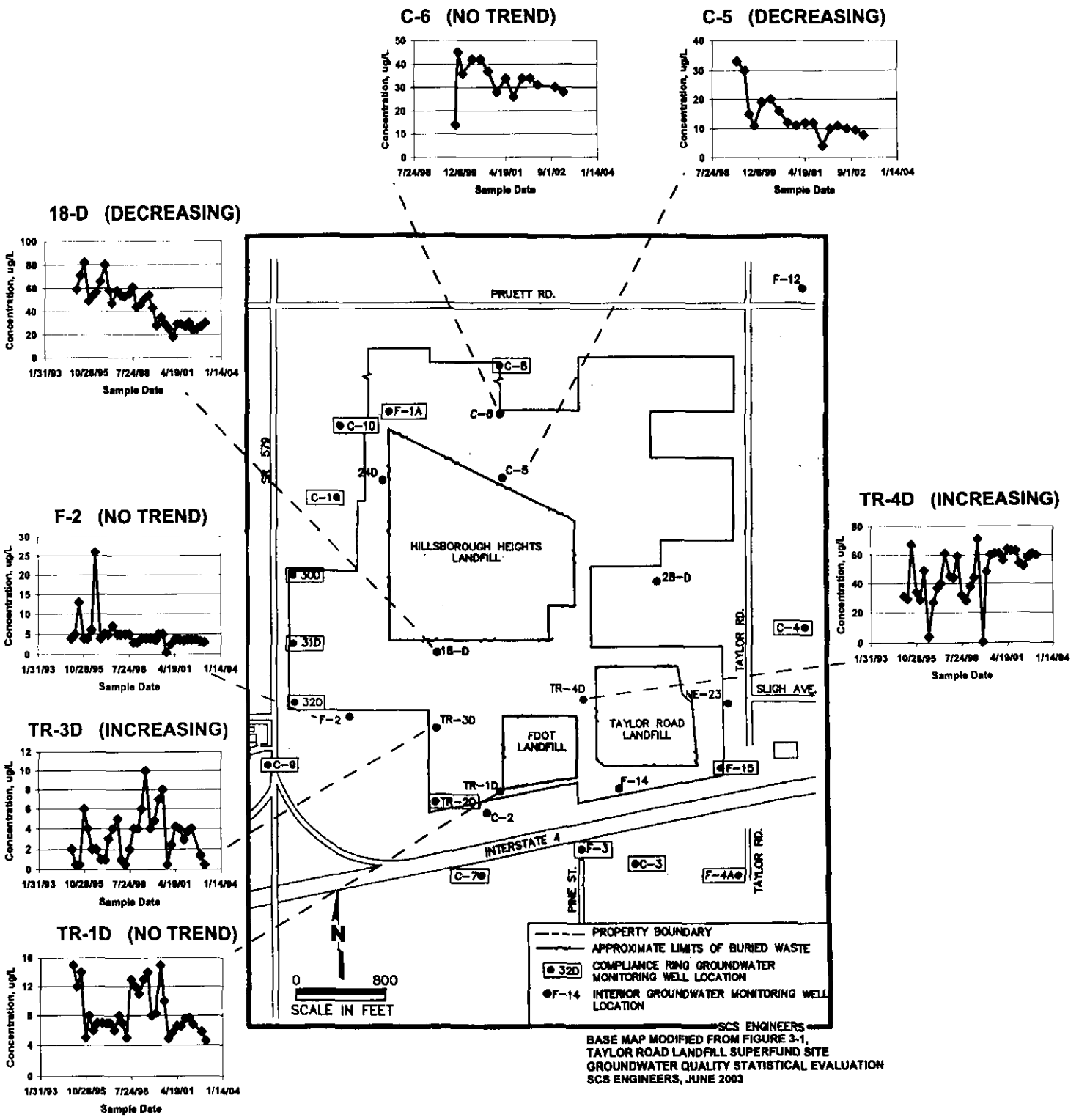


Figure 2.Trichloroethene Concentration Trends



BASE MAP MODIFIED FROM FIGURE 3-1,
TAYLOR ROAD LANDFILL SUPERFUND SITE
GROUNDWATER QUALITY STATISTICAL EVALUATION
SCS ENGINEERS, JUNE 2003

Figure 3. cis 1,2-Dichloroethene Concentration Trends



BASE MAP MODIFIED FROM FIGURE 3-1,
TAYLOR ROAD LANDFILL SUPERFUND SITE
GROUNDWATER QUALITY STATISTICAL EVALUATION
SCS ENGINEERS, JUNE 2003

Figure 4. Vinyl Chloride Concentration Trends

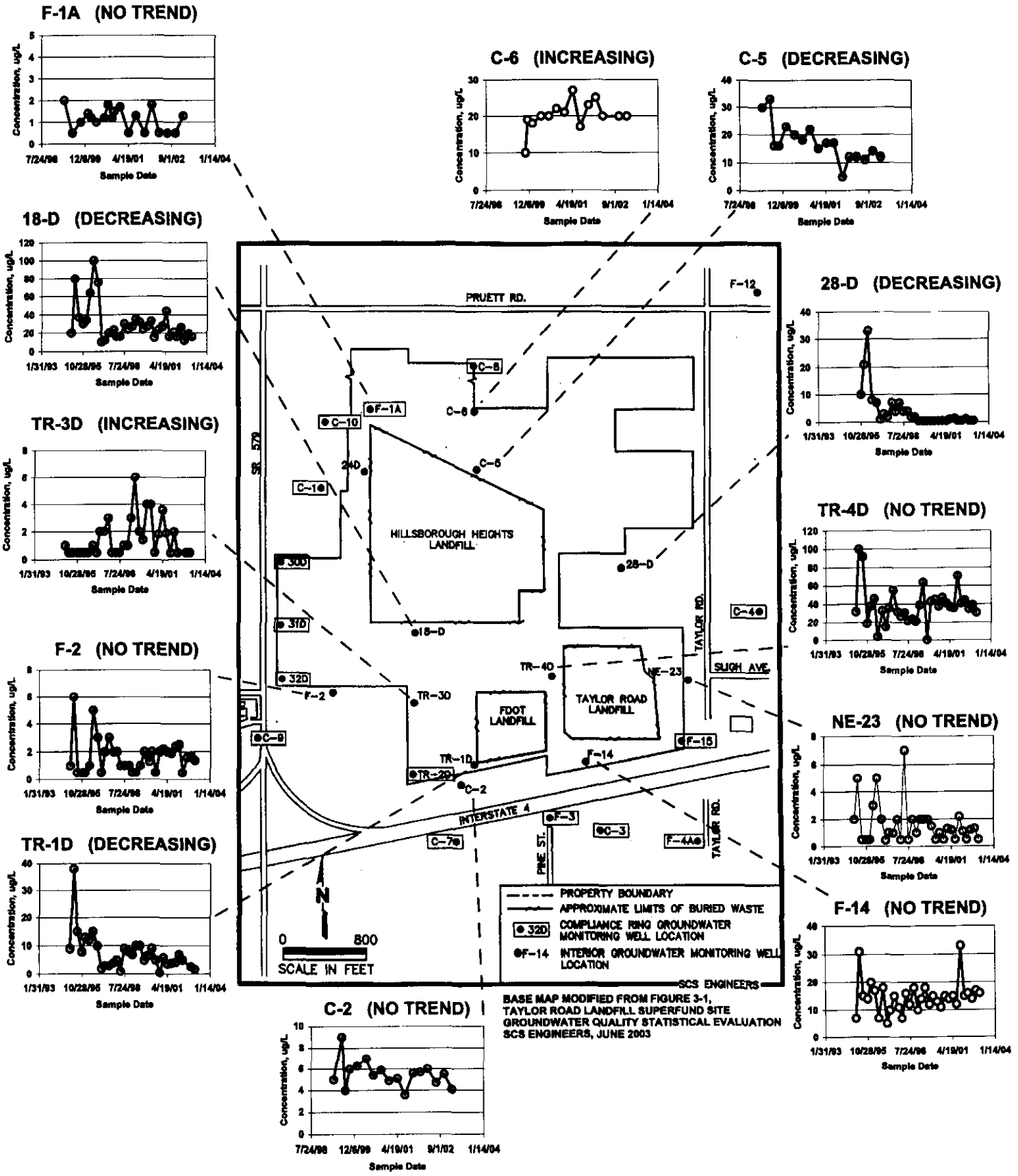
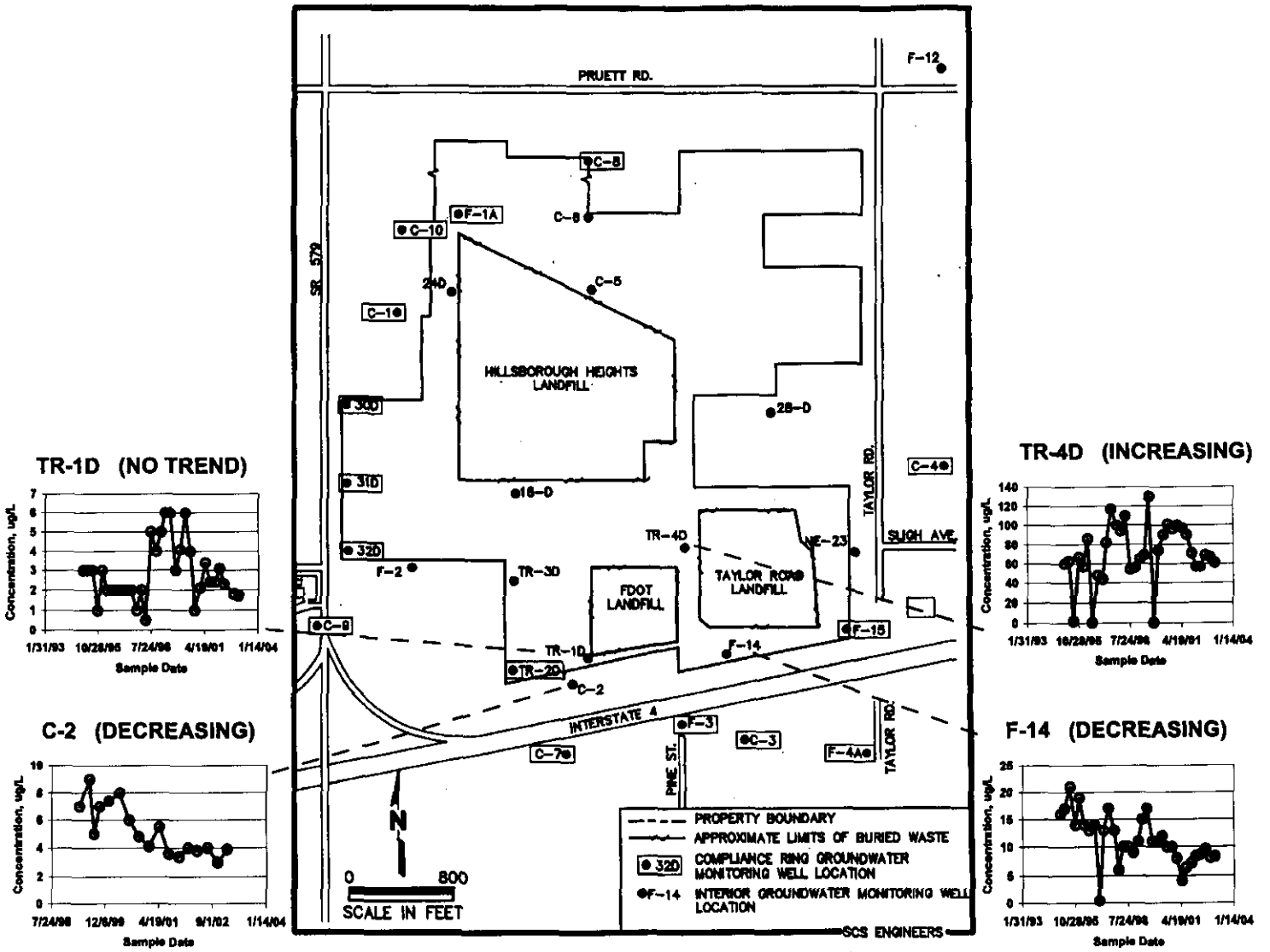
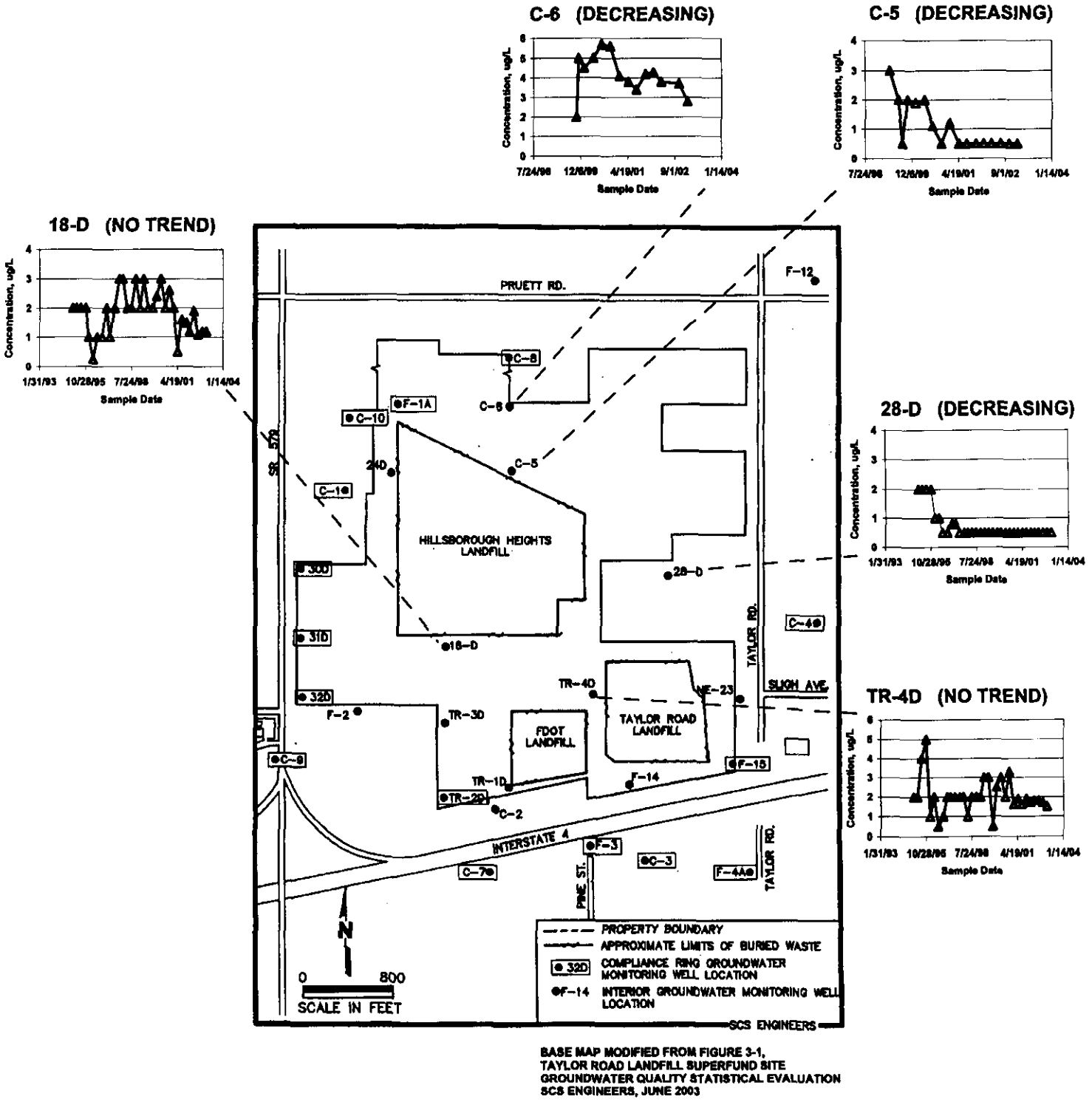


Figure 5. 1,1-Dichloroethene Concentration Trends



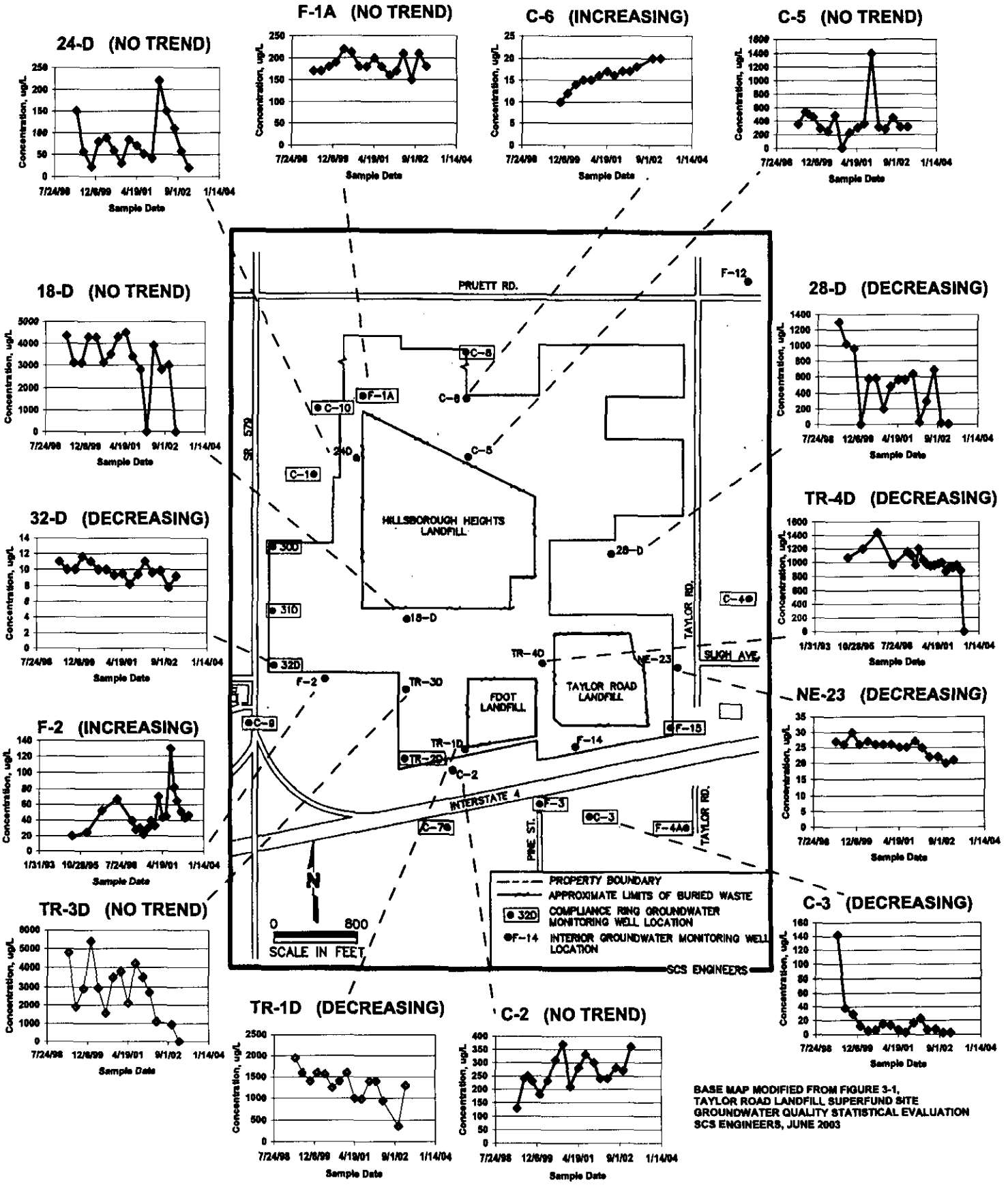
BASE MAP MODIFIED FROM FIGURE 3-1,
TAYLOR ROAD LANDFILL SUPERFUND SITE
GROUNDWATER QUALITY STATISTICAL EVALUATION
SCS ENGINEERS, JUNE 2003

Figure 6. Benzene Concentration Trends



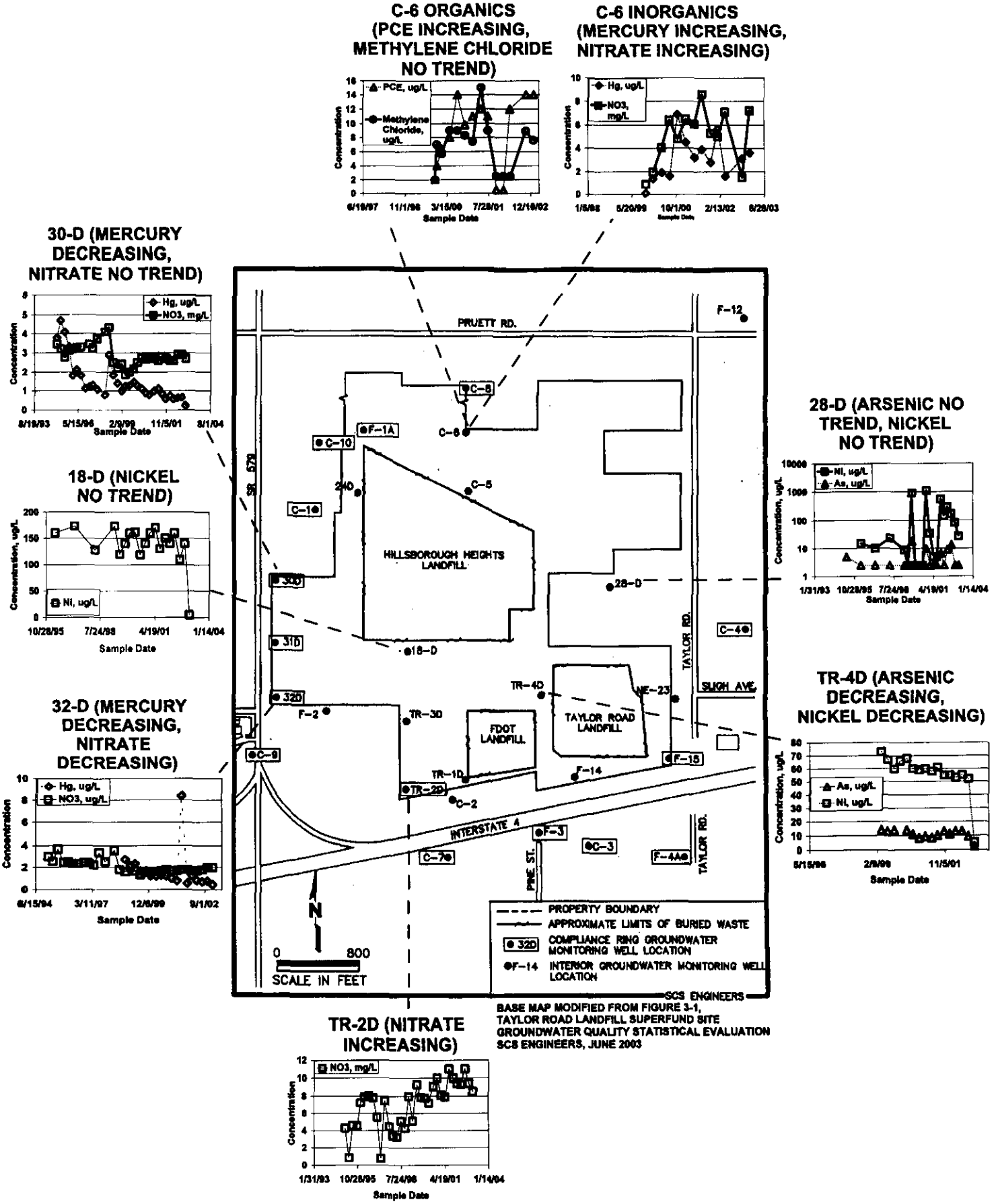
BASE MAP MODIFIED FROM FIGURE 3-1,
TAYLOR ROAD LANDFILL SUPERFUND SITE
GROUNDWATER QUALITY STATISTICAL EVALUATION
SCS ENGINEERS, JUNE 2003

Figure 7. Manganese Concentration Trends



BASE MAP MODIFIED FROM FIGURE 3-1,
TAYLOR ROAD LANDFILL SUPERFUND SITE
GROUNDWATER QUALITY STATISTICAL EVALUATION
SCS ENGINEERS, JUNE 2003

Figure 8. Concentration Trends for Miscellaneous Contaminants



ATTACHMENT 2

LIST OF DOCUMENTS REVIEWED

CDM Federal Programs Corporation, Community Relations Plan, June 26, 1989

CDM Federal Programs Corporation, Final Baseline Risk Assessment, June 1994

Engineering-Science (ES), Taylor Road Landfill Remedial Alternatives Evaluation, July 1983

Environmental Protection Agency Region Four, Administrative Order by Consent for Remedial Investigation/Feasibility Study, February 1, 1993

Environmental Protection Agency Region Four, Administrative Order on Consent, September 18, 1996

Environmental Protection Agency Region Four, Consent Decree, April 15, 1983

Environmental Protection Agency Region Four, Consent Decree-Remedial Design/Remedial Assessment, May 11, 1998

Environmental Protection Agency Region Four, Record of Decision, September 29, 1995

Environmental Protection Agency Region Four, Explanation of Significant Differences,

Enivronmental Protection Agency Region Four, Superfund Proposed Plan Fact Sheet, July 1995

Environmental Protection Agency, Unilateral Administrative Order of Consent, February 15, 1995

ERM-South, Inc., Final Feasibility Study Report, June 1995

ERM-South, Inc., Final Remedial Investigation Report, May 1995

Hillsborough County Solid Waste Management Department (HCSWMD), Final Construction Report, April 16, 1999

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights Domestic Supply Wells Analytical Data Report, January 1997

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights Domestic Supply Wells Analytical Data Report, February 1997

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Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights Domestic Supply Wells Analytical Data Report, April 1997

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Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, April 2003

ATTACHMENT 3

SITE INSPECTION CHECKLIST

Site Inspection Checklist

I. SITE INFORMATION

Site name: Taylor Road Landfill	**Date of inspection:** June 19-20, 2003
Location and Region: Tampa, Hillsborough County, Florida - EPA Region 4.	**EPA ID:** FLD 980 494 959
Agency, office, or company leading the five-year review: EPA Region 4 (WMD/SSMB/NFL)	**Weather/temperature:** Overcast/rain/~85 degrees F

Remedy Includes: (Check all that apply)

- ☐ Landfill cover/containment
- ☐ Access controls
- ✔ Institutional controls
- ☐ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ✔ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls
- ✔ Other Impact cap system as part of overall groundwater protection.

Attachments: ☐ Inspection team roster attached ✔ Site map attached

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** Wayman Rose (Name) Sr. Crew Leader (Title) 6/19/03 (Date)
   Interviewed ✔ at site ☐ at office ☐ by phone Phone no. 813-744-5535
   Problems, suggestions; ✔ Report attached Interview form.

2. **O&M staff** (see attached Interview Form) (Name) _____ (Title) _____ (Date)
   Interviewed ☐ at site ☐ at office ☐ by phone Phone no. _____
   Problems, suggestions; ✔ Report attached _____

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency FDEP
Contact Kelley Helton _____ 6/19/03 _____
Name | Title | Date | Phone no.
Problems; suggestions; ☐ Report attached DEP does not concur with EPA ESD removing secondary MCL or ARARs for the site.

Agency _____
Contact _____ _____ _____ _____
Name | Title | Date | Phone no.
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name | Title | Date | Phone no.
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name | Title | Date | Phone no.
Problems; suggestions; ☐ Report attached _____

4. **Other interviews** (optional) ✔ Report attached.

Other interviews performed as a separate activity (see Interview Records)

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**

✔ O&M manual	✔ Readily available	✔ Up to date	☐ N/A
✔ As-built drawings	✔ Readily available	✔ Up to date	☐ N/A
✔ Maintenance logs	✔ Readily available	✔ Up to date	☐ N/A

Remarks As-built include improvements, maintenance records excellent.

2. **Site-Specific Health and Safety Plan** ☐ Readily available ☐ Up to date ☐ N/A
☐ Contingency plan/emergency response plan ☐ Readily available ☐ Up to date ☐ N/A
Remarks Maintained at county offices downtown. SOPs address must "reasonably anticipatable" events not consolidated in a single plan.

3. **O&M and OSHA Training Records** ✔ Readily available ✔ Up to date ☐ N/A
Remarks Maintained at county offices downtown

4. **Permits and Service Agreements**

☐ Air discharge permit	☐ Readily available	☐ Up to date	✔ N/A
☐ Effluent discharge	* ☐ Readily available	☐ Up to date	✔ N/A
☐ Waste disposal, POTW	☐ Readily available	☐ Up to date	☐ N/A
☐ Other permits	☐ Readily available	☐ Up to date	✔ N/A

Remarks * leachate treatment offsite at Valrico Plant (county-owned)

5. **Gas Generation Records** ✔ Readily available ✔ Up to date ☐ N/A
Remarks

6. ***Settlement Monument Records*** ☐ Readily available ☐ Up to date ✔ N/A
Remarks Not a feature of this facility. Re-surveying done as needed / Ponding is corrected as needed.

7. **Groundwater Monitoring Records** ✔ Readily available ✔ Up to date ☐ N/A
Remarks

8. **Leachate Extraction Records** ✔ Readily available ✔ Up to date ☐ N/A
Remarks

9. **Discharge Compliance Records**

☐ Air	☐ Readily available	☐ Up to date	✔ N/A
☐ Water (effluent)	☐ Readily available	☐ Up to date	✔ N/A

Remarks

10. **Daily Access/Security Logs** ☐ Readily available ☐ Up to date ✔ N/A
Remarks Visitors required to report at office; no log maintained.

IV. O&M COSTS

1. **O&M Organization**

☐ State in-house ☐ Contractor for State
☐ PRP in-house ☐ Contractor for PRP
☐ Federal Facility in-house ☐ Contractor for Federal Facility
✔ *Other* Hillsborough County is PRP and O & M organization is primarily in-house staff with some contract support.

2. **O&M Cost Records** –County to provide info as follow-up

✔ *Readily available* ✔ Up to date
✔ Funding mechanism/agreement in place
Original O&M cost estimate N/A ☐ Breakdown attached

Total annual cost by year for review period if available

From * To _____ _____ ☐ Breakdown attached
Date Date Total cost

From _____ To _____ _____ ☐ Breakdown attached
Date Date Total cost

From _____ To _____ _____ ☐ Breakdown attached
Date Date Total cost

From _____ To _____ _____ ☐ Breakdown attached
Date Date Total cost

From _____ To _____ _____ ☐ Breakdown attached
Date Date Total cost

* Maintained as part of county budget, cost spreadsheets provided.

3. **Unanticipated or Unusually High O&M Costs During Review Period**

Describe costs and reasons: Improvements to gas collection system at TRLF (routing to Hillsborough Heights); new gas wells at TRLF, drainage improvement between FDOT and TRLF. ~$500,000 in improvements.

V. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☐ N/A

A. Fencing

1. **Fencing damaged** ✔ Location shown on site map ✔ Gates secured ☐ N/A

Remarks Site reasonably secure, some damage to fences and gates(accidents/break-in, theft). One open cut identified.

B. Other Access Restrictions

1. **Signs and other security measures** ☐ Location shown on site map ☐ N/A
Remarks No trespassing sign every 50 feet along fence.

C. Institutional Controls (ICs)

1. **Implementation and enforcement** (Site Access Security)
Site conditions imply ICs not properly implemented ☐ Yes ✔ No ☐ N/A
Site conditions imply ICs not being fully enforced ✔ Yes ☐ No ☐ N/A

Type of monitoring (*e.g.*, self-reporting, drive by) O&M personnel on-site daily/self-reporting
Frequency daily (self-report)/monthy (visual inspection)
Responsible party/agency Hillsborough County
Contact Wayman Rose

Name	Title	Date	Phone no.

Reporting is up-to-date ✔ Yes ☐ No ☐ N/A
Reports are verified by the lead agency ✔ Yes ☐ No ☐ N/A

Specific requirements in deed or decision documents have been met ✔ Yes ☐ No ☐ N/A
Violations have been reported ✔ Yes ☐ No ☐ N/A
Other problems or suggestions: ☐ Report attached
Reporting is primarily internal to Hillsborough County, specific notification of each break of perimeter fencing not made to EPA, nor would it be useful. Annual summary would be adequate.

2. **Adequacy** ✔ ICs are adequate ☐ ICs are inadequate ☐ N/A
Remarks Improvement to site access physical security may be warranted. Groundwater use use restrictions seem to be working. Periodical well inventory in/adjacent to buffer may be warranted.

D. General

1. **Vandalism/trespassing** ✔ *Location shown on site map* ☐ *No vandalism evident*
Remarks Both vanadalism (including theft) and trespassing appear fairly common. Numerous locations along fenceline apparently used for illegal access. O&M staff report recurrent trespassing.

2. **Land use changes on site** ☐ N/A
Remarks Sold small strip of land to TA America, leased ~11 acres to TRAC, leased ~0.5 acre to County sheriff's office.

3. **Land use changes off site** ☐ N/A
Remarks Some new businesses established in SW adjacent property (TA America, Gator Ford).

VI. GENERAL SITE CONDITIONS

A. Roads ✔ Applicable ☐ N/A

1. **Roads damaged** ☐ Location shown on site map ✔ Roads adequate ☐ N/A
Remarks

B. Other Site Conditions

Remarks

VII. LANDFILL COVERS ✔ Applicable ☐ N/A

A. Landfill Surface

1. **Settlement** (Low spots) ☐ Location shown on site map ☐ Settlement not evident
Areal extent Depth 0.5-1 ft
Remarks Low areas (100-500 meters square) noted on TRLF and HH, actively being addressed.

2. **Cracks** ☐ Location shown on site map ✔ Cracking not evident
Lengths Widths Depths
Remarks

3. **Erosion** ☐ Location shown on site map ✔ Erosion not evident
Areal extent Depth
Remarks

4. **Holes** ☐ Location shown on site map ✔ Holes not evident
Areal extent Depth
Remarks

5. **Vegetative Cover** ✔ Grass ✔ Cover properly established ✔ No signs of stress
☐ Trees/Shrubs (indicate size and locations on a diagram)
Remarks_____

6. **Alternative Cover (armored rock, concrete, etc.)** ✔ N/A
Remarks_____

7. **Bulges** ☐ Location shown on site map ✔ Bulges not evident
Areal extent_____ Height_____
Remarks_____

8. **Wet Areas/Water Damage** ☐ Wet areas/water damage not evident
✔ Wet areas ☐ Location shown on site map Areal extent 6 X 100-500 yd3
✔ Ponding ☐ Location shown on site map Areal extent_____
☐ Seeps ☐ Location shown on site map Areal extent_____
☐ Soft subgrade ☐ Location shown on site map Areal extent_____
Remarks Actively filled to remediate (top soil removed, clay added, topsoil and vegetation re-established).

9. **Slope Instability** ☐ Slides ☐ Location shown on site map ✔ No evidence of slope instability
Areal extent_____
Remarks_____

B. Benches ☐ Applicable ✔ N/A
(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

1. **Flows Bypass Bench** ☐ Location shown on site map ☐ N/A or okay
Remarks Not fully benched, gentle contour grades leading to lined/unlined perimeter channels.

2. **Bench Breached** ☐ Location shown on site map ✔ N/A or okay
Remarks_____

3. **Bench Overtopped** ☐ Location shown on site map ✔ N/A or okay
Remarks_____

C. Letdown Channels ✔ Applicable ☐ N/A
(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

1. **Settlement** ☐ Location shown on site map ✔ No evidence of settlement
Areal extent_____ Depth_____
Remarks_____

2. **Material Degradation** ☐ Location shown on site map ✔ No evidence of degradation
Material type_____ Areal extent_____
Remarks_____

3. **Erosion** ☐ Location shown on site map ✔ No evidence of erosion
Areal extent_____ Depth_____
Remarks_____

4. **Undercutting** ☐ Location shown on site map ✔ No evidence of undercutting
Areal extent_____ Depth_____
Remarks_____

5. **Obstructions** Type_____ ✔ No obstructions
☐ Location shown on site map Areal extent_____
Size_____
Remarks_____

6. **Excessive Vegetative Growth** Type_____
✔ No evidence of excessive growth
✔ Vegetation in channels does not obstruct flow
☐ Location shown on site map Areal extent_____
Remarks_____

D. Cover Penetrations ☐ Applicable ☐ N/A

1. **Gas Vents** ✔ Active ☐ Passive
✔ Properly secured/locked ✔ Functioning ✔ Routinely sampled ✔ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance
☐ N/A
Remarks Leakage checked quarterly.

2. **Gas Monitoring Probes**
✔ Properly secured/locked ✔ Functioning ✔ Routinely sampled ✔ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ☐ N/A
Remarks_____

3. **Monitoring Wells** (within surface area of landfill)
✔ Properly secured/locked ✔ Functioning ✔ Routinely sampled ✔ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ☐ N/A
Remarks Interior wells have some maintenance issues, shallow wells are non-functional.

4. **Leachate Extraction Wells**
✔ Properly secured/~~locked~~ ✔ Functioning ✔ Routinely sampled ✔ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ☐ N/A
Remarks Within facility with restricted access.

5. **Settlement Monuments** ☐ Located ☐ Routinely surveyed ☐ N/A
Remarks Not present (pre-dates routine use).

E. Gas Collection and Treatment ✔ Applicable ☐ N/A

1. **Gas Treatment Facilities**
✔ Flaring ✔ Thermal destruction ✔ Collection for reuse
✔ Good condition ☐ Needs Maintenance
Remarks Micro-turbine installed 3/03 with DOE grant.

2. **Gas Collection Wells, Manifolds and Piping**
✔ Good condition ☐ Needs Maintenance
Remarks

3. **Gas Monitoring Facilities** (*e.g.*, gas monitoring of adjacent homes or buildings)
✔ Good condition ☐ Needs Maintenance ☐ N/A
Remarks Structure readings performed quarterly.

F. *Cover Drainage Layer* ☐ Applicable ✔ *N/A*

1. **Outlet Pipes Inspected** ☐ Functioning ☐ N/A
Remarks

2. **Outlet Rock Inspected** ☐ Functioning ☐ N/A
Remarks

G. Detention/Sedimentation Ponds ✔ Applicable ☐ N/A

1. **Siltation** Areal extent 8-9 acres Depth 5-10 feet ☐ N/A
✔ Siltation not evident
Remarks Four on site, typically dry.

2. **Erosion** Areal extent Depth
✔ Erosion not evident
Remarks

3. **Outlet Works** ☐ Functioning ✔ N/A
Remarks Evaporation/percolation.

4. **Dam** ☐ Functioning ✔ N/A
Remarks

H. Retaining Walls ☐ Applicable ✔ N/A

1. **Deformations** ☐ Location shown on site map ☐ Deformation not evident
Horizontal displacement_____ Vertical displacement_____
Rotational displacement_____
Remarks_____

2. **Degradation** ☐ Location shown on site map ☐ Degradation not evident
Remarks_____

I. Perimeter Ditches/Off-Site Discharge ✔ Applicable ☐ N/A

1. **Siltation** ☐ Location shown on site map ✔ Siltation not evident
Areal extent_____ Depth_____
Remarks Around landfill, route to detention basins.

2. **Vegetative Growth** ☐ Location shown on site map ☐ N/A
✔ Vegetation does not impede flow
Areal extent_____ Type_____
Remarks_____

3. **Erosion** ☐ Location shown on site map ✔ Erosion not evident
Areal extent_____ Depth_____
Remarks_____

4. **Discharge Structure** ✔ Functioning ☐ N/A
Remarks Small concrete pad or rip rap at discharge.

VIII. VERTICAL BARRIER WALLS ☐ Applicable ✔ N/A

1. **Settlement** ☐ Location shown on site map ☐ Settlement not evident
Areal extent_____ Depth_____
Remarks_____

2. **Performance Monitoring** Type of monitoring_____
☐ Performance not monitored
Frequency_____ ☐ Evidence of breaching
Head differential_____
Remarks_____

IX. GROUNDWATER/SURFACE WATER REMEDIES ✔ Applicable ☐ N/A

A. Groundwater Extraction Wells, Pumps, and Pipelines ☐ Applicable ✔ N/A

1. **Pumps, Wellhead Plumbing, and Electrical**
☐ Good condition ☐ All required wells properly operating ☐ Needs Maintenance ☐ N/A
Remarks_____

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
☐ Good condition ☐ Needs Maintenance
Remarks_____

3. **Spare Parts and Equipment**
☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided
Remarks_____

B. Surface Water Collection Structures, Pumps, and Pipelines ☐ Applicable ✔ N/A

1. **Collection Structures, Pumps, and Electrical**
☐ Good condition ☐ Needs Maintenance
Remarks_____

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
☐ Good condition ☐ Needs Maintenance
Remarks_____

3. **Spare Parts and Equipment**
☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided
Remarks_____

C. Treatment System ☐ Applicable ✔ N/A

1. **Treatment Train** (Check components that apply)
☐ Metals removal ☐ Oil/water separation ☐ Bioremediation
☐ Air stripping ☐ Carbon adsorbers
☐ Filters_____
☐ Additive (*e.g.*, chelation agent, flocculent)_____
☐ Others_____
☐ Good condition ☐ Needs Maintenance
☐ Sampling ports properly marked and functional
☐ Sampling/maintenance log displayed and up to date
☐ Equipment properly identified
☐ Quantity of groundwater treated annually_____
☐ Quantity of surface water treated annually_____
Remarks_____

2. **Electrical Enclosures and Panels** (properly rated and functional)
☐ N/A ☐ Good condition ☐ Needs Maintenance
Remarks_____

3. **Tanks, Vaults, Storage Vessels**
☐ N/A ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance
Remarks_____

4. **Discharge Structure and Appurtenances**
☐ N/A ☐ Good condition ☐ Needs Maintenance
Remarks_____

5. **Treatment Building(s)**
☐ N/A ☐ Good condition (esp. roof and doorways) ☐ Needs repair
☐ Chemicals and equipment properly stored
Remarks_____

6. **Monitoring Wells** (pump and treatment remedy)
☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
☐ All required wells located ☐ Needs Maintenance ☐ N/A
Remarks_____

D. Monitoring Data

6. Monitoring Data
✔ Is routinely submitted on time ✔ Is of acceptable quality

7. Monitoring data suggests:

✔ Groundwater plume is effectively contained ✔ Contaminant concentrations are declining

D. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)
✔ *Properly secured/locked* ✔ *Functioning* ✔ *Routinely sampled* ✔ *Good condition*
✔ All required wells located ✔ Needs Maintenance ☐ N/A
Remarks Some maintenance issues, one well unlocked.

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

Remedy is to control human exposure and monitor for natural attenuation. Remedy is generally being implemented as expected, and is operational and functional.

B. Adequacy of O&M

Describe issues and oservations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

O&M is generally adequate, but there are areas for improvement Some recommendations and follow-up actions are necessary to ensure long-term protectiveness.

C. Early Indicators of Potential Remedy Problems

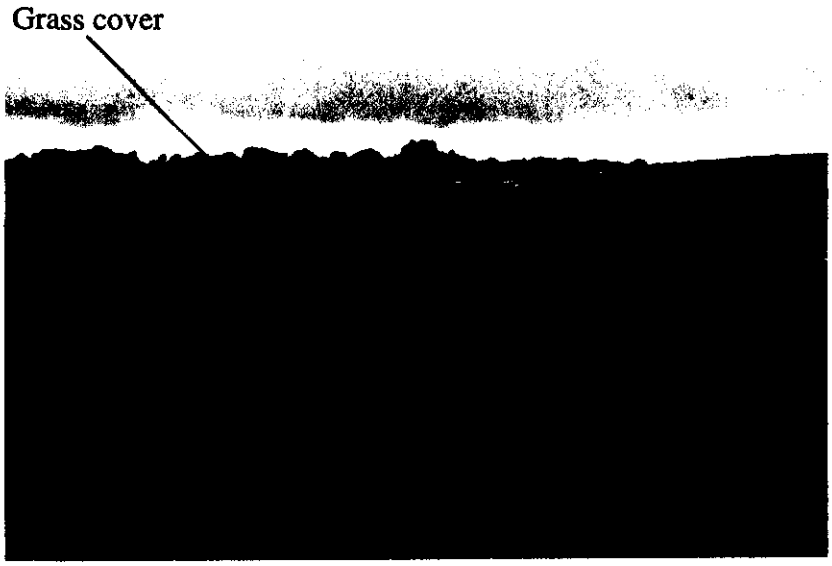
Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

None.

D.	**Opportunities for Optimization**
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. Improvement program has addressed most optimization possibilities consistent with land use/public protection. Plan for 2005 to replace/upgrade gas collection system for Hillsborough Heights landfill, including gas collection and treatment system, potentially eliminating need for flare with larger turbine sytem.

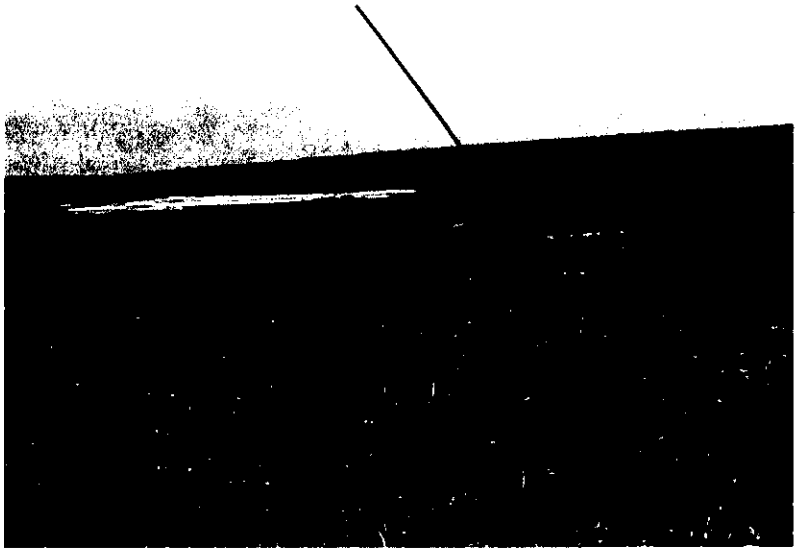
ATTACHMENT 4

SITE PHOTOGRAPHS



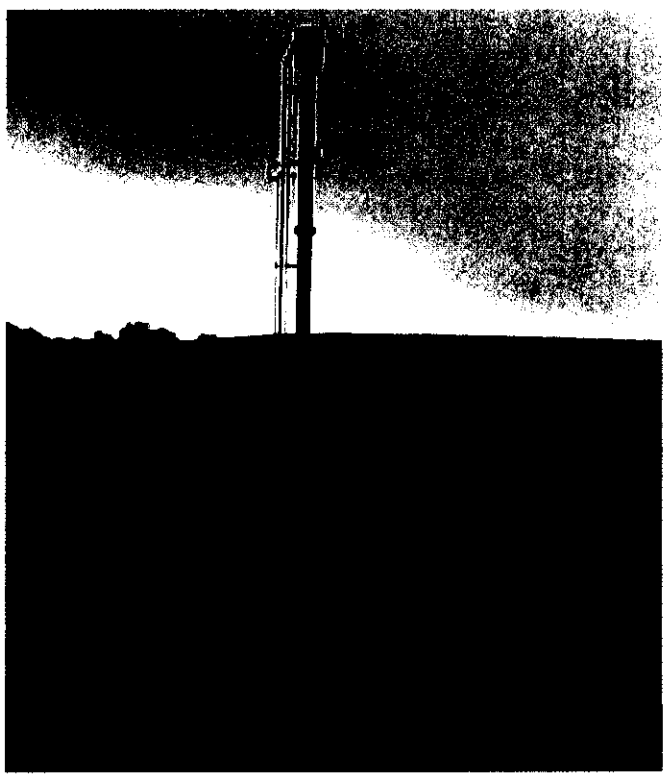
Taylor Road Landfill: Side slope with well-established grass cover.

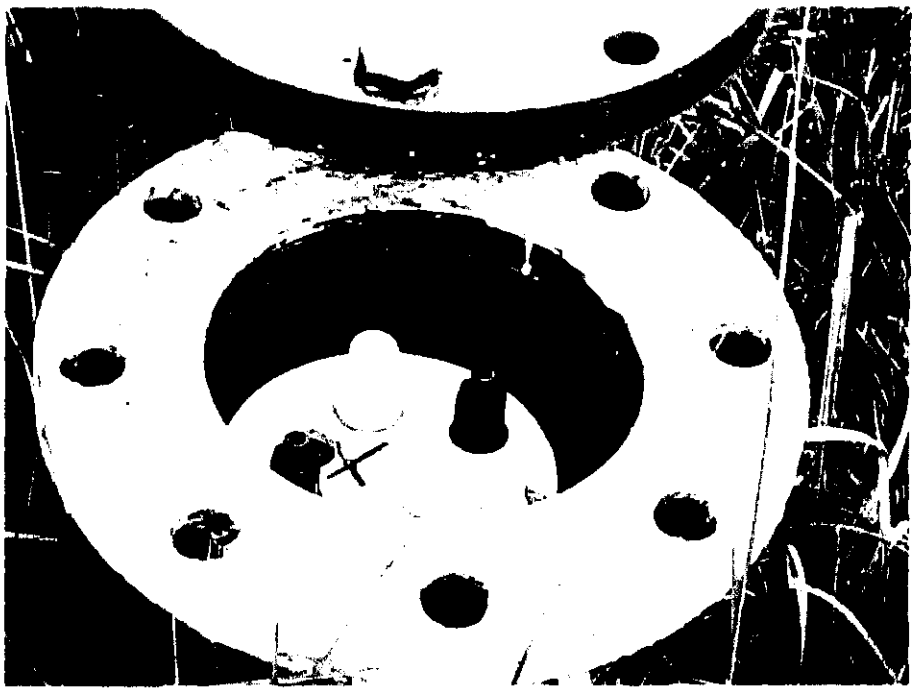
Taylor Road Landfill: Drainage along toe.



Taylor Road Landfill: Improvement/regrading of drainage adjacent to FDOT Landfill.

Taylor Road and Hillsborough Heights Landfills: Flare for combined flow landfill gas recovery system.





Taylor Road Landfill: Deep monitoring well with protective casing and dedicated sampling system.

Taylor Road Landfill: Top of unused shallow monitoring well. *Note: nearly at grade.*

ATTACHMENT 5

INTERVIEW RECORDS

Taylor Road Five Year Review Questions

1. What is your overall impression of the project?

2. What effects have the site operations had on the surrounding community?

3. Are you aware of any community concerns regarding the site, its operation or the administration?

4. Are you aware of any vandalism, trespassing or emergency responses from local authorities?

5. Are you or your neighbors using groundwater from the area? If so, how are you using it, and are you aware of any problems with groundwater?

6. Do you feel well informed about the site's activities/progress?
(Technical/Operators - Have there been routine communication/activities? If so, what were they and what were they in reference to?)

7. Do you have any complaints?
(Technical/Operators - Have there been any complaints, violations or other incidents related to the site requiring a response by your office? If so, give details of event(s) and results of responses.)

8. Do you feel well informed about the site's activities and progress?

9. Do you have any comments, suggestions, or recommendations regarding the site?
(Technical/Operators - Do you have any comments, suggestions, or recommendations regarding the site's management or operation?)

Technical/Operations

10. What is the current status of the operation?

11. Have any problems been encountered which required, or will require, changes to this remedial design or the ROD?

12. Have there been any problems or difficulties with the implementation of the remedy?

13. Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy?

14. Have there been unexpected O & M difficulties or costs at the site?

15. Have there been opportunities to optimize O&M, or sampling efforts?

INTERVIEW DOCUMENTATION FORM

The following is a list of individual interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date
Wayman Law	Sr. Geologist	Tetra Tech	6-19-03

INTERVIEW RECORD

Site Name: Taylor Road Landfill	**EPA ID No.:**
Subject: Sy- Review	**Time:** 1:00PM **Date:**
Type: ☐ Telephone ☒ Visit ☐ Other **Location of Visit:** Taylor Rd Landfill	☐ Incoming ☐ Outgoing

Contact Made By:

Name: Dawn Kerber / [illegible]	**Title:** RPM / CLC	**Organization:**

Individual Contacted:

Name: Wayman Rose	**Title:** Sr. Crew Leader	**Organization:**

Telephone No: **Fax No:** **E-Mail Address:**	**Street Address:** **City, State, Zip:**

Summary Of Conversation

Traveled along fence line to ensure no breaking / entering.
They have worked on odor control. Gas has no scent
& no high levels. It is thrashed out in system
In process of building up areas of erosion.
Grass in cut frequently or as needed. No fertilizer
or pesticides used.

INTERVIEW RECORD

Site Name: Taylor Road Landfill	EPA ID No.:
Subject: 5-year Review	Time: Date: 4/20/05
Type: ☐ Telephone ☒ Visit ☐ Other Location of Visit: Home of Oberting's	☐ Incoming ☐ Outgoing

Contact Made By:

Name: L'Tonya Spencer	Title: CIC	Organization:

Individual Contacted:

Name: Cam Oberting	Title:	Organization: Taylor Civic Road Organ
Telephone No: Fax No: E-Mail Address:	Street Address: City, State, Zip:	

Summary Of Conversation

County comes & check wells, but they are still on private wells.
Mercury was shown in private wells & they were hooked up to county water - One or two homes (VOCs)
Convenience store next to site => Marathon - mercury found on property
Dr. Sam Upchurch, county consultant, says nothing.
approved burrow pit across ff Taylor Rd site.
12 yrs Permit of digging
Burrow pit was permitted - but hasn't been tested.
No smells of gas - corrected gas coming into homes
After hooking up to county water, but doesn't check private wells any more. - Water comes from aquifer
Where is the mercury coming from?
County does a good job on keeping informed about activities & Solid Waste corrects problems.
Oil & grease was in wells & tested. Not coming from landfill - so not corrected (said it was docks)

ignores issues & expect them to go away.

At Checking wells that are

homes w/ children & low pH - not their responsibility & should does not test any more & be ?

filters are on wells b/c of contamination.

No records of dumping by county in 1981

of grease/oil reclassified as solid waste permit.
sludge

DEK (now DEP) made them shut it down

Why are there no records of grease/oil sludge at Solid Waste Dept.?

Clay cap is not impermeable - leachates are happening but county is pumping it - what happens if the county can't pump it?

How long will county pump it? forever & tax payers are paying for it.

INTERVIEW DOCUMENTATION FORM

The following is a list of individual interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date
ANDREW BALLOON	ENV I SPEC	HILL SOLID WASTE	6-23-03
DENNIS ZELAN	ENV I SPE	Hill Solid Waste	6-20-03

INTERVIEW RECORD

Site Name: Taylor Road	EPA ID No.:
Subject: Sur Review	Time: 9:00 AM Date: 6/20/03
Type: ☐ Telephone ☒ Visit ☐ Other Location of Visit: Taylor Road Landfill	☐ Incoming ☐ Outgoing

Contact Made By:

Name: L'Tonya Spencer	Title: CIC	Organization:

Individual Contacted:

Name: Attached	Title: Sampling Crew	Organization:

Telephone No: Fax No: E-Mail Address:	Street Address: City, State, Zip:

Summary Of Conversation

Vagrants on property / Dumping near property
Only responsible for area around water wells
Reports anything that they see wrong
Surface water/monitoring wells are maintained
No problems.
No complaints f/ community members.
Stickers f/ safety follows QAPP

Taylor Rd Landfill 6/19/03

INTERVIEW DOCUMENTATION FORM

The following is a list of individual interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date
David S. Adams	Enviro. Mgr	[illegible]	[illegible]
Bill O'Steen	Environmental Scientist	EPA	6/19/03
Kelsey Helton	Environmental Management	FDOP	6/19/03
[illegible]	[illegible]	SWMD	[illegible]
Patricia U. Berry	Landfill Succ. Section Mgr.	SWMD	6/19/03
W David Keefe	EPA RPM	R4/WMD	[illegible]
L'Tonya Spencer	EPA CIC	R4/WMD	6/19/03

INTERVIEW RECORD

Site Name: Taylor Road Landfill		**EPA ID No.:**	
Subject: 5 Year Review		**Time:**	**Date:** 6/4/03
Type: ☐ Telephone ☒ Visit ☐ Other **Location of Visit:** County Office (Hellertown)		☐ Incoming ☐ Outgoing	
David Keefer **Contact Made By:**			
Name: L'Tonya Spencer	**Title:** RPM/PIC	**Organization:** EPA	
Individual Contacted:			
Name: Lesl Hilferhal	**Title:**	**Organization:**	
Telephone No: **Fax No:** **E-Mail Address:**		**Street Address:** **City, State, Zip:**	

Summary Of Conversation

Notes and documentation from attached

Taylor Road - 5 year review 6/19/03

Property is becoming more valuable.
30 feet sold - for bldg entrance - Well F-2
trying to get well relocated to other side
damaged about 5 feet down.
Wells - some date back to late 70's early 80's
No contractor - County handles everything w/
a team of people - Contracted Lab f/ sampling
E Lab. - 1 year extension

- ~~Board~~ -
for 5 months no contact
Cam will call if she has questions
Cam gets copies of ADRs & Repository
gets copies as well
Construction improvements - Sent to board
Copy of info faxed to Cam.

- ~~No~~
Cam's main concern Travel Ctr/Redevelopment
- County is more of a buffer opposed to
nuisance.
- SOPs requires labs to report below
certified levels.
- Letters to private homeowners to explain new
contaminants that may show up. No
response to letter just yet.
- Relative / Standard comparisons may
be understood by Cam.

.3

6/19/03

- Leaks on property of TA travel Ctr & Water Fwd.
  Monitoring Wells are located below this area
  May need to see their data reports
  Hrs/Runoff
  They are on county water-distribution lines.

- TA travel Ctr wants to expand parking area to north & they were denied by Cty b/c of possible stormwater runoff.

ad

well

THE TAMPA TRIBUNE
Published Daily
Tampa, Hillsborough County, Florida

State of Florida }
County of Hillsborough } ss.

Before the undersigned authority personally appeared C. Pugh, who on oath says that she is Advertising Billing Supervisor of The Tampa Tribune, a daily newspaper published at Tampa in Hillsborough County, Florida, that the attached copy of advertisement being a LEGAL NOTICE

in the matter of U S ENVIRONMENTAL PROTECTION

was published in said newspaper in the issues of JUNE 18, 2003

Affiant further says that the said The Tampa Tribune is a newspaper published at Tampa in said Hillsborough County, Florida, and that the said newspaper has heretofore been continuously published in said Hillsborough County, Florida, each day and has been entered as second class mail matter at the post office in Tampa, in said Hillsborough County, Florida for a period of one year next preceding the first publication of the attached copy of advertisement, and affiant further says that she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Sworn to and subscribed by me, this 19 day of JUNE, A.D. 2003

Personally Known ✓ or Produced Identification
Type of Identification Produced

U.S. ENVIRONMENTAL PROTECTION AGENCY REGION 4 ANNOUNCES TAYLOR ROAD LANDFILL SUPERFUND SITE FIVE YEAR REVIEW

The United States Environmental Protection Agency (EPA) is conducting a five-year review of the Taylor Road Landfill Superfund Site. The site is located in unincorporated Hillsborough County, Florida, and is a closed municipal landfill owned and operated by Hillsborough County Solid Waste.

Sampling of the Taylor Road Landfill revealed the presence of volatile organic compounds (VOCs) and metals contamination in the monitoring wells and surface water runoff. As a result, the Remedial Action for the site was to collect and treat contaminated groundwater and leachate and to provide institutional controls to prevent usage of contaminated groundwater. The remedial action consisted of a ring of recovery and extraction wells with treatment of groundwater, the completion of a ring of monitoring and extraction wells in the upper Floridan aquifer, groundwater monitoring, the construction of the County water supply wells and provision of County water service to affected residences, with supplemental groundwater monitoring and annual trend analysis and contingent corrective action, if necessary. Additionally, the selected remedy includes a future innovative technology treatability study and five-year reviews of the site after implementation.

As a part of the five-year review process, EPA will begin in 2003, to review the remedy to ensure it is protective of human health and the environment. The review will include interviews with local residents and officials regarding the site and remedial activities, visit the site, examine pertinent records, evaluate the data collected since the last five-year review, and determine if the remedy is functioning as intended at the site.

If you have any questions, comments or concerns about the five-year review, you may contact the following:

David Godfrey, Remedial Project Manager
404-562-8927
1-800-435-9233 Toll Free

L'Tonya Spencer, Community Involvement Coordinator
404-562-8565
1-800-435-9233 Toll Free

U.S. EPA - Region 4
Waste Division
61 Forsyth Street
Atlanta, Georgia 30303

APPENDIX A

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMENTS

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

September 19, 2003

Mr. David Keefer
USEPA, Region IV
Atlanta Federal Center
61 Forsyth St., SW
Atlanta, GA 30303-8960

Dear Mr. Keefer:

FDEP has reviewed the draft July 2003 Five-Year Review (Review) for the Taylor Road Landfill Superfund site along with the June 27, 2003 Taylor Road Landfill Groundwater Quality Statistical Evaluation. The following is based on comparison of the remedy as defined in the original September 1995 Record of Decision (ROD) and the Remedial Action Objectives identified therein. As stated in the Review, the DEP did not concur with the ESD, which we assert inappropriately eliminated Florida's Secondary drinking water standards as an ARAR for the site and inappropriately used an ESD to fundamentally changed the site remedy.

The Five-Year Review concludes that the remedy currently protects human health and the environment because groundwater monitoring at the ring of wells ensures contingent measures can be taken prior to impacts to domestic wells; institutional controls restrict the installation of new domestic supply wells in the impacted area; RCRA post closure care of the landfill minimizes impacts to the aquifer; and monitoring indicates that natural attenuation is occurring. The Review makes specific recommendations for actions that should be taken in order to assure its continued protectiveness including repair and enforcement of access controls; improved routine maintenance of monitoring wells; conducting a potable well survey to ensure the effectiveness of the current institutional controls; continued long term O&M of the landfills; re-establishment of annual groundwater statistical evaluations; and improved responsiveness to ongoing community concerns.

Based on the current groundwater data, we agree that the remedy is currently protective of human health and environment, as defined by the original 1995 ROD. Future monitoring will show if the remedy remains protective and that adequate mechanisms are in place to ensure that exposure to site-related contamination does not occur. While it has been necessary to expand the compliance ring of wells 3 times since implementation of the remedy due to exceedances in primary and secondary standards; the most recent

(April 2003) monitoring results indicate that groundwater in the Ring Wells do not exceed primary or secondary drinking water standards or State groundwater cleanup target levels for site-related contaminants. As FDEP noted during the Five-Year Review process, Manganese continues to be above Florida's secondary standards in 9 of 13 Interior Wells, excluding the background well (F-12), which shows a concentration of 0.063 mg/l. Of particular note are the continued elevated levels of Manganese in F-1A (0.190 mg/l), a former Ring Well northwest of the site, along with the documented trend of increasing Manganese concentrations in Interior Wells C-6 and F-2 in zone I-1.

We strongly support the recommendation to update the potable well survey to confirm the adequacy of the existing institutional controls in preventing public exposure to site related contaminants. Newly identified private wells should be included in the Taylor Road private well monitoring program. We understand from the July 2003 Hillsborough Heights Domestic Supply Well Data Report that the County intends to repair the electrical control systems on private wells P-1A and P-4 so that monitoring of these domestic wells can resume in September 2003.

Thank you for providing FDEP with the opportunity to participate in the Superfund Five-Year Review for this site. We understand that FDEP's comments will be appended to the final Five-Year Review Report.

Sincerely,

Kelsey A Helton

Kelsey A. Helton
Environmental Manager
Hazardous Waste Cleanup

WMD/SSMB
RECEIVED

SEP 23 2003

EPA-REGION 4
ATLANTA, GA

FIVE-YEAR REVIEW REPORT

SECOND FIVE-YEAR REVIEW REPORT
FOR
TAYLOR ROAD LANDFILL

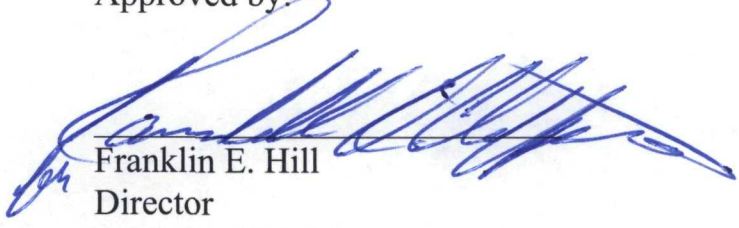
SEFFNER
HILLSBOROUGH COUNTY, FLORIDA
EPA ID: FLD980494959

September, 2008

PREPARED BY:

U.S. Environmental Protection Agency
Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Approved by: Date:



9/25/08

Franklin E. Hill
Director
Superfund Division
U.S. Environmental Protection Agency, Region 4

Five-Year Review Report

Table of Contents

List of Acronyms v

Executive Summary viii

Five-Year Review Summary Form xi

I. Introduction **1**

II. Site Chronology **2**

III. Background **4**
Physical Characteristics 4
Land and Resource Use 5
History of Contamination 6
Initial Response 7
Basis for Taking Action 8
Remedial Investigation 8
Baseline Risk Assessment 11

IV. Remedial Actions **11**
Remedy Selection 12
Remedy Implementation 13
Post-ROD Changes 14
System Operations/Operation and Maintenance (O&M) 15

V. Progress Since the Last Five-Year Review **16**

VI. Five-Year Review Process **20**
Administrative Components 20
Community Notification and Involvement 21
Document Review 21
Data Review 21
Site Inspection 26
Interviews 27

VII. Technical Assessment **28**
Question A: Is the remedy functioning as intended by the decision documents? 28
Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy selection still valid? 29
Question C: Has any other information come to light that could call into question the protectiveness of the remedy? 31

VIII. Issues **31**

IX. Recommendations and Follow-up Actions **32**

X. Protectiveness Statement(s) **33**

XI. Next Review **33**

Tables

Table 1 – Chronology of Site Events 3
Table 2 – Occurrence and Distribution of Chemicals in Ground Water (1990–1993) 9
Table 3 – Site Operations & Maintenance Costs 16
Table 4 – Actions Taken Since the Last Five–Year Review 18
Table 5 – Five–Year Review Key Personnel 20
Table 6 – Contaminants of Concern 22
Table 7 –Well Trend Summary Results 24
Table 8 – Comparison of Current Toxicity Values to those from the Remedy Selection 30
Table 9 – Issues 31
Table 10 – Recommendations and Follow-up Actions 32

Attachments

Attachment 1 – Site Figures
Attachment 2 – List of Documents Reviewed
Attachment 3 – Site Inspection Checklist
Attachment 4 – Site Photographs
Attachment 5 – Interview Records
Attachment 6 – Priority COPCs Data Graphs
Attachment 7 – Public Notice of Five Year Review

List of Acronyms

ARAR	Applicable or Relevant and Appropriate Requirements
BRA	Baseline Risk Assessment
CFR	Code of Federal Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COPC	Contaminant of Potential Concern
COC	Contaminant of Concern
EPA	United States Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FS	Feasibility Study
GCTL	Groundwater Clean-up Target Levels
HHLF	Hillsborough Heights Landfill
LFG	Landfill Gas
MCL	Maximum Contaminant Levels
MDL	Minimum Detection Limit
mg/L	milligrams per liter
MSL	mean sea level
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PCE	Tetrachloroethene
PRP	Potentially Responsible Party
RAO	Remedial action objectives
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
RP	Responsible Party
Site	Taylor Road Landfill Superfund Site
SCS	SCS Engineers
SDWA	Safe Drinking Water Act
SDWS	Secondary Drinking Water Standards
SWMD	Solid Waste Management Department
TDS	Total Dissolved Solids
TCE	Trichloroethene
TRLF	Taylor Road Landfill
µg/L	micrograms per liter
VC	Vinyl chloride
VOC	volatile organic compound

Executive Summary

The purpose of the Second Five-Year Review of the Taylor Road Landfill Superfund Site is to evaluate the implementation and performance of the remedy selected as the final action to respond to risks associated with potential exposure to contaminated ground water in the Floridan aquifer that is present beneath or is attributable to the Site. The methods, findings, and conclusions of this evaluation are documented in this Second Five-Year Review Report. Based on the data and observations evaluated during the Second Five-Year Review, the remedy is protective of human health and the environment. In addition, this Second Five-Year Review report identifies issues found during the review and includes recommendations to address them. This statutory Second Five-Year Review was performed by U.S. Army Corps of Engineers on behalf of EPA Region 4.

The Record of Decision for Taylor Road Landfill was signed on September 29, 1995, and selected Alternative 3, Natural Attenuation and Collect and Treat Ground Water at Property Boundary on a Contingent Basis, as the remedy for the Site. The major components of this remedy include: institutional controls, extension of water lines, groundwater monitoring, and natural attenuation with contingent corrective action. In the Record of Decision, the Florida Primary and Secondary Standards and Minimum Criteria were established as the cleanup goals for ground water, and the point of compliance was set as a ring of monitoring wells encircling the three landfills. An Explanation of Significant Difference was issued by EPA in August 2000 to remove Florida Secondary Drinking Water Standards from the federally-enforceable applicable, or relevant and appropriate requirements (ARARs) for this action. The Florida Department of Environmental Protection did not concur with EPA's change to the Record of Decision.

Community involvement activities associated with the Five-Year Review include publication of a legal notice at the start of the Five-Year Review process, contacts and interviews with citizens/community groups identified in the Community Relations Plan, and issuance of a Fact Sheet and second legal notice upon completion of the Five-Year Review. Legal notices are published in the Tampa Tribune, and Fact Sheets will be sent to the Site mailing list and placed in the Information Repository. An inspection of the Information Repository, maintained at the Thonotosassa Public Library on 10715 Main St., Thonotosassa, FL 33592, indicates that the site file is up-to-date and readily accessible. Interviews with citizens and community groups indicate that there is an ongoing level of concern about the Site, but the remedy and its implementation by Hillsborough County are generally addressing these concerns.

The remedy at Taylor Road Landfill is protective of human health and the environment in the short term, because all exposure pathways that could result in unacceptable risks are being controlled. Land use on site remains industrial. Deed notices are in place to restrict land use and construction of new potable wells on site. New residential properties near the Site are required to connect to the County water supply. As a precaution, the county is presently extending water lines to residents whose wells are monitored on a monthly basis, but do not contain contamination above MCLs. Ground water data confirms the effectiveness of natural attenuation

in reducing contamination at the Site. The landfill caps are effectively containing contaminants and reducing infiltration. The landfills are well-vegetated and well-maintained.

The remedy is operational and functional, some institutional controls are in place, all remedial construction activities are complete, and groundwater monitoring is ongoing.

However, in order for the remedy to be protective in the long-term, institutional controls should be considered on properties where contamination from the site is above federal or state MCLs; and a screening level vapor intrusion assessment should be conducted to determine whether this potential pathway presents an unacceptable risk to human health.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site name *(from WasteLAN)*: Taylor Road Landfill		
EPA ID *(from WasteLAN)*: FLD980494959		
Region: 4	**State:** FLA	**City/County:** Seffner/Hillsborough

SITE STATUS	
NPL status: ☒ Final ☐ Deleted ☐ Other (specify)	
Remediation status (choose all that apply): ☐ Under Construction ☒ Operating ☐ Complete	
Multiple OUs?* ☐ YES ☒ NO	**Construction completion date:** June 18, 1999
Has site been put into reuse? ☒ YES ☐ NO	

REVIEW STATUS	
Lead agency: ☒ EPA ☐ State ☐ Tribe ☐ Other Federal Agency	
Author name: Enid Gerena	
Author title: Environmental Engineer	**Author affiliation:** U.S. Army Corps of Engineers
Review period: November 28, 2007 through September 25, 2008	
Date(s) of site inspection: March 05, 2008	
Type of review: ☒ Post-SARA ☐ Pre-SARA ☐ NPL-Removal only ☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead ☐ Regional Discretion	
Review number: ☐ (first) ☒ (second) ☐ (third) ☐ Other (specify)	
Triggering action: ☐ Actual RA On-site Construction at OU #___ ☐ Actual RA Start at OU# __ ☐ Construction Completion ☒ Previous Five-Year Review Report ☐ Other (specify)	
Triggering action date *(from WasteLAN)*: September 24, 2003	
Due date *(five years after triggering action date)*: September 24, 2008	

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, cont'd.

Issues:

1. Unused ground water monitoring well need to be abandoned.
2. Sampling frequency should be optimized for efficiency.
3. Additional institutional controls for groundwater use may be needed
4. Vapor intrusion should be evaluated as a potential pathway to impact human health.

Recommendations and Follow-up Actions:

1. Remove unused ground water monitoring wells from the monitoring network.
2. EPA and FDEP will evaluate the groundwater monitoring program to optimize the efficiency of monitoring.
3. Institutional controls will be evaluated for properties where contamination from the site is above federal or state MCLs.
4. A screening level vapor intrusion assessment will be conducted to determine whether this potential pathway presents an unacceptable risk to human health.

Protectiveness Statement:

The remedy at Taylor Road Landfill is protective of human health and the environment in the short term, because all exposure pathways that could result in unacceptable risks are being controlled. Land use on site remains industrial. Deed notices are in place to restrict land use and construction of new potable wells on site. New residential properties near the Site are required to connect to the County water supply. As a precaution, the county is presently extending water lines to residents whose wells are monitored on a monthly basis, but do not contain contamination above MCLs. Ground water data confirms the effectiveness of natural attenuation in reducing contamination at the Site. The landfill caps are effectively containing contaminants and reducing infiltration. The landfills are well-vegetated and well-maintained.

The remedy is operational and functional, some institutional controls are in place, all remedial construction activities are complete, and groundwater monitoring is ongoing.

However, in order for the remedy to be protective in the long-term, institutional controls should be considered on properties where contamination from the site is above federal or state MCLs; and a screening level vapor intrusion assessment should be conducted to determine whether this potential pathway presents an unacceptable risk to human health.

Other Comments:

Overall, Hillsborough County Solid Waste Management Department has done a commendable job of following-up and maintaining the implemented remedy and integrating RCRA and CERCLA operation and maintenance requirements for the Site. It is expected that Hillsborough County will continue to be responsive.

Five-Year Review Report

I. Introduction

The purpose of the Second Five-Year Review of the Taylor Road Landfill Superfund Site (the Site) is to evaluate the implementation and performance of the remedy selected as the final action to respond to risks associated with potential exposure to contaminated ground water in the Floridan aquifer that is present beneath or is attributable to the Site. The methods, findings, and conclusions of this evaluation are documented in this Second Five-Year Review Report. A determination is made as to whether the remedy is protective of human health and the environment based on the data and observations evaluated during the Second Five-Year Review. In addition, this Second Five-Year Review report identifies issues found during the review, and includes recommendations to address them.

The Site is a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Enforcement-lead site, and Hillsborough County, Solid Waste Management Department, is the representative of the responsible parties (RP). Hillsborough County, Solid Waste Management Department, has cooperated during performance of the Second Five-Year Review, providing site access and other material support as requested. This Second Five-Year Review has been conducted to meet the statutory requirements of CERCLA §121, the National Contingency Plan (NCP), and specific requirements of the Record of Decision (ROD) for this action.

Specifically, CERCLA §121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The U.S. EPA has interpreted this requirement further in the NCP; 40 CFR §300.430(f) (4) (ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

This is the Second Five-Year Review for the Taylor Road Landfill Superfund Site. The triggering action for this review is the date of the Previous Five Year Review Report, as shown in EPA's WasteLAN database: September 24, 2003. This review is required because hazardous substances or contaminants were left on site above levels that allow for unlimited use and unrestricted exposure. This is a statutory five year review, which, in accordance with CERCLA §121 and the NCP, is triggered by the initiation of the first remedial action that leaves hazardous substances, pollutants, or contaminants on site above levels that allow for unlimited use and unrestricted exposure.

As the lead agency, U.S. EPA, Region 4, formed an in-house team consisting of the EPA Remedial Project Manager, and Community Involvement Coordinator (CIC), and an Environmental Engineer from the U.S. Army Corps of Engineers to conduct the Second Five-Year Review. The Florida Department of Environmental Protection (FDEP) is the support agency for the Second Five-Year Review of this Site, and has participated in the planning, and review of the draft Second Five-Year Review report.

The Taylor Road Landfill Site consists of a single operable unit (OU) that encompasses ground water beneath and contiguous with the Site; this includes Taylor Road Landfill, Hillsborough Heights Landfill, and the FDOT Borrow Pit Landfill. The objective of the remedy is to prevent current or future exposure to contaminated ground water through provision of County water to residents and through natural attenuation or active treatment of groundwater should conditions indicate it is necessary. A significant contributing factor to the success of the natural attenuation component of the remedy is the operation and maintenance (O&M) of the closed landfills at the site. While the O&M of the landfills is regulated separately from Superfund under the FDEP RCRA program, the landfill O&M was inspected and evaluated as part of this Second Five-Year Review to assess its contribution to the long-term effectiveness of the ground water remedy.

The next Five-Year Review for the Taylor Road Landfill Superfund Site will be due in September 2013.

II. Site Chronology

The chronology of significant events at the Taylor Road Landfill Superfund Site includes both CERCLA pre-remedial and remedial process milestones, as well as the September 1983 Consent Decree under RCRA that specified requirements for the cap, cover, site drainage, methane gas control, and thirty years of O&M for all three landfills. Table 1 summarizes the chronology of Site events.

Table 1: Chronology of Site Events	
Event	**Date**
Initial discovery of problem or contamination	**8/1/1979**
Preliminary Assessment	**8/1/1980**
HRS Package	**12/1/1982**
Consent Decree - remedial measures implementation under RCRA	**7/20/1983**
TRLF Closure (Ceased operations)	**2/1/1980**
NPL listing	**9/8/1983**
Site Inspection	**11/1/1984**
Removal Assessment	**9/15/1992**
Administrative Order on Consent - groundwater RI/FS	**2/1/1993**
Remedial Investigation/Feasibility Study complete	**9/29/1995**
ROD signature	**9/29/1995**
Administrative Order on Consent	**9/18/1996**
Administrative Order on Consent	**7/11/1997**
Consent Decree - RD/RA	**5/11/1998**
Remedial design start	**2/25/1998**
Remedial design complete	**8/11/1998**
Remedial action start	**8/11/1998**
Construction completion date	**6/18/1999**
Explanation of Significant Difference	**8/3/2000**
Five Year Review	**9/24/2003**

III Background

The Taylor Road Landfill Superfund Site is located in eastern Hillsborough County, Florida, on County-owned property, approximately 7 miles east of Tampa in the Seffner-Thonotosassa area. Interstate 4 borders the site to the south, and Mango Road (State Route 579) borders the site to the west. The County property is 252 acres in size and contains three closed landfills. The 42 acre Taylor Road Landfill is located east of the approximately 10 acre Florida Department of Transportation (FDOT) Borrow Pit Landfill and southeast of the 64 acre Hillsborough Heights Landfill. Only the Taylor Road Landfill is on the National Priorities List (NPL). Despite this fact, groundwater contamination has moved well beyond the boundaries of the Taylor Road Landfill. Accordingly, the two adjacent landfills have been evaluated to determine if they are contributing to ground water contamination. Also located within the 252 acres of County property are six stormwater detention basins, County maintenance facilities, and a community recycling collection center/refuse collection area. The entire 252 acres of County property, containing all three landfills, and adjacent properties comprising the groundwater monitoring network are referred to collectively as the Site.

Physical Characteristics

The Taylor Road Landfill Superfund Site is located within an internally drained portion of the Polk Upland karst escarpment that is referred to as the Brandon Karst Terrain. The Site lies along a small ridge that extends northward from the Brandon Karst Terrain. In the vicinity of the Site are sinkholes, headlands of small drainage systems, and distinctive hills formed by the accumulation of marine and coastal sands. Based on U.S. Geological Survey topographic maps, the original land surface in the vicinity of the Site extended from a low of approximately 45-ft above mean sea level (MSL) to a high of slightly above 125-ft above MSL located on the small ridge on which the landfills were developed.

The hydrogeology of the Site is characterized by the presence of an ephemeral surficial aquifer in shallow sands above a leaky intermediate confining unit consisting of clays and sandy clays of the Hawthorn Group. The clays and sandy clays of the intermediate confining unit are discontinuous, blocky, and contain pipes and limestone pinnacles that are interconnected with the underlying Floridan aquifer. Due to the discontinuous nature of the Hawthorn Group in the vicinity of the Site, no intermediate aquifer system is considered to be present. The Floridan aquifer at the Site is comprised of the Tampa Member and underlying limestones. The Floridan aquifer is generally unconfined or very poorly confined at the Site. The general direction of groundwater flow across the Taylor Road Landfill Superfund site is from the northeast to the southwest. However, it should be noted that the Taylor Road site is located within the hydrogeologic area mentioned above known as the Brandon Karst Terrain, and groundwater flow is influenced by conduit and fracture flow.

The ecosystem of the Site is characterized primarily as disturbed grasslands containing manmade detention basins surrounded by an area of commercial/residential development containing small ponds and springs. The Site originally consisted of high pine, sandhill communities. Pockets of the original high pine communities remain in the vicinity of the Site, characterized primarily as

Turkey Oak Barrens or Turkey Oak Sandhills. Although a variety of flora and fauna may be found in the vicinity of the Site, and possibly may include federal and state-listed species and state species of special concern, the immediate area around the landfills is not likely to serve as a significant habitat for these species. However, wading birds, small amphibians, reptiles, and mammals may use the stormwater runoff detention basins as a water source and intermittent foraging area. No perennial streams are present at the Site.

Land and Resource Use

The land surrounding the Taylor Road Landfill Superfund Site encompasses a variety of uses, including residential, commercial, and agricultural. The Site, as defined by the ring of compliance monitoring wells and 270-ft setback, includes all or part of 62 separate parcels ranging from approximately 0.1 acre to 80 acres in size. Excluding the property owned and maintained as landfill or buffer by Hillsborough County, the predominant land uses are residential and commercial. Agricultural use in the area is generally limited and non-intensive. In general, residential and particularly commercial land use has been expanding in recent years at the expense of agricultural areas. This mix of land uses is essentially unchanged and consistent with the land use identified in the ROD. A number of commercial properties have developed adjacent to the southwestern portion of the Site since remedy construction was completed.

Hillsborough County, Solid Waste Management Department, has actively sought compatible reuse opportunities for the landfill and buffer properties under their control; at the same time pursuing acquisition of property not already under their control within the compliance ring as such property becomes available. Current reuse of buffer zone property includes leases to the Hillsborough County survey and mapping organization, TRAC Aviation (runway and hanger facilities for remote control aircraft hobbyists), and a strip of property for use by the TA Travel Center. Leased properties are isolated from the landfills by fencing, and groundwater use is prohibited within the leased areas. Note that the former operation of the microturbine (recovered methane) is not in use anymore because of malfunction, this was a pilot project.

Private wells drilled into the upper Floridan aquifer were the primary residential water supply in the area of the site. Extensions of County water service have focused on supply to areas within the compliance ring monitoring well setback. Currently, groundwater use within the compliance ring monitoring well setback is prohibited through implementation of institutional controls as a remedy component in the ROD. The Hillsborough County implemented the selected remedy required by the Consent Decree (Case No. 80-1128), which required the construction potable water distribution lines and connections to those residents in the affected area. Also, the Hillsborough County is required to conduct maintenance and environmental monitoring program which includes engineering controls for the methane gas control system for the landfills and the entire site. By March 17, 1999 the Hillsborough County completed the installation of five new groundwater monitoring wells as part of the compliance ring network, and completed seven new connections to the County's potable distribution system. After the installation of the new groundwater monitoring wells the ring was expanded on three separate occasions, however, no new connections have occurred during the past five years. Water lines are available around the

entire perimeter of TRLF, so if a well permit is denied, potable water is available by connection to the potable water distribution lines.

History of Contamination

The three landfills were developed sequentially. The first, known as the Taylor Road Landfill, was an FDOT borrow pit until it was permitted as a solid waste landfill for Hillsborough County in 1975. The Taylor Road Landfill was not constructed with a liner or leachate collection system. From May 1976 until February 1980, the County operated the Taylor Road Landfill, which was intended for disposal of residential, commercial, and industrial refuse. A total of 620,000 tons was disposed of in the landfill. An unknown quantity of hazardous waste is suspected to have been buried at this landfill. In the late1970s, two events precipitated the development of capacity problems within the Taylor Road Landfill. One of these events was the settling of a legal dispute with EPA by the City of Tampa, during which the city agreed to close its incinerator by January 1, 1980. This event diverted an estimated 790 tons of refuse per day to the Taylor Road Landfill. At the same time, another local landfill was closed, adding 490 tons of solid waste per day to the Taylor Road Landfill disposal load. Because of the discontinuation of the incinerator operation, waste generated from area hospitals, clinics, and other health providers also began to be buried at the Taylor Road Landfill.

In February 1980, the Taylor Road Landfill reached its capacity, and landfill operations were moved to an adjacent 10 acre parcel known as the FDOT Borrow Pit Landfill. The Borrow Pit Landfill was developed to operate as a high-rise sanitary landfill for residential, commercial, industrial, and agricultural wastes; dead animals; and water treatment sludge. The Borrow Pit Landfill was constructed with a liner and a leachate collection system. The Borrow Pit Landfill was to serve as a temporary site, pending the design, permitting, and construction of a proposed 200 acre landfill on the adjacent property to the north. A total of 320,000 tons of waste was disposed of in the Borrow Pit Landfill.

The application to extend the Taylor Road Landfill was met by strong public opposition from a neighborhood group. Their petition claimed that the County failed to properly maintain the site. In January 1980, the permit was initially approved, with warnings, such as landfilling operations could not proceed should any determination be made that groundwater was being contaminated by the existing Taylor Road Landfill or the Borrow Pit Landfill. Ultimately, the 200-acre landfill expansion project was rejected, resolving that no guarantee of an environmentally safe operation could be given, and that additional wastes deposited on the site would add to the existing potential hazards. The County continued to use the Borrow Pit Landfill until October 1980, when waste disposal operations were transferred to a third 64-acre property located north and west of the two previous landfills. This property is known as the Hillsborough Heights Landfill.

The Hillsborough Heights Landfill was opened under emergency order, and occupied a portion of the 200 acres that had previously been rejected. In the landfill's early months of operation, infectious wastes from hospitals, clinics, laboratories, and doctors' offices were among the refuse disposed of there. The landfill remained open for four years. Approximately 3,500,000 tons of waste was disposed of in the Hillsborough Heights Landfill.

Results of sampling in the area in 1979 revealed the presence of volatile organic compounds (VOCs) and metals contamination in site monitoring wells and numerous private wells. Residents were advised to discontinue use of their wells. The County established a program of bottled water delivery to 95 residences within a specified radial distance of the Taylor Road Landfill, and authorized construction of County water lines to the affected areas. Further ground water investigations revealed that a plume of VOCs was migrating off site into residential areas. Additionally, methane gas from the Taylor Road Landfill was detected near residences adjacent to the site in potentially explosive concentrations during this same timeframe. In April 1980, water delivery was expanded to 180 homes and businesses. About 400 residences and business were eventually connected to the County water supply.

Initial Response

In October 1980, EPA filed suit against Hillsborough County under RCRA and the Safe Drinking Water Act, alleging the existence of ground water contamination from soil and hazardous waste disposed at the Site. EPA sought injunctive relief and demanded the implementation of certain operational and remedial measures at the Site. The complaint also sought the abatement of hazards caused by methane gas released at or attributable to the Site. Due to the ground water contamination identified in October 1981, EPA began the process of adding the Taylor Road Landfill Superfund Site to the National Priorities List (NPL) of uncontrolled waste sites under the federal Superfund program. The NPL is a list of priority releases for long-term evaluation and remedial response, and was promulgated pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended. The NPL list is found in the NCP (Appendix B of 40 CFR part 300). As EPA was developing administrative procedures for the newly created Superfund program, it pursued cleanup of the Site under RCRA.

Under the Consent Decree signed in 1983 by EPA, FDEP (predecessor agency), and Hillsborough County, the County agreed to a 30-year maintenance and environmental monitoring program governing all three landfills on County property. The decree specified requirements for the cap, cover, and drainage ditch, as well as methane gas control. In February 1984, the County began installation of methane monitoring wells around all three landfills, and commenced construction of a gas collection system, cap, cover, and drainage system in compliance with the Consent Decree. In addition, the County installed a water supply system to serve residents in a specified area south of the landfills, and proceeded with a routine sampling program which is ongoing.

In 1986, EPA initiated a Forward Planning Study under the Superfund Program to investigate all potential contaminant sources in the vicinity of the Site. In 1987, EPA initiated an area-wide private well sampling effort that used information from the Forward Planning Study and previous data collection efforts. In September 1987, EPA notified Hillsborough County and Waste Management, Inc. that they were potentially responsible parties (PRP) relative to the Site ground water contamination. A search for additional PRP was initiated in 1988 at the request of the existing PRP, and July 1992 Special Notice Letters were issued to approximately 45 PRP. In February 1993, an Administrative Order on Consent was signed by EPA and 19 PRP to perform a Remedial Investigation/Feasibility Study.

Basis for Taking Action

The Remedial Investigation (RI) of the Taylor Road Landfill Superfund Site was performed by ERM-South, Inc., and was completed in 1995. A Baseline Risk Assessment (BRA) was conducted by CDM Federal Programs Corporation for EPA, and a Feasibility Study (FS) addressing remedial alternatives was prepared by ERM-South, Inc. in 1995. Based on the findings and conclusions of the RI, BRA, and FS, it was determined by EPA that remedial action to address ground water contamination was warranted. A Proposed Plan identifying EPA's preferred remedial alternative was circulated for community input, and a ROD was signed by EPA in September 1995 selecting the remedy.

Remedial Investigation

The RI evaluated landfill leachate, surface water and sediment from the Site stormwater detention basins, and ground water from Site monitoring wells and selected private wells. The leachate data were used to evaluate the contaminant source concentrations, and, since the leachate collection system is not accessible for exposure, these data were not used in the BRA. The analytical results for leachate indicated the presence of volatile organic compounds, semi-volatile organic compounds, one pesticide, and inorganics. The analytical results for surface water and sediment indicate that inorganics were detected in surface water, and that volatile organic compounds, semi-volatile organic compounds, pesticides, and inorganics were detected in sediment. The types and concentrations of chemicals detected in surface water and sediment were determined to be typical of other stormwater detention basins in the area. Although it also was determined that current human exposure to surface water and sediment was unlikely, potential future exposure was considered possible. Surface water and sediment data were evaluated in the BRA for human health risk and potential impacts to ecological receptors.

The ground water data selected for evaluation during the RI were generated from 12 quarterly ground water sampling events conducted by Hillsborough County from 1990 to 1992, and from sampling conducted by ERM-South, Inc. during August and September 1993. Figure 1 and 2 (Attachment 1) illustrates the locations of monitoring and private wells in the vicinity of the Site. Ground water samples were analyzed for physical parameters, selected metals, nutrients, and organic compounds. The ground water analytical data, validated and qualified, is summarized in Table 2 for those analytes that were positively detected at least once. This table shows the range of detections above the sample quantitation limit (SQL), the date the maximum concentration sample was collected, frequency of detection by year, and the maximum background concentration (from formerly Well 27-D, currently the background well is F-12). The average concentrations were calculated based on positive detections only. A broad range of volatile organic compounds and inorganics at average concentrations exceeding applicable statutory thresholds were identified.

Table 2: Occurrence and Distribution of Chemicals in Ground Water (1990 - 1993)

DETECTABLE ANALYTE	Min.	Max.	Mean	Sampling Date of Maximum	Frequency of Detection (1)				Maximum in Background (Well 27-D)	Federal MCL (2)	Florida DEP Groundwater Guidance (3)	USEPA Region III (4,5)		COPC (6)
	ug/L	ug/L	ug/L		1990	1991	1992	1993	ug/L	ug/L	ug/L	Risk Level=1E-06	HQ=0.1	
PURGEABLE ORGANICS														
1,1-DICHLOROETHANE	0.4	192	22	Apr-90	65/104	33/78	47/88	5/6					81	Y
1,1-DICHLOROETHENE	1	279	31	Jan-90	28/104	21/78	31/88	4/6	1	7	7**	0.044		Y
1,2-DICHLOROBENZENE	1	198	20	Jul-90	25/104	12/78	14/88	3/6		600	600**		37	Y
1,2-DICHLOROETHANE	1	3	1.9	Jul-91	7/104	2/78	0/88	0/6		5	3**	0.12		Y
1,3-DICHLOROBENZENE	1	3	2	Nov-91	1/104	1/78	1/88	0/6		600			53	N
1,2-DICHLOROPROPANE	1	6	2	Jul-91	13/104	7/78	11/88	1/6		5	5**	0.16		Y
1,4-DICHLOROBENZENE	1	45	5.7	Apr-91	26/104	20/78	13/88	3/6		75	75**	0.44		Y
CARBON DISULFIDE	2	3	2.5	Nov-91	0/104	2/78	0/88	0/6					2.1	N*
ACETONE	2	279	30	Apr-91	4/104	18/78	4/42	0/6	5				370	N
BENZENE	0.6	12	3.1	Jan-90	29/104	7/78	10/88	2/6		5	1**	0.36		Y
CHLOROBENZENE	1.1	5.3	3.1	Oct-92	4/104	4/78	7/88	1/6		100	100**		3.9	N*
CHLOROFORM	1	1	1	Apr-90	1/104	0/78	0/88	0/6		100	6****	0.15		Y
CHLOROMETHANE	2	2	2	Aug-93	0/104	0/78	0/88	1/6			2.7****	1.4		Y
DIBROMOCHLOROMETHANE	6	6	6	Oct-90	1/104	0/78	0/88	0/6			1****	0.13		Y
ETHYLBENZENE	1.4	18	5.7	Jul-91	1/104	3/78	1/88	0/6		700	700**/130***		130	Y
METHYLENE CHLORIDE	0.7	54	11	Jan-90	10/104	5/78	14/88	1/6		5	5**	4.1		Y
TETRACHLOROETHENE	0.8	145	23	Apr-90	44/104	13/78	18/88	2/6		5	3**	1.1		Y
TOLUENE	0.2	82	9	Jul-91	4/104	2/78	4/88	2/6		1000	1000**/40***		75	Y
trans-1,2-DICHLOROETHENE	0.3	135	32	Jan-90	51/104	29/78	7/88	2/6		100	100**		12	Y
cis-1,2-DICHLOROETHENE	3	45	16	Aug-93	NA	NA	NA	4/6		70	70**		6.1	Y
STYRENE	3	3	3	Jul-91	0/104	1/78	0/88	0/6		100	100**		160	N
TRICHLOROETHENE	1	180	19	Oct-92	56/104	28/78	43/88	4/6		5	3**	1.6		Y
VINYL CHLORIDE	1	105	24	Apr-90	28/104	16/78	23/88	3/6		2	1**	0.019		Y
XYLENES (TOTAL)	2	85	12	Jul-91	6/104	8/78	1/88	0/6		10000	10000**/20***		1200	N

Table 2: Occurrence and Distribution of Chemicals in Ground Water (1990 - 1993) (cont.)

DETECTABLE ANALYTE	Min.	Max.	Mean	Sampling Date of Maximum	Frequency of Detection (1)				Maximum in Background (Well 27-D)	Federal MCL (2)	Florida DEP Groundwater Guidance (3)	USEPA Region III (4.5)		COPC (6)
	ug/L	ug/L	ug/L		1990	1991	1992	1993	ug/L	ug/L	ug/L	Risk Level=1E-06	HQ=0.1	
ARSENIC	3.7	3.7	3.7	Aug-93	NA	NA	0/13	1/6		50	50**	0.038	1.1	N*
BARIUM	14.2	221	97	Aug-93	NA	NA	1/13	4/6		2000	2000**		260	N
CADMIUM	5	5	5	Apr-92	NA	NA	1/13	0/6		5	5**		1.8	N*
CHROMIUM	11	11	11	Apr-92	NA	NA	1/13	0/6		100	100**		3700	N
COPPER	200	200	200	Jan-91	0/16	1/5	0/11	0/6			1000***		140	N*
LEAD	1.3	13	4.5	Apr-92	NA	NA	3/13	6/6	2	15*	15*			N
MANGANESE	12.4	2380	320	Aug-93	5/12	2/5	6/20	3/6	311		50***		18	N*
MERCURY	0.2	42.3	4.5	Jul-90	60/104	12/29	27/59	0/6	2	2	2**		1.1	Y
NICKEL	40.7	95.4	68	Aug-93	NA	NA	NA	2/6		100	100**		73	Y
NITRATES	30	38700	5200	Jan-90	94/104	23/26	44/62	3/6	4460	10000	10000**		5800	N*
SELENIUM	2	2	2	Aug-93	NA	NA	NA	1/6		50	50**		18	N
VANADIUM	53.7	53.7	53.7	Aug-93	NA	NA	NA	1/6					26	N*
ZINC	10	403	64	Jan-91	8/12	4/5	5/13	1/6	159		5000**		1100	N

Source: CDM - BRA as presented in EPA/ROD/R04-95/239 1995.

NOTES:

1. Frequency of detection = # of detections/# of samples.
2. MCL = Maximum Contaminant Level. * - Value for lead is an action level. EPA, December 1993.
3. Florida Department of Environmental Regulations Groundwater Guidance Concentrations. June 1994.
** - Primary Standard. *** - Secondary Standard. **** - Guidance Concentration.
4. USEPA Region III - Risk-based Concentrations for tap water. January 7, 1994.
5. HQ = Hazard Quotient.
6. COPC = Chemical of Potential Concern. Y = Yes. N = No. N* = Not selected as a COPC, because the chemical was not detected or detected at a low frequency in the wells selected for risk assessment. N** = Concentrations detected in wells selected for the risk assessment did not exceed two times the background concentration.

Baseline Risk Assessment

The BRA was used to identify and select chemicals of potential concern (COPC) for ground water and surface water and sediment based on current or future risk to human or ecological receptors. Carcinogenic COPC were based on a risk level of 1E-06, and non-carcinogens were based on a Hazard Quotient of 0.1 in order to consider potential exposure to multiple chemicals. COPC were also selected based on comparison to relevant promulgated standards (e.g., federal and state Maximum Contaminant Levels), regulatory guidance, and background concentrations.

The ground water current and future exposure pathway for the human health risk assessment identifies landfill waste as the chemical source, drinking water wells in the Floridan aquifer as the exposure points, and ingestion of ground water and inhalation of volatiles released from ground water as the feasible routes of human exposure. The current exposure pathways for leachate and surface water and sediment are considered to be incomplete, but the future exposure pathway for surface water and sediment may be completed. The exposure points for current ground water users are wells in the down gradient residential area, and on site monitoring well data were used for the future use scenario.

Toxicity assessment for the COPC is based on information contained in EPA's Integrated Risk Information System database for both carcinogenic and non-carcinogenic toxicity. The combination of a complete, or potentially complete, exposure pathway and toxicity information for the COPC allows risk characterization to be performed. Ground water was determined to contain COPC at concentrations posing an unacceptable risk to potential future users. Surface water and sediment, while containing elevated COPC concentrations, were not found to pose an unacceptable risk to human health. Likewise, an impact to pelagic aquatic biota and benthic organisms is suggested, but it was determined that this impact is unlikely to significantly affect the receptors. Based on the findings of the BRA, remedial action was necessary to control risk posed by ingestion of and dermal contact with ground water and to limit the migration of contaminated ground water.

IV. Remedial Actions

In accordance with CERCLA and the NCP, the overriding goals for any remedial action are protection of human health and the environment and compliance with ARARs. A number of remedial alternatives were considered for the Site, and final selection was made based on an evaluation of each alternative against nine evaluation criteria that are specified in Section 300.430(f)(5)(i) of the NCP. The nine criteria include:

1. Overall Protectiveness of Human Health and the Environment
2. Compliance with ARARs
3. Long-Term Effectiveness and Permanence
4. Reduction of Toxicity, Mobility or Volume of Contaminants through Treatment
5. Short-term Effectiveness
6. Implementability
7. Cost
8. State Acceptance

9. Community Acceptance

Remedial Action Objectives (RAOs) associated with the selected remedy within the ROD included to prevent current or future exposure to contaminated ground water through provision of County water to residents and through natural attenuation or active treatment of groundwater should conditions indicate it is necessary.

Remedy Selection

The EPA WasteLAN database defines one site-wide operable unit (OU) for the Taylor Road Landfill Site, and the remedial action selected in the ROD is expected to be the final action for this OU. The remedial action at the Taylor Road Landfill Superfund Site was designed to address ground water contamination since source control was accomplished through a prior RCRA action.

The ROD for Taylor Road Landfill (EPA/ROD/R04-95/239) was signed on September 29, 1995, and selected Alternative 3, Collect and Treat Ground Water at Property Boundary on a Contingent Basis, as the remedy for the Site. The major components of this remedy include: institutional controls, extension of water lines and monitoring, and natural attenuation with contingent corrective action. In the ROD, the Florida Primary and Secondary Standards and Minimum Criteria were established as the cleanup goals for ground water, and the point of compliance was set as the ring of monitoring wells encircling the three landfills.

The components of the remedy selected in the ROD are described as follows:

(1) **Institutional Controls (ICs).** As noted in the selected remedy of the ROD regarding ICs, Hillsborough County owns the properties that constitute the Site. The County will write covenants into the deeds of these properties that would restrict the construction of drinking water wells on the Site. For properties not owned by the County but near the Site, two regulatory measures currently in effect restrict the construction of new potable-water wells. First, the 1983 RCRA Consent Decree requires all new residential buildings in the area to the south of the Site to be connected to the County water supply. Second, the 1991 establishment of a delineated area in accordance with FAC Chapter 62-524 restricts the issuance of permits for new potable-water wells in an area 500 ft from the County property boundary.

(2) **Monitoring and Extension of Water Lines.** Modification of the existing ground water monitoring program to include quarterly monitoring of a "ring" of monitoring wells that define the point of compliance for Site ground water. Monitoring will be used to evaluate compliance with Florida Primary and Secondary Drinking Water Standards and Minimum Criteria as the cleanup goals. Provision of County water service to human receptors within a 270-ft setback of the compliance ring monitoring wells.

(a) Contingent expansion of the compliance ring monitoring wells. If quarterly sampling reveals an exceedance of cleanup goals that is confirmed by subsequent sampling, the ring of monitoring wells will be expanded to encompass the revised compliance boundary.

(b) Expansion of the County water-supply network. The expansion of the County water-supply network to connect receptors within the setback zone, to support institutional controls, and to meet a one-month response time for connection of additional receptors should the area of impacted ground water increase in size.

(3) **Natural Attenuation with Contingent Corrective Action.** Maintenance of ground water contaminant levels below cleanup goals at the point of compliance will be achieved through natural attenuation or contingent corrective action.

(a) Natural attenuation. The reduction of contaminant concentrations through natural processes such as biodegradation.

(b) Contingent Corrective Action. The extraction and collection of ground water within the Point of Compliance for treatment to control ground water flow and reduce contaminant concentrations to acceptable levels. As described within the selected remedy of the ROD, the point of compliance surrounds all three landfills, and is defined by groundwater monitoring wells encircling the three landfills that were indicated in Figure 9.1 in the ROD. Evaluation of the integrity of the landfill cover installed under RCRA also is a component of this contingency. This contingency would be triggered by exceedance of cleanup goals at the point of compliance as evaluated annually by EPA and FDEP based on trend analysis and other site data.

Remedy Implementation

EPA issued a Statement of Work to the settling defendants at the Site pursuant to the Consent Decree following the ROD. The Statement of Work prescribes the approach to be used by the settling defendants, represented by Hillsborough County, to fully implement the selected remedy in the ROD, and identifies specific tasks and deliverables to be accomplished. The tasks and deliverables included the following: project planning; development and submittal of a Remedial Design/Remedial Action Work Plan; notification and support for a Final Construction Inspection; development and submittal of a Final Construction Report; and, development and submittal of a Remedial Action Report.

Hillsborough County prepared and submitted a Remedial Action Work Plan in April 1998 to accomplish the remedy objectives. The work plan provided for the installation of six monitoring wells (four new and two replacements), as well as revision of the requirements for the existing ground water monitoring program. The original ground water monitoring program consisted of thirteen compliance ring wells, three additional interior wells, and one background well to be sampled quarterly for field parameters, volatile organic compounds, metals, mercury, and nitrates. Construction methods, sampling methods, and quality assurance/quality control requirements were specified as sub-plans within the work plan. Institutional controls implementation would consist of placement of a deed notice for the County property at the Site, and enforcement of existing ordinances prohibiting property development or installation of new potable supply wells in areas within 1,500-ft of County supply lines and/or requiring request of

extension of such service. Originally, twenty residences within the compliance ring setback zone were identified for connection to the existing County water distribution network in the work plan. Quarterly reporting requirements for the ground water monitoring program were also set forth in the work plan.

Following regulatory review and discussion about the Remedial Action Work Plan, a Remedial Action Work Plan Addendum was issued in July 1998 revising the ground water monitoring plan. The current revised ground water monitoring plan incorporates quarterly sampling of 27 ground water monitoring wells; of which 13 comprise the compliance ring, 13 are additional interior monitoring points, and 1 is a background well. The analytical parameters for the ground water monitoring were also revised to include field parameters, volatile organic compounds, metals, mercury, chloride, nitrates, total dissolved solids, and sulfate.

Activities undertaken by Hillsborough County to implement the planned remedial action are documented in the Final Construction Report for the Taylor Road Landfill Superfund Site (April 16, 1999). As part of the institutional controls, Hillsborough County Solid Waste Management Department filed a "Notice of Entry of Consent Decree for the Taylor Road Landfill Superfund Site in Hillsborough County, Florida" with the Clerk of the Circuit Court in Hillsborough County in February 1998. This filing fulfills the requirement of the Consent Decree that all instruments conveying an interest in the Site shall contain a notice stating that the property is subject to the Consent Decree. Field construction activities to implement the remedy were begun in November 1998 with the construction of seven new monitoring wells and the rehabilitation of one damaged well. Following construction, the new and existing wells in the ground water monitoring plan were surveyed, and dedicated sampling equipment was installed. Five land parcels, with seven eligible receptors, were identified within the established compliance ring 270-ft setback that were not connected to County water supply. All seven property owners agreed to be connected to the County water supply network, and extension of water lines, meter placement, and connection to the structures was accomplished in February and March 1999. In summary, at that time five homes, one trailer park, and one business were connected to the County water supply network. The first round of sampling of 23 monitoring wells (this includes 5 additional interior monitoring points added after the work plan addendum) under the updated ground water monitoring program was performed in April 1999.

Post-ROD Changes

An Explanation of Significant Difference (ESD) was issued by EPA in August 2000 to remove Florida Secondary Drinking Water Standards from the federally-enforceable applicable, or relevant and appropriate requirements identified in the ROD. The rationale for this change is based on the fact that Secondary Drinking Water Standards are established to improve the taste, color and odor of drinking water, rather than address actual health threats. As such, EPA has determined that these standards are not applicable, or relevant and appropriate requirements, are not federally-enforceable (40 CFR Part 143), and are not needed to protect public health. The Florida Department of Environmental Protection did not concur with EPA's change to the ROD, and does retain authority to separately enforce Florida Secondary Drinking Water Standards at its discretion.

Based on the ROD and ESD for this Site, the final cleanup goals for this action are the Florida Primary Drinking Water Standards for volatile organic compounds and metals and the Florida Minimum Criteria for Organoleptics as set forth in the *Groundwater Guidance Concentrations* (FDEP, 1994). The remedial action objectives from the ROD, consists of: 1) eliminate current human exposure to ground water contaminants above cleanup goals through provision of County water and ground water monitoring; 2) prevent future human exposure to ground water contamination above cleanup goals through a combination of institutional controls, natural attenuation, and contingent treatment of ground water; and, 3) maintain ground water concentrations below cleanup goals at the point-of-compliance through natural attenuation and/or contingent treatment.

System Operations/Operations & Maintenance

Operation and maintenance activities at the Site consists of those activities associated with upkeep of the landfills as required under the existing RCRA Consent Decree and the long-term care permit with FDEP, and those activities necessary for the ongoing implementation of the monitoring component of the CERCLA remedy. EPA is copied on Monthly Reports sent to FDEP under the long-term care permit for landfill closure. These activities are summarized as follows:

- **Landfill Operation and Maintenance**
  - Monitoring of ground water, surface water and landfill gas;
  - Site inspections (daily, weekly, monthly, quarterly and after rainfall);
  - Maintenance and repairs (facilities, monitoring wells, landfill cover, surface water management system, and landfill gas monitoring and recovery system);
  - Notification, record keeping and reporting; and,
  - Facility and system upgrades

- **Ground Water Operation and Maintenance**
  - Monitoring of ground water;
  - Monitoring well repair and replacement;
  - Maintenance of access agreements (off-site wells); and,
  - Notification, record keeping, and reporting.

Costs associated with Landfill and Ground Water operation and maintenance are tracked by Hillsborough County, and are summarized in Table 3. Since landfill operation and maintenance is performed by a dedicated on-site workforce, labor costs are included in the cost summary. Ground water operation and maintenance is performed by County employees who support multiple sites, and these labor costs are not included in the operation and maintenance summary. Additionally, landfill facility and system upgrades performed by Hillsborough County are tracked separately. Since 1998, upgrade projects, including re-routing of the Taylor Road Landfill gas collection system, installation of new gas collection wells at Taylor Road Landfill, and drainage improvements between the FDOT and Taylor Road Landfills, have been undertaken at a cost of approximately $1,373,896.10. The upgrades and improvements were performed as approved engineering solutions to observed negative changes in the efficiency of

the Taylor Road Landfill gas collection system and to correct persistent erosion control problems between the landfills.

Table 3: Site Operation and Maintenance Costs

Year	Ground Water O&M Cost	Landfill O&M Cost
1998	$0	$864,209
1999	$101,495	$917,470
2000	$120,006	$727,047
2001	$120,000	$601,384
2002	$23,985	$745,788
2003	$25,000	$813,221
2004	$25,000	$913,346
2005	$25,000	$930,587
2006	$25,000	$925,914
2007	$25,000	$662,781

V. Progress Since the Last Review

This report documents the Second Five-Year Review for the Taylor Road Landfill Superfund Site. A Follow-Up Actions & Response to EPA Comment Letter Dated February 12, 2004 was submitted by the Hillsborough County Solid Waste Management Department (SWMD) on June 4, 2004 are presented in Table 4. The Follow-Up report stated the actions taken by the County in response to the EPA recommendations.

Protectiveness statements from the last review

The remedy at the Taylor Road Landfill currently protects human health and the environment because ground water monitoring at the compliance ring ensures contingent measures can be taken prior to impacts to domestic supply wells, institutional controls restrict the installation of new domestic supply wells in the impacted area, post-closure care of the landfills under RCRA minimizes ongoing impacts to the aquifer, and natural attenuation is demonstrated to be occurring. However, in order for the remedy to remain protective in the long-term, the following actions need to be taken: repair fencing and improve enforcement of site access controls; improve routine maintenance of monitoring wells; perform a potable well survey in the vicinity of the site to ensure institutional controls are effective; ensure the long-term operation and maintenance of the landfills; resume annual ground water quality statistical evaluations; and, improve responsiveness to ongoing community concerns.

Overall, Hillsborough County Solid Waste Management Department has done a commendable job of implementing the remedy and integrating RCRA and CERCLA operation and maintenance requirements for the Site. While these follow-up actions, if not implemented, would be expected to have a negative impact on the long-term

effectiveness of the remedy, it is expected that Hillsborough County will be responsive to these recommendations. Most of the recommendations and follow-up actions for the Site are being implemented by Hillsborough County based on the debriefing at the conclusion of the site inspection.

Recommendations from the Previous Five Year Review:

The following discussion summarizes the issues and recommendations made in the 2003 FYR and any follow up actions that have been taken to address those recommendations. Ground water monitoring at the compliance ring ensures that additional measures can be taken before contamination can impact nearby domestic supply wells. Institutional controls restrict the installation of new domestic supply wells in the impacted area. Post-closure care of the landfills under RCRA minimizes ongoing impacts to the aquifer. The landfill caps are limiting infiltration of rainwater and preventing direct contact with contaminated soils. The gas recovery and flaring system is operating as intended.

The following follow-up actions were taken by the Hillsborough County as a result of the 2003 FYR:

- Repaired fencing and improved enforcement of site access controls;
- Continued routine maintenance of monitoring wells including daily perimeter security checks;
- A potable well survey was conducted by SCS Engineers for the SWMD in the vicinity of the site;
- Continued oversight of the long-term operation and maintenance of the landfills by FDEP permit renewal process in 2005;
- Continued quarterly ground water quality data monitoring and statistical evaluations analysis; and
- Continued responsiveness to ongoing community concerns by providing a mailing list to EPA for fact sheets distribution.

The well survey identified two irrigation wells within the 270-ft setback. Both wells were added to the monthly monitoring program.

Issues, recommendations and follow-up actions presented in the 2003 five-year review are shown in Table 4.

Table 4: Actions Taken Since the Last Five-Year Review

Issues from Previous Review	Recommendations/ Follow-up Actions	Party Responsible	Milestone Date	Action Taken and Outcome	Date of Action
(1) Site access security (monitoring & maintenance of fences)	(1) Repair cut and damaged fences	Hillsborough Co.	11/1/2003	Hillsborough Co. has fixed damaged fences and continues with daily perimeter checks.	6/4/2004
	- Institute daily perimeter security checks (per 1983 CD)				
(2) Ground water monitoring well maintenance	(2) Perform routine maintenance on wells TR2-S and 32D	Hillsborough County SWMD	11/1/2003	Completed	2/12/2004
	- Refit/replace well NE-23	Hillsborough County SWMD			6/4/2004
	- Refit/replace well F-2	Hillsborough County SWMD			8/2003
	- Abandon unused shallow wells	Hillsborough County SWMD			8/2003
	- Lock and clearly label all wells	Hillsborough County SWMD			2/12/2004
	- Add well rehabilitation check to pump repair process	Hillsborough County SWMD			2/12/2004
(3) Potential for un-permitted potable well installation in adjoining properties	(3) Perform potable well survey on adjacent parcels (approximately 1-mile radius of Site)	Hillsborough County SWMD	11/1/2003	Completed	1/22/2004
(4) Operations & maintenance of landfill caps, leachate collection, gas collection and storm water management systems under RCRA	(4) Consideration of ground water impacts during RCRA permit renewal negotiation	FDEP District Office	9/15/2013	Completed / Ongoing	2005
(5) Annual reporting for Ground Water Quality Statistical Evaluations	(5) Return to Annual reporting and evaluation of ground water trends	Hillsborough County SWMD	6/27/2004	Completed	6/2004

Table 4: Actions Taken Since the Last Five-Year Review

Issues from Previous Review	Recommendations/ Follow-up Actions	Party Responsible	Milestone Date	Action Taken and Outcome	Date of Action
(6) Ground water quality concerns (mercury, oil & grease, and pH) of adjoining land owners should be affirmatively addressed	(6) Prepare Fact Sheet presenting results of Five-Year Review and addressing community ground water quality concerns	EPA	10/1/2003	Not necessary at this time	NA
(7) Quantitative measurement and tracking of fill activities in landfill cap settlement areas	(7) - Perform routine civil surveying of landfill cap surfaces (bi-annual or when significant settlement is observed)	Hillsborough County SWMD	5/1/2004 (survey)	Completed	2003
	- Include quantitative estimate of settlement fill activities (area, thickness and location		10/1/2003 (reports)		2003
(8) Monitoring/evaluation of potential environmental impacts from adjacent properties (commercial activities and dumping) should be performed	(8) - Inventory products and wastes managed on adjacent or nearby properties	Hillsborough County SWMD	11/1/2003	Pending	Pending
	- Request notification from FDEP District Office of nearby spills or releases			- Completed	6/3/2004
	- Report/cleanup illegal dumping on adjacent properties			- Completed	6/3/2004

VI. Five-Year Review Process

The Five-Year Review process for the Taylor Road Landfill Superfund Site consisted of project management, community involvement, document/data review, site inspection, interviews, and a determination as to the ongoing protectiveness of the remedy. As the lead agency, U.S. EPA Region 4 performed the Second Five-Year Review. The Florida Department of Environmental Protection is the support agency for this activity, and has been involved throughout the Five-Year Review process. Hillsborough County Solid Waste Management Department is the representative of the responsible parties for the Site, and has cooperated during performance of the Second Five-Year Review providing site access and other material support as requested.

Administrative Components

Project management activities included identifying the EPA Region 4 team for the Second Five-Year Review, developing a schedule for the review activities, and notifying interested parties of the follow-up of the Five-Year Review process. Key personnel involved in the Second Five-Year Review of the Site, along with organizations and roles, are presented in Table 5.

Table 5: Second Five-Year Review Key Personnel

Name	Organization	Role
Enid Gerena	USACE 701 San Marco Blvd Jacksonville, FL 32207 (904) 232-1815	Environmental Engineer
L'Tonya Spencer	EPA Region 4 61 Forsyth Street, SW Atlanta, GA 30303 (404) 562-8463	Community Involvement Coordinator
Erik Spalvins	EPA Region 4 61 Forsyth Street, SW Atlanta, GA 30303 (404) 562-8938	Remedial Project Manager
Kelsey Helton	Florida Department of Environmental Protection Twin Towers Office Building 2600 Blair Stone Rd Tallahassee, FL 32399 (850) 245-8969	FDEP Project Manager Professional Geologist
David Adams	Solid Waste Management Department 24th Floor County Center Tampa, FL 33601 (813) 276-2944	Environmental Manager

Community Notification and Involvement

Community involvement activities associated with the Five-Year Review include publication of a legal notice at the start of the Five-Year Review process, contacts and interviews with citizens/community groups identified in the Community Relations Plan (CDM, 1989). A legal notice was published in the Tampa Tribune and placed in the Information Repository (Attachment 7). An inspection of the Information Repository, maintained at the Thonotosassa Public Library on 10715 Main St., Thonotosassa, FL 33592, indicates that the site file is up-to-date and readily accessible. Within thirty (30) calendar days of the Second Five-Year Review Report finalization, a notice will be published in the same local newspaper announcing that the Second Five-Year Review Report for Taylor Road Superfund Site is complete, and the results of the review and the report are available to the public at the information repository at the Thonotosassa Public Library.

The CIC, L'Tonya Spencer, and the RPM, Erik Spalvins, conducted interviews with four people. A copy of the completed Interview Worksheet is included as Attachment 5. The CIC and RPM met with some members of the Taylor Road Civic Association on March 5, 2008. The main issue brought to the EPA's attention was a concern about the low pH in one private well and low levels of Mercury one commercial supply well. The residents were concerned that the mercury contamination was coming from an industrial facility adjacent to the landfill. The mercury levels in several nearby wells are monitored on a monthly basis and remain below health standards. At this time, elevated mercury levels in the industrial supply well does not appear to be Site-related.

Document Review

Both the Administrative Record and Site File for the Taylor Road Landfill Superfund Site were reviewed for the Second Five-Year Review. These sources contain the combined documentation of the decisions and actions taken at the Site, including relevant RCRA documentation for closure of the landfills. Attachment 2 contains a complete list of the supporting documentation used in development of this Second Five-Year Review Report. A significant portion of this documentation consists of routine reporting from Hillsborough County presenting monthly Operation and Maintenance reports for the landfills and the results of the monthly residential well sampling. This data forms the basis of the technical assessment of remedy performance.

A technical review of the ground water monitoring data was performed to evaluate the remedy effectiveness and progress of natural attenuation. The monitoring data set used for this analysis includes compliance ring and interior monitoring wells for the period of 2003 through 2007.

Data Review

The following conclusions regarding concentration trends are based on the following reports: "Taylor Road Landfill Superfund Site Groundwater Quality Statistical Evaluation, Hillsborough County, Florida" (SCS Engineers, 2007) which includes a formal data time series graphs for these and other monitored contaminants (see Attachment 6 for priority COPCs data analysis graphs/time series), and the "Ground water Monitoring Network Optimization Taylor Road Landfill Superfund

Site" (GSI Environmental, Inc., 2007) prepared for the EPA. Note: due to the extensive content of these reports, these are listed under References see Attachment 2. The contaminants of concern (COCs) are presented in Table 6, these are designated with a "Y" in column 6 of Table 2.

Table 6: Contaminants of Concern

Purgeable Organics
1,1-Dichloroethane
1,1-Dichloroethene
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloropropane
1,4-Dichlorobenzene
Benzene
Chloroform
Chloromethane
Dibromochloromethane
Ethylbenzene
Methylene Chloride
Tetrachloroethene
Toluene
trans-1,2-DICHLOROETHENE
cis-1,2-DICHLOROETHENE
Trichloroethene
Vinyl Chloride
Inorganics
Mercury
Nickel

The "Ground water Monitoring Network Optimization Taylor Road Landfill Superfund Site" report considered data collected between January 1995 and April 2007. This report was prepared by an EPA contractor, GSI Environmental, Inc.

The conclusions of the GSI report with regard to trends are summarized as:

- Groundwater areas where concentrations routinely exceed MCLs are bounded by wells where results are below MCLs downgradient.
- Vinyl chloride (VC) was identified as the highest priority constituent among site constituents of potential concern (COPC) based on its prevalence, concentration relative to risk-based screening levels and its mobility. Trichloroethene (TCE) and benzene were also considered.
- The groundwater plume at the Taylor Road Site is largely stable to decreasing in concentration. The majority of individual well trends for VC and TCE indicate decreasing, probably decreasing or non-detect status. One well, 24-D, shows an increasing trend for VC, while 7 wells indicate increasing trends for TCE (18-D, 24-D, 31-D, 32-D, C-6, F-2, F-15).
- The study indicates that total dissolved masses for VC, TCE and manganese are decreasing.
- 16 of 27 monitoring locations are statistically below the regulatory screening levels for VC.
- 13 of 14 compliance ring wells have sufficient statistical power to show they have attained the cleanup standard.

The main goal of the GSI Report was to evaluate the potential optimization of the Long Term Monitoring at the site. The GSI Report made specific recommendations which will be considered by the EPA and FDEP. Ultimately, any changes to the sampling plan will be documented in a revised monitoring plan after discussion with FDEP and the County.

The "Taylor Road Landfill Superfund Site Groundwater Quality Statistical Evaluation" (SCS Engineers, 2007) also examined the trends of contaminants in groundwater. Table 7 is from the 2007 SCS Engineers Statistical Evaluation and summarizes the well trend analysis for both COCs and non-COCs (SCS Engineers, 2007.)

The majority of wells indicate decreasing concentration trends. Decreasing trends for VC are found at interior wells with historic high concentrations such as C-2, C-5, C-6 and TR-4D. Source area well TR-4D shows decreasing trends for VC, TCE, 1,1DCE and Benzene. Concentrations of inorganic COCs are very low and well below the respective Florida Primary Standards and Minimum Criteria as of June 1994.

Some wells have intermittent detections, varying between around the detection limit, resulting in a No Trend result. For some constituents, decreasing detection limits cause the appearance of a downward trend, even though the constituents are typically not detected. Compliance well F-4A was not included in the statistical analysis due to the abandonment of the well in December 2006. Overall trends indicate the concentrations of several constituents are decreasing over time.

Table 7. Well Trend Summary Results from "Taylor Road Landfill Superfund Site Groundwater Quality Statistical Evaluation" (SCS Engineers, 2007)

Monitoring Well Designations and Observations — Ring Wells

Constituent	Group R-1								Group R2								Group R-3							
	C-8		C-10		C-1		30-D		31-D		32-D		C-9		TR-2D		C-3		C-7		F-3		F-15	
	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX
1,1-Dichloroethane (ug/l)*							D		D		D												D	
1,1-Dichloroethene (ug/l)*																								
1,2-Dichlorobenzene (ug/l)*																								
1,2-Dichloroethane (ug/l)*									D		D													
1,2-Dichloropropane (ug/l)*																								
1,3-Dichlorobenzene (ug/l)*																								
1,4-Dichlorobenzene (ug/l)*									D															
Ammonia nitrogen (mg/l)			D												I									
Arsenic (ug/l)																								
Barium (ug/l)	D		I		D		I						I				D		I		D		D	
Benzene (ug/l)*																								
Chloride (mg/l)									D		D						D				D			
Chlorobenzene (ug/l)																								
Chloroform (ug/l)*																								
Chloromethane (ug/l)*																								
cis-1,2-Dichloroethene (ug/l)*							D																D	
Conductivity (umhos/cm)									I														D	
Dissolved oxygen (mg/l)	I		I														I				I		I	
Ethylbenzene (ug/l)*																								
Isopropylbenzene (ug/l)																								
Manganese (ug/l)	D		D		D		D		D		D						D		D				D	
Mercury (ug/l)*	D						D				D						D							
Methylene chloride (ug/l)*																								
Nickel (ug/l)*																								
Nitrates (mg/l)			I						D		D				I			X	I					
pH (SU)									I		I				I								I	
Sulfate (mg/l)																								
Tetrachloroethene (ug/l)*															D									
Toluene (ug/l)*																								
Total dissolved solids (mg/l)																	D							
trans-1,2-Dichloroethene (ug/l)*																								
Trichloroethene (ug/l)*											D												D	
Vanadium (ug/l)	D						I				I		D				D							
Vinyl Chloride (ug/l)*									D															
Zinc (ug/l)							D		D		D		D		D		D		D		D			

Monitoring Well Designations and Observations — Interior Wells and Up Gradient Wells

Constituent	Interior Wells: Group I-1														Interior Wells: Group I-2												Up Gradient Wells			
	C-5		C-6		18-D		24-D		28-D		F-1A		F-2		C-2		F-14		NE-23		TR-1D		TR-3D		TR-4D		F-12		C-4	
	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX
1,1-Dichloroethane (ug/l)*	D		D		D		I		D		D		D																	
1,1-Dichloroethene (ug/l)*			D		D													X								X				
1,2-Dichlorobenzene (ug/l)*			D				D		D				D																	
1,2-Dichloroethane (ug/l)*					D																									
1,2-Dichloropropane (ug/l)*	D		D		D																									
1,3-Dichlorobenzene (ug/l)*																														
1,4-Dichlorobenzene (ug/l)*	D		D		I				D								I													
Ammonia nitrogen (mg/l)					I				D								I								I					
Arsenic (ug/l)	D				D				D										D		D		D			X	D			
Barium (ug/l)	D						I		D		D						I		D		D		D		D					
Benzene (ug/l)*	D		D	X		X			D		D														D	X				
Chloride (mg/l)			I				D		D		D		D		I		I								I		D		I	
Chlorobenzene (ug/l)	D		D																											
Chloroform (ug/l)*																														
Chloromethane (ug/l)*																														
cis-1,2-Dichloroethene (ug/l)*	D		D		D		I		D		D		D		D		D		D		D									
Conductivity (umhos/cm)	D				D				D				D		D		I		D		D						D			
Dissolved oxygen (mg/l)									I										I		I						D		I	
Ethylbenzene (ug/l)*																														
Isopropylbenzene (ug/l)			D																											
Manganese (ug/l)		X	I			X	I	X	D	X		X			D	X	I		D		D		D	X	D	X		X	D	
Mercury (ug/l)*	D			X			D				D														D		D		D	
Methylene chloride (ug/l)*			D																											
Nickel (ug/l)*	D				D	X	I						D						D				D		D					
Nitrates (mg/l)			I				D		I		D								I		I		I		I		I			
pH (SU)		X		X		X	D		I		D	X	I						I		I		I		I	X			I	
Sulfate (mg/l)	I		D								D												I							
Tetrachloroethene (ug/l)*	D			X																										
Toluene (ug/l)*																														
Total dissolved solids (mg/l)		X		X					D			X	D				I		D		D					X			I	
trans-1,2-Dichloroethene (ug/l)*					D																									
Trichloroethene (ug/l)*	D			X			I				D				D		D		D		D		D		D	X				
Vanadium (ug/l)			D				D				D				D								D						D	
Vinyl Chloride (ug/l)*	D	X	D	X	D	X	I		D				D		D	X		X	D		D					X				
Zinc (ug/l)											D		D		D				I				D		D		D		D	

Notes:

1. "I" indicates the trend is significantly increasing in concentration or value.
2. "D" indicates the trend is significantly decreasing in concentration or value.
3. Blanks in the table indicate either no significant trend or trend based on non-detected values.
4. "*" indicates constituent of concern.
5. "X" indicate statistically significant exceedances of Drinking Water Standards or Groundwater Clean-up Target Levels. Highlighting is for the readers convinience to help see the exceedances.
6. Deseasonalized results were not included in this table.

The most recent quarterly groundwater monitoring report, dated July 2008, was reviewed and the results are attached in Attachment I as Figure 5. The results of the July 2008 quarterly monitoring report are summarized below:

Volatile Organic Compounds

- VOCs were detected in all thirteen interior wells with eight of these wells exhibiting water quality in excess of their applicable Primary Drinking Water Standard (PDWS), Secondary Drinking Water Standard (SDWS), or the Groundwater Cleanup Target Levels (GCTL).
- Vinyl Chloride continues to exceed the standard of 1.0 microgram per liter (ug/l) in eight of the interior wells.
- VOC contaminants were observed in five of the compliance ring wells, but all of these detections were observed well below their applicable standards.

Metals

- Arsenic was not detected in any of the thirteen compliance ring monitoring wells; however it was detected above the PDWS of 0.010 mg/l in one interior well, TR-4D at a concentration of 0.015 mg/l.
- Manganese
    - Manganese was detected in six of the thirteen compliance ring monitoring wells at concentrations below the SDWS of 0.05 milligrams per liter (mg/l).
    - Manganese was detected above the SDWS in nine of the thirteen interior wells, with a range of concentrations from 0.078 to 3.0 mg/l.
    - The background water quality well, F-12 also exhibited manganese above the SDWS, at a concentration of 0.057 mg/l.
- Mercury
    - Mercury was detected well below the PDWS of 0.002 mg/l in the compliance ring monitoring wells, C-8, 31-D, and 32-D.
    - Mercury was also observed in the interior wells, C-6, 24-D, F-1A and F-2 at concentrations below the PDWS.
- Nickel was observed in eleven of the thirteen interior wells and the compliance ring monitoring wells C-4 and 32-D at concentrations below the PDWS of 0.10 mg/l.
- Vanadium was detected in nine of the thirteen compliance ring monitoring wells and four of the interior wells below the GCTL of 0.049 mg/l.

Site Inspection

The Second Five-Year Review site inspection was performed on March 5, 2008. The EPA site inspection team consisted of L'Tonya Spencer (EPAs CIC), and Erik Spalvins (EPA), and Enid Gerena (USACE). Hillsborough County was represented by David Adams, Mike Townsel, Walter Gray, and Anthony Sullivan.

Inspection of the landfill caps, gas collection system, liquids management system, site perimeter, and landfill records was performed on March 5, 2008, and is documented on the Site Inspection Checklist (Attachment 3). The caps for all three landfills (Taylor Road, FDOT, and Hillsborough Heights) were well vegetated and well maintained. Positive drainage was generally maintained throughout the cap surfaces, although six localized areas of ponding (~100-500 square yards) were noted on the Taylor Road and Hillsborough Heights caps. These were generally shallow and likely attributable to subsidence. Repair through sod removal, clay fill, and topsoil/sod replacement was reportedly routine at these landfills. All side slopes were in excellent condition with no erosion or leachate seeps observed. Photographs of the landfill caps are included in Attachment 4. The drainage swales and culverts were free-flowing and non-erosive down the side slopes, and into the detention basins.

The gas collection systems at the Taylor Road and FDOT landfills had undergone significant modifications since the original installations. These modifications included the addition of new gas collection wells, condensate collection sumps, and re-routing of the gas through a central blower and flare system adjacent to the Hillsborough Heights landfill. The aboveground components of the gas collection system (wellheads, sampling points, piping, blowers, and flare) were operable and appeared to be in good condition and well maintained. The TRLF gas collection system appears to be functioning adequately at this time. The former microturbine generator that was used as an alternative energy technology demonstration was removed because it was not working properly.

Liquids management at the landfills is conducted through collection of condensate from sumps and gas extraction wells. Condensate and leachate collected from the landfills is stored in a leachate holding tank. There is a leachate collection system at the Hillsborough Heights landfill. There is no leachate collection system for the 40 acre TRLF. Leachate from the Hillsborough Heights landfill is collected from nine sumps. The FDOT landfill gas extraction wells reportedly generate no collectable liquids.

Site access control is maintained through the use of a single entrance onto County property and perimeter fencing. The entrance to the Site is from State Route 579, and branches to a County recycling facility in the southwest corner of the property and to the facility maintenance shops and landfill areas to the north and east. A complete inspection of the perimeter fencing (6-ft chain link topped with 3 strands of barbed wire) was performed. Since the last Five Year Review, fences were repaired. No casual trespassing or trespassing for vandalism and theft was reported.

Verification of on-site documents and records was performed at the facility maintenance offices. The following documents were readily available and up-to-date: operations and maintenance

manuals, as-built drawings, maintenance logs, operations and maintenance training records, gas generation records, ground water monitoring records, and leachate extraction records. The site-specific health and safety plan and Occupational Health and Safety Agency (OSHA) training records were maintained at the downtown County offices. Updates to the health and safety plan, such as equipment or activity-specific memoranda, were maintained on-site. Visitor and access logs of daily activities are kept at the facility maintenance building. Visitors are expected to report to the facility maintenance office. In general, maintenance of and access to records was good.

The inspection of the ground water monitoring network primarily consisted of observations of the access, security, and condition of the well heads and dedicated sampling equipment. The only general observation is there are wells that are no longer used (old surficial well next to the Elementary School close to F-12, and another old well close to F-15.) Also, monitoring well F-4A was plugged and abandoned in 2006, due to repeated damage from the property's owner use of heavy equipment. Overall, the inspection of the ground water monitoring network indicates that the monitoring component of the remedy is operating and functional.

During the inspection it was noted that the site access security was improved, the perimeter fencing was repaired and the frequency of inspection was increased. The Hillsborough County maintained the updated potable well survey of adjacent properties to ensure no un-permitted human exposures were taking place. All documentation and records management were well maintained. The County officials were willing to provide all documentation required during this site inspection.

Interviews

Four interviews were conducted by L'Tonya Spencer and Erik Spalvins on March 5, 2008 and four citizens from the Taylor Road Civic Association. Each interview was conducted based on a set of six prepared questions addressing a range of general and technical issues associated with the remedy. These questions and the Interview Records are presented in Attachment 5.

Based on the interview comments, the residents are generally satisfied that Hillsborough County is complying with the requirements of the ROD. There remains some public concern about low pH in one residential well, P-22. There is also concern about detections of Mercury well below drinking water standards in private wells on Buster Bean Road. The county is in the process of extending the county water supply to these homes. As of September 2008, the main line has been extended and residential connections should be completed by the end of November 2008. The most recent monthly sampling of the private wells was early September 2008. The residents expressed concern that the mercury may be coming from a manufacturing operation between the homes and the landfill. At this time, the detection of mercury in the private wells is not clearly attributed to the Site. Other specific concerns noted during the interviews include evaluating potential environmental impacts from nearby properties, and dumping around the Site.

The residents were pleased about overall decreasing trends in ground water contaminants; the effectiveness of the well permit institutional control, the construction of the remedy, and the O&M at the landfill. Hillsborough County should continue and extend its efforts to·

communicate informally and formally with nearby landowners to address the concerns and successes at the Site.

VII. Technical Assessment

The technical assessment of the performance and protectiveness of the Taylor Road Landfill Superfund Site remedy is based on historical information and data collected during the Second Five-Year Review. As presented in the current Comprehensive Five-Year Review Guidance (EPA, 2001), this assessment is based on how each of three questions is answered. These questions are: A - Is the remedy functioning as intended by the decision documents?; B - Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of remedy selection still valid?; and, C - Has any other information come to light that could call into question the protectiveness of the remedy?. The EPA team for the Second Five-Year Review met on March 5, 2008 to answer these questions, and the answers, along with supporting rationale, are discussed below.

Question A: Is the Remedy Functioning as Intended by the Decision Documents?

The remedy selected in the ROD, as constructed by Hillsborough County, and verified in the Final Construction Report, continues to function as intended. Ground water monitoring has been and continues to be performed to evaluate the progress of natural attenuation and to determine the need for contingent actions. Natural attenuation of contaminants in ground water is verified by the monitoring data. An opportunity for optimization is reducing the frequency of sampling ground water and will be discussed with the FDEP and the County.

Monitoring wells are in good condition and functioning adequately. There were no indicators of problems that would jeopardize the performance of the remedy. The landfill cap, cover, and storm water control systems are in good condition. There is adequate vegetative cover, with no signs of erosion. The landfill gas recovery system appears to be functioning well. Hillsborough County appears to have performed O&M requirements exceptionally well.

Current ICs are effective in the short term in preventing the construction of drinking water wells in contaminated areas. Additional institutional controls should be evaluated for properties where contamination from the site is above federal or state MCLs. ICs could take the form of restrictive covenants to prevent future users from using contaminated groundwater. Restrictive covenants may be needed for both County property and properties not owned by the County which has groundwater contamination affected by the site above site cleanup levels.

The selected remedy remains protective of human health and the environment.

The answer to Question A is **Yes**.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of remedy selection still valid?

The exposure assumptions, toxicity data, and remedial action objectives are still valid and are considered as protective as they were at the time of the remedy selection. The baseline risk assessment was used to identify contaminants and exposure pathways, and contaminant-specific cleanup goals were based on FDEP standards. No changes to applicable or relevant and appropriate standards have been identified. The Federal MCL for arsenic changed from 50 ug/l to 10 ug/l. This change does not affect protectiveness at the site, because as noted in Table 2, the highest arsenic concentration found in wells at or near the site that are affected by site contamination is 4 ug/l, which is lower than the current standard.

There has been no change to the risk assessment methodology that could affect the protectiveness of the remedy. The toxicity data available at the time of the remedy selection and the current toxicity values for the COCs are provided in Table 8. The remedy is progressing as expected. No changes in site conditions, contaminant characteristics, or exposure pathways, were observed or are known to have occurred that would call into question the ongoing protectiveness of the remedy. No changes to the basis for the ecological risk evaluation were identified during the Second Five-Year Review.

Vapor intrusion is an exposure pathway that presents a potential unacceptable risk to human health and should be evaluated. One of the recommendations of this Five-Year Review is that a screening level vapor intrusion assessment be conducted to determine whether this potential pathway presents an unacceptable risk to human health.

As part of the ROD, Hillsborough County will continue performing the periodic private well survey at least every five years to ensure no un-permitted withdrawals are taking place in the vicinity of the landfill and to validate the exposure assumptions.

The answer to Question B is **Yes**.

Table 8: Comparison of Current Toxicity Values to those from the Remedy Selection

COC	Toxicity Values							
	RfDo (mg/kg-day)		SFo 1/(mg/kg-day)		RfDi (mg/kg-day)		SFi 1/(mg/kg-day)	
	Previous[1]	New[2]	Previous	New	Previous[1]	New[3]	Previous	New
1,1 Dichloroethene	9×10^{-3}	5×10^{-2}	6×10^{-1}	Not assessed in IRIS	--	--	--	--
1,2 Dichlorobenzene	9×10^{-2}	9×10^{-2}	--	--	--	Not assessed in IRIS	--	Not assessed in IRIS
1,2 Dichloroethane	--	--	9.1×10^{-2}	9.1×10^{-2}	--	Not assessed in IRIS	--	Not assessed in IRIS
Cis-1,2-Dichloroethene	1×10^{-2}	Not assessed in IRIS	--	Not assessed in IRIS	--	--	--	--
Trans-1,2-Dichloroethene	2×10^{-2}	2×10^{-2}	--	Not assessed in IRIS	--	Not assessed in IRIS	--	Not assessed in IRIS
1,2-Dichloropropane	--	Not assessed in IRIS	6.8×10^{-8}	3.6×10^{-2}	--	1.14×10^{-3}	--	Not assessed in IRIS
1,4-Dichlorobenzene	--	Not assessed in IRIS	2×10^{-2}	5.4×10^{-3}	--	2.28×10^{-1}	--	--
Benzene	--	4.0×10^{-3}	2.9×10^{-2}	1.5×10^{-2} to 5.5×10^{-2}	--	8.5×10^{-3}	--	--
Tetrachloroethene	1×10^{-2}	1×10^{-2}	5.2×10^{-2}	Not assessed in IRIS	--	Not assessed in IRIS	--	--
Trichloroethene	6×10^{-3}	Not assessed in IRIS	1.1×10^{-2}	1.3×10^{-2}	--	1.7×10^{-1}	--	7×10^{-3}
Vinyl Chloride	--	3×10^{-3}	1.9	7.2×10^{-1}	--	2.8×10^{-3}	--	--
Mercury	3×10^{-4}	Not assessed in IRIS	--	Not assessed in IRIS	--	8.5×10^{-5}	--	--
Nickel	2×10^{-2}	Not assessed in IRIS	--	Not assessed in IRIS	--	Not assessed in IRIS	--	--

[1] Derived from BRA Report dated 1995.
[2] Obtained from www.epa.gov/iris/subst/index.html
[3] Obtained from calculation RfDi = (Rfci mg/m^3 x 20 m^3/day) / 70 kg. Rfci (Reference Concentration (inhalation) was obtained from IRIS.

mg/kg-day = milligrams per kilogram per day
RfDo = oral reference dose
SFo = oral slope factor
RfDi = inhalation reference dose
SFi = inhalation slope factor
-- = no data

Question C: Has Any Other Information Come to Light that Could Call into Question the Protectiveness of the Remedy?

No new information has come to light that would call into question the protectiveness of the remedy.

The answer to Question C is **No**.

VIII. Issues

During the course of the Second Five-Year Review document and data review, site inspection, and interviews, a number of issues were identified pertaining to remedy effectiveness. These issues and their impact on remedy protectiveness are summarized in Table 9.

Table 9: Issues

Issues	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
1) Unused ground water monitoring well need to be abandoned.	No	No
2) Sampling frequency should be optimized for efficiency.	No	No
3) Additional institutional controls for groundwater use may be needed	No	Yes
4) Vapor intrusion should be evaluated as a potential pathway to impact human health.	No	Yes

IX. Recommendations and Follow-up Actions

Based on the issues identified during the Second Five-Year Review, recommendations and follow-up actions for the Taylor Road Landfill have been identified. These are summarized in Table 10.

Table 10: Recommendations and Follow-up Actions

Issue	Recommendations/ Follow-up Actions	Party Responsible	Oversight Agency	Mile-stone Date	Affects Protectiveness? (Yes/No)	
					Current	Future
Unused ground water monitoring wells need to be abandoned.	Remove unused ground water monitoring wells from the monitoring network.	Hillsborough County SWMD	EPA	6/1/2009	No	No
Sampling frequency should be optimized for efficiency.	EPA and FDEP will evaluate the groundwater monitoring program to optimize the efficiency of monitoring.	Hillsborough County SWMD	EPA and FDEP	6/1/2009	No	No
Additional institutional controls for groundwater use may be needed	Institutional controls will be evaluated for properties where contamination from the site is above federal or state MCLs.	Hillsborough County SWMD	EPA and FDEP	6/1/2009	No	Yes
Vapor intrusion should be evaluated as a potential pathway to impact human health.	A screening level vapor intrusion assessment will be conducted to determine whether this potential pathway presents an unacceptable risk to human health.	Hillsborough County SWMD	EPA	6/1/2009	No	Yes

X. Protectiveness Statement

The remedy at Taylor Road Landfill is protective of human health and the environment in the short term, because all exposure pathways that could result in unacceptable risks are being controlled. Land use on site remains industrial. Deed notices are in place to restrict land use and construction of new potable wells on site. New residential properties near the Site are required to connect to the County water supply. As a precaution, the county is presently extending water lines to residents whose wells are monitored on a monthly basis, but do not contain contamination above MCLs. Ground water data confirms the effectiveness of natural attenuation in reducing contamination at the Site. The landfill caps are effectively containing contaminants and reducing infiltration. The landfills are well-vegetated and well-maintained.

The remedy is operational and functional, some institutional controls are in place, all remedial construction activities are complete, and groundwater monitoring is ongoing.

However, in order for the remedy to be protective in the long-term, institutional controls should be considered on properties where contamination from the site is above federal or state MCLs; and a screening level vapor intrusion assessment should be conducted to determine whether this potential pathway presents an unacceptable risk to human health.

XI. Next Review

The next Five-Year Review for the Taylor Road Landfill Superfund Site is required by September 2013, five years from the approval date of this review.

ATTACHMENT 1

SITE FIGURES

Figure 1 – Taylor Road Landfill Site Location Map

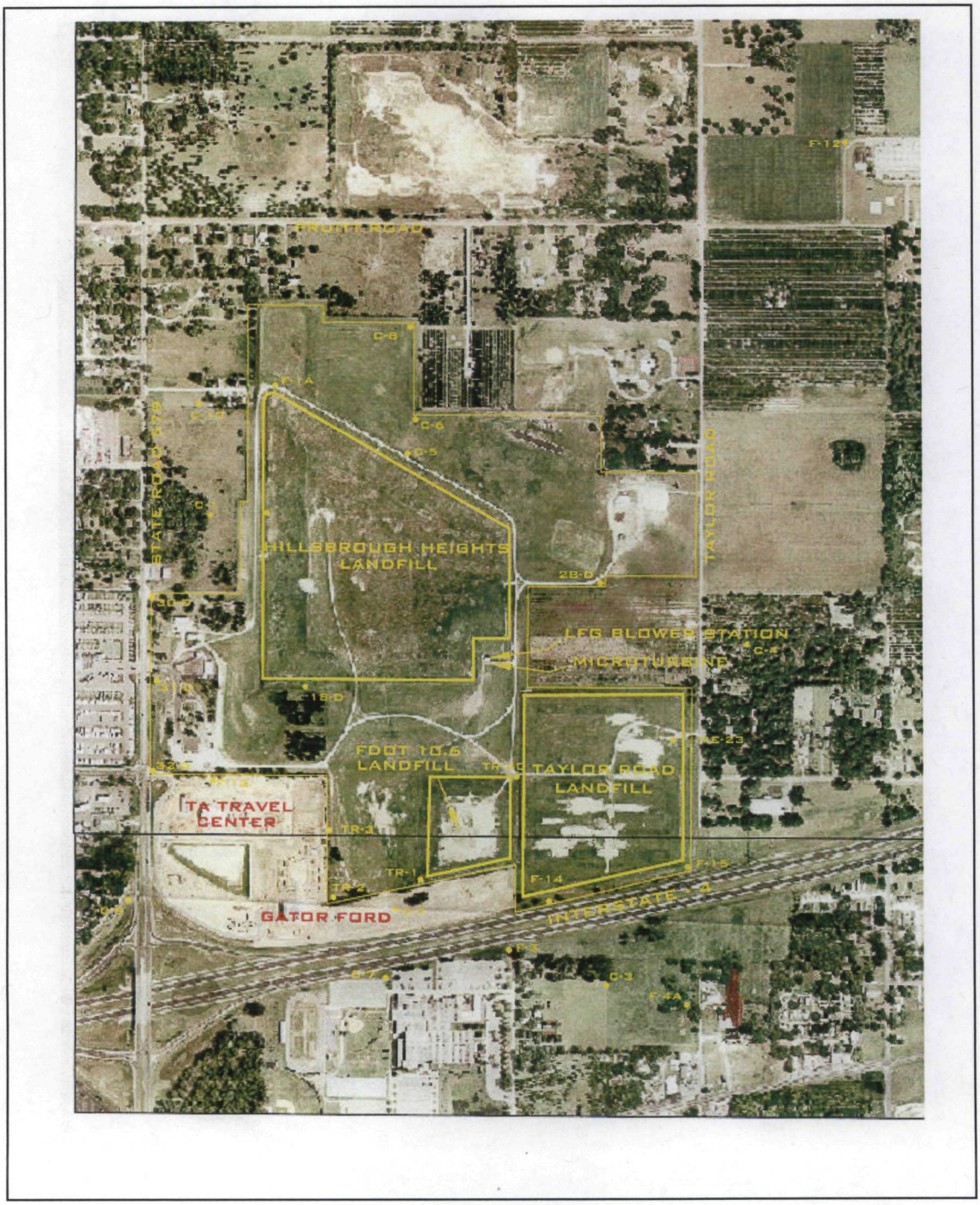


Figure 2 – Ground Water Monitoring Well Location Map

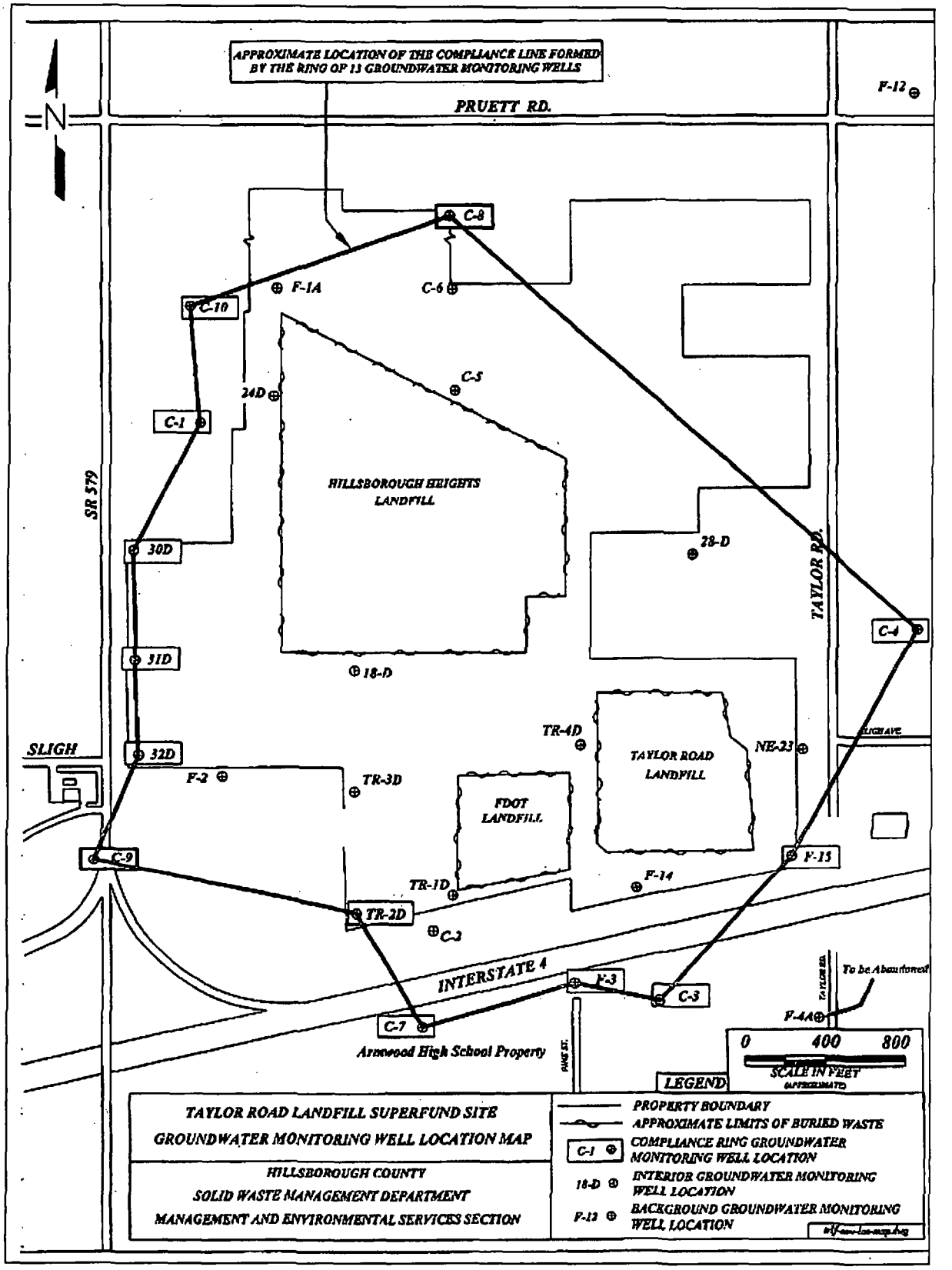
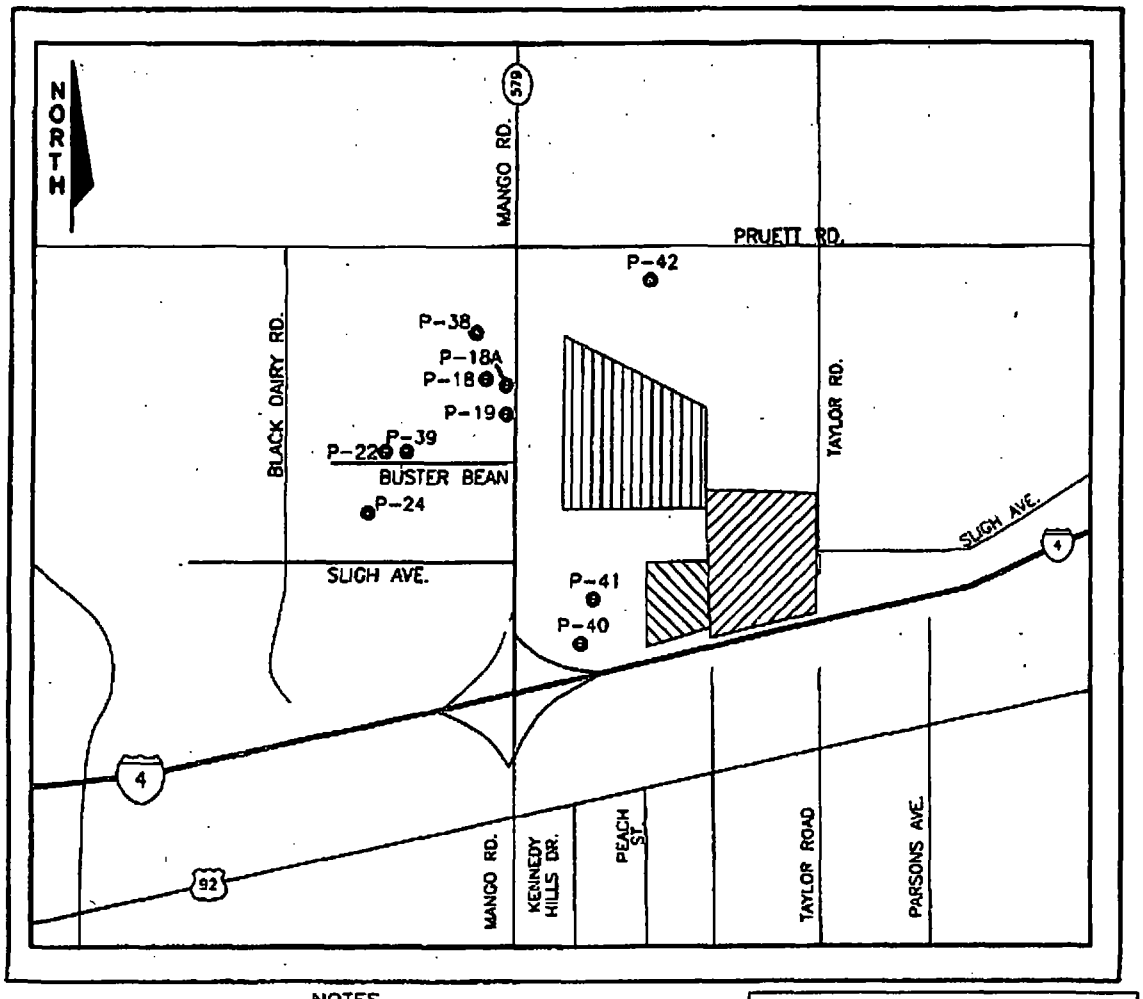


Figure - 3 Private Supply Wells Location Map

HILLSBOROUGH HEIGHTS PRIVATE SUPPLY WELLS



NOTES

1) The domestic supply wells P-18 and P-18A are sampled on an alternating monthly schedule.

2) The private supply wells P-1A and P-4 are no longer utilized for potable supply. The former users of these wells have been connected to the County's potable water distribution system.

3) The irrigation supply wells P-40 and P-41 are no longer in use. However, they will continue to be included in the monthly program until further notice.

LEGEND

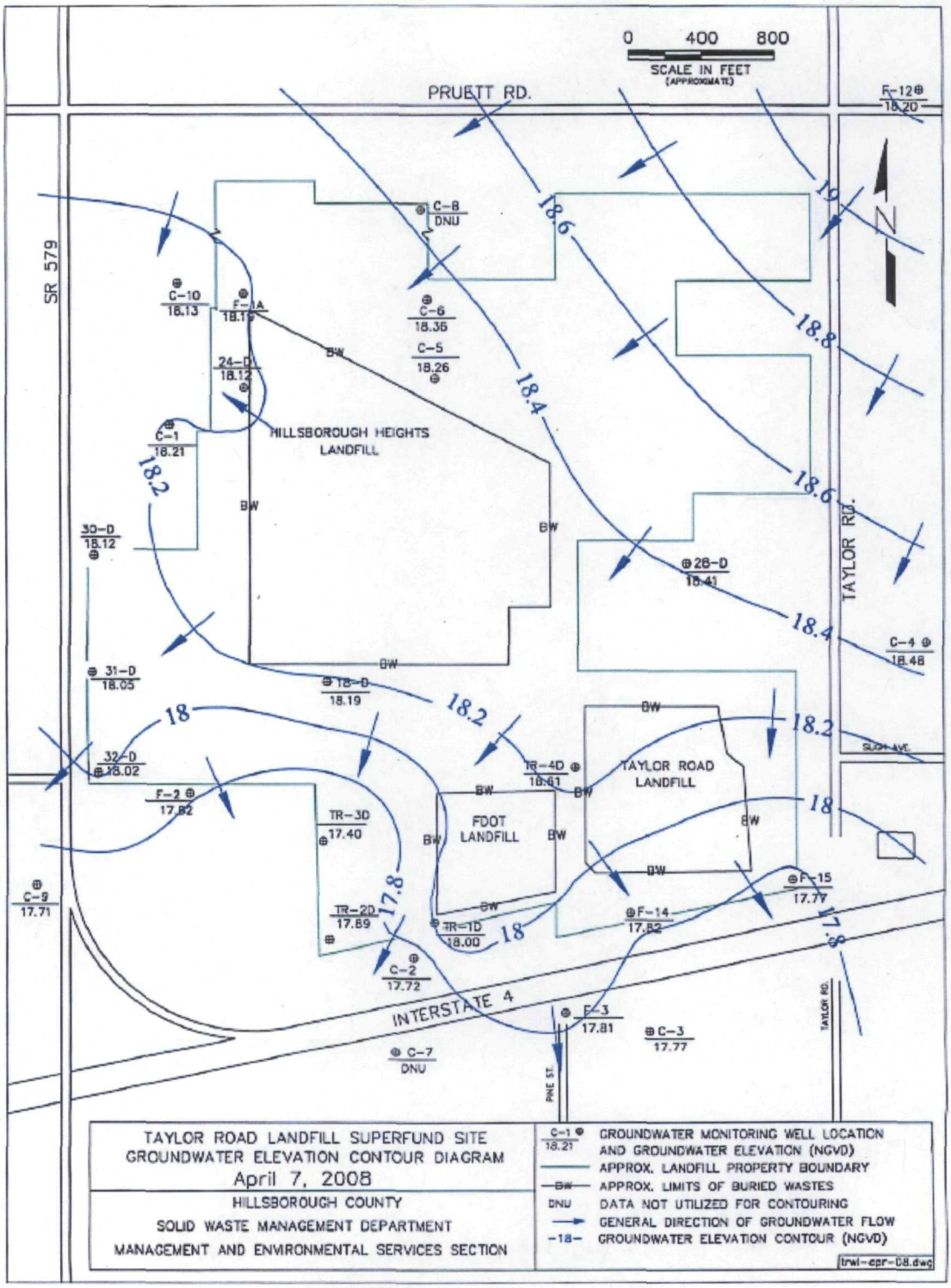
- ⊕ P-4 PRIVATE SUPPLY WELL LOCATION
- TAYLOR ROAD LANDFILL
- HILLSBOROUGH HEIGHTS LANDFILL
- FDOT BORROW PIT LANDFILL

PRIVATE SUPPLY WELL LOCATION MAP

HILLSBOROUGH COUNTY
SOLID WASTE MANAGEMENT DEPARTMENT
MANAGEMENT & ENVIRONMENTAL SERVICES SECTION

[illegible]

Figure 4 – Direction of Ground-Water Flow



ATTACHMENT 2

LIST OF DOCUMENTS REVIEWED

CDM Federal Programs Corporation, Final Baseline Risk Assessment, August 1994

Environmental Protection Agency Region Four, Administrative Order by Consent for Remedial Investigation/Feasibility Study, February 1, 1993

Environmental Protection Agency Region Four, Record of Decision, September 29, 1995

Environmental Protection Agency Region Four, Superfund Proposed Plan fact Sheet, July 1995

Environmental Protection Agency. Explanation of Significant Differences. August 2000.

ERM-South, Inc., Field Sampling Plan, Taylor Road Landfill Site, Hillsborough Co., FL, August 1993

ERM-South, Inc., Final Feasibility Study Report, June 1995

ERM-South, Inc., Final Remedial Investigation Report, May 1995

ERM-South, Inc., Remedial Investigation/ Feasibility Study Work Plan, August 1993

ERM-South, Inc., Taylor Road Landfill RI/FS, December 1993

Florida Department of Environmental Protection. Groundwater Cleanup Target Levels, Chapter 62-550 and 62-777 of the Florida Administrative Code, 1999.

Florida Department of Environmental Protection. Groundwater Guidance Concentrations, June 1994.

GSI Environmental, Inc., Groundwater Monitoring Network Optimization Taylor Road Landfill Superfund Site, August 2007

Hillsborough County Solid Waste Management Department, Updated Groundwater Monitoring Plan, Hillsborough County, Florida May 15, 2006.

Hillsborough County Solid Waste Management Department (HCSWMD), Final Construction Report, April 16, 1999

Hillsborough County Department of Solid Waste, Hillsborough Heights/Taylor Road Landfills Monitor Well Analysis, January 2003

Hillsborough County Department of Solid Waste, Hillsborough Heights/Taylor Road Landfills Monitor Well Analysis, April 2003

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Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, March 2003

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Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, March 2007

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, April 2007

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, May 2007

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, June 2007

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, July 2007

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, August 2007

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, September 2007

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, October 2007

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, November 2007

Hillsborough County Solid Waste Management Department (SWMD), Hillsborough Heights/Taylor Road Landfills Monthly Operations Report, December 2007

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, January 2003

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, April 2003

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, October 2003

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, January 2004

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, April 2004

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, July 2004

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, January 2005

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, April 2005

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, July 2005

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, October 2005

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, January 2006

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, April 2006

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, July 2006

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, October 2006

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, January 2007
Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, April 2007

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, July 2007

Hillsborough County Solid Waste Management Department (SWMD), Taylor Road Landfill Superfund Site Analytical Data Report, October 2007

Hillsborough County Solid Waste Management Department (SWMD),Taylor Road Landfill Superfund Site, Five Year Review Recommended Follow-Up Actions & Response to EPA Comment Letter Dated (February 12, 2004), June 2004

S C S Engineers, Taylor Road Landfill, Superfund Site Groundwater Quality Statistical Evaluation, July 2007

ATTACHMENT 3

SITE INSPECTION CHECKLIST

Five-Year Review Site Inspection Checklist

I. SITE INFORMATION *OSWER No. 9355.7-03B-P*

Site name: Taylor Road Landfill	**Date of inspection: March 5,2008**
Location and Region: Tampa, Hillsborough Co., FL – EPA Region 4	**EPA ID: FLD 980 494 959**
Agency, office, or company leading the five-year review: US Army Corps of Engineers	**Weather/temperature:** **Clear & Sunny, Temperature 76-80°F**

Remedy Includes: (Check all that apply)

- ✓ Landfill cover/containment
- ✓ Access controls
- ✓ Institutional controls
- ☐ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ✓ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls
- ✓Other_The Hillsborough Co. consulted with the Water Management District (i.e., 4 sections around the compliance ring 270-ft setback) to get copies of the permit applications._____

Attachments: ☐ Inspection team roster attached ✓Site map attached

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** _David Adams_____ _Environmental Manager____ _5-March-2008__
   Name Title Date
   Interviewed ✓ at site ☐ at office ✓ by phone Phone no. _813-276-2944_____
   Problems, suggestions; ☐ Report attached _____

2. **O&M staff** _____Mike Townsel_____ _Hydrologist___ _5-March-2008__
   Name Title Date
   Interviewed ✓ at site ☐ at office ☐ by phone Phone no. _813-276-2955____
   Problems, suggestions; ☐ Report attached _____

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency FDEP_____
Contact ___John Morris_____ _Professional Geologist _____ 813-632-7600 ext 336
Name Title Date Phone no.
Problems; suggestions; ☐ Report attached _No representative was available at the site visit._____

Agency __EPC_____
Contact __Chuck Heintz_____ _ Professional Geologist _____ 813-627-2600_
Name Title Date Phone no.
Problems; suggestions; ☐ Report attached _____ No representative was available at the site visit._

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; ☐ Report attached _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.
Problems; suggestions; ☐ Report attached _____

4. **Other interviews** (optional) ☐ Report attached.

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**
   - ☐ O&M manual — ☐ Readily available — ☐ Up to date — ☐ N/A
   - ✓ As-built drawings — ✓ Readily available — ✓ Up to date — ☐ N/A
   - ✓ Maintenance logs — ✓ Readily available — ✓ Up to date — ☐ N/A

   Remarks____Map of Survey describe horizontal control of each well due to natural attenuation, following the ROD procedures._____

2. **Site-Specific Health and Safety Plan** — ✓ Readily available — ✓ Up to date — ☐ N/A
   - ☐ Contingency plan/emergency response plan — ☐ Readily available — ☐ Up to date — ☐ N/A

   Remarks__ Maintained at the county offices and at the site. Several H&S plans are being prepared for all activities._____

3. **O&M and OSHA Training Records** — ✓ Readily available — ✓ Up to date — ☐ N/A

   Remarks__Maintained at county offices. Health & Safety Section employees are trained with OSHA refresher training at the county office and at the site._____

4. **Permits and Service Agreements**
   - ☐ Air discharge permit — ☐ Readily available — ☐ Up to date — ✓ N/A
   - ✓ Effluent discharge — ✓ Readily available — ✓ Up to date — ☐ N/A
   - ✓ Waste disposal, POTW — ✓ Readily available — ✓ Up to date — ☐ N/A
   - ✓ Other permits_____ — ✓ Readily available — ✓ Up to date — ☐ N/A

   Remarks___Waste water leachate permit, discharge permit, long term care permit are maintained according to FDEP rules/regulations required._____

5. **Gas Generation Records** — ✓ Readily available — ✓ Up to date — ☐ N/A

   Remarks_____Extensive evaluations of gas collection system are available at the county offices.___

6. **Settlement Monument Records** — ☐ Readily available — ☐ Up to date — ✓ N/A

   Remarks____Topography surveys are being conducted as part of the re-shaped of collection points._

7. **Groundwater Monitoring Records** — ✓ Readily available — ✓ Up to date — ☐ N/A

   Remarks_Submitted quarterly to EPA, FDEP, EPC, and Waste Management Inc. _____

8. **Leachate Extraction Records** — ✓ Readily available — ✓ Up to date — ☐ N/A

   Remarks____Extensive evaluation records are available at the county offices._____

9. **Discharge Compliance Records**
   - ☐ Air — ☐ Readily available — ☐ Up to date — ✓ N/A
   - ☐ Water (effluent) — ☐ Readily available — ☐ Up to date — ✓ N/A

   Remarks___Leachate compliance records are available_ _____

10. **Daily Access/Security Logs** — ✓ Readily available — ✓ Up to date — ☐ N/A

    Remarks__ Visitors reports to the Community Collection Center, and records are maintained for 5-7 years or longer._____

IV. O&M COSTS

1. **O&M Organization**

☐ State in-house ☐ Contractor for State
✓ PRP in-house ✓ Contractor for PRP
☐ Federal Facility in-house ☐ Contractor for Federal Facility
☐ Other__Hillsborough County is PRP and O&M organization is primarily in-house staff with some contract support. Analitycal Lab Contract Test- America and CSC Engineers (gas collection system upgrade.)_____

2. **O&M Cost Records**

✓ Readily available ✓ Up to date
✓ Funding mechanism/agreement in place
Original O&M cost estimate___N/A_____ ☐ Breakdown attached

Total annual cost by year for review period if available

From___*_____ To_____ _____ ☐ Breakdown attached
Date Date Total cost
From_____ To_____ _____ ☐ Breakdown attached
Date Date Total cost
From_____ To_____ _____ ☐ Breakdown attached
Date Date Total cost
From_____ To_____ _____ ☐ Breakdown attached
Date Date Total cost
From_____ To_____ _____ ☐ Breakdown attached
Date Date Total cost

* Maintained as part of county budget, information provided.

3. **Unanticipated or Unusually High O&M Costs During Review Period**

Describe costs and reasons: __Maintenance and Analysis no unanticipated costs identified._____

V. ACCESS AND INSTITUTIONAL CONTROLS ✓ Applicable ☐ N/A

A. Fencing

1. **Fencing damaged** ☐ Location shown on site map ✓ Gates secured ☐ N/A

Remarks___Site reasonable secure, no apparent damage to fences and /or gates._____

B. Other Access Restrictions

1. **Signs and other security measures** ☐ Location shown on site map ☐ N/A

Remarks_No trespassing sign every 50 feet along fence._____

C. Institutional Controls (ICs)

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented ☐ Yes ✓ No ☐ N/A

Site conditions imply ICs not being fully enforced ☐ Yes ✓ No ☐ N/A

Type of monitoring (*e.g.*, self-reporting, drive by) __O&M personnel on-site daily /self reporting.___
Frequency _Daily inspection of perimeter of fence line/monthly detailed inspection of site._____
Responsible party/agency _Hillsborough County Solid Waste Management Department_____
Contact _Waymon Rose_____ __Senior Crew Ldr_____ _____ 813-765-4478__
Name Title Date Phone no.

Reporting is up-to-date ✓ Yes ☐ No ☐ N/A
Reports are verified by the lead agency ✓ Yes ☐ No ☐ N/A

Specific requirements in deed or decision documents have been met ✓ Yes ☐ No ☐ N/A
Violations have been reported ☐ Yes ☐ No ✓ N/A
Other problems or suggestions: ☐ Report attached

Re-sample within the same quarter for any exceedances

2. **Adequacy** ✓ ICs are adequate ☐ ICs are inadequate ☐ N/A
Remarks__Physical security is adequately implemented. Groundwater use restrictions seem to be working properly._____

D. General

1. **Vandalism/trespassing** ☐ Location shown on site map ✓ No vandalism evident
Remarks_____

2. **Land use changes on site** ✓ N/A
Remarks____No_____

3. **Land use changes off site** ✓ N/A
Remarks____No, however, the Cone Brothers Borow Pit its being active upgradient from site. This is an offsite borrow pit used for selling top soil and construction materials._____

VI. GENERAL SITE CONDITIONS

A. Roads ✓ Applicable ☐ N/A

Roads damaged ☐ Location shown on site map ✓ Roads adequate ☐ N/A
Remarks_____

B. Other Site Conditions

Remarks _____

VII. LANDFILL COVERS ✓ Applicable ☐ N/A

A. Landfill Surface

1. **Settlement** (Low spots) ☐ Location shown on site map ☐ Settlement not evident
   Areal extent_____ Depth__0.5-1 ft_____
   Remarks_Low areas (100-500 meters square) noted on TRLF and HH. Hillsborough Co. constantly do maintenance of the cap. Ongoing repairs to the cap are being done._____

2. **Cracks** ☐ Location shown on site map ✓ Cracking not evident
   Lengths_____ Widths_____ Depths_____
   Remarks_____

3. **Erosion** ☐ Location shown on site map ✓ Erosion not evident
   Areal extent_____ Depth_____
   Remarks_____

4. **Holes** ☐ Location shown on site map ✓ Holes not evident
   Areal extent_____ Depth_____
   Remarks_____

5. **Vegetative Cover** ✓ Grass ✓ Cover properly established ✓ No signs of stress
   ☐ Trees/Shrubs (indicate size and locations on a diagram)
   Remarks__New trees_will be planted along the perimeter for aesthetics of landfill.

6. **Alternative Cover (armored rock, concrete, etc.)** ✓ N/A
   Remarks_____

7. **Bulges** ☐ Location shown on site map ✓ Bulges not evident
   Areal extent_____ Height_____
   Remarks_____

8. **Wet Areas/Water Damage** ✓ Wet areas/water damage not evident
   ☐ Wet areas ☐ Location shown on site map Areal extent_____
   ☐ Ponding ☐ Location shown on site map Areal extent_____
   ☐ Seeps ☐ Location shown on site map Areal extent_____
   ☐ Soft subgrade ☐ Location shown on site map Areal extent_____
   Remarks_____

9. **Slope Instability** ☐ Slides ☐ Location shown on site map ✓ No evidence of slope instability
   Areal extent_____
   Remarks_____

B. Benches ✓ Applicable ☐ N/A

(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

1. **Flows Bypass Bench** ☐ Location shown on site map ☐ N/A or okay
   Remarks No flow pass by bench. Stormwater flows uniformly off perimeter ditches, which ultimately flows to storm water ponds (6 stormwater areas.)

2. **Bench Breached** ☐ Location shown on site map ✓ N/A or okay
   Remarks

3. **Bench Overtopped** ☐ Location shown on site map ✓ N/A or okay
   Remarks

C. Letdown Channels ✓ Applicable ☐ N/A

(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

1. **Settlement** ☐ Location shown on site map ✓ No evidence of settlement
   Areal extent Depth
   Remarks

2. **Material Degradation** ☐ Location shown on site map ✓ No evidence of degradation
   Material type Areal extent
   Remarks

3. **Erosion** ☐ Location shown on site map ✓ No evidence of erosion
   Areal extent Depth
   Remarks

4. **Undercutting** ☐ Location shown on site map ✓ No evidence of undercutting
   Areal extent Depth
   Remarks

5. **Obstructions** Type ✓ No obstructions
   ☐ Location shown on site map Areal extent
   Size
   Remarks

6. **Excessive Vegetative Growth** Type
   ✓ No evidence of excessive growth
   ✓ Vegetation in channels does not obstruct flow
   ☐ Location shown on site map Areal extent
   Remarks

D. Cover Penetrations ✓ Applicable ☐ N/A

1. **Gas Vents** ✓ Active ☐ Passive
✓ Properly secured/locked ☐ Functioning ✓ Routinely sampled ✓ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance
☐ N/A
Remarks____Leakage checked quarterly._____

2. **Gas Monitoring Probes**
✓ Properly secured/locked ☐ Functioning ✓ Routinely sampled ✓ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ☐ N/A
Remarks__Applicable to collection or extraction wells, gas is collected and being flared. Monthly sampled._____

3. **Monitoring Wells** (within surface area of landfill)
☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ✓ N/A
Remarks___Located outside the the landfill footprint._

4. **Leachate Extraction Wells**
✓ Properly secured/locked ☐ Functioning ✓ Routinely sampled ✓ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ☐ N/A
Remarks__Recent upgrades to leachate & gas collection sytem completed._____

5. **Settlement Monuments** ☐ Located ☐ Routinely surveyed ✓ N/A
Remarks_____

E. Gas Collection and Treatment ✓ Applicable ☐ N/A

1. **Gas Treatment Facilities**
✓ Flaring ✓ Thermal destruction ☐ Collection for reuse
✓ Good condition ☐ Needs Maintenance
Remarks__Micro-turbine has been removed from the site because it was not working properly (pilot project.)_____

2. **Gas Collection Wells, Manifolds and Piping**
✓ Good condition ☐ Needs Maintenance
Remarks___Upgrade recently completed._____

3. **Gas Monitoring Facilities** (*e.g.*, gas monitoring of adjacent homes or buildings)
✓ Good condition ☐ Needs Maintenance ☐ N/A
Remarks__Monitored within structures quarterly. Sheriff's building it is not monitored for security reasons._____

F. Cover Drainage Layer ☐ Applicable ✓ N/A

1. **Outlet Pipes Inspected** ☐ Functioning ☐ N/A
Remarks_____

2. **Outlet Rock Inspected** ☐ Functioning ☐ N/A
Remarks_____

G. Detention/Sedimentation Ponds ✓ Applicable ☐ N/A

1. **Siltation** Areal extent 8-9 acres Depth 5-10 feet ☐ N/A
   ✓ Siltation not evident
   Remarks Infiltrate into the ground on-site. Four on site one off-site.

2. **Erosion** Areal extent Depth
   ✓ Erosion not evident
   Remarks

3. **Outlet Works** ☐ Functioning ✓ N/A
   Remarks

4. **Dam** ☐ Functioning ✓ N/A
   Remarks

H. Retaining Walls ☐ Applicable ✓ N/A

1. **Deformations** ☐ Location shown on site map ☐ Deformation not evident
   Horizontal displacement Vertical displacement
   Rotational displacement
   Remarks

2. **Degradation** ☐ Location shown on site map ☐ Degradation not evident
   Remarks

I. Perimeter Ditches/Off-Site Discharge ✓ Applicable ☐ N/A

1. **Siltation** ☐ Location shown on site map ✓ Siltation not evident
   Areal extent Depth
   Remarks Perimeter ditches around landfill, route to detention basins. No off-site discharge.

2. **Vegetative Growth** ☐ Location shown on site map ☐ N/A
   ✓ Vegetation does not impede flow
   Areal extent Type
   Remarks

3. **Erosion** ☐ Location shown on site map ✓ Erosion not evident
Areal extent_____ Depth_____
Remarks_____

4. **Discharge Structure** ☐ Functioning ✓ N/A
Remarks____There is no discharge off-site.

VIII. VERTICAL BARRIER WALLS ☐ Applicable ✓ N/A

1. **Settlement** ☐ Location shown on site map ☐ Settlement not evident
Areal extent_____ Depth_____
Remarks_____

2. **Performance Monitoring** Type of monitoring_____
☐ Performance not monitored
Frequency_____ ☐ Evidence of breaching
Head differential_____
Remarks_____

IX. GROUNDWATER/SURFACE WATER REMEDIES ☐ Applicable ✓ N/A

A. Groundwater Extraction Wells, Pumps, and Pipelines ☐ Applicable ✓N/A

1. **Pumps, Wellhead Plumbing, and Electrical**
☐ Good condition ☐ All required wells properly operating ☐ Needs Maintenance
☐ N/A
Remarks_____

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
☐ Good condition ☐ Needs Maintenance
Remarks_____

3. **Spare Parts and Equipment**
☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided
Remarks_____

B. Surface Water Collection Structures, Pumps, and Pipelines ☐ Applicable ✓ N/A

1. **Collection Structures, Pumps, and Electrical**
☐ Good condition ☐ Needs Maintenance
Remarks_____

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
☐ Good condition ☐ Needs Maintenance
Remarks_____

3. **Spare Parts and Equipment**
☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided
Remarks_____

C. Treatment System ☐ Applicable ✓ N/A

1. **Treatment Train** (Check components that apply)
☐ Metals removal ☐ Oil/water separation ☐ Bioremediation
☐ Air stripping ☐ Carbon adsorbers
☐ Filters_____
☐ Additive (*e.g.*, chelation agent, flocculent)_____
☐ Others_____
☐ Good condition ☐ Needs Maintenance
☐ Sampling ports properly marked and functional
☐ Sampling/maintenance log displayed and up to date
☐ Equipment properly identified
☐ Quantity of groundwater treated annually_____
☐ Quantity of surface water treated annually_____
Remarks_____

2. **Electrical Enclosures and Panels** (properly rated and functional)
✓ N/A ☐ Good condition ☐ Needs Maintenance
Remarks_____

3. **Tanks, Vaults, Storage Vessels**
✓ N/A ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance
Remarks_____

4. **Discharge Structure and Appurtenances**
✓ N/A ☐ Good condition ☐ Needs Maintenance
Remarks_____

5. **Treatment Building(s)**
✓ N/A ☐ Good condition (esp. roof and doorways) ☐ Needs repair
☐ Chemicals and equipment properly stored
Remarks_____

6. **Monitoring Wells** (pump and treatment remedy)
✓ Properly secured/locked ✓ Functioning ✓ Routinely sampled ✓ Good condition
✓ All required wells located ☐ Needs Maintenance ☐ N/A
Remarks__Monitored for natural attenuation. Abandoned wells need to be removed.

D. Monitoring Data

1. Monitoring Data
✓ Is routinely submitted on time ✓ Is of acceptable quality

2. Monitoring data suggests:
✓ Groundwater plume is effectively contained ✓ Contaminant concentrations are declining

E. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)
✓ Properly secured/locked ✓ Functioning ✓ Routinely sampled ✓ Good condition
✓ All required wells located ☐ Needs Maintenance ☐ N/A
Remarks__Routinely smpled on a quarterly basis. Wells are properly labeled with ID._____

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

___Remedy is to control human exposure and monitor for natural attenuation. Remedy is generally being implemented as expected, and is operational and functional. _____

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

___O&M is generally adequate._____

___System upgrade was completed. _____

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

___None._____

_____Remedy is functioning properly. Plume is contained from the groundwater. Data set is very consistent._____

D.	**Opportunities for Optimization**
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. _____ _____Reduction of frequency of monitoring program (long term monitoring optimization.) _____Vapor phase transport could be investigated in a more detailed manner. Although, is challenging due to depths of 70-80 feet, it would be a good idea to re-visit with extraction wells. Refer to C-5 & C-6 (Interior wells.) _____

ATTACHMENT 4

SITE PHOTOGRAPHS

Taylor Road Landfill: Well-established grass cover.

Taylor Road Landfill: Deep monitoring well (interior well) with protective casing and dedicated sampling system, located outside the site area.

Taylor Road Landfill: Improvement/upgrading of gas well monitoring areas.

Taylor Road and Hillsborough Heights Landfills: Flare for combined flow landfill gas recovery system.

Taylor Road Landfill: Leachate collection tank.

Taylor Road Landfill: Fencing around the perimeter.

ATTACHMENT 5

INTERVIEW RECORDS

INTERVIEW RECORD

Site Name: Taylor Road	EPA ID No.:
Subject: 5 yr Rvw	Time: 2:30 PM Date: 3/5/08
Type: ☐ Telephone ☒ Visit ☐ Other Location of Visit:	☐ Incoming ☐ Outgoing

Contact Made By:

Name: L'Tonya Spencer	Title: CIC	Organization: EPA

Individual Contacted:

Name: Cam Oberting	Title:	Organization: Taylor Road Civic Assoc.
Telephone No: Fax No: E-Mail Address:	Street Address: City, State, Zip:	

Summary Of Conversation

See Attached

INTERVIEW DOCUMENTATION FORM

The following is a list of individuals interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date
Georgia M. Craig	member	Taylor Rd Civic	03-05-08
Rosa L. Goldsmith	BD member	TAYLOR RD Civic assn	03-05-08
Cam Obertino	Pres.	Taylor Rd civic assn.	03-05-08
Lee E. Obertino	Board	Taylor Rd Civic	3-5-08

Name / Title/Position / Organization / Date

Taylor Road Superfund Site
March 5, 2008

FIVE YEAR REVIEW INTERVIEW QUESTIONS FOR COMMUNITY

1. What is your impression of the activities (O & M) at the site?

The site is much better than before. There are no more trespassing, etc. The fences are repaired.

2. Have there been any effects on the surrounding community related to the site operations?

No. => However, the mercury is a problem.
Mercury is not natural
Is that the reason the water lines have been extended to supply water to in the area. The homes on 579 (corner)

3. Are you aware of any community concerns regarding the site or its operations and administration?

Q: What about the gas on the Taylor Road site?
Q: What about mercury? ~~How does it affect~~
What are the health affects of the mercury?

4. Are you aware of any events, incidents or activities, such as trespassing, vandalism, emergency responses, etc., at the site?

Low levels of mercury in wells are a concern => Where is it coming from?
Where is the low (ph's) & mercury coming from?
Discarded ~~industrial~~ waste @ an industrial place in the area, & it needs to be looked @.

5. Do you feel well informed about the site activities and/or progress?

Yes. David does a wonderful job on communicating what is going on at the site & near the area.

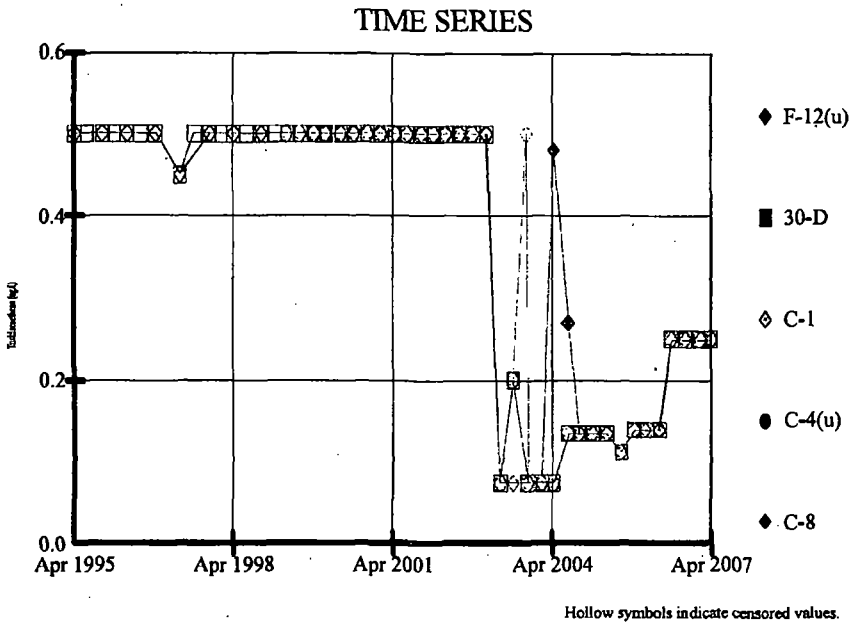
6. Do you have any comments, suggestions or recommendations regarding the site's activities or operation?

Pleased that the golf course on top of the dump is not going forward.
Concerned that mercury may be moving in this direction.

ATTACHMENT 6

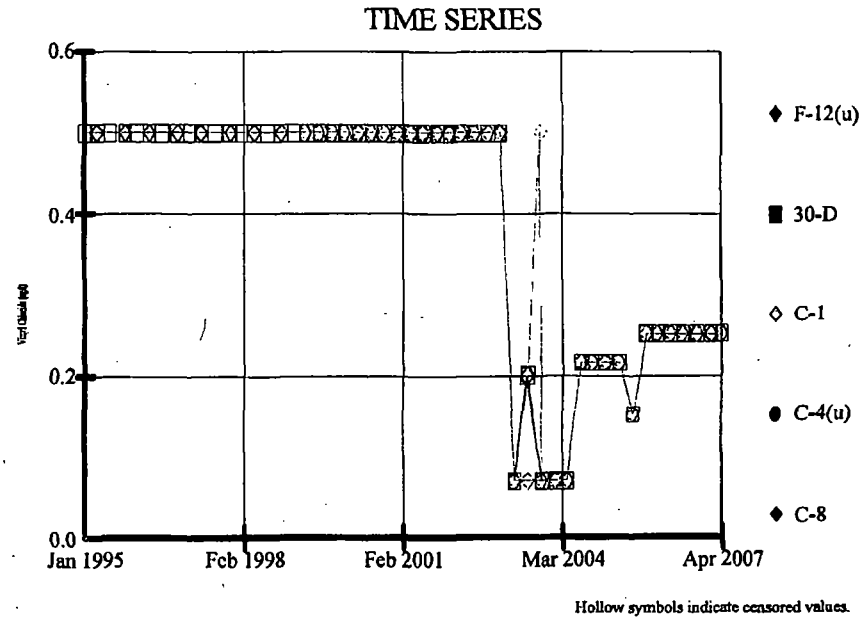
PRIORITY COPCs DATA GRAPHS

Note: Concentration Units are in µg/l



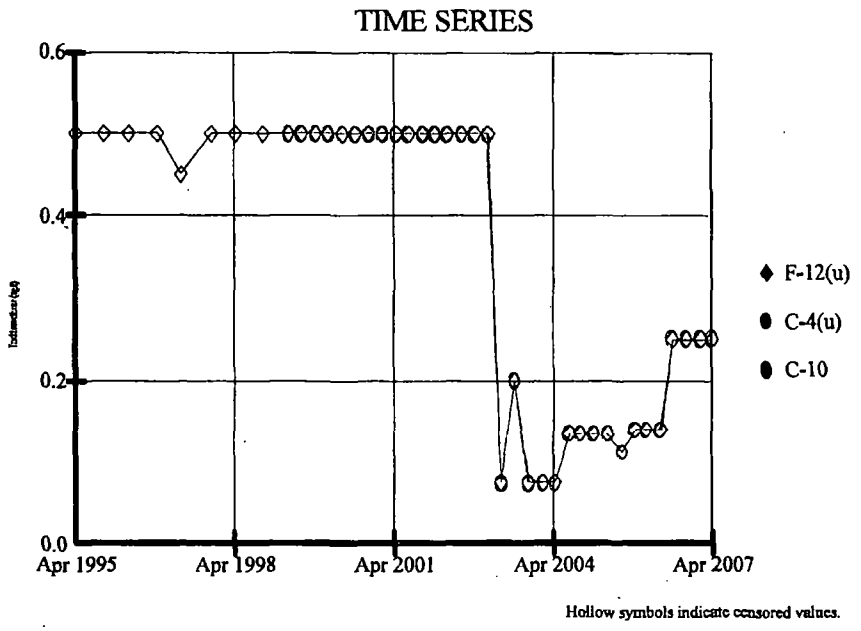
Hollow symbols indicate censored values.

Constituent: Trichloroethene (ug/l) Facility: Taylor Road LF Data File: sanitas07finaltranslated(NO)
Date: 5/25/07, 9:41 AM Client: Taylor Road LF View: _Batch_



Hollow symbols indicate censored values.

Constituent: Vinyl Chloride (ug/l) Facility: Taylor Road LF Data File: sanitas07finaltranslated(NO)
Date: 5/25/07, 9:41 AM Client: Taylor Road LF View: _Batch_



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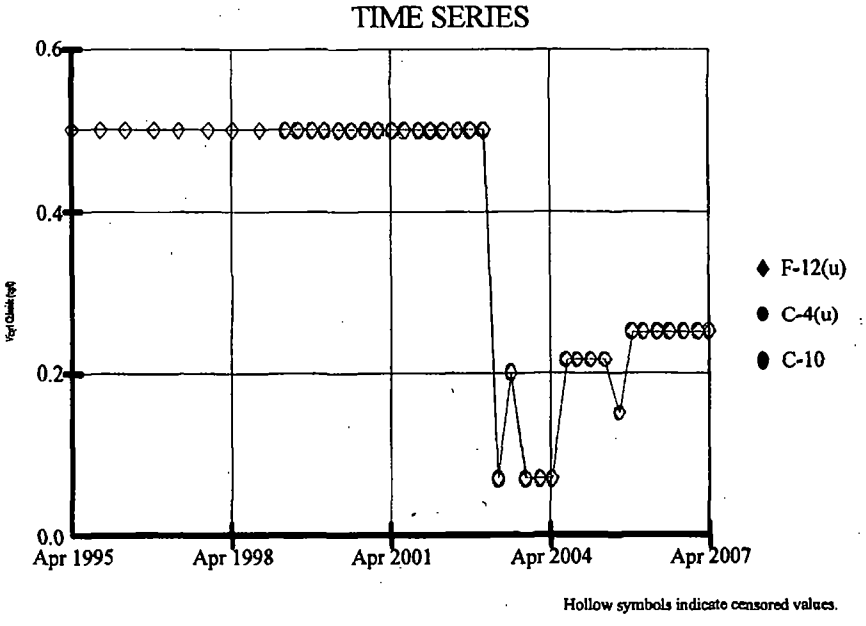

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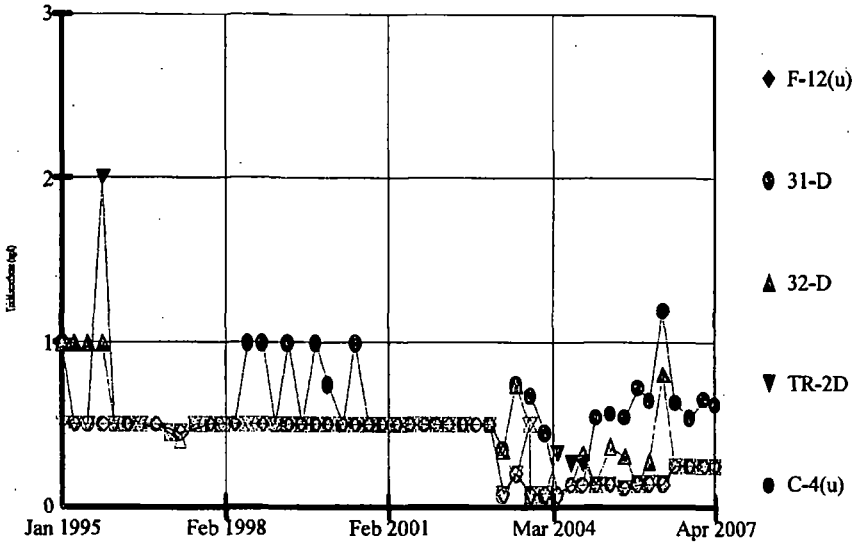

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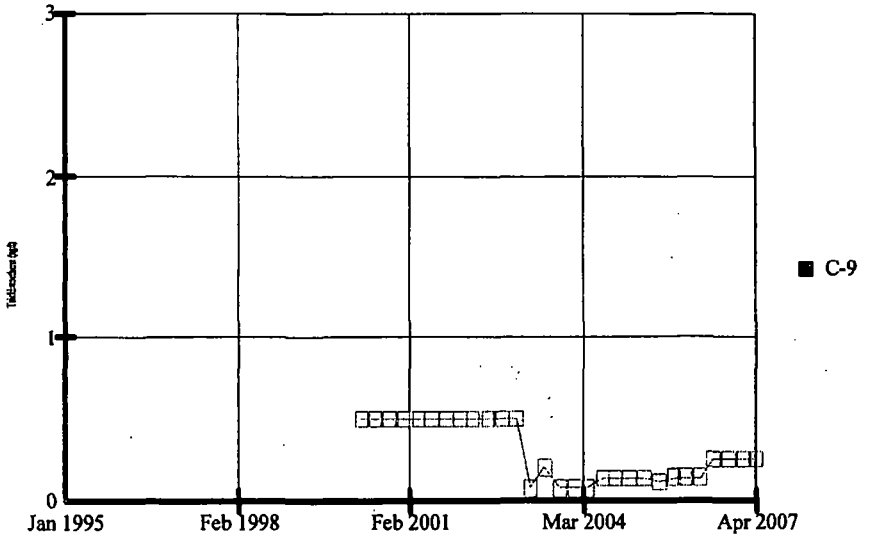

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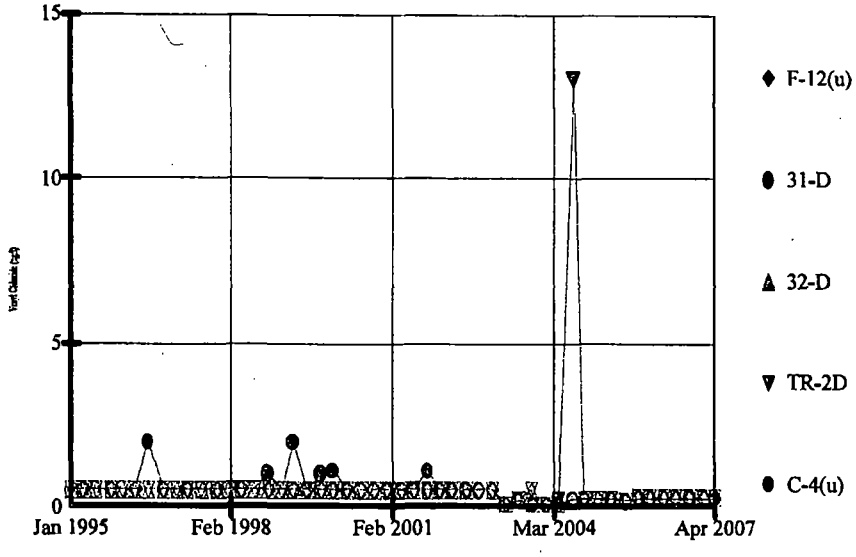

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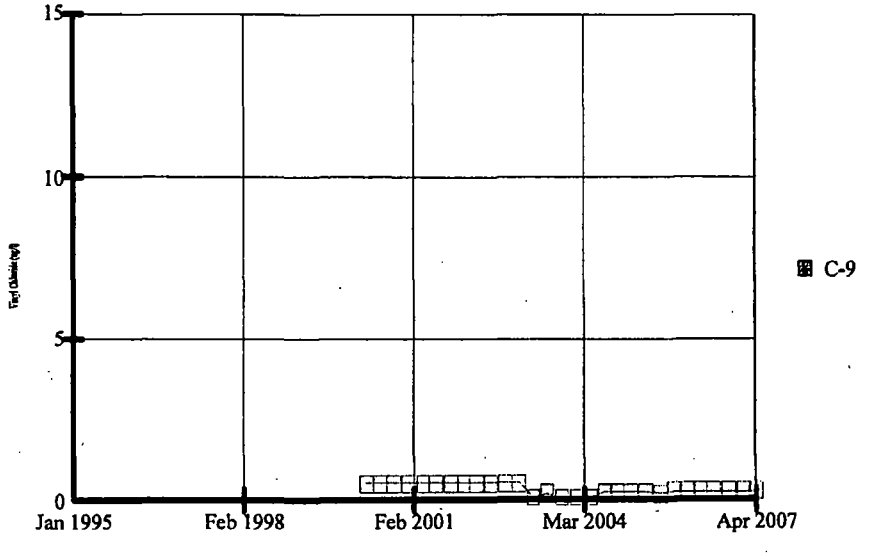

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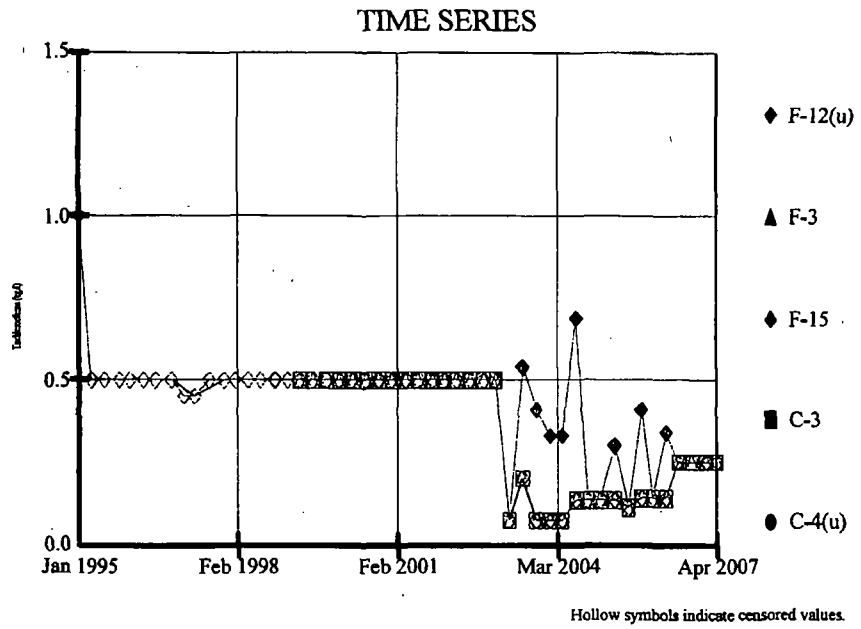
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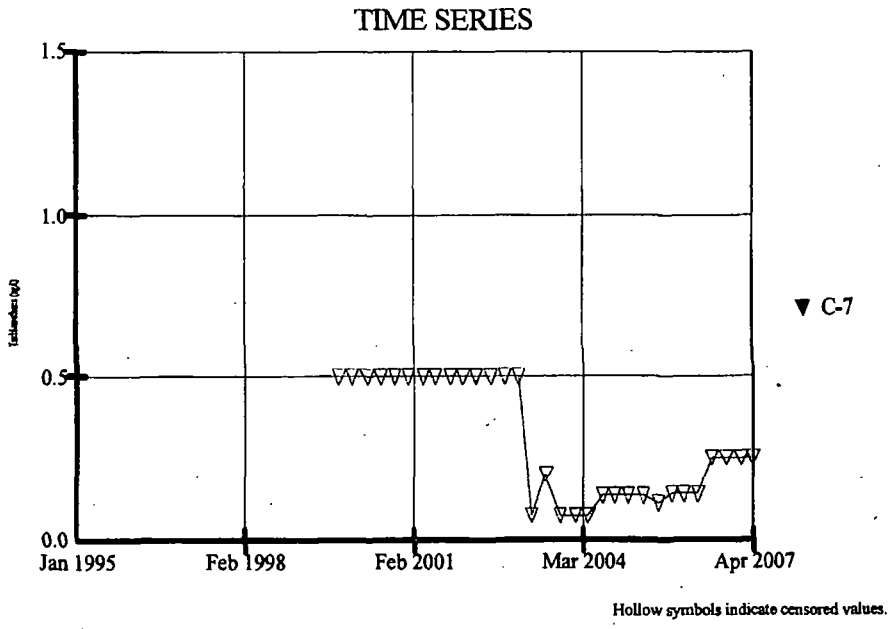
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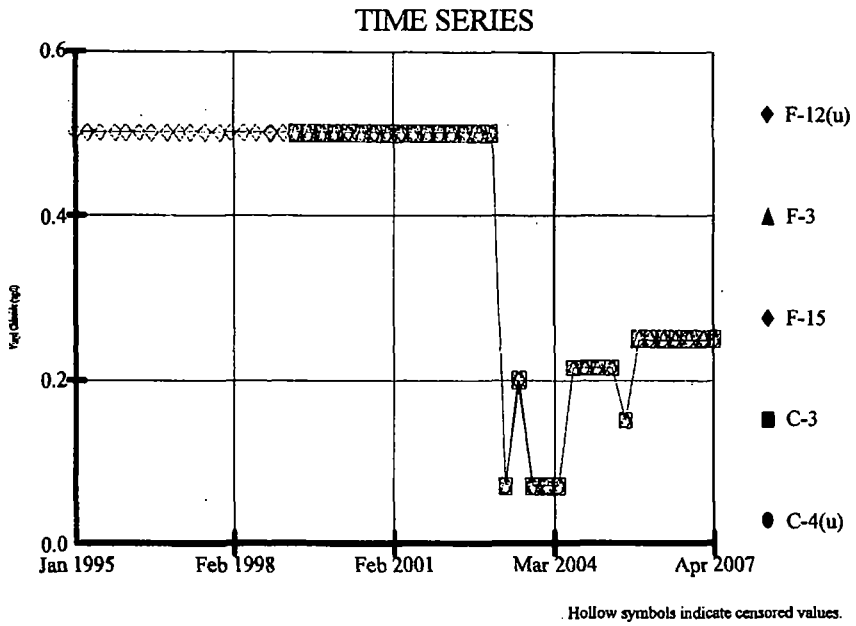

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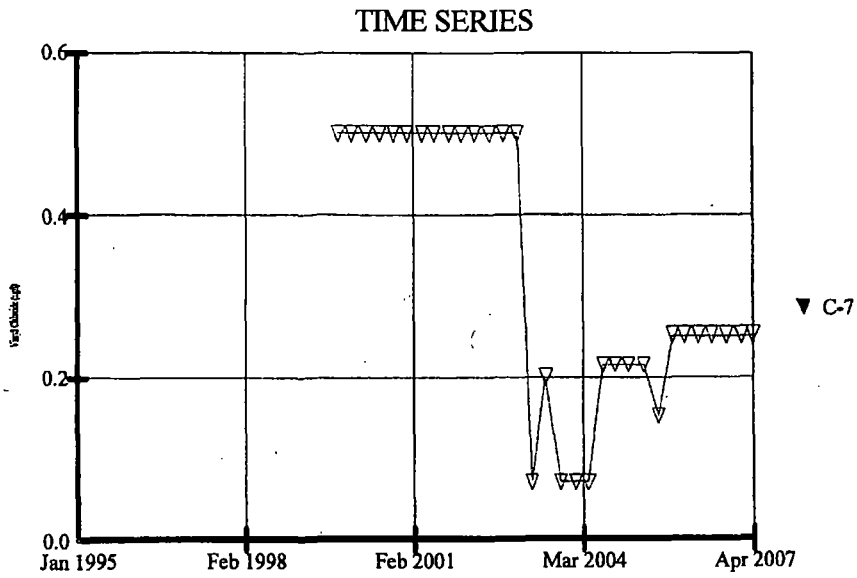

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ATTACHMENT 7

PUBLIC NOTICE OF FIVE YEAR REVIEW

U. S. Environmental Protection Agency, Region 4
Announces a Five-Year Review
for the Taylor Road Landfill Superfund Site
Hillsborough County, FL

Purpose/Objective: The US Environmental Protection Agency (EPA) is conducting a Five-Year Review of the remedy for the Taylor Road Landfill Superfund Site. The Taylor Road Landfill Superfund Site is located in eastern Hillsborough County, Florida, approximately 7 miles east of Tampa in the Seffner-Thonotosassa area. The purpose of the Five-Year Review is to ensure that the selected cleanup actions continue to protect human health and the environment.

Site Background: The Taylor Road Landfill was permitted as a solid waste landfill for Hillsborough County in 1975. The Taylor Road Landfill was not constructed with a liner or leachate collection system. The County operated the Taylor Road Landfill from May 1976 until February 1980. A total of 620,000 tons was disposed of in the landfill. An unknown quantity of hazardous waste is suspected to have been buried at this landfill.

In October 1979, as part of a nationwide program of groundwater sampling and analysis, EPA discovered volatile organic compounds and metals in site monitoring wells and numerous private wells drilled into the Floridan Aquifer, which is the drinking water source for much of the greater Tampa area. EPA advised residents in the vicinity of the site to discontinue the use of their wells. A bottled water program was established and eventually about 400 residences and businesses were connected to the county water supply. A final remedy decision addressing the groundwater contamination was made in September, 1995. The remedy consists of monitoring groundwater, creating a buffer zone by supplying additional residents with county water, and planning for active groundwater remediation if future monitoring reveals the need. Groundwater monitoring continues at the site to make sure the remedy remains effective.

Five-Year Review Schedule: The National Contingency Plan requires that remedial actions which result in any hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure be reviewed every five years to ensure protection of human health and the environment. EPA completed a statutory Five-Year Review in September 2003. The remedy at the Taylor Road Landfill was determined to be protective of human health and the environment. This is the second Five-Year Review for this site.

EPA invites community participation in the Five-Year Review process.

The EPA is conducting this Five-Year Review to evaluate the effectiveness of the remedy and ensure that the remedy remains protective of human health and the environment. As part of the Five-Year Review process, the EPA is available to answer any questions about the Site. Community members who have questions about the Site, the Five-Year Review process, or who would like to participate in a community interview, are asked to contact the following:

Erik E. Spalvins, Environmental Scientist
404-562-8938 / 1-800-435-9234 (Toll Free)
spalvins.erik@epa.gov

L'Tonya Spencer, Community Involvement Coordinator
404-562-8463 / 1-800-435-9234 (Toll Free)
spencer.latonya@epa.gov

U.S. EPA – Region 4 Mailing Address
Superfund Division (4SD-SRB)
61 Forsyth Street,
Atlanta, Georgia 30303

Local Document Repository
Thonotosassa Public Library
10715 Main Street
Thonotosassa, FL 33592

Online: http://www.epa.gov/region4/waste/npl/nplfln/taylorfl.htm

4

February 9, 1998
Project 97-109-L

INSTR # 98048161
RECORDED 02/26/98 @ 03:12 PM
OR BOOK 8920 PAGE 0247
RICHARD AKE
CLERK OF CIRCUIT COURT
HILLSBOROUGH COUNTY
DEPUTY CLERK L Evans

NOTICE OF ENTRY OF CONSENT DECREE FOR THE TAYLOR ROAD LANDFILL SUPERFUND SITE IN HILLSBOROUGH COUNTY, FLORIDA

Notice is hereby given that Hillsborough County owns certain real property commonly referred to as the Taylor Road Landfill in Hillsborough County, Florida located near the intersection of Interstate Highway 4 and State Road 579, more particularly described in Exhibit "A"; and,

Notice is hereby given of the entry of the CERCLA Remedial Design and Remedial Action (RD/RA) Final Consent Decree for the said Taylor Road Landfill Site described in said Exhibit A of this Notice. In connection with the matter styled United States v. Hillsborough County, et al., Civil Action No. 98-239-CIV-T-25F , the CERCLA RD/RA Final consent Decree is lodged with the United States District Court for the Middle District of Florida.

Under Paragraph 9 of the Consent decree, all instruments conveying an interest in the Site property owned by Hillsborough County shall contain a notice stating that such property is subject to the Consent Decree and shall refer to the location of the Consent Decree and any restrictions applicable to such property under the Consent Decree.

Notice is also hereby given that the consent Decree does not constitute a lien, cloud or encumbrance on any real property, or actual or constructive notice of same.

Owner: Hillsborough County

By: _____

Print Name: Daryl H. Smith
Title: Director, Solid Waste Management Dept.
Address: P.O. Box 1110
Tampa, Florida 33601

STATE OF FLORIDA)
) SS
COUNTY OF Hillsborough)

BEFORE ME, Francis M. Harrelson A Notary Public in and for the State and County aforesaid personally appeared Daryl H. Smith, to me personally known, or who produced the following identification personal known, executed the foregoing instrument for the purposes therein contained and who did ✓ did not ___ take an oath, on this 25th day of February, 1998.

_____
Notary Public-State of Florida

My Commission expires: _____

FRANCIS M. HARRELSON
My Comm Exp. 8/13/99
Bonded By Service Ins
No. CC488182
[ ] Personally Known [ ] Other I.D.

Prepared by:
Hillsborough County
Real Estate Dept.
P.O. Box 1110
Tampa, Florida 33601

RETURN TO: REAL ESTATE DEPARTMENT

10650910

EXHIBIT "A"

Folio # 62121.0000
The West ½ of the Northwest 1/4 of the Southeast 1/4 of Section 27, Township 28 South, Range 20 East, Hillsborough County, Florida.

Folio # 62123.0000
The East ½ of the Northwest 1/4 of the Southeast 1/4, less the North 421 feet and less the South 104 feet thereof of Section, 27, Township 28 South, Range 20 East, Hillsborough County, Florida.

Folio # 62125.0060
The West 100 feet of the North ½ of the Southwest 1/4 of the Southeast 1/4 of Section 27, Township 28, Range 20 East, Hillsborough County, Florida.

Folio# 62126.0000
The South ½ of the Southwest 1/4 of the Southeast 1/4 of Section 27, Township 28, South, Range 20 East, Hillsborough County, Florida.

Folio # 62169.0000
The East 9 Chains of the North 10 Chains of the Northwest 1/4 of the Southwest 1/4 and the South 12.21 Chains of the East 8.1 Chains of the Southwest 1/4 of the Northwest 1/4 and the Southwest 1/4 of the Southeast 1/4 of the Northwest 1/4 and the West ½ of the Northeast 1/4 of the Southwest 1/4 Less the East 5 acres of Section 27, Township 28 South, Range 29 East, Hillsborough County, Florida.

Folio # 62173.0000
The East ½ of the Northeast 1/4 of the Southwest 1/4 and the East 5 acres of the West ½ of the Northeast 1/4 of the Southwest 1/4 of Section 27, Township 28 South, Range 20 East, Hillsborough County, Florida

Folio # 62179.0000
The Southeast 1/4 of the Northwest 1/4 of the Southwest 1/4 of Section 27, Township 28 South, range 20 East, Hillsborough County, Florida

Folio # 62180.0000
The Southwest 1/4 of the Southwest 1/4 and the Southeast 1/4 of the Southwest 1/4 of Section 27, Township 28 South, Range 20 East, Hillsborough County, Florida.

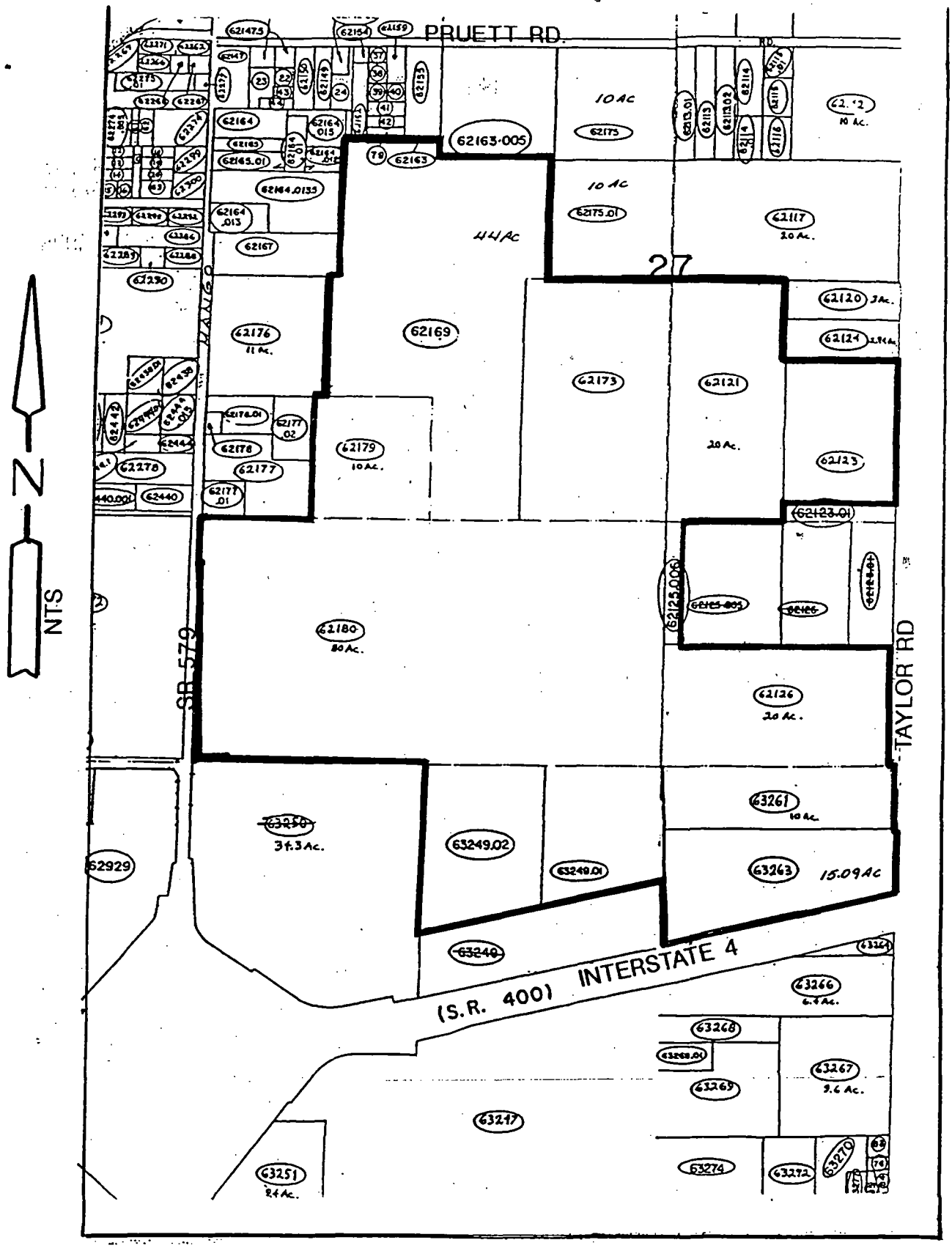
EXHIBIT "A"

Folio # 63249.0100
That Part of the East ½ of the Northeast 1/4 of the Northwest 1/4, lying North of SR 400, (a.k.a Interstate 4) Less the Southerly 355.1 feet thereof, of Section 34, Township 28, South, Range 20, East, Hillsborough County, Florida.

Folio # 63249.0200
That Part of West ½ of the Northeast 1/4 of the Northwest 1/4, lying North of SR 400, (a.k.a. Interstate 4) Less the Southerly 355.1 feet thereof, in Section 34, Township 28, South, Range 20, East, Hillsborough County, Florida

Folio# 63261.0000
The North 1/4 of the Northwest 1/4 of the Northeast 1/4, Less Hwy., of Section 34, Township 28 South, Range 20 East, Hillsborough County, Florida.

Folio # 63263.0000
That Part of the South 2/3 of the North 3/4 of the Northwest 1/4 of the Northeast 1/4, North of SR 400, (a.k.a. Interstate 4) of Section 34, Township 28 South, Range 20 East, Hillsborough County, Florida.



PROJECT 97-109-LF
TAYLOR RD LANDFILL
SEC 27 & 34 TWP 28 RNG 20

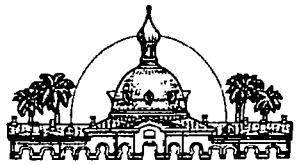
HILLSBOROUGH COUNTY

FLORIDA

SITE:
BREAK:
OTHER:

Office of the County Administrator
Daniel A. Kleman

BOARD OF COUNTY COMMISSIONERS
Dottie Berger
Joe Chillura
Chris Hart
Jim Norman
Jan Platt
Thomas Scott
Ed Turanchik



Deputy County Administrator
Patricia Bean

Assistant County Administrators
Edwin Hunzeker
Jimmie Keel

February 11, 1998

Ms. Randa Chichakli
Remedial Project Manager
United States Environmental Protection Agency
Region 4
61 Forsyth St. SW
Atlanta, GA 30303

Re: **Taylor Road Landfill Superfund Site**
CERCLA RD/RA Final Consent Decree

Dear Ms. Chichakli,

The Hillsborough County Solid Waste Management Department (SWMD) is pleased to submit this correspondence stating our intentions to act as the "Supervising Contractor" as required by the Taylor Road Landfill Superfund Site CERCLA RD/RA Final Consent Decree, on Page 20, Section VI, Performance of the Work by Settling Defendants, Sub-section 10, Selection of Supervising Contractor. The Supervising Contractor's Project Manager shall be Mr. David S. Adams, P.G. Mr. Adams is a licensed Professional Geologist in the State of Florida, license No. 0001827, and has extensive experience in the investigation and remediation of closed landfill sites, petroleum contaminated sites, and numerous other environmental projects throughout the state of Florida. Attached for your review is a copy of Mr. Adams' work experience and education resume.

Should you have any questions or require any additional information concerning this submittal, please contact the Project Manager, Mr. David S. Adams, P.G., at (813) 276-2944.

Sincerely,

Daryl H. Smith
Director
Solid Waste Management Department

DHS/dsa
wp/doc/trlfsc.ltr

xc: David S. Adams, P.G., Senior Hydrologist, SWMD
David Engle, EPA Region 4
Kerri Barsh, Greenberg Traurig
Allison Amram, P.G., FDEP, Southwest District
Joel Andres, FDEP, Tallahassee

DAVID S. ADAMS, P.G.
Senior Hydrologist
Management & Environmental Services Section
Solid Waste Management Department

PROFESSIONAL EXPERTISE

- Closed landfill investigations, contamination assessment, contaminant tracking, groundwater monitoring, permitting, closures, and long term care
- Environmental site assessments and environmental permitting
- UST/AST contamination assessment, compliance monitoring, initial remedial action/free product recovery programs, closures and reimbursement packages

EDUCATION

- B.S. , Geology, University of South Florida, May 1989

PROFESSIONAL EXPERIENCE

November 1993 - Present	Senior Hydrologist Hillsborough County Solid Waste Mgt. Dept. (SWMD) Tampa, Florida
October 1993 - November 1993	Environmental Consultant David S. Adams (DSA) Dunedin, Florida
August 1992 - October 1993	Hydrogeologist N.S. Nettles & Associates, Inc. (NSN) Dunedin, Florida
March 1991 - August 1992	Staff Geologist Professional Service Industries, Inc. (PSI) Clearwater, Florida
January 1990 - March 1991	Water Monitoring Specialist Pinellas County Sewer System (PCSS) Largo, Florida

DAVID S. ADAMS, P.G.

PROFESSIONAL LICENSES & CERTIFICATIONS

September 1995	Licensed Professional Geologist No. 0001827 State of Florida Board of Professional Geologists
October 1991	OSHA 40-Hour HAZWOPER Training Course OSHA 8-Hour Supervisor Training Refresher - March 1995
February 1991	University of Florida, TREEO Center; Hydrogeology: Applications of Fundamental Concepts and Field Techniques to Florida Groundwater Investigations.

REPRESENTATIVE PROJECT EXPERIENCE

Project Manager / Senior Hydrologist for the Closed Landfill Investigation Program (CLIP), which includes the oversight of all contamination assessment activities at thirteen closed landfills throughout Hillsborough County. (SWMD)

Project Manager / Senior Hydrologist responsible for the preparation and generation of the Contamination Assessment Report for the closed Northwest Class I and Class III Landfills in Hillsborough County. (SWMD)

Project Manager / Senior Hydrologist responsible for the preparation and submittal of the Long Term Care Permit Application for closed Northwest Class III Landfill in Hillsborough County. (SWMD)

Project Manager / Senior Hydrologist responsible for the preparation and generation of the Water Quality Monitoring Permit Application for the closed Northwest Landfills in Hillsborough County. (SWMD)

Project Manager / Senior Hydrologist responsible for the management of the Hillsborough County Solid Waste Management Department Environmental Monitoring Program for all County operated solid waste facilities, including the waste to energy plant, Southeast Class I Landfill, closed landfill sites, transfer stations, and yard waste processing facilities. (SWMD)

DAVID S. ADAMS, P.G.

Environmental Consultant / Hydrogeologist conducting site identification and investigation of documented petroleum contaminated sites along I-4 corridor for the correlation to wavelength response of satellite imagery by Digital Engineering Consultants. (DEC/DSA)

Environmental Consultant / Hydrogeologist responsible for the oversight of the Point-O-Woods well field redevelopment project in Inverness, Florida. Performed for N.S. Nettles & Associates and Southern States Utilities. (DSA)

Environmental Consultant / Hydrogeologist responsible for the performance of a soil boring and seasonal water table fluctuation investigation, and temporary monitoring well installation at the Gulf Landings Development, Tract 50 Project, New Port Richey, Florida. (DSA)

Hydrogeologist involved with the construction of upper Floridan aquifer monitoring wells, salt water intrusion monitoring wells, mapping of geologic and water quality data, preparing geologic cross-sections, and preparation of well completion reports for the Eldridge Wilde and East Lake Road Well fields, Pinellas County, Florida. (NSN)

Hydrogeologist assisting in the preparation and submittal of the 1991/1992 Annual Report for the Eldridge Wilde and East Lake Road Wellfields, Pinellas County, Florida. (NSN)

Hydrogeologist assisting in the preparation of the report "Salt Water Intrusion Monitoring Well Construction Correlation to Hydrogeologic Characteristics". (NSN)

Hydrogeologist responsible for the preparation of geologic maps including top of limestone, top of clay, and clay thickness for the Dunedin Sinkhole Task Force, Dunedin, Florida. (NSN)

Hydrogeologist responsible for the performance of a 50-Hour aquifer performance test on the evaporite zone monitor well, SWI-16D Northwest Treatment Plant, Pinellas County, Florida. (NSN)

Hydrogeologist responsible for the preparation and submittal of the permit renewal application for the Water Use Permit at Good Groves, a 3000 acre citrus farm in Manatee County, Florida. Prepared for Rick Georges Enterprises, Arcadia, Florida. (NSN)

Hydrogeologist responsible for the preparation and submittal of the permit renewal application for the Water Use Permit at Venus Groves, a 1000 acre citrus farm in Highlands County, Florida. Prepared for Rick Georges Enterprises, Arcadia, Florida. (NSN)

Hydrogeologist responsible for conducting Phase I Environmental Site Assessments of four Checkers' restaurant sites in Sebring, Avon Park, Haines City, and Bartow, Florida. (NSN)

DAVID S. ADAMS, P.G.

Hydrogeologist responsible for conducting a Phase I Environmental Site Assessment of Tract 50E of the Gulf Landings Development Project, New Port Richey, Florida. (NSN)

Hydrogeologist responsible for conducting a Phase I Environmental Site Assessment of the South Coast property in Tampa, Florida. Prepared for Hydrogeologic, Inc. and the Federal Deposit Insurance Corporation (FDIC). (NSN)

Hydrogeologist responsible for conducting a Phase I Environmental Site Assessment of the property located at U.S. Highway 1 and Hibiscus Lane, Key Largo, Florida. Prepared for Hydrogeologic, Inc. and the Federal Deposit Insurance Corporation (FDIC). (NSN)

Hydrogeologist responsible for conducting a Phase I Environmental Site Assessment of the Pompano Warehouse facility located at 1241-1251 North Dixie Highway, Pompano Beach, Florida. Prepared for Hydrogeologic, Inc. and the Federal Deposit Insurance Corporation (FDIC). (NSN)

Project Manager / Staff Geologist responsible for Pick Kwik Food Stores UST compliance monitoring projects, implementation of initial remedial action plans, i.e. free product recovery activities, contamination assessment activities, storage tank closures, preparation of all FDEP reimbursement packages, and coordination of the monthly monitoring of sixty-nine UST facilities in central and southwest Florida. (PSI)

Project Manager / Staff Geologist responsible for Emro Marketing UST compliance monitoring projects, implementation of initial remedial action plans, i.e. free product recovery activities, contamination assessment activities, and coordination of the monthly monitoring of nineteen UST facilities in central and southwest Florida. (PSI)

Project Manager / Staff Geologist responsible for the finalizing the Contamination Assessment and providing/interpreting hydrogeologic data for the Remedial Action Plan (RAP) of the Hinton Oil Bulk Storage facility in Lake City, Florida. (PSI)

Staff Geologist responsible for the field investigation of all potential sources of contamination adversely impacting sediments in the lower portions of Delaney Creek, Hillsborough County, Florida. (PSI)

Staff Geologist responsible for oversight of the preliminary contamination assessment activities at the Resource Recovery of America soil incineration facility in Mulberry, Florida. (PSI)

Staff Geologist / On-site Hydrogeologist responsible for groundwater contaminant tracking utilizing borehole probe sampling and portable gas chromatography, Pondella Road Widening Project, Lee County Department of Transportation, Ft. Myers, Florida. (PSI)

DAVID S. ADAMS, P.G.

Staff Geologist responsible for conducting a Phase I Environmental Site Assessment of a 400 acre tract, the Rhodine Road Dump, a delisted Superfund Site, in Hillsborough County, Florida. Performed for Hillsborough County's Environmental Land Acquisition and Purchase Program. (PSI)

Staff Geologist responsible for the oversight of the excavation of waste oil contaminated soils from the roadways at the Rhodine Road site. The property was subsequently acquired by the Hillsborough County Environmental Land Acquisition Program. (PSI)

Staff Geologist responsible for conducting Phase I Environmental Site Assessments on four Palm Gardens nursing home facilities in Tampa, Clearwater, Largo, and Seminole, Florida. Prepared for National Healthcorp, Inc. (PSI)

Geologist responsible for the on-site inspection of operations for the acidization and rework (drill out) of two deep injection wells, South Cross Bayou Wastewater Treatment Plant (WWTP) Deep Well Injection and Monitoring System. (PCSS)

Geologist responsible for the monthly and quarterly monitoring of groundwater monitoring wells at the South Cross Bayou Wastewater Treatment Plant Deep Well Injection and Monitoring System. (PCSS)

Geologist responsible for assisting in the preparation of the South Cross Bayou Wastewater Treatment Plant Deep Well Injection and Monitoring System Report. (PCSS)

Geologist responsible for the monthly and quarterly water quality and water level monitoring of surficial aquifer groundwater monitoring wells addressing the impacts from wastewater effluent reuse spray irrigation on areas in northern Pinellas County. (PCSS)

Geologist involved with the design and construction of the artesian well manometer tube water level acquisition system for the South Cross Bayou WWTP, Deep Well Injection and Monitoring System. (PCSS)

Geologist involved in the implementation and maintenance of the Envirolab electronic data acquisition system for the South Cross Bayou WWTP Deep Well Injection and Monitoring System. (PCSS)

Five-Year Review Report

Third Five-Year Review Report
for
Taylor Road Landfill
FLD980494959

Seffner
Hillsborough County, Florida

September 2013

United States Environmental Protection Agency
Region 4
Atlanta, Georgia

Approved by:

for Franklin Hill
Director, Superfund Division

Date: 9/20/13

10944837

Third Five-Year Review Report
for
Taylor Road Landfill
Taylor Road
Seffner
Hillsborough County, Florida

List of Acronyms **3**

Executive Summary **4**

Five-Year Review Summary Form **6**

1.0 Introduction **9**

2.0 Site Chronology **11**

3.0 Background **13**

3.1 Physical Characteristics 13
3.2 Land and Resource Use 17
3.3 History of Contamination 17
3.4 Initial Response 18
3.5 Basis for Taking Action 19

4.0 Remedial Actions **20**

4.1 Remedy Selection 20
4.2 Remedy Implementation 22
4.3 Operation and Maintenance (O&M) 23

5.0 Progress Since the Last Five-Year Review **24**

5.1 Remove Unused Wells 25
5.2 Optimize Ground Water Monitoring Program 25
5.3 Evaluate Institutional Controls 25
5.4 Conduct Vapor Intrusion Assessment 26

6.0 Five-Year Review Process **28**

6.1 Administrative Components 28
6.2 Community Involvement 28
6.3 Document Review 28
6.4 Data Review 33
6.5 Site Inspection 33
6.6 Interviews 35

7.0 Technical Assessment **36**

7.1 Question A: Is the remedy functioning as intended by the decision documents? 36
7.2 Question B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives (RAOs) used at the time of remedy selection still valid? 36
7.3 Question C: Has any other information come to light that could call into question the protectiveness of the remedy? 37
7.4 Technical Assessment Summary 37

8.0 Issues **38**

9.0 Recommendations and Follow-up Actions 38
10.0 Protectiveness Statement 38
11.0 Next Review 38
Appendix A: List of Documents Reviewed A-1
Appendix B: Press Notice B-1
Appendix C: Interview Form C-1
Appendix D: Site Inspection Checklist D-1
Appendix E: Photographs from Site Inspection Visit E-1
Appendix F: Notice of Entry of Consent Decree for the Taylor Road Landfill Superfund Site in Hillsborough County, Florida F-1
Appendix G: Hillsborough County Property Parcels Within Approximate Site Boundary G-1
Appendix H: Cleanup Goals from the 1995 ROD H-1
Appendix I: October 2012 Ground Water Monitoring Data I-1

Tables

Table 1: Chronology of Site Events 11
Table 2: Progress on Recommendations from the 2008 FYR 24
Table 3. Ground Water ARARs Review 30
Table 4: Institutional Control (IC) Summary Table 31

Figures

Figure 1: Site Location Map 15
Figure 2: Detailed Site Map 16
Figure 3: Florida Ground Water Delineated Area Map 32

List of Acronyms

AMA	Academy of Model Aeronautics
AOC	Administrative Order on Consent
ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CIC	Community Involvement Coordinator
COC	Contaminant of Concern
COPC	Contaminant of Potential Concern
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FYR	Five-Year Review
IC	Institutional Control
MCL	Maximum Contaminant Level
µg/L	Microgram per Liter
MNA	Monitored Natural Attenuation
MSL	Mean Sea Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PCE	Tetrachloroethylene
PRP	Potentially Responsible Party
RA	Remedial Action
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
SDWA	Safe Drinking Water Act
TCE	Trichloroethylene
VOC	Volatile Organic Compound

Executive Summary

Introduction

The Taylor Road Landfill Superfund site (the Site) is located in Seffner, Hillsborough County, Florida. The Site includes 252 acres of property and underlying ground water contamination defined by a compliance ring of monitoring wells. The Site includes a Hillsborough County-owned landfill complex of three closed landfills: the 42-acre Taylor Road Landfill, the 64-acre Hillsborough Heights Landfill and the 10.6-acre Florida Department of Transportation (FDOT) Borrow Pit Landfill. In addition to the landfill complex, the Site also includes commercial and residential properties. During the 1995 remedial investigation/feasibility study, the EPA determined that only the 42-acre Taylor Road Landfill is contributing to ground water contamination at the Site. The Taylor Road Landfill was constructed without a liner or leachate collection system. Waste disposal operations from 1975 until 1980 resulted in contamination of ground water at the Site. The EPA placed the Site on the Superfund National Priorities List (NPL) in 1983.

The EPA selected a remedy for the Site in 1995 that used existing and future institutional controls to restrict construction of new potable water wells at the Site. It also created a ring of ground water monitoring wells to define the extent of contaminants exceeding the Florida Primary and Secondary Drinking Water Standards and Minimum Criteria. As part of the remedy, Hillsborough County extended the public water supply to impacted properties. The selected remedy relies on monitored natural attenuation (MNA) with contingent corrective action to address contamination in ground water. In 2000, the EPA issued an Explanation of Significant Differences to eliminate the Florida Secondary Drinking Water Standards as cleanup goals for the Site.

The triggering action for this five-year review was the signing of the previous five-year review report on September 25, 2008.

Remedial Action Objective

The 1995 Record of Decision (ROD) does not use the term remedial action objective (RAO), but does state that the Site's cleanup objective is to prevent current or future exposure to contaminated ground water through provision of county water to residents and through natural attenuation or active treatment of ground water should future conditions indicate that it is necessary. This cleanup objective serves the role of an RAO.

Technical Assessment

The site inspection and review of site documents indicate that the Site's remedy is functioning as intended by the 1995 ROD and the 2000 ESD. Ground water monitoring indicates that ground water contamination remains contained and that natural attenuation is occurring. Concentrations in the compliance ring wells continue to remain below applicable standards, therefore complying with the MNA point of compliance. The EPA and Florida Department of Environmental Protection (FDEP) are reviewing Hillsborough County's plan for ground water monitoring optimization. FDEP regulates the landfill complex under its Resource Conservation and Recovery Act (RCRA) program. The landfill caps are functioning as intended and the Site is well

maintained. Appropriate access controls and institutional controls are in place. The exposure assumptions, toxicity data, cleanup levels and RAOs are still valid. Hillsborough County completed an assessment of the vapor intrusion pathway, based on the EPA's 2000 guidance. The County found that there is not a completed vapor intrusion pathway and recommended no further action. There are no complete exposure pathways that could result in unacceptable risk and no new information has come to light that could call into question the protectiveness of the remedy.

Conclusion

The remedy at the Site is protective of human health and the environment. Appropriate institutional controls are in place to restrict construction of ground water wells and potable use of ground water at the Site. Ground water monitoring indicates that ground water contamination remains confined within the site boundary and that natural attenuation is occurring. FDEP regulates the closed landfills at the Site under its RCRA program and the Site is well maintained. Hillsborough County assessed vapor intrusion at the Site and found that there is not a completed pathway. There are no complete exposure pathways that could result in unacceptable risks at the Site.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name: Taylor Road Landfill		
EPA ID: FLD980494959		
Region: 4	**State:** FL	**City/County:** Seffner, Hillsborough County
SITE STATUS		
NPL Status: Final		
Multiple OUs? No	**Has the site achieved construction completion?** Yes	
REVIEW STATUS		
Lead agency: EPA **If "Other Federal Agency" selected above, enter Agency name:** Click here to enter text.		
Author name: Ryan Burdge and Lynette Wysocki (Reviewed by the EPA)		
Author affiliation: Skeo Solutions		
Review period: March 2013 – September 2013		
Date of site inspection: April 1, 2013		
Type of review: Statutory		
Review number: 3		
Triggering action date: September 25, 2008		
Due date *(five years after triggering action date)*: September 25, 2013		

Five-Year Review Summary Form (continued)

Issues/Recommendations

OU(s) without Issues/Recommendations Identified in the Five-Year Review:
OU1. This five-year review did not identify any issues/recommendations at the Site.

Protectiveness Statement(s)

Operable Unit:	*Protectiveness Determination:*	*Addendum Due Date (if applicable):*
1	Protective	Click here to enter date.

Protectiveness Statement:

The remedy at the Site is protective of human health and the environment. Appropriate institutional controls are in place to restrict construction of ground water wells and potable use of ground water at the Site. Ground water monitoring indicates that ground water contamination remains confined within the site boundary and that natural attenuation is occurring. FDEP regulates the closed landfills at the Site under its RCRA program and the Site is well maintained. Hillsborough County assessed vapor intrusion at the Site and found that there is not a completed pathway. There are no complete exposure pathways that could result in unacceptable risks at the Site.

Sitewide Protectiveness Statement (if applicable)

Protectiveness Determination:	*Addendum Due Date (if applicable):*
Protective	Click here to enter date.

Protectiveness Statement:

The remedy at the Site is protective of human health and the environment. Appropriate institutional controls are in place to restrict construction of ground water wells and potable use of ground water at the Site. Ground water monitoring indicates that ground water contamination remains confined within the site boundary and that natural attenuation is occurring. FDEP regulates the closed landfills at the Site under its RCRA program and the Site is well maintained. Hillsborough County assessed vapor intrusion at the Site and found that there is not a completed pathway. There are no complete exposure pathways that could result in unacceptable risks at the Site.

Five-Year Review Summary Form (continued)

Environmental Indicators
- Current human exposures at the Site are under control. - Contaminated ground water migration is under control.

Are Necessary Institutional Controls in Place?
☒ All ☐ Some ☐ None

Has the EPA Designated the Site as Sitewide Ready for Anticipated Use?
☒ Yes ☐ No

Has the Site Been Put into Reuse?
☒ Yes ☐ No

Third Five-Year Review Report
for
Taylor Road Landfill Superfund Site

1.0 Introduction

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy will continue to be protective of human health and the environment. FYR reports document FYR methods, findings and conclusions. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The United States Environmental Protection Agency prepares FYRs pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Section 121 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA Section 121 states:

> If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each 5 years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

The EPA interpreted this requirement further in the NCP, 40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii), which states:

> If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after initiation of the selected remedial action.

Skeo Solutions, an EPA Region 4 contractor, conducted the FYR and prepared this report regarding the remedy implemented at the Taylor Road Landfill Superfund site (the Site) in Seffner, Hillsborough County, Florida. The EPA's contractor conducted this FYR from March to September 2013. The EPA is the lead agency for developing and implementing the remedy for the potentially responsible party (PRP)-financed cleanup at the Site. The Florida Department of Environmental Protection (FDEP), as the support agency representing the State of Florida, has reviewed all supporting documentation and provided input to the EPA during the FYR process.

This is the third FYR for the Site. The triggering action for this statutory review is the previous FYR. The FYR is required due to the fact that hazardous substances, pollutants or contaminants

remain at the Site above levels that allow for unlimited use and unrestricted exposure. The Site consists of one operable unit (OU).

2.0 Site Chronology

Table 1 lists the dates of important events for the Site.

Table 1: Chronology of Site Events

Event	Date
Hillsborough County began operation of permitted Taylor Road Landfill	1975
Sampling identified volatile organic compounds and metals in landfill monitoring wells and numerous private wells	1979
Taylor Road Landfill reached capacity and ceased operations Hillsborough County moved waste disposal activities to adjacent Florida Department of Transportation (FDOT) Landfill	February 1, 1980
The EPA conducted a Preliminary Assessment	August 1, 1980
FDOT Landfill ceased operations Hillsborough County moved waste disposal activities to adjacent Hillsborough Heights Landfill	October 1980
The EPA proposed the Site for listing on the National Priorities List (NPL)	December 30, 1982
The PRPs began initial remedial measures	June 1, 1983
The PRPs completed initial remedial measures	July 1, 1983
The EPA and the PRPs signed a Consent Decree	July 20, 1983
The EPA finalized the Site on the NPL	September 8, 1983
Hillsborough Heights Landfill ceased operations	1984
FDEP conducted a site inspection	November 1, 1984
The EPA conducted a removal assessment	September 15, 1992
The EPA issued an Administrative Order on Consent (AOC) The PRPs began the remedial investigation/feasibility study (RI/FS)	February 1, 1993
The PRPs conducted a potable well survey	May 1994
The EPA completed the Final Baseline Risk Assessment	June 1994
The PRPs completed the RI/FS The EPA issued the Record of Decision for the Site	September 29, 1995
The EPA issued an AOC	September 18, 1996
The EPA issued an AOC	July 11, 1997
The EPA and the PRPs signed a Final Consent Decree for remedial design/remedial action	February 4, 1998
The PRPs began remedial design	February 25, 1998
The PRPs prepared and submitted a Remedial Action Work Plan	April 1998
Final Consent Decree for remedial design/remedial action filed	May 11, 1998
The PRPs submitted a Remedial Action Work Plan Addendum to revise the ground water monitoring plan	July 1998
The PRPs completed remedial design The PRPs began remedial action	August 11, 1998
The PRPs completed the first round of sampling under the updated ground water monitoring program	April 1999
The PRPs prepared a Final Construction Report	April 16, 1999
The PRPs completed construction at the Site The EPA prepared a Preliminary Close-out Report	June 18, 1999
The EPA issued an Explanation of Significant Differences	August 3, 2000
The PRPs began operation and maintenance activities	September 30, 2001
The EPA issued the Site's first FYR	September 24, 2003
The PRPs conducted a potable well survey	November 26, 2003
The EPA issued the Site's second FYR	September 25, 2008

Event	Date
The PRPs completed Tier 1 Primary Screening and Tier 2 Secondary Screening Vapor Intrusion Assessments	October 20, 2009
The PRPs completed a Tier 3 Site-Specific Pathway Assessment	August 17, 2010
The PRPs completed a Site-Specific Indoor Air Quality Assessment	September 9, 2010

3.0 Background

3.1 Physical Characteristics

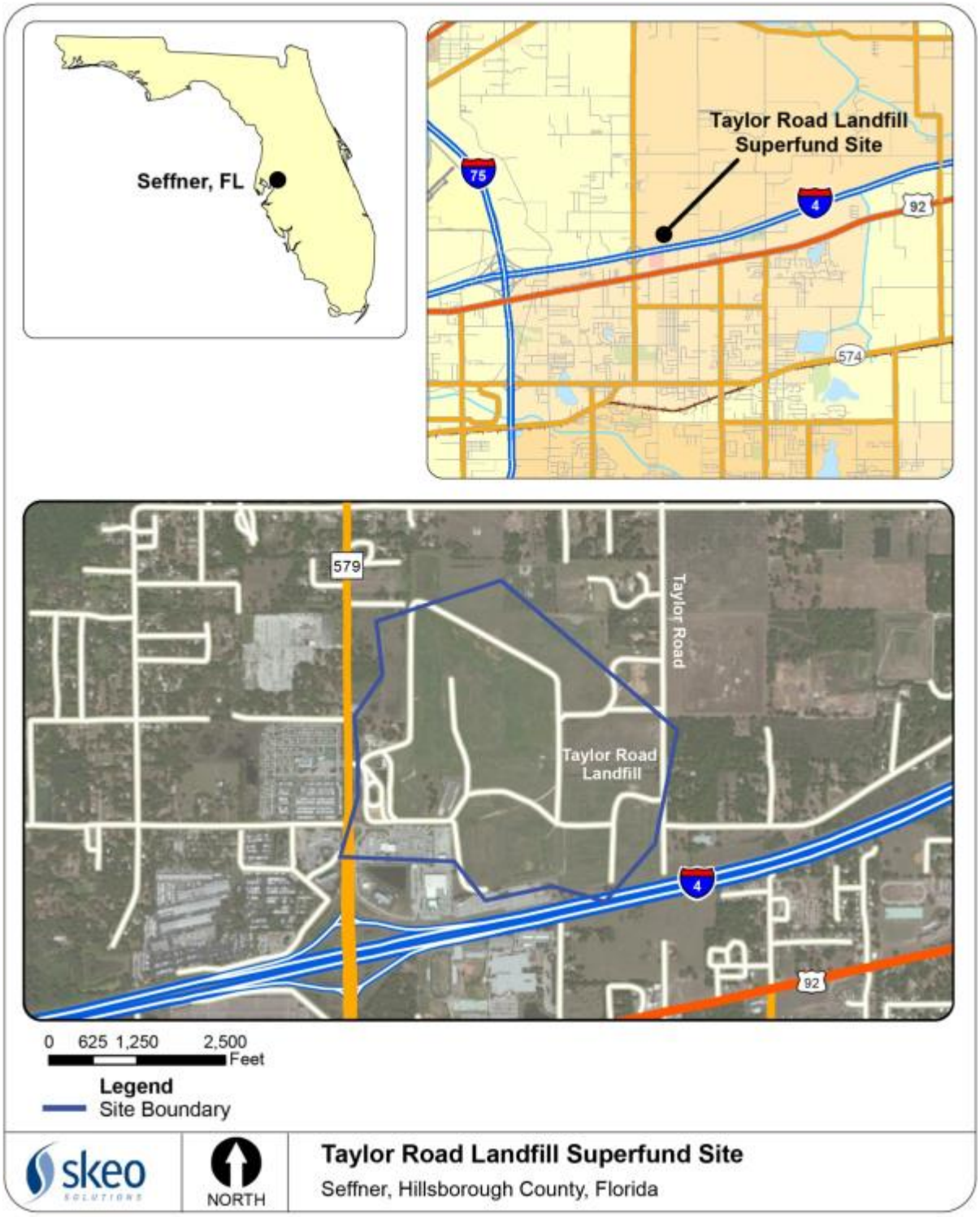
The Site is located on Interstate 4, approximately 7 miles east of Tampa in Seffner, Hillsborough County, Florida (Figure 1). The Site includes 252 acres of property and underlying ground water contamination defined by a compliance ring of monitoring wells (Figure 2). The Site includes a Hillsborough County-owned landfill complex of three closed landfills: the 42-acre Taylor Road Landfill, the 64-acre Hillsborough Heights Landfill and the 10.6-acre Florida Department of Transportation (FDOT) Borrow Pit Landfill. The closed landfills are capped, vegetated and vacant. The landfill complex includes five stormwater retention basins, county maintenance facilities, community recycling and collection areas, and an Academy of Model Aeronautics (AMA) flying field. In addition to the landfill complex, the Site also includes commercial and residential properties. During the 1995 remedial investigation/feasibility study (RI/FS), the EPA determined that only the 42-acre Taylor Road Landfill is contributing to ground water contamination at the Site. The Taylor Road Landfill was constructed without a liner or leachate collection system. The Site includes all or part of approximately 64 property parcels. Appendix G presents these parcels, as well as ownership and deed information.

Residential properties and a park border the Site to the north. Interstate 4 and commercial properties border the landfill complex to the south. A portion of the Site's contaminated ground water crosses Interstate 4 and underlies properties south of Interstate 4. Taylor Road and residential properties border the landfill complex to the east. A portion of the Site's contaminated ground water crosses Taylor Road and underlies residential properties east of Taylor Road. State Route 579 borders the landfill complex to the west. A portion of the Site's contaminated ground water crosses State Route 579 and underlies residential and commercial properties west of State Route 579.

The Site is located on a small ridge. The Site's geology consists of Brandon Karst Terrain, an internally drained portion of the Polk Upland karst escarpment. The area surrounding the Site includes sinkholes, headlands of small drainage systems, and hills of accumulated marine and coastal sands. The original land surface at the Site extended from a low of approximately 45 feet above mean sea level (MSL) in the southwestern corner to a high of slightly more than 125 feet above MSL on the small hill upon which the landfill complex at the Site was developed. The Site is primarily disturbed grasslands containing manmade retention basins surrounded by commercial and residential development containing small ponds and springs. The Site and surrounding area originally consisted of high pine, sandhill communities. Pockets of the original high pine landscapes remain in the vicinity of the Site. Although a variety of flora and fauna, possibly including species of special concern, can be found within 1.5 miles of the Site, the immediate area surrounding the landfill complex at the Site is not likely to serve as a significant habitat for these species. However, wading birds, small amphibians and reptiles, and mammals use the stormwater runoff retention basins at the Site as water sources and intermittent foraging areas.

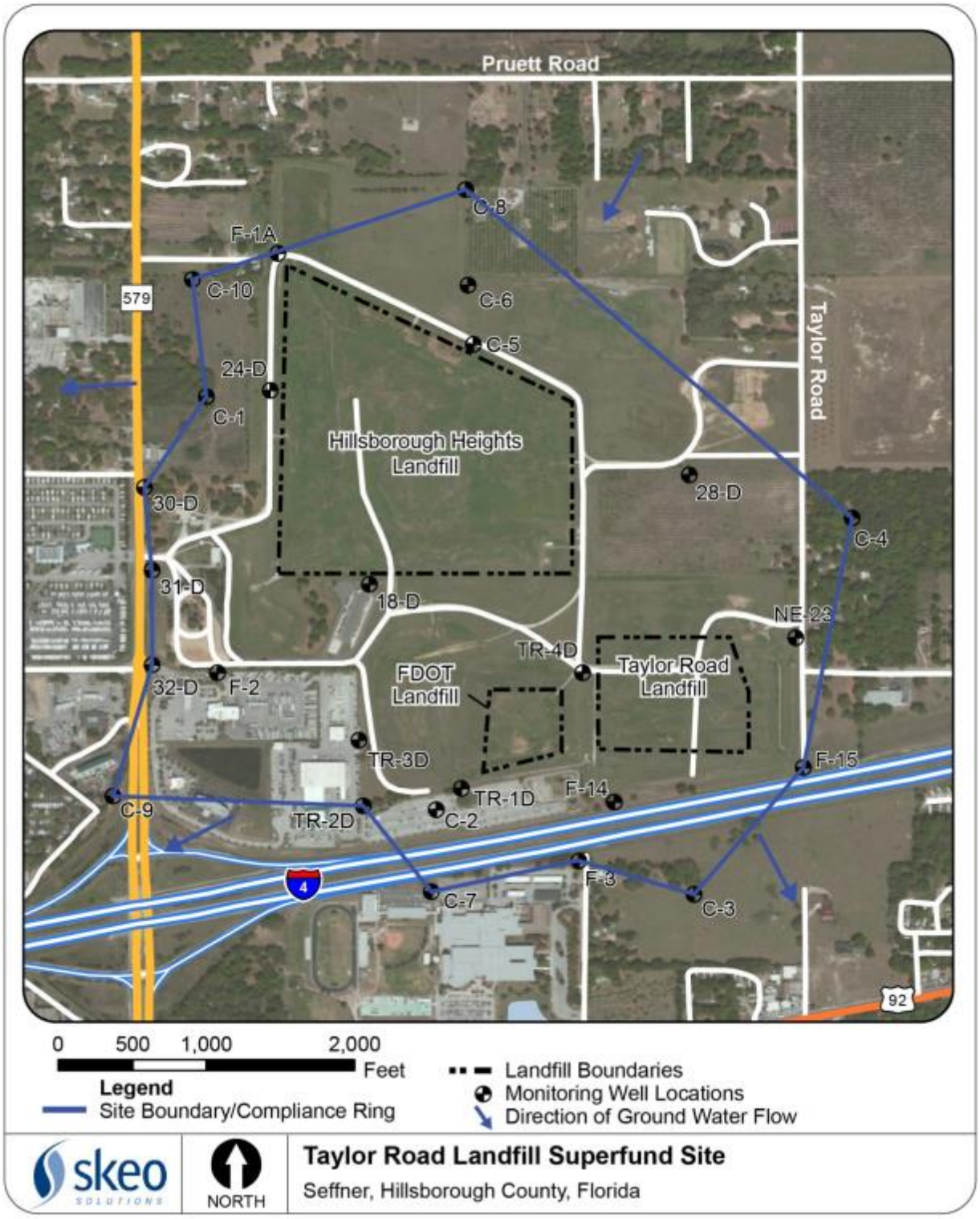
Surficial sands make up the shallow aquifer in the Brandon Karst Terrain. However, at the Site, the sands are rarely saturated and a continuous shallow aquifer does not exist. The intermediate confining system includes residual clays and sandy clays of the Hawthorn Group. Because these clays are blocky and contain pipes and limestone pinnacles, minor portions connect to the underlying Floridan aquifer. Because the intermediate confining system is not continuous at the Site, the intermediate aquifer is considered not to be present. The Floridan aquifer consists of the Tampa Member and underlying limestone and is generally unconfined or very poorly confined. The Floridan aquifer starts at a depth of approximately 80 feet below land surface at the Site. Ground water generally flows south-southwest near the Taylor Road Landfill and FDOT Borrow Pit Landfill and flows west-southwest near the Hillsborough Heights Landfill.

Figure 1: Site Location Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

Figure 2: Detailed Site Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

3.2 Land and Resource Use

Land surrounding the Site encompasses a variety of land uses, including residential, commercial and agricultural. According to 2010 census data, approximately 3,000 people live within a 1-mile radius of the Site. These land uses remain consistent with those identified in the Record of Decision (ROD) and are anticipated to remain essentially the same in the future. The Site includes the landfill complex property owned by Hillsborough County, as well as commercial and residential properties. Hillsborough County has sought reuse opportunities for the landfill complex and has also acquired properties within the Site's compliance ring and 270-foot setback boundary. The site properties that Hillsborough County leases are isolated from the landfill complex by fencing. Hillsborough County previously operated a microturbine as an alternative energy technology pilot project at the Site using recovered methane gas from the Hillsborough Heights and FDOT Landfills. The pilot project took place from 2003 until 2007. Current reuse of the landfill complex portion of the Site includes recreational reuse as an AMA flying field and public services reuse as community recycling and collection areas. Land use within the Site's boundary/compliance ring and 270-foot setback include residential uses on the eastern and western portions and commercial uses on the southern portion.

At the time of the 1995 RI/FS, almost all residents to the north, east and west of the Site relied on private ground water wells. The public water supply was available to some properties south of the Site but most residents continued to use private wells. According to the Final Construction Report, Hillsborough County completed connecting five homes, one trailer park and one business located within the Site's compliance ring and 270-foot setback boundary to the county's public water supply in 1999. Hillsborough County conducted additional activities in 2007 to extend the public water supply to residences along Buster Bean Road to the west of the Site. All well permits must be approved by Hillsborough County. Public water lines are available around the perimeter of the Site, so if the County denies a well permit, connection to the public water supply is available. There are no known potable wells in use within the site boundary.

3.3 History of Contamination

Development of the three landfills at the Site took place sequentially. The first, the Taylor Road Landfill, operated as a FDOT borrow pit since as early as 1960 until Hillsborough County permitted it as a solid waste landfill in 1975. The Taylor Road Landfill was not constructed with a liner or leachate collection system. The County began operating the landfill in 1976 under a permit for residential, commercial and industrial waste disposal. In January 1980, the City of Tampa closed its incinerator, which diverted 790 tons of waste per day to the landfill. At the same time, another local landfill closed, diverting an additional 490 tons of waste per day to the landfill. By February 1980, it reached capacity and operations ended. From 1976 to 1980, the landfill accepted 620,000 tons of waste including an unknown quantity of hazardous waste. Waste disposal operations from 1975 until 1980 resulted in contamination of ground water at the Site.

Waste disposal operations moved temporarily to the adjacent FDOT Borrow Pit Landfill while parties discussed a landfill expansion project. The FDOT Borrow Pit Landfill was constructed with a liner and leachate collection system. Strong public opposition and uncertainty about ground water contamination resulted in the rejection of the expansion project. The FDOT Borrow Pit Landfill operated until October 1980 when operations moved to the adjacent Hillsborough Heights Landfill. The County operated the Hillsborough Heights Landfill, constructed with a liner and leachate collection system, under an emergency order until 1984.

3.4 Initial Response

In 1979, the EPA tested monitoring wells and private wells near the Site. Sampling revealed the presence of volatile organic compounds (VOCs) and metals in monitoring wells and numerous private wells. The EPA advised residents in the vicinity to discontinue use of wells. Hillsborough County provided an alternate water supply to 95 residences and authorized construction of the public water supply to impacted areas. Additional investigations identified a ground water contamination plume of VOCs at concentrations exceeding the acceptable drinking water standards established under the Safe Drinking Water Act (SDWA). The plume extended from the Taylor Road Landfill to nearby residential areas. In April 1980, the County expanded the alternate water supply to 180 homes and businesses and connected about 400 residences and businesses to the public water supply.

In October 1980, the EPA filed suit against Hillsborough County under the Resource Conservation and Recovery Act (RCRA) and the SDWA for ground water contamination resulting from landfill operation. The EPA required the County to implement operational measures and conduct immediate remedial activities to address contamination attributed to the Taylor Road Landfill. In September 1983, the EPA finalized the Site on the National Priorities List (NPL). Also at this time, the EPA, Hillsborough County and FDEP signed a Consent Decree in which the County agreed to a 30-year maintenance and environmental monitoring program governing all three landfills on county property. The Consent Decree also specified requirements for the cap, drainage ditch and methane gas control.

The County ended operation of the Hillsborough Heights Landfill in 1984. In February 1984, the County began installation of methane monitoring wells around the three landfills and construction of a gas collection system, cap and drainage system at the Taylor Road Landfill. The County also connected additional impacted residents south of the landfills to the public water supply. The county's routine sampling program continued to demonstrate VOC contamination in wells near the Site. In 1986, the EPA initiated a Forward Planning Study under the Superfund program to investigate all potential contaminant sources in the area. In 1987, EPA initiated an area-wide private well sampling to investigate further possible sources of contamination.

By 1993, the EPA had identified 19 PRPs for the Site, including Hillsborough County. Hillsborough County agreed to serve as the supervising contractor to implement cleanup

activities at the Site. In February 1993, the EPA and the PRPs signed an Administrative Order on Consent (AOC) to conduct the Site's RI/FS. Hillsborough County took the lead on the RI/FS, which was conducted from 1993 until 1995. The 1995 RI/FS determined that only the 42-acre Taylor Road Landfill is contributing to ground water contamination at the Site. The Taylor Road Landfill was constructed without a liner or leachate collection system. The RI/FS determined that the liners of the FDOT Borrow Pit and Hillsborough Heights Landfills were effectively preventing ground water contamination. The RI/FS also noted that contamination of ground water was reported in 1979 at the Taylor Road Landfill prior to its closure and prior to the construction of the other two landfills.

3.5 Basis for Taking Action

Ground water contamination in the Floridan aquifer posed a threat to human health, as the aquifer is the source of drinking water for the area. Historical data and new data collected as part of the RI/FS demonstrated ground water as the only significant route for contaminant migration.

The risk assessment identified both current and future ground water human exposure pathways. The risk assessment identified landfill waste as the chemical source, drinking water wells in the Floridan aquifer as the exposure points, and ingestion of ground water and inhalation of VOCs released from ground water as the feasible routes of human exposure. Residents and workers potentially using private ground water supply wells served as the current-use exposure pathways. Due to initial remedial responses, no current exposure to ground water existed at the Site. Therefore, ground water monitoring wells were used to assess exposures under the current-use scenario. The risk assessment determined that ground water contained contamination at concentrations posing an unacceptable risk to potential future users. The risk assessment determined that surface water and sediment did not contain contaminant concentrations at levels that would pose an unacceptable risk to human health. Likewise, contamination did not pose an unacceptable risk to ecological receptors. The risk assessment found remedial action necessary to control risk posed by ingestion of and dermal contact with ground water and to limit the migration of contaminated ground water.

4.0 Remedial Actions

In accordance with CERCLA and the NCP, the overriding goals for any remedial action are protection of human health and the environment and compliance with applicable or relevant and appropriate requirements (ARARs). A number of remedial alternatives were considered for the Site, and final selection was made based on an evaluation of each alternative against nine evaluation criteria that are specified in Section 300.430(e)(9)(iii) of the NCP. The nine criteria are:

1. Overall Protection of Human Health and the Environment
2. Compliance with ARARs
3. Long-Term Effectiveness and Permanence
4. Reduction of Toxicity, Mobility or Volume through Treatment
5. Short-Term Effectiveness
6. Implementability
7. Cost
8. State Acceptance
9. Community Acceptance

4.1 Remedy Selection

On September 29, 1995, the EPA signed the Site's ROD. The ROD discussed the remedial action objective (RAO) for the Site, which was to prevent current or future exposure to contaminated ground water through provision of county water to residents and through natural attenuation or active treatment of ground water should future conditions indicate that it is necessary. The ROD's selected remedy included:

- Using existing and future institutional controls to restrict construction of new potable water wells that would extract water affected by the Taylor Road Landfill.
- Modifying the existing ground water monitoring program to include quarterly monitoring of a ring of existing and future monitoring wells placed with the objective of defining and enclosing the area of ground water exceeding Florida Primary and Secondary Drinking Water Standards and Minimum Criteria.
- Providing county water service to residents within the described ring of monitoring wells and within a setback that extends 270 feet outward from the ring.
- Expanding the county water supply network.
- Expanding the monitoring well ring, if necessary.
- Using monitored natural attenuation (MNA).
- Using a contingent remedy, if necessary.

Hillsborough County owns the properties within the landfill complex on site, as well as some on-site properties immediately south of the landfill complex. The remedy required the County to use its authority to write covenants into the deeds of these properties to restrict construction of drinking water wells at the Site. For properties not owned by the County, the remedy relies on two regulatory measures that apply to the Site to restrict

construction of potable wells and use of ground water. First, the 1983 RCRA Consent Decree requires connection of all new residential buildings in the area to the south of the Site to the public water supply. Second, Chapter 62-524 of the Florida Administrative Code (FAC) restricts the issuance of permits for new drinking water wells in areas of delineated ground water contamination.

The selected remedy required use of existing monitoring wells and installation of additional wells to create a ring of ground water monitoring wells. The remedy called for installation of additional wells in order to define the extent of contaminants exceeding the Florida Primary and Secondary Drinking Water Standards and Minimum Criteria. The selected remedy anticipated at least 13 existing and future wells would constitute the compliance ring. Should sampling reveal concentrations of contaminants exceeding the Florida Primary and Secondary Drinking Water Standards and Minimum Criteria, the compliance ring, setback and public water supply may be expanded. The 270-foot setback from the compliance ring takes into account the rate of ground water migration and the time necessary to sample wells and provide owners of potentially impacted wells with connection to the public water supply. The selected remedy required that the County connect the public water supply to all residences and businesses that rely on well water for potable uses within the 270-foot setback.

The selected remedy relies on MNA with contingent corrective action to address contamination in ground water. The remedy allows for collection and treatment of ground water if ground water data indicate that MNA is not sufficient for meeting Florida drinking water standards at the point of compliance. The ROD identified the point of compliance as the ring of compliance wells and stated that in the event that concentrations of contaminants of concern (COCs) exceed the regulatory screening levels in these wells, a pump-and-treat contingent remedy will be considered. The MNA portion of the remedy is assessed through quarterly monitoring.

The ROD established Florida Primary and Secondary Standards and Minimum Criteria as the cleanup goals for ground water. The ROD indicated COCs with a “Y” in the Contaminant of Potential Concern (COPC) column of Table 5.1 of the ROD. Table 5.1 of the ROD is presented in Appendix H.

On August 3, 2000, the EPA signed an Explanation of Significant Differences (ESD) for the Site. The ESD eliminated the Florida Secondary Drinking Water Standards as cleanup goals for the Site. The EPA determined that the secondary drinking water standards are not based on health threats, are not federally enforceable, and Secondary Drinking Water Standards are not ARARs for the Site. The ESD documented that the EPA will not take additional ground water enforcement actions at the Site based on exceedances of the secondary standards. The EPA recognized that FDEP may choose to take an enforcement action as these secondary standards are enforced at the State’s discretion.

4.2 Remedy Implementation

Hillsborough County, on behalf of the Site's PRPs, began remedial design for construction of the remedy on February 25, 1998. At this time, Hillsborough County also filed a "Notice of Entry of Consent Decree for the Taylor Road Landfill Superfund Site in Hillsborough County, Florida." The Notice serves as an institutional control for the county-owned properties at the Site, stating that the county-owned properties are subject to the 1983 RCRA Consent Decree. Appendix F includes a copy of the notice. The PRPs submitted a Remedial Action Work Plan in April 1998 and an addendum to the work plan to revise the ground water monitoring plan in July 1998. Hillsborough County completed remedial design and began remedial action at the Site on August 11, 1998.

In December 1998, Hillsborough County completed installation of the additional wells needed to complete the compliance ring of ground water monitoring wells. This included installation of five new wells and two replacement wells. The compliance ring consisted of 14 ground water monitoring wells designed to enclose the area of ground water exceeding Florida Primary and Secondary Drinking Water Standards and Minimum Criteria, and is designated as the point of compliance for ground water monitoring at the Site. Also at this time, Hillsborough County identified all properties not connected to public water within the 270-foot setback of the compliance ring using the Hillsborough County Property Appraiser's folio numbers and the Hillsborough County Survey Department survey map. The County identified five properties using private wells for potable use within the compliance ring and sent letters informing the property owners that the County was required to connect the properties to the public water supply. Construction of the water lines began in February 1999. The County completed connection of five homes, one mobile home community and one business to the public water supply in March 1999.

Hillsborough County developed the Taylor Road Landfill Superfund Site Groundwater Monitoring Plan in 1999 in accordance with the parameters set out in the ROD. The plan identifies the wells required for quarterly sampling and the field and laboratory parameters for analysis. The County completed construction of the remedy and the EPA, FDEP, the County and other stakeholders conducted the final construction inspection on March 17, 1999.

The County conducted the first sampling event in April 1999. Within the first year of ground water monitoring, exceedances of the Florida Primary Drinking Water Standards occurred and Hillsborough County expanded the compliance ring twice. The MNA remedy is ongoing at the Site. Hillsborough County continues to conduct quarterly ground water monitoring to assess the MNA portion of the remedy.

In November 2003, the PRPs conducted a potable well survey within a 1-mile radius of the Site to locate supply wells and irrigation supply wells constructed after the last well survey in May 1994. The survey identified two irrigation wells within the 270-foot setback of the compliance ring. Hillsborough County submitted an updated well survey in 2004 and added both of the wells to the ground water monitoring plan. Later sampling

detected contamination in private wells along Buster Bean Road, west of the Site. Although water quality impacts in those wells were not attributable to the landfill, the EPA concurred with the County that providing the public water supply would remove a future potential risk for exposure to contaminants. In 2007 Hillsborough County extended the public water supply and completed residential connections.

4.3 Operation and Maintenance (O&M)

O&M activities at the Site encompass activities associated with the upkeep of the landfills as required under the RCRA Consent Decree and the long-term care permits with FDEP, as well as activities necessary for the ongoing remedial action at the Site. The post-closure care of the landfills under the FDEP RCRA program minimizes impacts to ground water. The landfill caps limit infiltration of rainwater and prevent direct contact with contaminated soil. On-site Hillsborough County personnel conduct O&M at the Site. Hillsborough County continues quarterly ground water monitoring at the Site. The activities required as part of the RCRA Consent Decree and the long-term care permits with FDEP include:

Landfill O&M

- Monitoring of ground water, surface water and landfill gas.
- Conducting daily, weekly, monthly, quarterly and after-rainfall site inspections.
- Conducting maintenance and repairs of facilities, monitoring wells, landfill covers, surface water management systems, and landfill gas monitoring and recovery systems.
- Complying with notification, recordkeeping and reporting requirements.
- Conducting facility and system upgrades.

Ground Water O&M

- Monitoring ground water quarterly.
- Conducting monitoring well repair and replacement.
- Maintaining access agreements for off-site wells.
- Complying with notification, recordkeeping and reporting requirements.

With the EPA's approval, the County abandoned monitoring well F-4A in 2006 due to damage sustained from agricultural activity. In September 2007, Hillsborough County submitted a Long-Term Ground Water Monitoring Optimization plan to the EPA. The plan reviewed the current ground water monitoring program and provided recommendations for improving the efficiency and accuracy of the ground water monitoring well network in supporting monitoring objectives at the Site. The plan describes the Site, stability of the contaminated ground water plume, sufficiency and redundancy of monitoring locations and the appropriate frequency of ground water monitoring well network sampling. The EPA and FDEP are currently reviewing the plan.

5.0 Progress Since the Last Five-Year Review

The protectiveness statement from the 2008 FYR for the Site stated the following:

> The remedy at Taylor Road Landfill is protective of human health and the environment in the short term, because all exposure pathways that could result in unacceptable risks are being controlled. Land use on site remains industrial. Deed notices are in place to restrict land use and construction of new potable wells on site. New residential properties near the Site are required to connect to the county water supply. As a precaution, the County is presently extending water lines to residents whose wells are monitored on a monthly basis, but do not contain contamination above MCLs. Ground water data confirm the effectiveness of natural attenuation in reducing contamination at the Site. The landfill caps are effectively containing contaminants and reducing infiltration. The landfills are well vegetated and well maintained.
>
> The remedy is operational and functional, some institutional controls are in place, all remedial construction activities are complete, and ground water monitoring is ongoing.
>
> However, in order for the remedy to be protective in the long term, institutional controls should be considered on properties where contamination from the Site is above federal or state MCLs; and a screening level vapor intrusion assessment should be conducted to determine whether this potential pathway presents an unacceptable risk to human health.

The 2008 FYR included four issues and recommendations. This report summarizes each recommendation and its current status below.

Table 2: Progress on Recommendations from the 2008 FYR

Section	Recommendations	Party Responsible	Milestone Date	Action Taken and Outcome	Date of Action
5.1	Remove unused ground water monitoring wells from the monitoring network.	Hillsborough County	06/01/2009	Hillsborough County has completed this task summarized in a letter dated July 21, 2013.	07/21/2013
5.2	EPA and FDEP will evaluate the ground water monitoring program to optimize the efficiency of monitoring.	Hillsborough County	06/01/2009	The County submitted changes to the monitoring plan to the FDEP and the EPA. These changes will be implemented over time.	March 2013

Section	Recommendations	Party Responsible	Milestone Date	Action Taken and Outcome	Date of Action
5.3	Institutional controls will be evaluated for properties where contamination from the Site is above federal or state MCLs.	Hillsborough County	06/01/2009	The delineated area covers all the groundwater contamination at the site. This IC appears adequate. Other land use ICs are adequately addressed by the State RCRA Landfill Closure Program.	March 2013
5.4	A screening level vapor intrusion assessment will be conducted to determine whether this potential pathway presents an unacceptable risk to human health.	Hillsborough County	06/01/2009	The PRPs completed a Tier 1 and Tier 2 Vapor Intrusion Assessment. In response to the results, the PRPs completed a Tier 3 Site-Specific Pathway Assessment.	10/01/2010

5.1 Remove Unused Wells

Several wells located on site were no longer used for monitoring. Sixteen wells were abandoned in October 2009, two wells abandoned in 2010, and two wells abandoned in May 2011. These abandonments were summarized in a letter to EPA dated July 21, 2013. All of the wells were properly abandoned in accordance with the requirements of Subsection 62-532.500(5), F.A.C, and in accordance with the Southwest Florida Water Management District rules and guidance criteria.

5.2 Optimize Ground Water Monitoring Program

Hillsborough County submitted a Long-Term Ground Water Monitoring Optimization plan to the EPA in September 2007. The plan recommends that because the contaminated ground water plume is largely stable and the rate of change of contaminant concentrations at individual wells is slow, decreased monitoring may be appropriate. The plan includes all 27 monitoring well locations but recommends reduced sampling frequency. The EPA and FDEP are currently reviewing the optimization plan.

5.3 Evaluate Institutional Controls

The EPA evaluated the current ground water institutional controls and determined those in place are sufficient. Other land use institutional controls are adequately addressed by the State RCRA Landfill Closure Program.

5.4 Conduct Vapor Intrusion Assessment

Hillsborough County completed Tier 1 Primary Screening and Tier 2 Secondary Screening Vapor Intrusion Assessments on October 20, 2009. The Tier 1 assessment found five COCs in ground water within 100 feet of the land surface at various locations across the Site in excess of numerical standards.

The Tier 2 Secondary Screening Vapor Intrusion Assessment included a review of available indoor air quality data, evaluation of sources, and assessment of ground water and soil gas conditions in relation to inhabited buildings. The assessment of ground water data indicated that only three COCs, tetrachloroethene, trichloroethene and vinyl chloride, are present in ground water at the Site at specific locations in concentrations sufficient to potentially contribute to vapor intrusion into nearby inhabited buildings. The assessment also found that pathways for vapor intrusion are only present near the maintenance facility building and the attendants building.

In response to the findings of the Tier 1 Primary Screening and Tier 2 Secondary Screening Vapor Intrusion Assessments, Hillsborough County completed a Tier 3 Site-Specific Pathway Assessment on August 17, 2010. In June 2010, a Hillsborough County contractor drilled holes through the floor of the maintenance facility building and the attendants building at the landfill complex on site. Temporary sampling tubes were installed to collect soil vapor samples. The conclusions of the Tier 3 Site-Specific Pathway Assessment included:

- Tetrachloroethene and vinyl chloride were not found in the soil vapor samples collected.
- Subslab sampling data indicated detections of methylene chloride and p-, m-, and o-xylenes at concentrations less than the corresponding target indoor air concentrations defined in the EPA 2002 vapor intrusion guidance.[1]
- Subslab sampling data indicated detections of trichloroethene at concentrations greater than the corresponding target indoor air concentrations defined in the EPA 2002 vapor intrusion guidance.

The Tier 3 Site-Specific Pathway Assessment report recommended that Hillsborough County collect air quality samples to confirm if the presence of trichloroethene poses an unacceptable risk to human health. It also recommended that Hillsborough County may wish to collect indoor air samples for methylene chloride to confirm that the concentrations do not pose an unacceptable risk to human health.

On September 9, 2010, Hillsborough County completed a Site-Specific Indoor Air Quality Assessment for vapor intrusion at the Site in response to the conclusions of the Tier 3 Site-Specific Pathway Assessment. A Hillsborough County contractor collected four air samples for methylene chloride and trichloroethene. Sample locations included

[1] Hillsborough County conducted the Tier 3 Site-Specific Pathway Assessment in accordance with the EPA's "OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)," November 2002, EPA530-D-02-004.

the maintenance facility building office area, the maintenance facility building break room area, the maintenance facility building bay area and outside of the maintenance facility building approximately 10 to 15 feet from the building's edge. The assessment concluded that concentrations of methylene chloride and trichloroethene were below laboratory analytical reporting limits, below applicable Occupational Safety and Health Administration (OSHA) standards and below American Conference of Governmental Industrial Hygienists guidelines. Based on the absence of detectable concentrations in the indoor air quality samples and the low concentrations of the subslab soil gas samples from the June 2010 sampling event, the assessment found the vapor intrusion pathway incomplete and recommended no further action.

6.0 Five-Year Review Process

6.1 Administrative Components

EPA Region 4 initiated the FYR in March 2013 and scheduled its completion for September 2013. EPA remedial project manager (RPM) Erik Spalvins led the EPA site review team, which also included the EPA site attorney, EPA community involvement coordinator (CIC) L'Tonya Spencer and contractor support provided to the EPA by Skeo Solutions. In March 2013, the EPA held a scoping call with the review team to discuss the Site and items of interest as they relate to the protectiveness of the remedy currently in place. The review schedule established consisted of the following activities:

- Community notification.
- Document review.
- Data collection and review.
- Site inspection.
- Local interviews.
- FYR Report development and review.

6.2 Community Involvement

In March 2013, the EPA published a public notice in the Tampa Tribune newspaper announcing the commencement of the FYR process for the Site, providing contact information for Erik Spalvins and L'Tonya Spencer and inviting community participation. The press notice is available in Appendix B. No one contacted the EPA as a result of the advertisement.

The EPA will make the final FYR report available to the public. Upon completion of the FYR, the EPA will place copies of the document in the designated site repository: Thonotosassa Public Library, 10715 Main Street, Thonotosassa, Florida 33592.

6.3 Document Review

This FYR included a review of relevant, site-related documents, including the ROD, ESD, remedial action reports and recent monitoring data. Appendix A presents a complete list of the documents reviewed.

ARARs Review

CERCLA Section 121(d)(1) requires that Superfund remedial actions attain "a degree of cleanup of hazardous substance, pollutants, and contaminants released into the environment and of control of further release at a minimum which assures protection of human health and the environment." The remedial action must achieve a level of cleanup that at least attains those requirements that are legally applicable or relevant and appropriate. Applicable requirements are those cleanup standards, standards of control,

and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, remedial action, location or other circumstance found at a CERCLA site. Relevant and appropriate requirements are those standards that, while not "applicable," address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards that are more stringent than federal requirements may be applicable or relevant and appropriate. To-be-considered criteria are non-promulgated advisories and guidance that are not legally binding but should be considered in determining the necessary remedial action. For example, to-be-considered criteria may be particularly useful in determining health-based levels where no ARARs exist or in developing the appropriate method for conducting a remedial action.

Chemical-specific ARARs are health- or risk-based numerical values or methodologies which, when applied to site-specific conditions, result in the establishment of numerical values. These values establish an acceptable amount or concentration of a chemical that may remain in, or be discharged to, the ambient environment. Examples of chemical-specific ARARs include MCLs under the federal SDWA and ambient water quality criteria enumerated under the federal Clean Water Act.

Action-specific ARARs are technology- or activity-based requirements or limits on actions taken with respect to a particular hazardous substance. These requirements are triggered by a particular remedial activity, such as discharge of contaminated ground water or in-situ remediation.

Location-specific ARARs are restrictions on hazardous substances or the conduct of the response activities solely based on their location in a special geographic area. Examples include restrictions on activities in wetlands, sensitive habitats and historic places.

Remedial actions are required to comply with the chemical-specific ARARs identified in the ROD. In performing the FYR for compliance with ARARs, only those ARARs that address the protectiveness of the remedy are reviewed.

Ground Water ARARs

According to the ROD, as modified by the ESD, ground water ARARs include the federal MCLs and the Florida Primary Drinking Water standards. This FYR compared the primary standards listed in Table 5.1 of the ROD against the current federal MCLs and Florida primary standards (Table 3). The standard for chloroform is now more stringent. ARARs for remaining contaminants remain unchanged since the ESD.

Table 3. Ground Water ARARs Review

Ground Water COC	1995 ARARs (µg/L)[a]	2013 Standards (µg/L)[b]	ARARs Change
1,1-Dichloroethane	NA	NA	None
1,1-Dichloroethene	7	7	None
1,2-Dichlorobenzene	600	600	None
1,2-Dichloroethane	3	3	None
1,2-Dichloropropane	5	5	None
1,4-Dichlorobenzene	75	75	None
Benzene	1	1	None
Chloroform	100	80[c]	More Stringent
Dibromochloromethane	NA	80[c]	New Standard
Ethylbenzene	700	700	None
Methylene Chloride	5	5	None
Tetrachloroethene	3	3	None
Toluene	1,000	1,000	None
trans-1,2-Dichloroethene	100	100	None
cis-1,2-Dichloroethene	70	70	None
Trichloroethene	3	3	None
Vinyl Chloride	1	1	None
Mercury	2	2	None
Nickel	100	100	None

a. Lower of the federal MCL and the Florida Primary Drinking Water Standards, from Table 5.1 of the ROD. The ESD eliminated secondary standards as ARARs, so only those values based on primary standards are included in this table.
b. Lower of the federal MCL (available at: http://water.epa.gov/drink/contaminants/index.cfm) and the Florida Primary Drinking Water Standards (available at: http://www.dep.state.fl.us/legal/Rules/drinkingwater/62-550.pdf). Accessed May 14, 2013.
c. Florida primary standard for total trihalomethane compounds: chloroform, dibromochloromethane, bromodichloromethane and tribromomethane.
NA=Not Applicable

Institutional Controls Review

Contractor staff conducted research at the Hillsborough County Public Records Office and found property and deed information pertaining to the Site. Appendix G contains information regarding property parcels included within the approximate site boundary/compliance ring and 270-foot setback and impacted by the 1983 RCRA Consent Decree and FAC Chapter 62-524 institutional controls, which restrict installation of ground water wells and prohibit potable use of ground water. Institutional controls as part of FAC Chapter 62-524 also apply to all property parcels within the delineated area. Table 4 summarizes the institutional controls in place at the Site.

Table 4: Institutional Control (IC) Summary Table

Media	ICs Needed?	ICs Called for in the Decision Documents?	Impacted Parcels	IC Objective	Instrument in Place
Ground Water	Yes	Yes	County-owned parcels within the site boundary	Restrict installation of ground water wells and prohibit potable use of ground water	"Notice of Entry of Consent Decree for the Taylor Road Landfill Superfund Site in Hillsborough County, Florida" states that county-owned parcels are subject to the 1983 RCRA Consent Decree.
Ground Water	Yes	Yes	All parcels located within the Site's delineated area	Restrict installation of ground water wells and prohibit potable use of ground water	FAC Chapter 62-524. The Site lies within a Florida Delineated Ground Water Area, which restricts well placement.[1]
1. Florida's ground water delineation information is available online at: http://www.dep.state.fl.us/water/groundwater/delineate.htm.					

Figure 3 shows the Florida Delineated Ground Water Area that the Site lies within. The Southwest Florida Water Management District restricts well installations and use of ground water within this Delineated Ground Water Area.

Figure 3: Florida Ground Water Delineated Area Map

Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site

6.4 Data Review

Quarterly ground water monitoring includes sampling 13 compliance ring ground water monitoring wells, 13 interior ground water monitoring wells, and one background water quality monitoring well. Overall, data indicate the ground water contaminant plume remains stable, and the MNA remedy has reduced the number and concentrations of VOCs observed within the compliance ring of ground water monitoring wells. Consistent with historical sampling, the interior wells continue to exhibit water quality indicative of impacts from the buried wastes within the former Taylor Road Landfill. Total dissolved solids, pH, arsenic, manganese and a few VOCs continue to be present at concentrations above (or below for pH) applicable standards within the interior areas of the Site. Concentrations in the compliance ring wells continue to remain below applicable standards, therefore complying with the MNA point of compliance.

In July 2012, the PRPs completed a statistical evaluation of contaminant concentrations, using data collected from January 1995 to October 2011. The evaluation concluded that during the previous 24 sampling events there have not been two successive exceedances of a COPC in the ring wells and no increasing trends of COPCs were identified in the ring wells. For the interior wells, 1,1-dichloroethene, benzene, tetrachloroethene, trichloroethene, and vinyl chloride are COPCs that had at least one statistically significant exceedance. Vinyl chloride is the COPC that most frequently exceeds its regulatory standard in interior wells. COPCs that had an increasing trend in an interior well included 1,4-dichlorobenzene, benzene, cis-1,2-dichloroethene, nickel, and vinyl chloride, but concentrations for all except vinyl chloride remain below regulatory limits. Various interior wells show decreasing trends with respect to select chlorinated solvents. The presence of vinyl chloride and other chlorinated solvent degradation products may be indicative of the natural attenuation process.

In the October 2012 sampling event, VOCs were detected in 11 of the 13 interior ground water monitoring wells (Appendix I). Seven of these wells exhibit concentrations of VOCs in excess of ARARs. The VOCs observed exceeding standards are benzene (TR-4D, 18-D and 24-D), 1,1-dichloroethene (TR-4D) and vinyl chloride (C-2, C-5, C-6, TR-4D, 18-D, 24-D and F-14). TR-4D has historically been considered the most impacted well on site and is located closest to the source area in the central portion of the Site. The continued presence of vinyl chloride in these interior wells suggests that natural attenuation processes are ongoing within the interior areas of the Site.

VOC contaminants were observed in two of the compliance ring monitoring wells, F-15 and 31-D, and the detections were well below the applicable water quality standards. No significant changes to the overall concentrations of inorganics were observed in the 2012 data set.

6.5 Site Inspection

On April 2, 2013, Erik Spalvins (EPA), Kelsey Helton (FDEP), John Morris (FDEP), Melissa Madden (FDEP), Jeff Greenwell (FDEP), David Adams (Hillsborough County),

Wendy Grimes (Hillsborough County), Michael Townsel (Hillsborough County), Ryan Burdge (Skeo Solutions) and Lynette Wysocki (Skeo Solutions) met at the Site, located off of County Road 579, Seffner, Florida, to participate in the site inspection. Perimeter fencing surrounds the Site and a gate off of County Road 579 controls access to the landfill complex. The gate remains open to the public during normal weekday business hours and one Saturday per month to allow access to the community collection centers at the Site. The site inspection participants met in the maintenance facility building conference room and discussed recent activities at the Site. Hillsborough County participants explained the O&M activities that take place at the Site and the quarterly sampling of the ground water monitoring wells. Hillsborough County also discussed the results of the vapor intrusion studies at the Site. The group observed one of the areas in the maintenance building floor where vapor intrusion sampling took place. Site inspection participants discussed the status of the issues and recommendations from the 2008 FYR and the remaining data and information needed to complete the current FYR. The EPA and Hillsborough County discussed that the agencies are reviewing the ground water monitoring optimization plan submitted by Hillsborough County.

Site inspection participants then toured the Site. The group observed the conditions of the ground water monitoring wells, perimeter fencing and the vegetative cover over the landfill complex. The ground water monitoring wells were found secured and in good condition. Both the paved and gravel roads at the Site were well maintained. The vegetative cover was well established across the landfill complex. Site inspection participants observed flocks of cattle egrets on portions of the landfills and in the stormwater retention basins. Appendix D includes the completed Site Inspection Checklist. Site inspection participants toured the community collection centers and the model airplane flying field. Local community members were disposing of recyclables and several AMA members were using the flying field at the time of the site inspection. Site inspection participants also toured the businesses on the southern portion of the Site.

Contractor staff took photographs of the Site's features including the maintenance building facility, ground water monitoring wells, vegetated landfills, community collection centers, commercial businesses, a commercial lot for sale or lease, and the AMA flying field. Site photographs are included as Appendix E.

Also on April 1, 2013, Ryan Burdge (Skeo Solutions) and Lynette Wysocki (Skeo Solutions) visited the information repository for the Site at the Thonotosassa Public Library, located at 10715 Main Street, Thonotosassa, Florida 33592. The library was able to locate only one disk with information about the Site. The disk contained one of the quarterly monitoring reports from 2012.

6.6 Interviews

The FYR process included an interview with the Site's manager from Hillsborough County. The purpose was to document the perceived status of the Site and any perceived problems or successes with the phases of the remedy implemented to date. The interview took place following the site inspection via email. The interview is summarized below. Appendix C provides the complete interview.

David Adams: Mr. David Adams is the Site's manager from Hillsborough County. Mr. Adams also oversees O&M activity at the Site. Mr. Adams stated that the remedial activities at the Site have proven effective. He noted that the selected remedy of natural attenuation has performed well; concentrations of contaminants continue to trend downward and the plume remains within the compliance ring of ground water monitoring wells. Mr. Adams explained that since the implementation of the remedy, the surrounding community has not been adversely affected. He stated that Hillsborough County has received minor complaints from residents along Buster Bean Road regarding their supply wells, but impacts to these wells were deemed not attributable to the landfill. However, Hillsborough County voluntarily connected several residences to the public water supply in 2007. Mr. Adams feels that communication between the EPA and the County has been open and informative. He stated that the County looks forward to working with the EPA to implement changes to optimize the ground water monitoring plan.

In regards to O&M activities at the Site, Mr. Adams stated that the Site is well maintained by on-site staff and contractors. Hillsborough County's Public Utilities Department has a maintenance facility at the Site, and five full-time employees work on site. There have not been any unexpected O&M difficulties or costs in the last five years. The ongoing reuse of the Site as a model airplane flying field is viewed very positively by the local club. The community recycling and collection areas operate on non-waste-filled areas of the Site. Mr. Adams explained that analytical data generated from the quarterly monitoring reports have demonstrated the compliance ring of ground water monitoring wells has been in compliance with applicable water quality criteria for well over 10 years. There are no statistically increasing trends of contaminants in the compliance ring wells.

7.0 Technical Assessment

7.1 Question A: Is the remedy functioning as intended by the decision documents?

Yes, the remedy is functioning as intended by the decision documents. Ongoing ground water monitoring indicates the ground water contamination remains confined within the ring of compliance wells and that natural attenuation is occurring. Concentrations in the compliance ring wells continue to remain below applicable standards, therefore complying with the MNA point of compliance. The landfill cover is in good condition and there is no evidence that erosion is a problem. The Site is well maintained and is secured with fencing. FDEP regulates the landfill complex under its RCRA program's landfill closure requirements and has worked closely with the County to ensure compliance.

The EPA and FDEP are reviewing the statistical analysis of the ground water data and the proposed system optimizations and will implement modifications, as appropriate.

The FDEP ground water delineated area and the 270-foot private well buffer zone have prevented consumption of ground water in the vicinity of the Site. Potentially affected private wells have been closed and homes are now connected to public water. In addition, Hillsborough County also filed a notice stating that the county-owned parcels are subject to the 1983 RCRA Consent Decree.

7.2 Question B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives (RAOs) used at the time of remedy selection still valid?

Yes, the exposure assumptions, toxicity data, cleanup levels and RAOs are still valid. The baseline risk assessment was used to identify contaminants and exposure pathways, and contaminant-specific cleanup standards are based on MCLs and FDEP standards. The ground water monitoring program assesses compliance based on current ARARs; therefore no changes to ARARs have been identified that affect protectiveness of the remedy. Although the standard for chloroform is now more stringent, the change does not affect protectiveness of the remedy. There has been no change to the risk assessment methodology that could affect the protectiveness of the remedy. No changes in site conditions, contaminant characteristics, or exposure pathways were observed or are known to have occurred that would call into question the ongoing protectiveness of the remedy.

After the previous FYR, Hillsborough County completed an assessment of the vapor intrusion pathway, based on the 2002 EPA guidance. The 2009 Tier 1 and Tier 2 screening assessments found that a pathway for vapor intrusion into an inhabited building at or near the Site may be present and that three COCs (tetrachloroethylene (PCE), trichloroethylene (TCE) and vinyl chloride) are present in ground water in concentrations sufficient to potentially contribute to vapor intrusion into the maintenance facility building and the attendants building. A June 2010 Tier 3 assessment of soil vapor samples collected from beneath the floor of the maintenance facility building and the

attendants building concluded that PCE and vinyl chloride were not present in soil vapor samples. However, methylene chloride and xylenes were found in quantities less than EPA target indoor air concentrations and TCE was present above the target indoor air concentrations.

In response, Hillsborough County completed a Site-Specific Indoor Air Quality Assessment for vapor intrusion in September 2010. The assessment concluded that concentrations of methylene chloride and TCE in indoor air were below laboratory analytical reporting limits, below applicable OSHA standards and below American Conference of Governmental Industrial Hygienists guidelines. Based on the absence of detectable concentrations in the indoor air quality samples and the low concentrations in the subslab soil gas samples from the June 2010 sampling event, the assessment found the vapor intrusion pathway incomplete and recommended no further action.

7.3 Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No new information has come to light that could call into question the protectiveness of the remedy.

7.4 Technical Assessment Summary

The site inspection and review of site documents indicate that the Site's remedy is functioning as intended by the 1995 ROD and the 2000 ESD. Ground water monitoring indicates that ground water contamination remains contained and that natural attenuation is occurring. Concentrations in the compliance ring wells continue to remain below applicable standards, therefore complying with the MNA point of compliance. The EPA and FDEP are reviewing Hillsborough County's plan for ground water monitoring optimization. FDEP regulates the landfill complex under its RCRA program. The landfill caps are functioning as intended and the Site is well maintained. Appropriate access controls and institutional controls are in place. The exposure assumptions, toxicity data, cleanup levels and RAOs are still valid. Hillsborough County completed an assessment of the vapor intrusion pathway, based on the EPA's 2000 guidance. The County found that there is not a completed vapor intrusion pathway and recommended no further action. There are no complete exposure pathways that could result in unacceptable risk and no new information has come to light that could call into question the protectiveness of the remedy.

8.0 Issues

This FYR did not identify any issues at the Site.

9.0 Recommendations and Follow-up Actions

Because this FYR did not identify any issues at the Site, no recommendations are required under CERCLA.

The following item, though not expected to affect protectiveness, warrants additional follow-up:

- The EPA and FDEP should evaluate the recommendations of the Long-Term Ground Water Monitoring Optimization plan submitted by Hillsborough County in 2007 as appropriate in the future to optimize the ground water monitoring program.

10.0 Protectiveness Statement

The remedy at the Site is protective of human health and the environment. Appropriate institutional controls are in place to restrict construction of ground water wells and potable use of ground water at the Site. Ground water monitoring indicates that ground water contamination remains confined within the site boundary and that natural attenuation is occurring. FDEP regulates the closed landfills at the Site under its RCRA program and the Site is well maintained. Hillsborough County assessed vapor intrusion at the Site and found that there is not a completed pathway. There are no complete exposure pathways that could result in unacceptable risks at the Site.

11.0 Next Review

The next FYR will be due within five years of the signature/approval date of this FYR.

Appendix A: List of Documents Reviewed

Buster Bean Road Residences, Taylor Road Landfill Superfund Site, Tampa, Florida. Memo from U.S. EPA to Taylor Road Landfill Group c/o David Adams, Hillsborough County SWMD. February 7, 2007.

Explanation of Significant Differences. Taylor Road Landfill Superfund Site, Seffner, Hillsborough County, Florida. United States Environmental Protection Agency. August 3, 2000.

Final Baseline Risk Assessment for the Taylor Road Landfill Site, Hillsborough County, Florida. Prepared by: CDM Federal Programs Corporation. Prepared for: U.S. Environmental Protection Agency, Region IV. August 29, 1994.

Final Construction Report. Taylor Road Landfill Superfund Site. Hillsborough County Solid Waste Management Department, Management & Environmental Services Section. April 16, 1999.

Final Feasibility Study Report. Taylor Road Landfill Site. Hillsborough County, Florida. ERM-South, Inc. June 1995.

Final Remedial Investigation Report. Taylor Road Landfill Study Area. Hillsborough County, Florida. ERM-South, Inc. May 1995.

First Five-Year Review Report for Taylor Road Landfill. Seffner, Hillsborough County, Florida. Prepared by: U.S. Environmental Protection Agency Region 4. September 29, 2003.

Florida Administrative Code. Chapter 62-524. New Potable Water Well Permitting in Delineated Areas.

Ground-Water Quality Assessment at and in the Vicinity of the Taylor Road Landfill Seffner, Florida. Prepared for the Division of Public Utilities and Safety, Hillsborough County, Florida. Prepared by Geraghty & Miller, Inc. February 1981.

Long-Term Groundwater Monitoring Optimization. Taylor Road Landfill Superfund Site. Seffner, Hillsborough County, Florida. Prepared by: GSI Environmental, Inc. Prepared for: U.S. EPA. EPA 542-R-07-016. September 2007.

Record of Decision. Taylor Road Landfill. EPA ID: FLD980494959. OU 01. Seffner, FL. EPA/ROD/R04-95/239. September 29, 1995.

Taylor Road Landfill Superfund Site Addendum to the Updated Water Well Survey Report. Prepared by: SCS Engineers. Prepared for: Hillsborough County, Florida. Solid Waste Management Department and U.S. EPA Region IV. September 9. 2004.

Taylor Road Landfill Superfund Site Groundwater Monitoring Ring Well F-4A Abandonment Report. Prepared by: SCS Engineers. Prepared for: Hillsborough County, Florida. Solid Waste Management Department and U.S. EPA Region IV. April 4, 2007.

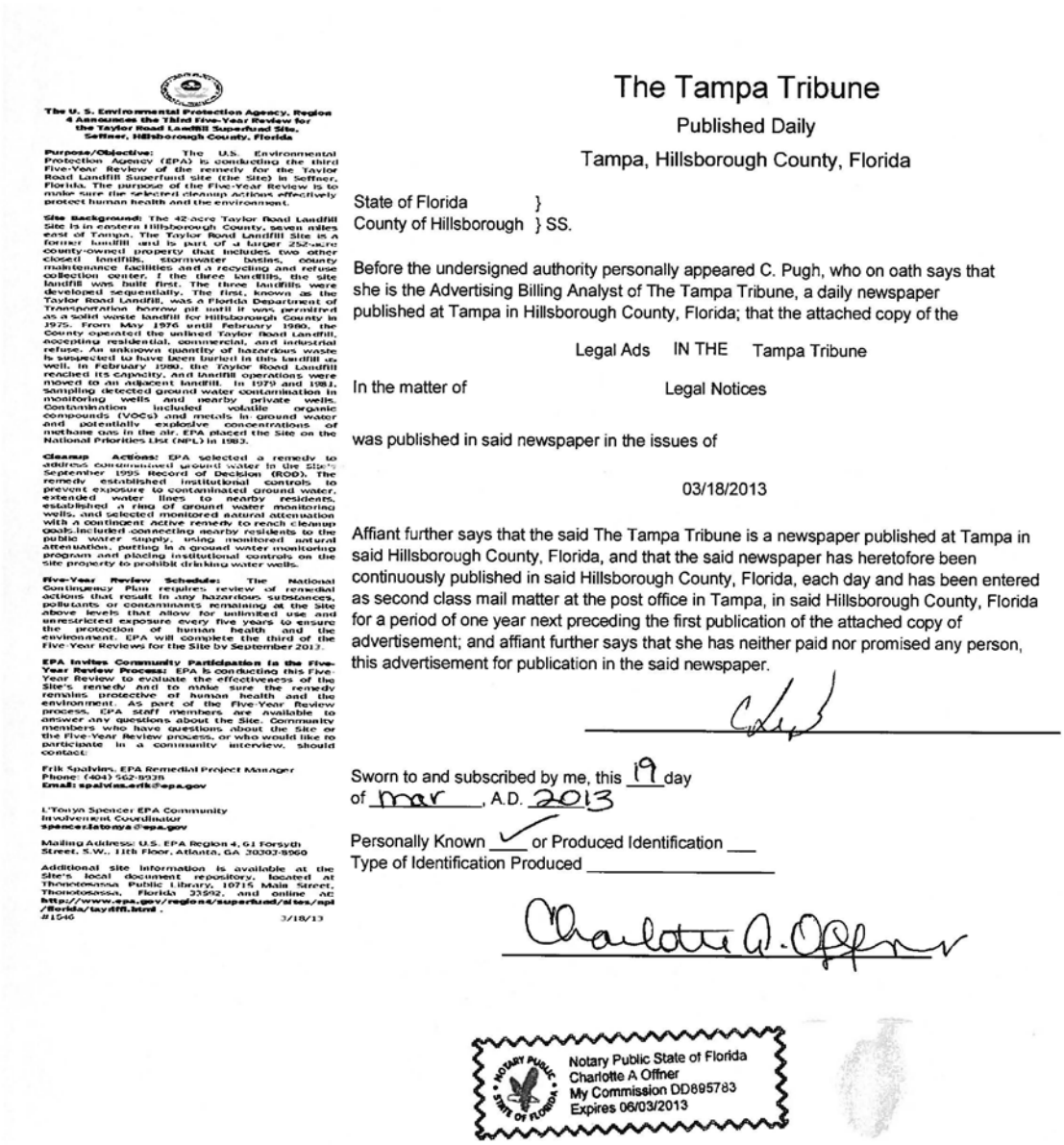
Screening Level Vapor Intrusion Assessment. Taylor Road Landfill Superfund Site, EPA ID: FLD980494959. Prepared by: SCS Engineers. Prepared for: Hillsborough County Solid Waste Management Department. October 20, 2009.

Second Five-Year Review Report for Taylor Road Landfill. Seffner, Hillsborough County, Florida. Prepared by: U.S. Environmental Protection Agency Region 4. September 25, 2008.

Site Specific Indoor Air Quality Assessment for Vapor. Taylor Road Landfill Superfund Site, EPA ID: FLD980494959. Prepared by: SCS Engineers. Prepared for: Hillsborough County Solid Waste Management Department. October 1, 2010.

Site Specific Pathway Assessment for Vapor. Taylor Road Landfill Superfund Site, EPA ID: FLD980494959. Prepared by: SCS Engineers. Prepared for: Hillsborough County Solid Waste Management Department. August 17, 2010.

Appendix B: Press Notice



The U. S. Environmental Protection Agency, Region 4 Announces the Third Five-Year Review for the Taylor Road Landfill Superfund Site, Seffner, Hillsborough County, Florida

Purpose/Objective: The U.S. Environmental Protection Agency (EPA) is conducting the third Five-Year Review of the remedy for the Taylor Road Landfill Superfund site (the Site) in Seffner, Florida. The purpose of the Five-Year Review is to make sure the selected cleanup actions effectively protect human health and the environment.

Site Background: The 42-acre Taylor Road Landfill Site is in eastern Hillsborough County, seven miles east of Tampa. The Taylor Road Landfill Site is a former landfill and is part of a larger 252-acre county-owned property that includes two other closed landfills, stormwater basins, county maintenance facilities and a recycling and refuse collection center. The three landfills, the site landfill was built first. The three landfills were developed sequentially. The first, known as the Taylor Road Landfill, was a Florida Department of Transportation borrow pit until it was permitted as a solid waste landfill for Hillsborough County in 1975. From May 1976 until February 1980, the County operated the unlined Taylor Road Landfill, accepting residential, commercial, and industrial refuse. An unknown quantity of hazardous waste is suspected to have been buried in this landfill as well. In February 1980, the Taylor Road Landfill reached its capacity, and landfill operations were moved to an adjacent landfill. In 1979 and 1981, sampling detected ground water contamination in monitoring wells and nearby private wells. Contamination included volatile organic compounds (VOCs) and metals in ground water and potentially explosive concentrations of methane gas in the air. EPA placed the Site on the National Priorities List (NPL) in 1983.

Cleanup Actions: EPA selected a remedy to address contaminated ground water in the Site's September 1995 Record of Decision (ROD). The remedy established institutional controls to prevent exposure to contaminated ground water, extended water lines to nearby residents, established a ring of ground water monitoring wells, and selected monitored natural attenuation with a contingent active remedy to reach cleanup goals. Included connecting nearby residents to the public water supply, using monitored natural attenuation, putting in a ground water monitoring program and placing institutional controls on the Site property to prohibit drinking water wells.

Five-Year Review Schedule: The National Contingency Plan requires review of remedial actions that result in any hazardous substances, pollutants or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure every five years to ensure the protection of human health and the environment. EPA will complete the third of the Five-Year Reviews for the Site by September 2013.

EPA Invites Community Participation in the Five-Year Review Process: EPA is conducting this Five-Year Review to evaluate the effectiveness of the Site's remedy and to make sure the remedy remains protective of human health and the environment. As part of the Five-Year Review process, EPA staff members are available to answer any questions about the Site. Community members who have questions about the Site or the Five-Year Review process, or who would like to participate in a community interview, should contact:

Erik Spalvins, EPA Remedial Project Manager
Phone: (404) 562-8938
Email: spalvins.erik@epa.gov

L'Tonya Spencer EPA Community Involvement Coordinator
spencer.latonya@epa.gov

Mailing Address: U.S. EPA Region 4, 61 Forsyth Street, S.W., 11th Floor, Atlanta, GA 30303-8960

Additional site information is available at the Site's local document repository, located at Thonotosassa Public Library, 10715 Main Street, Thonotosassa, Florida 33592, and online at: http://www.epa.gov/region4/superfund/sites/npl/florida/taydflfl.html.

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The Tampa Tribune

Published Daily

Tampa, Hillsborough County, Florida

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Appendix C: Interview Form

Taylor Road Landfill Superfund Site **Five-Year Review Interview Form**

Site Name: **Taylor Road Landfill** **EPA ID No.:** **FLD980494959**
Interviewer Name: Not Applicable **Affiliation:** Not Applicable
Subject Name: David Adams, P.G. **Affiliation:** Hillsborough County
Subject Contact Information: adamsds@hillsboroughcounty.org (813) 663-3221
Time: Not Applicable **Date:** 05/07/2013
Interview Location:

Interview Format: **In Person** **Phone** **Mail** **Other:** Email

Interview Category: **Hillsborough County**

1. What is your overall impression of the remedial activities at the Site?

   The remedial activities at the site have proven to be effective and concentrations of contaminants continue to trend downward over the period of record. The plume remains contained within the compliance line ring of ground water monitoring wells at the Site.

2. What have been the effects of this Site on the surrounding community, if any?

   Since implementation of the remedy, the surrounding community has not been adversely affected by the Site.

3. What is your assessment of the current performance of the remedy in place at the Site?

   The selected remedy of natural attenuation has performed well over the period of record and appears to be continuing the downward trend of contaminants at the Site.

4. Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?

   We have received only minor complaints from a few residents along Buster Bean Road regarding issues with their supply wells. Although water quality impacts in those wells were not attributable to the landfill, the County elected to connect several residences to the potable water distribution system in 2009.

5. Do you feel well-informed regarding the Site's activities and remedial progress? If not, how might the EPA convey site-related information in the future?

   Yes, the communication between the EPA and the County has been very open and informative in both directions.

6. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?

The County maintains the position that, based on the water quality data over the past 10 years, optimization of the monitoring plan is warranted. We look forward to working cooperatively with the EPA on implementing appropriate changes as part of this third five-year review.

Taylor Road Landfill Superfund Site **Five-Year Review Interview Form**

Site Name:	**Taylor Road Landfill**	**EPA ID No.:**	**FLD980494959**
Interviewer Name:	Not Applicable	**Affiliation:**	**Not Applicable**
Subject Name:	David Adams, P.G.	**Affiliation:**	**Hillsborough County**
Subject Contact Information:	adamsds@hillsboroughcounty.org (813) 663-3221		
Time:	Not Applicable	**Date:**	05/07/2013
Interview Location:			

Interview Format (circle one): **In Person** **Phone** **Mail** **Other:** Email

Interview Category: **O&M Contractor (Hillsborough County)**

1. What is your overall impression of the project including cleanup, maintenance and reuse activities (as appropriate)?

   The overall impression of the Taylor Road Landfill Superfund Site project, which is implementation of the selected remedy as described in the 1995 Record of Decision, is that the remedy has been and remains effective. The site is well maintained by on-site staff and contract personnel. The ongoing reuse of the property is viewed very positively with the TRAC (remote model aircraft) facility, the community collection center, and household hazardous waste collection center all operating on non-waste-filled areas of the Site.

2. What is your assessment of the current performance of the remedy in place at the Site?

   The selected remedy of natural attenuation has performed well over the period of record, and appears to be continuing with an overall downward trend of contaminants at the Site.

3. What are the findings from the monitoring data? What are the key trends in contaminant levels that are being documented over time at the Site?

   The analytical data generated from the current quarterly monitoring program has demonstrated that the ring of compliance groundwater monitoring wells has been in compliance with applicable water quality criteria for well over 10 years. There are no statistically increasing trends of the chemicals of potential concern in any of the compliance ring wells, and both the ring wells and the interior wells show decreasing trends for chlorinated solvents.

4. Is there a continuous on-site O&M presence? If so, please describe staff responsibilities and activities. Alternatively, please describe staff responsibilities and the frequency of site inspections and activities if there is not a continuous on-site O&M presence.

   Yes, Hillsborough County's Public Utilities Department has a maintenance facility at the Site, and five full-time employees are assigned to that location. These employees conduct

maintenance activities associated with the landfill gas collection and leachate management systems, and they oversee contract personnel for mowing and landscaping of the property.

5. Have there been any significant changes in site O&M requirements, maintenance schedules or sampling routines since start-up or in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy? Please describe changes and impacts.

   The only significant change over the past five years is the County has constructed a lift station at the Site and now pumps the leachate and condensate collected from the Hillsborough Heights and 10.6 acre landfills to the wastewater collection system. Improvements to the leachate/condensate collection system have improved the management of these liquid wastes.

6. Have there been unexpected O&M difficulties or costs at the Site since start-up or in the last five years? If so, please provide details.

   No.

7. Have there been opportunities to optimize O&M activities or sampling efforts? Please describe changes and any resulting or desired cost savings or improved efficiencies.

   Yes, and the County is currently working with the EPA on the recommended changes to the monitoring plan, and we expect that the upcoming Five-Year Review Report will recommend the changes proposed in the 2012 Statistical Evaluation prepared by SCS Engineers.

8. Do you have any comments, suggestions or recommendations regarding O&M activities and schedules at the Site?

   The only recommendations would be to move forward with the optimization of the ground water monitoring plan, as discussed.

Appendix D: Site Inspection Checklist

FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST

I. SITE INFORMATION

Site Name: Taylor Road Landfill	**Date of Inspection:** 04/02/2013
Location and Region: Seffner, Hillsborough County, FL, Region 4	**EPA ID:** FLD980494959
Agency, Office or Company Leading the Five-Year Review: EPA Region 4	**Weather/Temperature:** Sunny, 80°F

Remedy Includes: (Check all that apply)

- ☐ Landfill cover/containment
- ☒ Access controls
- ☒ Institutional controls
- ☐ Ground water pump and treatment
- ☐ Surface water collection and treatment
- ☐ Other: _____
- ☒ Monitored natural attenuation
- ☐ Ground water containment
- ☐ Vertical barrier walls

Attachments: ☐ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (check all that apply)

1. **O&M Site Manager** David Adams, P.G. (Name) | Hillsborough County (Title) | 05/07/2013 (Date)
   Interviewed ☐ at site ☒ at office ☐ by phone Phone: (813) 663-3221
   Problems, suggestions ☒ Report attached: Yes
2. **O&M Staff** _____ (Name) | _____ (Title) | mm/dd/yyyy (Date)
   Interviewed ☐ at site ☐ at office ☐ by phone Phone: _____
   Problems/suggestions ☐ Report attached: _____

3. **Local Regulatory Authorities and Response Agencies** (i.e., state and tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices). Fill in all that apply.

Agency _____
Contact | _____ Name | _____ Title | _____ Date | _____ Phone No.
Problems/suggestions ☐ Report attached: _____

Agency _____
Contact | _____Name | _____ Title | _____ Date | _____ Phone No.
Problems/suggestions ☐ Report attached:_____

Agency _____
Contact | _____ Name | _____ Title | _____ Date | _____ Phone No.
Problems/suggestions ☐ Report attached:_____

Agency _____
Contact | _____ Name | _____ Title | _____ Date | _____ Phone No.
Problems/suggestions ☐ Report attached: _____

Agency _____
Contact | _____ Name | _____ Title | _____ Date | _____ Phone No.
Problems/suggestions ☐ Report attached:_____

4. **Other Interviews** (optional) ☐ Report attached: _____

III. ON-SITE DOCUMENTS AND RECORDS VERIFIED (check all that apply)

1. **O&M Documents**

☐ O&M manual	☐ Readily available	☐ Up to date	☒ N/A
☐ As-built drawings	☐ Readily available	☐ Up to date	☒ N/A
☐ Maintenance logs	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

2. **Site-Specific Health and Safety Plan** ☐ Readily available ☐ Up to date ☒ N/A

☐ Contingency plan/emergency response plan ☐ Readily available ☐ Up to date ☒ N/A

Remarks: _____

3. **O&M and OSHA Training Records** ☐ Readily available ☐ Up to date ☒ N/A

Remarks: _____

4.	**Permits and Service Agreements**			
	☐ Air discharge permit	☐ Readily available	☐ Up to date	☒ N/A
	☐ Effluent discharge	☐ Readily available	☐ Up to date	☒ N/A
	☐ Waste disposal, POTW	☐ Readily available	☐ Up to date	☒ N/A
	☐ Other permits: _____	☐ Readily available	☐ Up to date	☐ N/A
	Remarks: _____			
5.	**Gas Generation Records**	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
6.	**Settlement Monument Records**	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
7.	**Ground Water Monitoring Records**	☒ Readily available	☒ Up to date	☒ N/A
	Remarks: _____			
8.	**Leachate Extraction Records**	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
9.	**Discharge Compliance Records**			
	☐ Air	☐ Readily available	☐ Up to date	☒ N/A
	☐ Water (effluent)	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
10.	**Daily Access/Security Logs**	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: Public must report directly to the Community Collection centers.			

IV. O&M COSTS

1.	**O&M Organization**	
	☐ State in-house	☐ Contractor for state
	☒ PRP in-house	☐ Contractor for PRP
	☐ Federal facility in-house	☐ Contractor for Federal facility
	☐ Hillsborough County is the lead PRP and O&M is conducted by in-house staff with some contractor support.	

2. **O&M Cost Records**

☐ Readily available ☐ Up to date

☐ Funding mechanism/agreement in place ☐ Unavailable

Original O&M cost estimate: _____ ☐ Breakdown attached

Total annual cost by year for review period if available

From: mm/dd/yyyy	To: mm/dd/yyyy	_____	☐ Breakdown attached
Date	Date	Total cost	
From: mm/dd/yyyy	To: mm/dd/yyyy	_____	☐ Breakdown attached
Date	Date	Total cost	
From: mm/dd/yyyy	To: mm/dd/yyyy	_____	☐ Breakdown attached
Date	Date	Total cost	
From: mm/dd/yyyy	To: mm/dd/yyyy	_____	☐ Breakdown attached
Date	Date	Total cost	
From: mm/dd/yyyy	To: mm/dd/yyyy	_____	☐ Breakdown attached
Date	Date	Total cost	

3. **Unanticipated or Unusually High O&M Costs during Review Period**

Describe costs and reasons: _____

V. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

A. Fencing

1. **Fencing Damaged** ☐ Location shown on site map ☒ Gates secured ☐ N/A

Remarks: Perimeter fencing was in good condition. All gates were locked and secured. The main gate is open during normal business hours to provide public access to the Community Collections recycling center.

B. Other Access Restrictions

1. **Signs and Other Security Measures** ☐ Location shown on site map ☐ N/A

Remarks: No-trespassing signs are posted on the perimeter fencing.

C. Institutional Controls (ICs)

1. **Implementation and Enforcement**

Site conditions imply ICs not properly implemented ☐ Yes ☒ No ☐ N/A

Site conditions imply ICs not being fully enforced ☐ Yes ☒ No ☐ N/A

Type of monitoring (e.g., self-reporting, drive by): The County conducts daily observations of the landfills.

Frequency: Daily

Responsible party/agency: County

Contact			
Name	Title	mm/dd/yyyy Date	Phone no.

Reporting is up to date ☐ Yes ☐ No ☐ N/A

Reports are verified by the lead agency ☐ Yes ☐ No ☐ N/A

Specific requirements in deed or decision documents have been met ☐ Yes ☐ No ☐ N/A

Violations have been reported ☐ Yes ☐ No ☐ N/A

Other problems or suggestions: ☐ Report attached

2. **Adequacy** ☒ ICs are adequate ☐ ICs are inadequate ☐ N/A

Remarks: _____

D. General

1. **Vandalism/Trespassing** ☐ Location shown on site map ☒ No vandalism evident

Remarks: _____

2. **Land Use Changes On Site** ☐ N/A

Remarks: The majority of the Site includes the three closed landfills. A new Community Collections recycling center has been constructed on the Site.

3. **Land Use Changes Off Site** ☐ N/A

Remarks: There have been additions and upgrades to the recreational park located immediately north of the Site.

VI. GENERAL SITE CONDITIONS

A. Roads ☒ Applicable ☐ N/A

1. **Roads Damaged** ☐ Location shown on site map ☒ Roads adequate ☐ N/A

Remarks: Both paved and gravel roads on site appeared in good condition and well maintained.

B. Other Site Conditions

Remarks: _____

VII. LANDFILL COVERS	☐ Applicable ☒ N/A	
A. Landfill Surface		
1. **Settlement** (low spots)	☐ Location shown on site map	☐ Settlement not evident
Arial extent: _____		Depth: _____
Remarks: _____		
2. **Cracks**	☐ Location shown on site map	☐ Cracking not evident
Lengths: _____	Widths: _____	Depths: _____
Remarks: _____		
3. **Erosion**	☐ Location shown on site map	☐ Erosion not evident
Arial extent: _____		Depth: _____
Remarks: _____		
4. **Holes**	☐ Location shown on site map	☐ Holes not evident
Arial extent: _____		Depth: _____
Remarks: _____		
5. **Vegetative Cover**	☐ Grass	☐ Cover properly established
☐ No signs of stress	☐ Trees/shrubs (indicate size and locations on a diagram)	
Remarks: _____		
6. **Alternative Cover** (e.g., armored rock, concrete)		☐ N/A
Remarks: _____		
7. **Bulges**	☐ Location shown on site map	☐ Bulges not evident
Arial extent: _____		Height: _____
Remarks: _____		
8. **Wet Areas/Water Damage**	☐ Wet areas/water damage not evident	
☐ Wet areas	☐ Location shown on site map	Arial extent: _____
☐ Ponding	☐ Location shown on site map	Arial extent: _____
☐ Seeps	☐ Location shown on site map	Arial extent: _____
☐ Soft subgrade	☐ Location shown on site map	Arial extent: _____
Remarks: _____		
9. **Slope Instability**	☐ Slides	☐ Location shown on site map
☐ No evidence of slope instability		
Arial extent: _____		
Remarks: _____		

B. Benches ☐ Applicable ☐ N/A

(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

1. **Flows Bypass Bench** ☐ Location shown on site map ☐ N/A or okay

   Remarks: _____

2. **Bench Breached** ☐ Location shown on site map ☐ N/A or okay

   Remarks: _____

3. **Bench Overtopped** ☐ Location shown on site map ☐ N/A or okay

   Remarks: _____

C. Letdown Channels ☐ Applicable ☐ N/A

(Channel lined with erosion control mats, riprap, grout bags or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

1. **Settlement** (Low spots) ☐ Location shown on site map ☐ No evidence of settlement

   Arial extent: _____ Depth: _____

   Remarks: _____

2. **Material Degradation** ☐ Location shown on site map ☐ No evidence of degradation

   Material type:_____ Arial extent: _____

   Remarks: _____

3. **Erosion** ☐ Location shown on site map ☐ No evidence of erosion

   Arial extent: _____ Depth: _____

   Remarks: _____

4. **Undercutting** ☐ Location shown on site map ☐ No evidence of undercutting

   Arial extent: _____ Depth: _____

   Remarks: _____

5. **Obstructions** Type: _____ ☐ No obstructions

   ☐ Location shown on site map Arial extent: _____

   Size: _____

   Remarks: _____

6. **Excessive Vegetative Growth** Type: _____

   ☐ No evidence of excessive growth

   ☐ Vegetation in channels does not obstruct flow

   ☐ Location shown on site map Arial extent: _____

   Remarks: _____

D. Cover Penetrations ☐ Applicable ☐ N/A

1. **Gas Vents** ☐ Active ☐ Passive
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   ☐ Evidence of leakage at penetration ☐ Needs maintenance ☒ N/A
   Remarks: _____

2. **Gas Monitoring Probes**
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   ☐ Evidence of leakage at penetration ☐ Needs maintenance ☐ N/A
   Remarks: _____

3. **Monitoring Wells** (within surface area of landfill)
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   ☐ Evidence of leakage at penetration ☐ Needs maintenance ☐ N/A
   Remarks: _____

4. **Extraction Wells Leachate**
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   ☐ Evidence of leakage at penetration ☐ Needs maintenance ☐ N/A
   Remarks: _____

5. **Settlement Monuments** ☐ Located ☐ Routinely surveyed ☐ N/A
   Remarks: _____

E. Gas Collection and Treatment ☐ Applicable ☐ N/A

1. **Gas Treatment Facilities**
   ☐ Flaring ☐ Thermal destruction ☐ Collection for reuse
   ☐ Good condition ☐ Needs maintenance
   Remarks: _____

2. **Gas Collection Wells, Manifolds and Piping**
   ☐ Good condition ☐ Needs maintenance
   Remarks: _____

3. **Gas Monitoring Facilities** (e.g., gas monitoring of adjacent homes or buildings)
   ☐ Good condition ☐ Needs maintenance ☐ N/A
   Remarks: _____

F. Cover Drainage Layer ☐ Applicable ☐ N/A

1. **Outlet Pipes Inspected** ☐ Functioning ☐ N/A
   Remarks: _____

2. **Outlet Rock Inspected** ☐ Functioning ☐ N/A

Remarks: _____

G. Detention/Sedimentation Ponds ☐ Applicable ☐ N/A

1. **Siltation** Area extent: _____ Depth: _____ ☐ N/A

☐ Siltation not evident

Remarks: _____

2. **Erosion** Area extent: _____ Depth: _____

☐ Erosion not evident

Remarks: _____

3. **Outlet Works** ☐ Functioning ☐ N/A

Remarks: _____

4. **Dam** ☐ Functioning ☐ N/A

Remarks: _____

H. Retaining Walls ☐ Applicable ☐ N/A

1. **Deformations** ☐ Location shown on site map ☐ Deformation not evident

Horizontal displacement: _____ Vertical displacement: _____

Rotational displacement: _____

Remarks: _____

2. **Degradation** ☐ Location shown on site map ☐ Degradation not evident

Remarks: _____

I. Perimeter Ditches/Off-Site Discharge ☐ Applicable ☐ N/A

1. **Siltation** ☐ Location shown on site map ☐ Siltation not evident

Area extent: _____ Depth: _____

Remarks: _____

2. **Vegetative Growth** ☐ Location shown on site map ☐ N/A

☐ Vegetation does not impede flow

Area extent: _____ Type: _____

Remarks: _____

3. **Erosion** ☐ Location shown on site map ☐ Erosion not evident

Area extent: _____ Depth: _____

Remarks: _____

4. **Discharge Structure** ☐ Functioning ☐ N/A

Remarks: _____

VIII. VERTICAL BARRIER WALLS ☐ Applicable ☒ N/A

1. **Settlement** ☐ Location shown on site map ☐ Settlement not evident
   Area extent: _____ Depth: _____
   Remarks: _____

2. **Performance Monitoring** Type of monitoring: _____
   ☐ Performance not monitored
   Frequency: _____ ☐ Evidence of breaching
   Head differential: _____
   Remarks: _____

IX. GROUND WATER/SURFACE WATER REMEDIES ☒ Applicable ☐ N/A

A. Ground Water Extraction Wells, Pumps and Pipelines ☐ Applicable ☒ N/A

1. **Pumps, Wellhead Plumbing and Electrical**
   ☐ Good condition ☐ All required wells properly operating ☐ Needs maintenance ☐ N/A
   Remarks: _____

2. **Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances**
   ☐ Good condition ☐ Needs maintenance
   Remarks: _____

3. **Spare Parts and Equipment**
   ☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided
   Remarks: _____

B. Surface Water Collection Structures, Pumps and Pipelines ☐ Applicable ☒ N/A

1. **Collection Structures, Pumps and Electrical**
   ☐ Good condition ☐ Needs maintenance
   Remarks: _____

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances**
   ☐ Good condition ☐ Needs maintenance
   Remarks: _____

3. **Spare Parts and Equipment**
   ☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided
   Remarks: _____

C. Treatment System ☐ Applicable ☒ N/A

1. **Treatment Train** (check components that apply)

☐ Metals removal ☐ Oil/water separation ☐ Bioremediation

☐ Air stripping ☐ Carbon adsorbers

☐ Filters: _____

☐ Additive (e.g., chelation agent, flocculent): _____

☐ Others: _____

☐ Good condition ☐ Needs maintenance

☐ Sampling ports properly marked and functional

☐ Sampling/maintenance log displayed and up to date

☐ Equipment properly identified

☐ Quantity of ground water treated annually: _____

☐ Quantity of surface water treated annually: _____

Remarks: _____

2. **Electrical Enclosures and Panels** (properly rated and functional)

☐ N/A ☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Tanks, Vaults, Storage Vessels**

☐ N/A ☐ Good condition ☐ Proper secondary containment ☐ Needs maintenance

Remarks: _____

4. **Discharge Structure and Appurtenances**

☐ N/A ☐ Good condition ☐ Needs maintenance

Remarks: _____

5. **Treatment Building(s)**

☐ N/A ☐ Good condition (esp. roof and doorways) ☐ Needs repair

☐ Chemicals and equipment properly stored

Remarks: _____

6. **Monitoring Wells** (pump and treatment remedy)

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ All required wells located ☐ Needs maintenance ☐ N/A

Remarks: _____

D. Monitoring Data

1. **Monitoring Data**

☒ Is routinely submitted on time ☒ Is of acceptable quality

2. **Monitoring Data Suggests:**

☒ Ground water plume is effectively contained ☒ Contaminant concentrations are declining

E. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)

☒ Properly secured/locked ☒ Functioning ☒ Routinely sampled ☒ Good condition

☒ All required wells located ☐ Needs maintenance ☐ N/A

Remarks: _____

X. OTHER REMEDIES

If there are remedies applied at the site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions).

The remedy in place at the Site appears to be effective and functioning as designed. Impacted businesses and residents are connected to the public water supply and construction of wells within the compliance ring and setback area is restricted. The County conducts quarterly sampling of the ground water monitoring wells to evaluate the effectiveness of the MNA component of the Site's remedy.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

No issues noted.

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.

No issues noted.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

The EPA and FDEP are currently reviewing the County's proposed long-term ground water monitoring optimization plan.

Site Inspection Participants:

Erik Spalvins (EPA)
Kelsey Helton (FDEP)
John Morris (FDEP)
Melissa Madden (FDEP)
David Adams (Hillsborough County)
Michael Townsel (Hillsborough County)
Ryan Burdge (Skeo Solutions)
Lynette Wysocki (Skeo Solutions)

Appendix E: Photographs from Site Inspection Visit

Maintenance facility building on site

Vapor intrusion sampling area inside of maintenance facility building on site

View of the Taylor Road Landfill facing east

View of Hillsborough Heights and Taylor Road Landfills facing northeast

A cattle egret near Hillsborough Heights Landfill

Ground water monitoring well 31-D

Community Collections recycling center on site

Perimeter fencing and secured gates

AMA flying field and covered work area

TA Travel Center and other commercial use on the southern portion of the Site

Gator Ford car dealership on the southern portion of the Site

Lot for sale between the TA Travel Center and Gator Ford on the southern portion of the Site

Appendix F: Notice of Entry of Consent Decree for the Taylor Road Landfill Superfund Site in Hillsborough County, Florida

4

February 9, 1998
Project 97-109-L

INSTR # 98048161
RECORDED 02/26/98 @ 03:12 PM
OR BOOK 8920 PAGE 0247
RICHARD AKE
CLERK OF CIRCUIT COURT
HILLSBOROUGH COUNTY
DEPUTY CLERK L Evans

NOTICE OF ENTRY OF CONSENT DECREE FOR THE TAYLOR ROAD LANDFILL SUPERFUND SITE IN HILLSBOROUGH COUNTY, FLORIDA

Notice is hereby given that Hillsborough County owns certain real property commonly referred to as the Taylor Road Landfill in Hillsborough County, Florida located near the intersection of Interstate Highway 4 and State Road 579, more particularly described in Exhibit "A"; and,

Notice is hereby given of the entry of the CERCLA Remedial Design and Remedial Action (RD/RA) Final Consent Decree for the said Taylor Road Landfill Site described in said Exhibit A of this Notice. In connection with the matter styled United States v. Hillsborough County, et al., Civil Action No. 98-239-CIV-T-25F , the CERCLA RD/RA Final consent Decree is lodged with the United States District Court for the Middle District of Florida.

Under Paragraph 9 of the Consent decree, all instruments conveying an interest in the Site property owned by Hillsborough County shall contain a notice stating that such property is subject to the Consent Decree and shall refer to the location of the Consent Decree and any restrictions applicable to such property under the Consent Decree.

Notice is also hereby given that the consent Decree does not constitute a lien, cloud or encumbrance on any real property, or actual or constructive notice of same.

Owner: Hillsborough County

By: _____
Print Name: Daryl H. Smith
Title: Director, Solid Waste Management Dept.
Address: P.O. Box 1110
Tampa, Florida 33601

STATE OF FLORIDA)
) SS
COUNTY OF Hillsborough)

BEFORE ME, Francis M. Harrelson A Notary Public in and for the State and County aforesaid personally appeared Daryl H. Smith, to me personally known, or who produced the following identification personally known, executed the foregoing instrument for the purposes therein contained and who did ✓ did not ___ take an oath, on this 25th day of February, 1998.

_____
Notary Public-State of Florida

My Commission expires: _____

FRANCIS M. HARRELSON
My Comm Exp. 8/13/99
Bonded By Service Ins
No. CC488182

Prepared by:
Hillsborough County
Real Estate Dept.
P.O. Box 1110
Tampa, Florida 33601

RETURN TO: REAL ESTATE DEPARTMENT

EXHIBIT "A"

Folio # 62121.0000
The West ½ of the Northwest 1/4 of the Southeast 1/4 of Section 27, Township 28 South, Range 20 East, Hillsborough County, Florida.

Folio # 62123.0000
The East ½ of the Northwest 1/4 of the Southeast 1/4, less the North 421 feet and less the South 104 feet thereof of Section, 27, Township 28 South, Range 20 East, Hillsborough County, Florida.

Folio # 62125.0060
The West 100 feet of the North ½ of the Southwest 1/4 of the Southeast 1/4 of Section 27, Township 28, Range 20 East, Hillsborough County, Florida.

Folio# 62126.0000
The South ½ of the Southwest 1/4 of the Southeast 1/4 of Section 27, Township 28, South, Range 20 East, Hillsborough County, Florida.

Folio # 62169.0000
The East 9 Chains of the North 10 Chains of the Northwest 1/4 of the Southwest 1/4 and the South 12.21 Chains of the East 8.1 Chains of the Southwest 1/4 of the Northwest 1/4 and the Southwest 1/4 of the Southeast 1/4 of the Northwest 1/4 and the West ½ of the Northeast 1/4 of the Southwest 1/4 Less the East 5 acres of Section 27, Township 28 South, Range 29 East, Hillsborough County, Florida.

Folio # 62173.0000
The East ½ of the Northeast 1/4 of the Southwest 1/4 and the East 5 acres of the West ½ of the Northeast 1/4 of the Southwest 1/4 of Section 27, Township 28 South, Range 20 East, Hillsborough County, Florida

Folio # 62179.0000
The Southeast 1/4 of the Northwest 1/4 of the Southwest 1/4 of Section 27, Township 28 South, range 20 East, Hillsborough County, Florida

Folio # 62180.0000
The Southwest 1/4 of the Southwest 1/4 and the Southeast 1/4 of the Southwest 1/4 of Section 27, Township 28 South, Range 20 East, Hillsborough County, Florida.

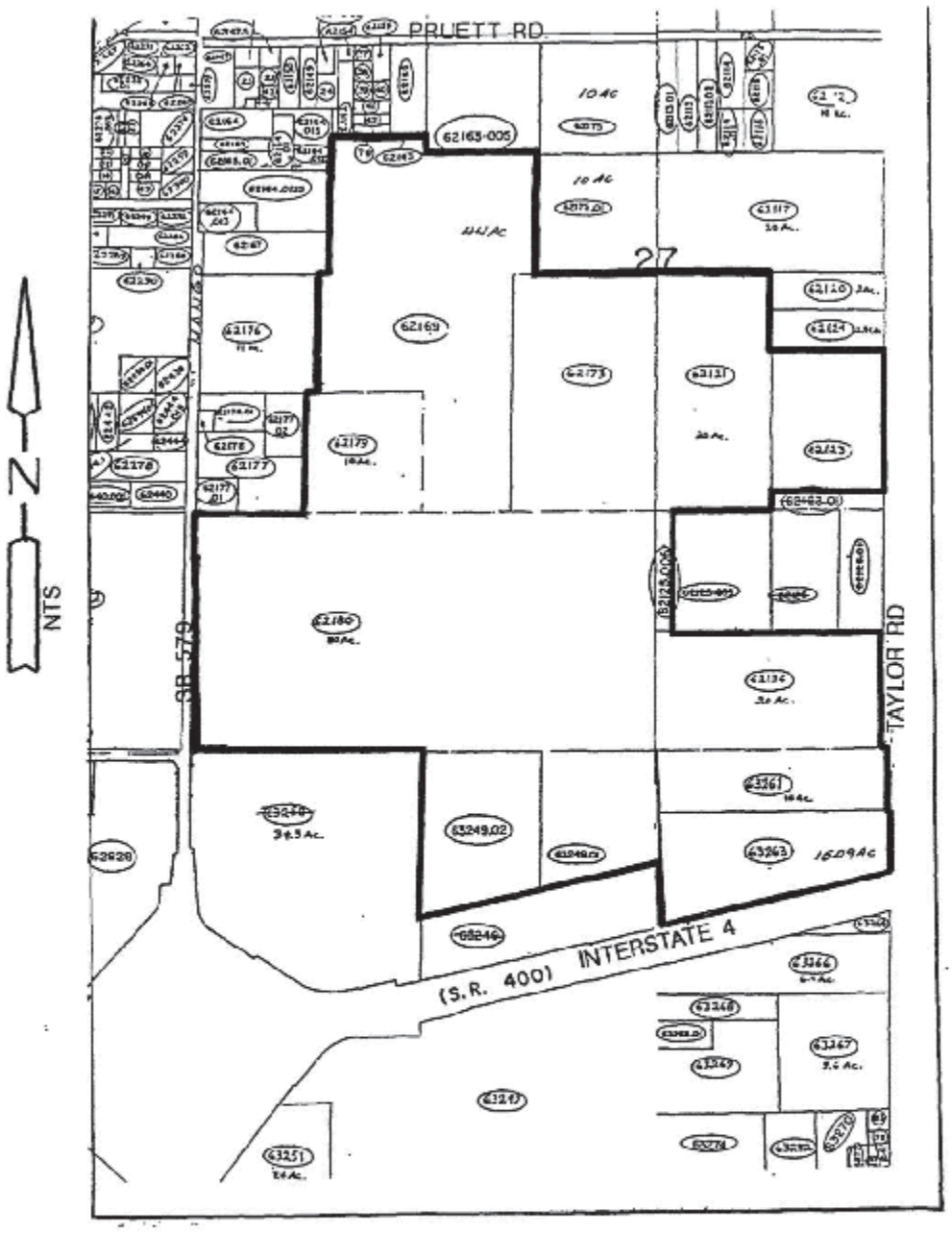
EXHIBIT "A"

Folio # 63249.0100
That Part of the East ½ of the Northeast 1/4 of the Northwest 1/4, lying North of SR 400, (a.k.a Interstate 4) Less the Southerly 355.1 feet thereof, of Section 34, Township 28, South, Range 20, East, Hillsborough County, Florida.

Folio # 63249.0200
That Part of West ½ of the Northeast 1/4 of the Northwest 1/4, lying North of SR 400, (a.k.a. Interstate 4) Less the Southerly 355.1 feet thereof, in Section 34, Township 28, South, Range 20, East, Hillsborough County, Florida

Folio# 63261.0000
The North 1/4 of the Northwest 1/4 of the Northeast 1/4, Less Hwy., of Section 34, Township 28 South, Range 20 East, Hillsborough County, Florida.

Folio # 63263.0000
That Part of the South 2/3 of the North 3/4 of the Northwest 1/4 of the Northeast 1/4, North of SR 400, (a.k.a. Interstate 4) of Section 34, Township 28 South, Range 20 East, Hillsborough County, Florida.



PROJECT 97-109-LF
TAYLOR RD LANDFILL
SEC 27 & 34 TWP 28 RNG 20

Appendix G: Hillsborough County Property Parcels Within Approximate Site Boundary

Folio Number Number	Deed Book/Page
062164-0135	15583/0603
0621670000	7546/1883
0621760000	20287/1545
0621780100	20287/1545
0621770200	20287/1545
0621770000	20287/1545
0621770100	9821/1766
0624400000	16523/1886
0624720000	9729/0483
0621800000	4070/1824
0629290002	18604/1695
0629290000	18604/1691
0634710112	11468/0740
0634710110	21312/0132
0634710108	14269/0430
0634710114	10072/1755
0634710118	19743/0015
0634710104	11269/0080
0634710102	17482/0548
0621790000	Not Available
0621690000	1771/0328
0621630050	9428/1339
0621750010	20180/1937
0621809206	17975/0629
0621809204	17975/0717
0621809202	17975/0656
0621170000	2031/0962
0621730000	1793/0210
0632490200	5567/1473
0634710116	10072/1755
0621240000	3790/0042
0632470000	4263/1873
0632490100	3530/0326
0621210000	1793/0210
0621250050	18192/0436
0621260000	Not Available
0632610000	3087/1676
0632630000	3087/1675
0632550000	6329/0775

0632680000	11305/1988
0632690100	18023/1755
0632690000	Not Available
0621230000	3789/1759
0621230100	18192/0436
0621250000	18192/0436
0621250100	3863/0948
0632540000	3790/0043
0632530100	Not Available
0632560000	21476/0644
0621380000	4468/1983
0621390000	16177/1780
0621420000	4201/1857
0621809002	4298/0341
0621809004	6311/1035
0621809006	5047/0373
0621809008	12839/1732
0621809010	8282/0718
0621809012	4734/0649
0621280000	6968/1299
0621330010	8179/0222
0621280100	2940/0502
0621340010	8179/0222
0621340000	21565/1293
0620480000	11103/1720

Appendix H: Cleanup Goals from the 1995 ROD

Table 5.1

OCCURRENCE AND DISTRIBUTION OF CHEMICALS IN GROUNDWATER
TAYLOR ROAD LANDFILL STUDY AREA
HILLSBOROUGH COUNTY, FLORIDA

CONCENTRATION(ug/l)

DETECTABLE ANALYTE	Minimum	Maximum	Average	Sampling Date of Maximum	Frequency of Detection(1) 1990	1991	1992	1993	Maximum in Background (Well 27-D)	Federal MCL (2)	Florida DER Groundwater Guidance (3)	USEPA Region III (4,5) Risk Level =1E-06	HQ=0.1	COPC (6)
PURGEABLE ORGANICS														
1,1-DICHLOROETHANE	0.4	192	22	4/90	65/104	33/78	47/88	5/6					81	Y
1,1-DICHLOROETHENE	1	279	31	1/90	28/104	21/78	31/88	4/6	1	7	7**	0.044		Y
1,2-DICHLOROBENZENE	1	198	20	7/90	25/104	12/78	14/88	3/6		600	600**		37	Y
1,2-DICHLOROETHANE	1	3	1.9	7/91	7/104	2/78	0/88	0/6		5	3**	0.12		Y
1,3-DICHLOROBENZENE	1	3	2.0	11/91	1/104	1/78	1/88	0/6		600			53	N
1,2-DICHLOROPROPANE	1	6	2.0	7/91	13/104	7/78	11/88	1/6		5	5**	0.16		Y
1,4-DICHLOROBENZENE	1	45	5.7	4/91	26/104	20/78	13/88	3/6		75	75**	0.44		Y
CARBON DISULFIDE	2	3	2.5	11/91	0/104	2/78	0/88	0/6					2.1	N*
ACETONE	2	279	30	4/91	4/104	18/78	4/42	0/6	5				370	N
BENZENE	0.6	12	3.1	1/90	29/104	7/78	10/88	2/6		5	1**	0.36		Y
CHLOROBENZENE	1.1	5.3	3.1	10/92	4/104	4/78	7/88	1/6		100	100**		3.9	N*
CHLOROFORM	1	1	1	4/90	1/104	0/78	0/88	0/6		100	6****	0.15		Y
CHLOROMETHANE	2	2	2	8/93	0/104	0/78	0/88	1/6			2.7****	1.4		Y
DIBROMOCHLOROMETHANE	6	6	6	10/90	1/104	0/78	0/88	0/6			1****	0.13		Y
ETHYLBENZENE	1.4	18	5.7	7/91	1/104	3/78	1/88	0/6		700	700**/130***		130	Y
METHYLENE CHLORIDE	0.7	54	11	1/90	10/104	5/78	14/88	1/6		5	5**	4.1		Y
TETRACHLOROETHENE	0.8	145	23	4/90	44/104	13/78	18/88	2/6		5	3**	1.1		Y
TOLUENE	0.2	82	9	7/91	4/104	2/78	4/88	2/6		1000	1000**/40***		75	Y
rans-1,2-DICHLOROETHENE	0.3	135	32	1/90	51/104	29/78	7/88	2/6		100	100**		12	Y
cis-1,2-DICHLOROETHENE	3	45	16	8/93	NA	NA	NA	4/6		70	70**		6.1	Y
STYRENE	3	3	3	7/91	0/104	1/78	0/88	0/6		100	100**		160	N
TRICHLOROETHENE	1	180	19	10/92	56/104	28/78	43/88	4/6		5	3**	1.6		Y
VINYL CHLORIDE	1	105	24	4/90	28/104	16/78	23/88	3/6		2	1**	0.019		Y
XYLENES (TOTAL)	2	85	12	7/91	6/104	8/78	1/88	0/6		10000	10000**/20***		1200	N

SELECTED INORGANICS														
ARSENIC	3.7	3.7	3.7	8/93	NA	NA	0/13	1/6		50	50**	0.038	1.1	N*
BARIUM	14.2	221	97	8/93	NA	NA	1/13	4/6		2000	2000**		260	N
CADMIUM	5	5	5	4/92	NA	NA	1/13	0/6		5	5**		1.8	N*
CHROMIUM	11	11	11	4/92	NA	NA	1/13	0/6		100	100**		3700	N
COPPER	200	200	200	1/91	0/16	1/5	0/11	0/6			1000***		140	N*
LEAD	1.3	13	4.5	4/92	NA	NA	3/13	6/6	2	15*	15*			N
MANGANESE	12.4	2380	320	8/93	5/12	2/5	6/20	3/6	311		50***		18	N*
MERCURY	0.2	42.3	4.5	7/90	60/104	12/29	27/59	0/6	2	2	2**		1.1	Y
NICKEL	40.7	95.4	68	8/93	NA	NA	NA	2/6		100	100**		73	Y
NITRATES	30	38700	5200	1/90	94/104	23/26	44/62	3/6	4460	10000	10000**		5800	N*
SELENIUM	2	2	2	8/93	NA	NA	NA	1/6		50	50**		18	N
VANADIUM	53.7	53.7	53.7	8/93	NA	NA	NA	1/6					26	N*
ZINC	10	403	64	1/91	8/12	4/5	5/13	1/6	159		5000**		1100	N

Source: CDM - BRA

OTES:

. Frequency of detection = # of detections/# of samples.
. MCL = Maximum Contaminant Level. * - Value for lead is an action level. EPA, December 1993.
. Florida Department of Environmental Regulations Groundwater Guidance Concentrations. June 1994.
** - Primary Standard. *** - Secondary Standard. **** - Guidance Concentration.
. USEPA Region III - Risk-based Concentrations for lap water. January 7, 1994.
. HQ = Hazard Quotient.
. COPC = Chemical of Potential Concern. Y = Yes. N= No. N* = Not selected as a COPC, because the chemical was not detected or detected at a low requency in the wells selected for the risk assessment. N** = Concentrations detected in wells selected for the risk assessment did not exceed two times he background concentration.

IMG SCR 0495239H>

Appendix I: October 2012 Ground Water Monitoring Data

Chemical Constituents in the Groundwater Samples Collected at the Taylor Road Landfill Superfund Site Interior and Background Monitoring Wells October 8-10, 2012

GENERAL	Interior Wells							Background	(MCL) STANDARD
PARAMETERS	18-D	24-D	28-D	NE-23	F-14	F-1A	F-2	F-12	
conductivity (field) (umhos/cm)	890	441	276	469	739	884	265	241	NS
pH (field)	6.26	6.17	6.54	6.85	6.58	6.24	6.72	6.94	(6.5 - 8.5)**
total dissolved solids (mg/l)	400	180	220	240	400	470	230	210	500 ppm**
temperature (field) (°C)	25.70	25.20	23.90	24.80	25.10	23.50	24.90	23.60	NS
turbidity (field) (NTU)	0.04	3.54	6.42	1.51	0.00	0.87	1.11	0.57	NS
chloride (mg/l)	15	9.3	3.8	17	49	5.8	7.9	12	250 ppm**
ammonia nitrogen (mg/l)	0.055	0.036 i	0.029 i	0.026 u	0.26	0.08	0.046 i	0.15	2.8***
nitrate (mg/l)	0.1 u	0.78	2.5	3.6	0.1 u	0.1 u	0.51	2	10 ppm*
dissolved oxygen (field) (mg/l)	0.18	0.35	4.48	1.61	0.54	0.18	0.4	1.3	NS
sulfate (mg/l)	1.6	10	4.4	7.2	5.3	3.6	8.8	2.9	250 ppm**
Metals: (mg/l)	**18-D**	**24-D**	**28-D**	**NE-23**	**F-14**	**F-1A**	**F-2**	**F-12**	**(MCL) STANDARD**
arsenic	0.004 u	0.004 u	0.004 u	0.004 u	0.0058 i	0.0053 i	0.004 u	0.004 u	0.01*
barium	0.13	0.019	0.014	0.0083 i	0.077	0.021	0.01	0.004 i	2*
cadmium	0.001 u	0.001 u	0.001 u	0.001 u	0.001 u	0.001 u	0.001 u	0.001 u	0.005*
chromium	0.002 u	0.002 u	0.0047 i	0.002 u	0.002 u	0.002 u	0.002 u	0.002 u	0.1*
copper	0.0029 u	0.0029 u	0.0029 u	0.0066 i	0.0029 u	0.0029 u	0.0029 u	0.0029 u	1**
lead	0.0028 i	0.002 u	0.002 u	0.002 u	0.002 u	0.0034 i	0.002 u	0.002 u	0.015*
manganese	3.6	0.42	0.076	0.0042	0.030	0.15	0.0012	0.013	0.05**
mercury	0.000072 u	0.00012 i	0.00021	0.000072 u	0.000072 u	0.000072 u	0.00039	0.000072 u	0.002*
nickel	0.014	0.0028 i	0.0087	0.002 u	0.0057 i	0.0038 i	0.002 u	0.002 u	0.1*
sodium	7.1	5.3	2.9	7.8	20	6.7	4.2	5.9	160*
selenium	0.005 u	0.005 u	0.005 u	0.005 u	0.005 u	0.005 u	0.005 u	0.005 u	0.05*
vanadium	0.0025 u	0.0025 u	0.009 i	0.0025 u	0.0025 u	0.0025 u	0.0025 u	0.0025 u	0.049***
zinc	0.005 u	0.005 u	0.005 u	0.077	0.005 u	0.005 u	0.005 u	0.005 u	5**
Purgeable Organics: (µg/l) (EPA 8260B)									**(MCL) STANDARD**
Organic Parameters Detected	**18-D**	**24-D**	**28-D**	**NE-23**	**F-14**	**F-1A**	**F-2**	**F-12**	
benzene	1.4	1.2	0.5 u	0.5 u	0.5 u	0.5 u	0.5 u	0.5 u	1*
monochlorobenzene	0.73 i	0.63 u	0.63 u	0.63 u	1.6	0.63 u	0.63 u	0.63 u	100*
1,2-dichlorobenzene	0.87 i	0.44 u	0.44 u	0.44 u	3.2	0.44 u	0.44 u	0.44 u	600*
1,4-dichlorobenzene	7.7	0.52 u	0.52 u	0.52 u	2.4	0.52 u	0.52 u	0.52 u	75*
1,1-dichloroethane	0.52 u	1.2	0.52 u	3.3	6.3	0.52 u	1.3	0.52 u	70***
1,1-dichloroethene	0.45 u	0.45 u	0.45 u	0.45 u	4.2	0.45 u	0.45 u	0.45 u	7*
trans-1,2-dichloroethene	0.9 i	0.77 i	0.44 u	0.44 u	0.44 u	0.44 u	0.44 u	0.44 u	100*
cis-1,2-dichloroethene	7.6	13	0.65 u	0.9 i	3.3	0.74 i	1.8	0.65 u	70*
methyl tert-butyl ether	0.44 u	0.44 u	0.44 u	0.44 u	0.44 u	0.44 u	0.44 u	0.44 u	20***
trichloroethene	0.58 i	0.5 u	0.5 u	0.53 i	1.3	0.5 u	0.76 i	0.5 u	3*
tetrachloroethene	0.5 u	0.5 u	0.5 u	0.5 u	0.5 u	0.5 u	0.54 i	0.5 u	3*
1,2-dichloropropane	0.76 i	0.52 u	0.52 u	0.52 u	0.52 u	0.52 u	0.52 u	0.52 u	5*
total xylenes	0.5 u	0.5 u	0.5 u	0.5 u	0.5 u	0.5 u	0.5 u	0.5 u	10000**
vinyl chloride	8.5	3.7	0.5 u	0.5 u	10	0.6 i	0.76 i	0.5 u	1*

MCL=MAXIMUM CONTAMINANT LEVEL
BDL=BELOW DETECTION LIMIT
mg/l=MILLIGRAMS PER LITER
µg/l=MICROGRAMS PER LITER
NS=NO STANDARD
NTU=NEPHELOMETRIC TURBIDITY UNITS

*= DENOTES PRIMARY DRINKING WATER STANDARD
**= DENOTES SECONDARY DRINKING WATER STANDARD
***= DENOTES GROUNDWATER CLEANUP TARGET LEVEL AS PER CH. 62-777, F.A.C.
6.26 EXCEEDS PRIMARY OR SECONDARY DRINKING WATER STANDARD, OR GROUNDWATER CLEANUP TARGET LEVELS

Data Qualifiers:

u indicates that the compound was analyzed for but not detected
j3 estimated value, value may not be accurate. Spike recovery or RPD outside of criteria.
i indicates the reported value is between the method detection limit and the practical quantitation limit.

Chemical Constituents in the Groundwater Samples Collected at the Taylor Road Landfill Superfund Site Interior Monitoring Wells October 8-10, 2012

GENERAL PARAMETERS	Interior Wells						(MCL) STANDARD
	C-2	C-5	C-6	TR-1D	TR-3D	TR-4D	
conductivity (field) (umhos/cm)	275	740	1067	571	498	1070	NS
pH (field)	6.54	**6.37**	**6.16**	6.60	6.85	**6.31**	(6.5 - 8.5)**
total dissolved solids (mg/l)	300	400	**610**	280	230	**610**	500 ppm**
temperature (field) (°C)	25.40	24.60	24.30	25.40	24.90	25.20	NS
turbidity (field) (NTU)	2.66	0.73	7.09	0.76	0.42	17.2	NS
chloride (mg/l)	12	13	31	12	8.3	76	250 ppm**
ammonia nitrogen (mg/l)	0.03 i	0.39	0.088	0.026 u	0.24	0.3	2.8***
nitrate (mg/l)	0.12 i	0.1 u	0.62	0.1 u	0.27 i	0.1 u	10 ppm*
dissolved oxygen (field) (mg/l)	0.56	0.19	0.22	0.61	1.15	0.38	NS
sulfate (mg/l)	5.5	8.9	5.6	8	8.7	2.3	250 ppm**
Metals: (mg/l)	**C-2**	**C-5**	**C-6**	**TR-1D**	**TR-3D**	**TR-4D**	**(MCL) STANDARD**
arsenic	0.004 u	0.004 u	0.004 u	0.004 u	0.004 u	0.01	0.01*
barium	0.042	0.061	0.025	0.13	0.16	0.2	2*
cadmium	0.001 u	0.001 u	0.001 u	0.001 u	0.001 u	0.001 u	0.005*
chromium	0.002 u	0.002 u	0.002 u	0.002 u	0.002 u	0.0053 i	0.1*
copper	0.0029 u	0.0029 u	0.0029 u	0.0029 u	0.0029 u	0.0029 u	1**
lead	0.002 u	0.0035 i	0.002 u	0.002 u	0.002 u	0.0049 i	0.015*
manganese	0.11	**0.6**	0.022	**0.94**	**2.7**	**1**	0.05**
mercury	0.000072 u	0.000072 u	0.000072 u	0.000072 u	0.000072 u	0.000072 u	0.002*
nickel	0.0042 i	0.0082	0.0083	0.01	0.0086	0.041	0.1*
sodium	6.3	7.9	11	5.8	4.3	23	160*
selenium	0.005 u	0.005 u	0.005 u	0.005 u	0.005 u	0.005 u	0.05*
vanadium	0.0052 i	0.0025 u	0.0056 i	0.0025 u	0.0025 u	0.012	0.049***
zinc	0.005 u	0.005 u	0.005 u	0.005 u	0.005 u	0.0094 i	5**
Purgeable Organics: (µg/l) (EPA 8260B)							**(MCL) STANDARD**
Organic Parameters Detected	**C-2**	**C-5**	**C-6**	**TR-1D**	**TR-3D**	**TR-4D**	
benzene	0.5 u	0.5 u	0.5 u	0.5 u	0.5 u	**1.6**	1*
monochlorobenzene	0.63 u	0.63 u	0.63 u	0.63 u	0.63 u	3.4	100*
1,2-dichlorobenzene	1.1	0.44 u	0.61 i	0.77 i	0.44 u	10	600*
1,4-dichlorobenzene	1.8	2.9	6.5	1.6	0.52 u	9.4	75*
1,1-dichloroethane	3.9	2.2	5.6	1.3	0.52 u	11	70***
1,1-dichloroethene	1.7	0.45 u	0.45 u	0.52 i	0.45 u	**27**	7*
cis-1,2-dichloroethene	5.3	2.8	5.9	2.1	0.65 u	22	70*
trichloroethene	1.9	0.89 i	1.8	0.5 u	0.5 u	2.4	3*
tetrachloroethene	0.5 u	0.5 u	1.4	0.5 u	0.5 u	0.5 u	3*
trans-1,2-dichloroethene	0.44 u	0.44 u	0.44 u	0.44 u	0.44 u	1.5	100*
methyl-ter-butyl-ether	0.44 u	0.44 u	0.44 u	0.44 u	0.44 u	0.46 i	20***
1,2-dichloropropane	0.52 u	0.52 u	0.61 i	0.52 u	0.52 u	0.54 i	5*
vinyl chloride	**2.3**	**1.9**	**1.6**	0.9 i	0.5 u	**42**	1*

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*= DENOTES PRIMARY DRINKING WATER STANDARD
**= DENOTES SECONDARY DRINKING WATER STANDARD
***= DENOTES GROUNDWATER CLEANUP TARGET LEVELS (CH. 62-777, F.A.C.)
6.37 : EXCEEDS PRIMARY OR SECONDARY DRINKING WATER STANDARD, OR GROUNDWATER CLEANUP TARGET LEVELS

Data Qualifiers:

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i indicates the reported value is between the method detection limit and the practical quantitation limit.

Chemical Constituents in the Groundwater Samples Collected at the Taylor Road Landfill Superfund Site Ring Wells
October 8-10, 2012

GENERAL PARAMETERS	Ring Wells								(MCL) STANDARD
	TR-2D	C-1	C-3	C-4	C-7	C-8	C-9	C-10	
conductivity (field) (umhos/cm)	193	266	263	216	254	218	196	248	NS
pH (field)	7.24	6.89	6.78	7.03	6.81	7.07	7.09	7.10	(6.5 - 8.5)**
total dissolved solids (mg/l)	150	230	240	230	260	170	160	210	500**
temperature (field) (°C)	24.90	24.00	23.90	23.30	25.30	23.90	24.70	23.70	NS
turbidity (field) (NTU)	0.12	1.08	1.14	15.1	0.49	2.57	0.08	0.36	NS
chloride (mg/l)	9.8	10	9.5	15	17	11	6.1	12	250**
ammonia nitrogen (mg/l)	0.026 u	0.026 u	0.029 i	0.026 u	0.037 i j3	0.072	0.1	0.028 i	2.8***
nitrate (mg/l)	5.3	1.9	6.4	4.5	2.1	3.6	0.1 u j3	4.4	10*
dissolved oxygen [field] (mg/l)	4.9	2.12	4.64	2.63	4.69	4.27	0.15	4.14	NS
sulfate (mg/l)	1.7	13	12	7.8	1.9	6.8	23	22	250**
Metals: (mg/l)	TR-2D	C-1	C-3	C-4	C-7	C-8	C-9	C-10	(MCL) STANDARD
arsenic	0.004 u	0.004 u	0.004 u	0.004 u	0.004 u	0.004 u	0.004 u	0.004 u	0.01*
barium	0.0038 i	0.0081 i	0.0087 i	0.007 i	0.0076 i	0.0043 i	0.0066 i	0.0071 i	2*
cadmium	0.001 u	0.001 u	0.001 u	0.001 u	0.001 u	0.001 u	0.001 u	0.001 u	0.005*
chromium	0.002 u	0.002 u	0.002 u	0.0039 i	0.0023 i	0.002 u	0.0041 i	0.002 u	0.1*
copper	0.0029 u	0.0029 u	0.0029 u	0.0029 u	0.0029 u	0.0029 u	0.0029 u	0.0029 u	1**
lead	0.002 u	0.002 u	0.002 u	0.002 u	0.002 u	0.002 u	0.002 u	0.002 u	0.015*
manganese	0.001 u	0.0055	0.001 u	0.014	0.001 u	0.0087	0.023	0.001 u	0.05**
mercury	0.000072 u	0.000072 u	0.000072 u	0.000072 u	0.000072 u	0.000072 u	0.000072 u	0.000072 u	0.002*
nickel	0.002 u	0.002 u	0.002 u	0.0021 i	0.002 u	0.002 u	0.0023 i	0.002 u	0.1*
sodium	4	5.3	7.5	5.1	5.5	4.6	3.9	6.2	160*
selenium	0.005 u	0.005 u	0.0097 i	0.005 u	0.005 u	0.005 u	0.005 u	0.005 u	0.05*
vanadium	0.0025 u	0.0041 i	0.029	0.0091 i	0.0066 i	0.0025 u	0.0025 u	0.0033 i	0.049***
zinc	0.005 u	0.005 u	0.005 u	0.005 u	0.005 u	0.005 u	0.005 u	0.005 u	5**

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Chemical Constituents in the Groundwater Samples Collected at the Taylor Road Landfill Superfund Site Ring Wells October 8-10, 2012

GENERAL PARAMETERS	Ring Wells					(MCL) STANDARD
	F-3	F-15	30-D	31-D	32-D	
conductivity (field) (umhos/cm)	233	228	294	329	363	NS
pH (field)	6.83	6.80	6.97	6.91	6.91	(6.5 - 8.5)**
total dissolved solids (mg/l)	210	210	220	220	230	500**
temperature (field) (°C)	24.60	24.30	24.20	24.70	24.70	NS
turbidity (field) (NTU)	0.13	0.56	1.23	0.04	29.7	NS
chloride (mg/l)	2.8	14	11	10	11	250**
ammonia nitrogen (mg/l)	0.03 j	0.026 u	0.038 j	0.042 j	0.05	2.8***
nitrate (mg/l)	0.58	2.7	2.8	2.1	2.3	10*
dissolved oxygen [field] [mg/l]	6.43	1.67	1.03	0.58	0.53	NS
sulfate [mg/l]	5	11	19	13	16	250**
Metals: (mg/l)	F-3	F-15	30-D	31-D	32-D	(MCL) STANDARD
arsenic	0.004 u	0.004 u	0.004 u	0.004 u	0.004 u	0.01*
barium	0.0086 j	0.01	0.0089 j	0.0077 j	0.02	2*
cadmium	0.001 u	0.001 u	0.001 u	0.001 u	0.001 u	0.005*
chromium	0.002 u	0.002 u	0.002 u	0.002 u	0.0039 j	0.1*
copper	0.0029 u	0.0029 u	0.0029 u	0.0029 u	0.0029 u	1**
lead	0.002 u	0.002 u	0.002 u	0.002 u	0.002 j	0.015*
manganese	0.0026 u	0.0025 j	0.001 u	0.0012 j	0.0044	0.05**
mercury	0.000072 u	0.000072 u	0.000072 u	0.000072 u	0.000072 u	0.002*
nickel	0.002 u	0.002 u	0.002 u	0.002 u	0.002 u	0.1*
sodium	4.1	6.8	5.7	5.3	5.4	160*
selenium	0.005 u	0.005 j	0.005 j	0.005 u	0.005 u	0.05*
vanadium	0.0045 j	0.0054 j	0.0053 j	0.0025 u	0.01	0.049***
zinc	0.005 u	0.005 u	0.005 u	0.005 u	0.0073 j	5**
Purgeable Organics: (µg/l) (EPA 8260B)						(MCL) STANDARD
Organic Parameters Detected	F-3	F-15	30-D	31-D	32-D	
1,1-dichloroethane	0.52 u	0.83 j	0.52 u	1.2	0.52 u	70***
cis-1,2-dichloroethene	0.65 u	0.65 u	0.65 u	1	0.65 u	70*
trichloroethene	0.5 u	0.5 u	0.5 u	0.52 j	0.5 u	3*

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FOURTH FIVE-YEAR REVIEW REPORT FOR TAYLOR ROAD LANDFILL SUPERFUND SITE HILLSBOROUGH COUNTY, FLORIDA

SEPTEMBER 2018

Prepared by

U.S. Environmental Protection Agency
Region 4
Atlanta, Georgia

Franklin E. Hill, Director
Superfund Division

Date 9/18/18

11111838

Table of Contents

LIST OF ABBREVIATIONS AND ACRONYMS iv
I. INTRODUCTION 1
Site Background 1
FIVE-YEAR REVIEW SUMMARY FORM 2
II. RESPONSE ACTION SUMMARY 5
Basis for Taking Action 5
Response Actions 5
Status of Implementation 7
Systems Operations/Operation and Maintenance (O&M) 11
III. PROGRESS SINCE THE PREVIOUS REVIEW 12
IV. FIVE-YEAR REVIEW PROCESS 12
Community Notification, Community Involvement and Site Interviews 12
Data Review 12
Site Inspection 13
V. TECHNICAL ASSESSMENT 14
QUESTION A: Is the remedy functioning as intended by the decision documents? 14
QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives used at the time of the remedy selection still valid? 14
QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy? 15
VI. ISSUES/RECOMMENDATIONS 15
OTHER FINDINGS 16
VII. PROTECTIVENESS STATEMENT 16
VIII. NEXT REVIEW 16
APPENDIX A – REFERENCE LIST A-1
APPENDIX B – CURRENT SITE STATUS B-1
APPENDIX C – SITE CHRONOLOGY C-1
APPENDIX D – SITE PARCELS D-1
APPENDIX E – PRESS NOTICE E-1
APPENDIX F – INTERVIEW FORMS F-1
APPENDIX G – DATA REVIEW G-1
APPENDIX H – SITE INSPECTION CHECKLIST H-1
APPENDIX I – SITE INSPECTION PHOTOS I-1
APPENDIX J – ARARS SUPPORTING DOCUMENTATION J-1
APPENDIX K – VAPOR INTRUSION SCREENING-LEVEL EVALUATION K-1

Tables

Table 1: Site COPCs, by Media 5
Table 2: Groundwater COPC Cleanup Levels 7
Table 3: Summary of Institutional Controls (ICs) 9
Table 4: Groundwater Sampling Program 11
Table 5: O&M Costs Over the FYR Period 11
Table 6: Protectiveness Determination/Statement from the 2013 FYR Report 12
Table C-1: Site Chronology C-1
Table D-1: Parcels Within the 270-Foot Setback D-1

Table G-1: Monitoring Well Results, 2017 ..... G-3
Table G-2: Monitoring Well Results, 2018 ..... G-7
Table G-3: Summary of Statistically Significant Trends and Exceedances, 2017 ..... G-11
Table G-4: Private Well Sampling Results, July 2017 ..... G-12
Table I-1: Comparison of Florida Primary Drinking Water Standards to Federal MCLs I-1

Figures

Figure 1: Site Vicinity Map 3
Figure 2: Site Map 4
Figure 3: Institutional Control Map 10
Figure G-1: 2018 Groundwater Elevation Contours G-13
Figure G-2: Private Well Locations G-14

LIST OF ABBREVIATIONS AND ACRONYMS

ADR	Analytical Data Report
AOC	Administrative Order on Consent
ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	Contaminant of Concern
COPC	Chemical of Potential Concern
DCA	Dichloroethane
DCE	Dichloroethene
EPA	United States Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FS	Feasibility Study
FYR	Five-Year Review
IC	Institutional Control
MCL	Maximum Contaminant Level
µg/L	Micrograms per Liter
MNA	Monitored Natural Attenuation
NA	Not Applicable
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Unit
PCE	Tetrachloroethene
PCOR	Preliminary Close-Out Report
PRP	Potentially Responsible Party
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
RPM	Remedial Project Manager
TCE	Trichloroethene
UU/UE	Unlimited Use and Unrestricted Exposure
VISL	Vapor Intrusion Screening Level
VOC	Volatile Organic Compound

I. INTRODUCTION

The purpose of a Five-Year Review (FYR) is to evaluate the implementation and performance of a remedy to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency is preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP) (40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the fourth FYR for the Taylor Road Landfill Superfund Site (the Site). The triggering action for this statutory review is the completion date of the previous FYR. The FYR has been prepared because hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

The Site consists of one operable unit (OU) which addresses groundwater. This FYR addresses the entire Site.

The EPA Remedial Project Manager (RPM) Erik Spalvins led the FYR. Participants included the EPA Community Involvement Coordinator (CIC) L'Tonya Spencer, Miranda McClure of the Florida Department of Environmental Protection (FDEP) and Johnny Zimmerman-Ward and Jill Billus from the EPA FYR support contractor Skeo. Hillsborough County, the potentially responsible party (PRP), was notified of the initiation of the FYR and participated in the FYR process. The review began on 12/19/2017.

Site Background

The Site is located near Seffner, in Hillsborough County, Florida, about 7 miles east of Tampa (Figure 1). The Site includes the Taylor Road Landfill and the groundwater contamination caused by the landfill as defined by a compliance ring of monitoring wells (Figure 2). The 42-acre Taylor Road Landfill is located on Hillsborough County-owned property. The county property includes two additional closed landfills – the 64-acre Hillsborough Heights Landfill and the 10.6-acre Florida Department of Transportation (FDOT) Borrow Pit Landfill – as well as five stormwater retention basins, county maintenance facilities, community recycling and collection areas, and an Academy of Model Aeronautics flying field. Site groundwater contamination extends from the county property to adjacent commercial properties to the south and west, but remains within the compliance ring of monitoring wells.

The unlined Taylor Road Landfill operated between 1976 and 1980 and received residential, commercial and industrial refuse. During the Site's 1995 remedial investigation and feasibility study (RI/FS), site investigators evaluated all three landfills within the county-owned property as the study area. While the Taylor Road Landfill is suspected to be responsible for the groundwater contamination, the EPA noted that it is difficult to conclusively show that the other landfills do not contribute to groundwater contamination. Groundwater at the Site occurs within the Floridan Aquifer and generally flows south-southwest near the Taylor Road Landfill and FDOT Borrow Pit Landfill and west-southwest near the Hillsborough Heights Landfill.

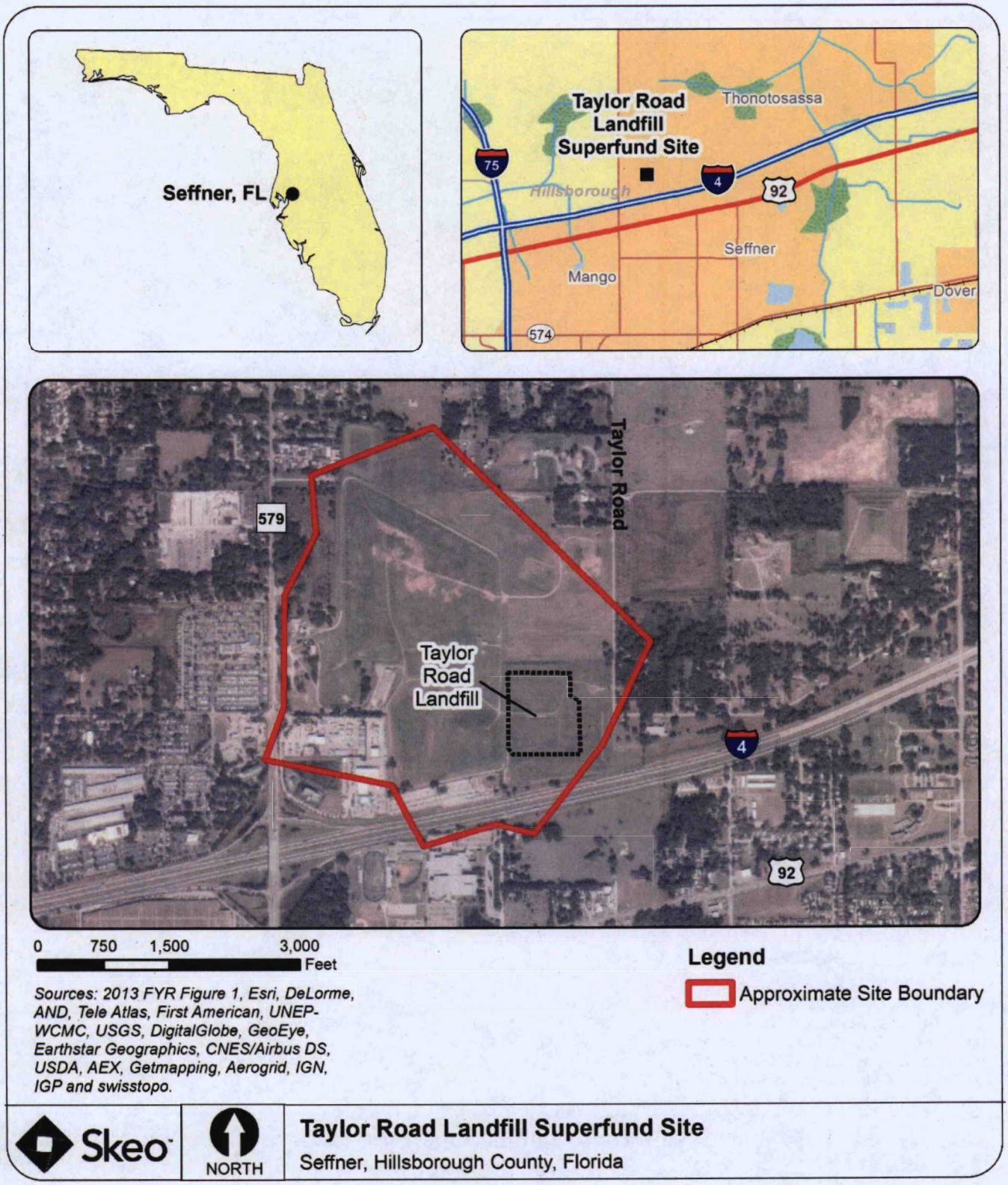
Surrounding land uses include residential, commercial and agricultural areas. All homes and businesses within the compliance ring and a 270-foot setback are connected to the public water supply. Several residences and businesses outside of the 270-foot setback rely on private wells. Semi-annual sampling results indicate these private wells are not impacted by site contamination.

For reference, Appendix A provides a list of references used during this FYR. Appendix B provides site status information. Appendix C provides a chronology of site events.

FIVE-YEAR REVIEW SUMMARY FORM

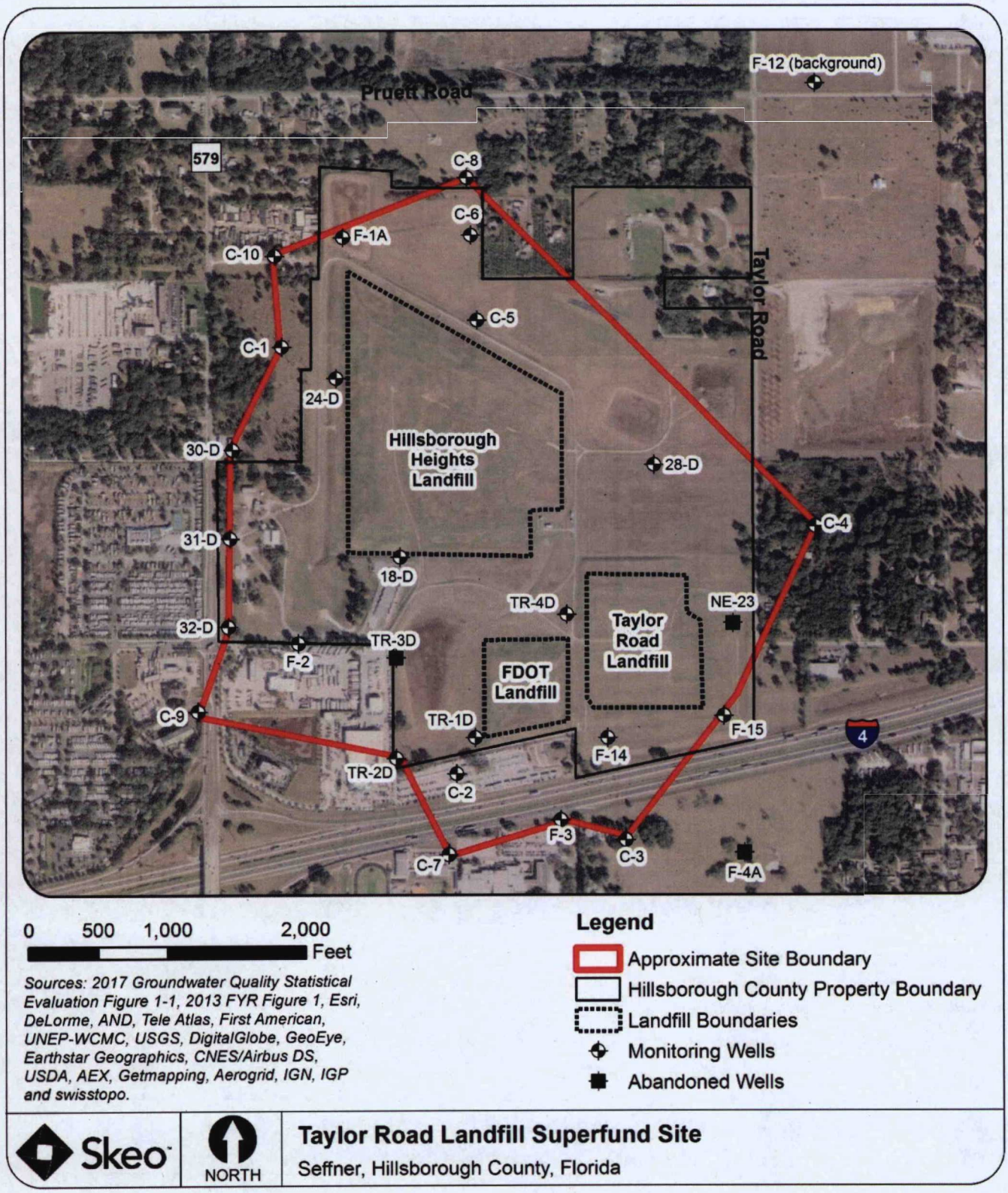
SITE IDENTIFICATION		
Site Name: Taylor Road Landfill		
EPA ID: FLD980494959		
Region: 4	**State:** Florida	**City/County:** Seffner/Hillsborough
SITE STATUS		
NPL Status: Final		
Multiple OUs? No	**Has the Site achieved construction completion?** Yes	
REVIEW STATUS		
Lead agency: EPA		
Author name: Erik Spalvins (EPA) and Johnny Zimmerman-Ward and Jill Billus (Skeo)		
Author affiliation: EPA and Skeo		
Review period: 12/19/2017 – 7/1/2018		
Date of site inspection: 1/22/2018		
Type of review: Statutory		
Review number: 4		
Triggering action date: 9/20/2013		
Due date *(five years after triggering action date)*: 9/20/2018		

Figure 1: Site Vicinity Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

Figure 2: Site Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

In 1979, the EPA and the FDEP identified volatile organic compounds (VOCs) and metals in site monitoring wells and private wells south of the Site. Hillsborough County provided an alternate water supply to 95 residences and extended municipal water lines to the affected area. The Taylor Road Landfill closed in February 1980.

Additional investigations identified a groundwater contaminant plume of VOCs at concentrations exceeding acceptable drinking water standards established under the federal Safe Drinking Water Act. The plume extended from the Taylor Road Landfill to nearby residential areas. As a result of the groundwater contamination, the EPA listed the Taylor Road Landfill on the Superfund program's National Priorities List (NPL) in September 1983.

The EPA conducted a baseline risk assessment in 1994 and determined that contaminated groundwater posed an unacceptable risk to potential future users. The risk assessment found remedial action was necessary to control risk posed by ingestion of and dermal contact with groundwater and to limit the migration of contaminated groundwater. Table 1 summarizes groundwater chemicals of potential concern (COPCs) identified in the Site's 1995 Record of Decision (ROD). The scope of the ROD was limited to groundwater. Hillsborough County manages closure of the three closed landfills under long-term care permits issued by FDEP (Closure [Long-Term Care] Permit #69683-011-SF/14).

Table 1: Site COPCs, by Media

Site Groundwater COPCs
1,1-Dichloroethane (1,1-DCA), 1,1-dichloroethene (DCE), 1,2-dichlorobenzene, 1,2-dichloroethane (1,2-DCA), 1,2-dichloropropane, 1,4-dichlorobenzene, benzene, chloroform, chloromethane, dibromochloromethane, ethylbenzene, methylene chloride, tetrachloroethene (PCE), toluene, trans-1,2-dichloroethene (trans-1,2-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), trichloroethene (TCE), vinyl chloride, mercury, nickel
Notes: Source: Table 5.1 of the 1995 ROD.

Response Actions

Initial Response Actions

In September 1983, the EPA, FDEP and Hillsborough County signed a Resource Conservation and Recovery Act (RCRA) Consent Decree in which the county agreed to implement a maintenance and environmental monitoring program governing all three landfills on county property. The Consent Decree also specified requirements for caps, drainage ditches and methane gas control.

Hillsborough County stopped operating the Hillsborough Heights Landfill in 1984. In February 1984, the county installed methane monitoring wells around the three landfills and built a gas collection system, a cap and a drainage system at the Taylor Road Landfill. The county also connected additional residences south of the landfills to the public water supply.

By 1993, the EPA had identified 19 PRPs for the Site, including Hillsborough County. The county agreed to serve as the supervising contractor to implement cleanup activities at the Site. In February 1993, the EPA and the PRPs signed an Administrative Order on Consent (AOC) to conduct the RI/FS.

The PRPs conducted the RI/FS between 1993 and 1995. The study area for the RI included all three landfills.

Remedy Selection
The EPA selected a final remedy for the Site in a 1995 ROD. The ROD indicated that the purpose of the response action was to control risk posed by ingestion of and dermal contact with groundwater and to limit the migration of contaminated groundwater. The remedy included the following major components:

- Use of existing and future institutional controls to restrict construction of new potable water wells that would extract water affected by the Taylor Road Landfill.
- Modification of the existing groundwater monitoring program to include quarterly monitoring of a ring of existing and future monitoring wells placed with the objective of defining and enclosing the area of groundwater exceeding Florida primary and secondary drinking water standards and minimum criteria.
- Provision of county water service to residences within the compliance ring of monitoring wells and within a setback that extends 270 feet outward from the ring.
- Contingent expansion of the monitoring well ring and provision of the county water supply to additional receptors.
- Natural attenuation with contingent corrective action as needed.

The selected remedy relies on monitored natural attenuation (MNA) with contingent corrective action to address contamination in groundwater if data indicate that MNA is not sufficient for attaining Florida drinking water standards at the point of compliance. The ROD identified the point of compliance as the ring of compliance wells and stated that if COCs exceed the regulatory screening levels in these wells, a pump-and-treat contingent remedy will be considered. The MNA portion of the remedy is assessed through groundwater monitoring.

The ROD established Florida primary and secondary drinking water standards and minimum criteria as cleanup levels for groundwater. However, the EPA eliminated the Florida secondary drinking water standards as cleanup levels in a 2000 Explanation of Significant Differences. The EPA determined that the secondary drinking water standards are not based on health threats, are not federally enforceable, and are not applicable or relevant and appropriate requirements (ARARs) for the Site. Table 2 summarizes current Florida primary drinking water standards for the COPCs identified in the 1995 ROD.

Table 2: Groundwater COPC Cleanup Levels

Groundwater COPC[a]	Groundwater Cleanup Level[b] (µg/L)
1,1-DCA	NA[c]
1,1-DCE	7
1,2-Dichlorobenzene	600
1,2-DCA	3
1,2-Dichloropropane	5
1,4-Dichlorobenzene	75
Benzene	1
Chloroform	80[d]
Chloromethane	NA[e]
Dibromochloromethane	80[d]
Ethylbenzene	700
Methylene chloride	5
PCE	3
Toluene	1,000
Trans-1,2-DCE	100
Cis-1,2-DCE	70
TCE	3
Vinyl chloride	1
Mercury	2
Nickel	100

Notes:

a) Source: Table 5.1 of the 1995 ROD.

b) Source: Florida primary drinking water standards, available at http://www.floridahealth.gov/environmental-health/drinking-water/_documents/hal-list.pdf, accessed February 20, 2018.

c) NA = not applicable; no primary drinking water standard established for 1,1-DCA. The Florida health advisory level is 70 µg/L.

d) Florida primary drinking water standard for total trihalomethane compounds: chloroform, dibromochloromethane, bromodichloromethane and tribromomethane.

e) NA = not applicable; no primary drinking water standard established for chloromethane. The Florida health advisory level is 2.7 µg/L.

µg/L = micrograms per liter

Status of Implementation

Hillsborough County began remedial design activities for the remedy in February 1998. Hillsborough County completed the remedial design and began remedial action activities at the Site in August 1998. Hillsborough County installed five new wells needed to complete the compliance ring of monitoring wells. The county also connected five homes, one mobile home community and one business to the public water supply. The county submitted the Final Construction Report, which included the groundwater monitoring plan, to the EPA in April 1999. The first round of sampling of 23 monitoring wells under the updated monitoring program occurred the same month.

The EPA issued the Preliminary Close-Out Report (PCOR) in June 1999. The PCOR acknowledged the completion of required construction activities and described future decision-making processes for the Site. Expansion of the compliance ring of wells is required when an exceedance of the Florida primary drinking water standards occurs in two consecutive sampling events.

The county expanded the compliance ring of wells on three occasions as a result of compliance well exceedances; five new monitoring wells were installed and added to the compliance ring. All expansions

of the compliance ring occurred within the first two years of remedy implementation. None of the updated ring configurations have required new connections to the county's public water system.

In November 2003, the PRPs conducted an updated well survey. The survey identified two irrigation wells at businesses within the 270-foot setback of the compliance ring. In response to discussions with Hillsborough County and the EPA, the owners of these two wells discontinued their use. The wells (P-40 and P-41) were added to the Hillsborough Heights private well monitoring program (Appendix G, Figure G-2). The owner of well P-40 subsequently properly abandoned the supply well and installed a replacement irrigation well just outside of the 270-foot setback line in a corner of the commercial property. The county has attempted to obtain access to this well to sample it; the manager of the property has not allowed access.

In August 2007, the EPA issued a Groundwater Monitoring Network Optimization Report. The report reviewed the groundwater monitoring program and provided recommendations for improving the efficiency and accuracy of the groundwater monitoring well network. The county finalized changes to the long-term groundwater monitoring program in the EPA-approved 2015 Optimization of Groundwater Monitoring Plan. The plan removed two interior wells from the monitoring program, reduced the frequency of monitoring for compliance ring wells from quarterly to semi-annual and for interior wells and the background well from quarterly to annually, and removed select wells from the monitoring program. The updated plan also required statistical analyses of the data every five years, to be completed in the year prior to future FYRs. The primary purpose of the analyses is to assess whether trends in the concentrations of COPCs are increasing or decreasing at points of compliance (i.e., at the ring wells). Since 1995, nine statistical analyses have been performed. The most recent analysis took place in September 2017.

In 2016, Hillsborough County properly abandoned interior wells TR-3D and NE-23. The county implemented changes to the sampling frequency and parameter list the same year.

During a routine FDEP site inspection of the landfills in November 2017, the county discovered an unmarked, but locked, well about 200 feet north of TR-4D. The county searched documents from 1979 to the present for information on this well; none was found. With FDEP and EPA concurrence, the county properly abandoned the well in December 2017.

Institutional Control (IC) Review

Institutional controls are in place for the county-owned properties and for those areas that overlie the groundwater contaminant plume.

In February 1998, Hillsborough County filed a Notice of Entry of Consent Decree for the Taylor Road Landfill Superfund Site in Hillsborough County, Florida. The Notice serves as an institutional control for county-owned properties at the Site. It states that the county-owned properties are subject to the 1983 RCRA Consent Decree. The Consent Decree also requires that the county connect all properties within site boundaries to the public water system. The landfills are also subject to a state-issued long-term care permit.

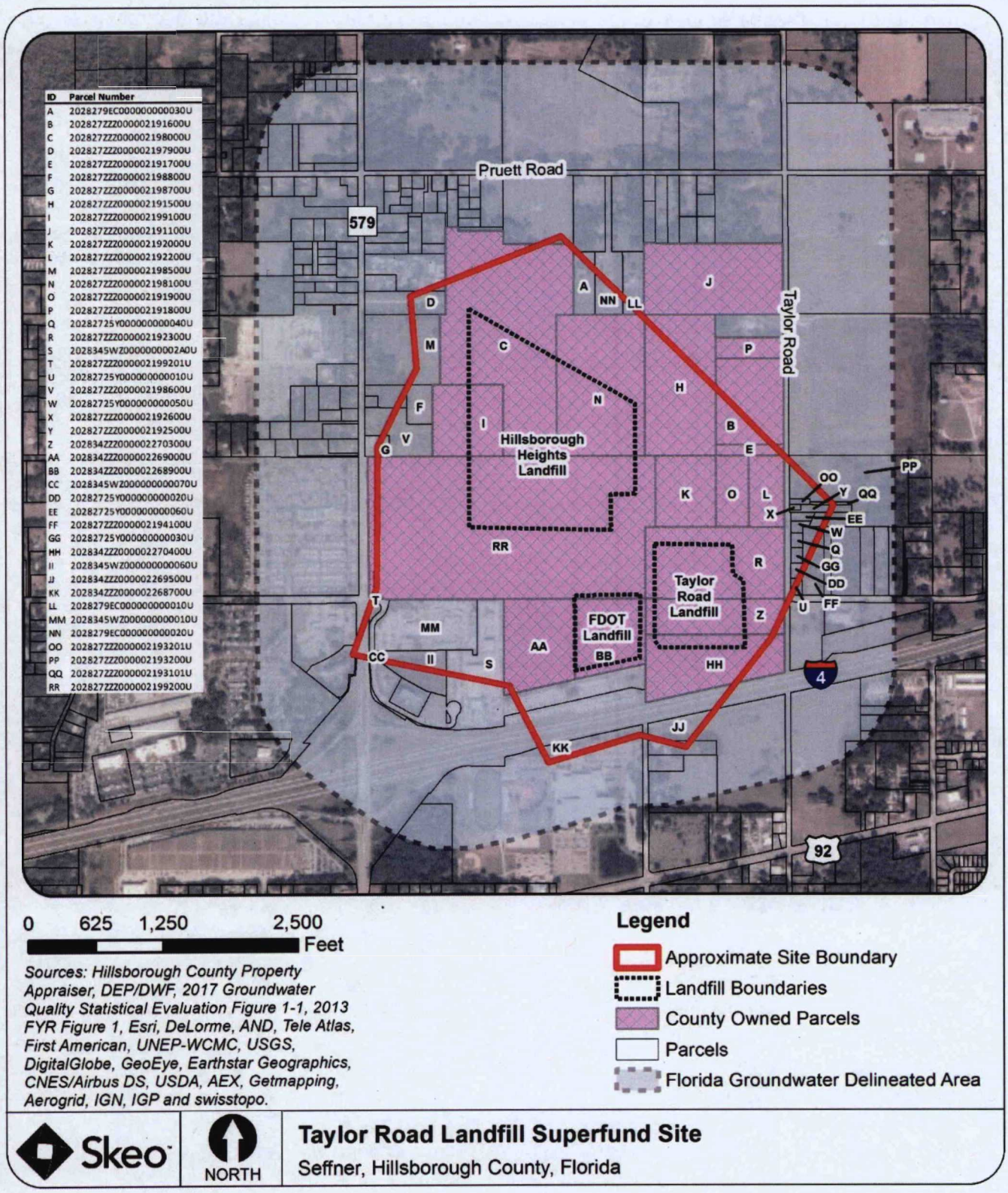
Groundwater use restrictions are in place in the form of a Florida Administrative Code (FAC) 62-524 delineated area. The Site is within a Florida groundwater delineated area, which defines areas with contaminated groundwater and restricts the installation of groundwater wells in such areas. Figure 3 shows the groundwater delineated area and parcels within this area.

In collaboration with the Southwest Florida Water Management District, any well permit application for the area surrounding the landfill property triggers a notification to Hillsborough County. The intent is to deny permits for any type of supply well proposed within the 270-foot setback. Table 3 summarizes the groundwater ICs at the Site. Appendix D includes a summary of the parcels located within the Florida groundwater delineated area.

Table 3: Summary of Institutional Controls (ICs)

Media, Engineered Controls, and Areas That Do Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcels	IC Objective	Title of IC Instrument Implemented and Date
Groundwater	Yes	Yes	County-owned parcels or parcels located within the 270-foot setback of the compliance ring. See Table 4 for parcel numbers.	Restrict construction of new potable water wells that would extract water affected by the Taylor Road Landfill.	FAC 65-524 delineated area* (1991)
Notes: *FDEP delineated area information: https://floridadep.gov/water/source-drinking-water/content/delineated-areas.					

Figure 3: Institutional Control Map



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding the EPA's response actions at the Site.

Systems Operations/Operation and Maintenance (O&M)

Hillsborough County conducts O&M for the three closed landfills consistent with the RCRA Consent Decree and long-term care permits issued by FDEP (Closure [Long-Term Care] Permit #69683-011-SF/14). FDEP conducted a routine compliance inspection of the landfill facility in November 2017 and determined the facility was in compliance.

Hillsborough County implements the Taylor Road Landfill groundwater monitoring program consistent with the 2015 update to the groundwater monitoring plan (presented as an appendix in the 2017 Taylor Road Landfill Statistical Report). The monitoring program now consists of 13 compliance wells, 11 interior wells and one background well in the upper Floridan Aquifer. Table 4 summarizes the current monitoring program sampling frequency and parameter list. Prior to 2016, all wells were sampled quarterly.

General O&M activities associated with the groundwater monitoring program also include well upkeep and replacement, as necessary; maintaining access agreements for off-property wells; and complying with notification, recordkeeping and reporting requirements.

Table 4: Groundwater Sampling Program

Well Group	Well ID	Sampling Frequency (Month)	Parameter List
Compliance ring	C-1, C-3, C-4, C-7, C-8, C-9, C-10, F-3, F-15, 30-D, 31-D, 32-D, TR-2D	semi-annual (January and July)	Field Parameters: pH, conductivity, dissolved oxygen, temperature, turbidity, oxidation reduction potential Analytical parameters: VOCs, total dissolved solids, sulfate, chloride, ammonia, nitrate, arsenic, mercury, nickel, manganese, vanadium
Interior	C-2, C-5, C-6, TR-1D, TR-4D, F-1A, F-2, F-14, 18-D, 24-D, 28-D	annual (January)	
Background	F-12	annual (January)	

Hillsborough County also implements an off-site private supply well sampling program. The private wells are sampled on a semi-annual basis and include nine domestic, industrial and irrigation supply wells downgradient of the landfill complex. The samples are analyzed for VOCs, select metals and other field and general chemistry parameters. Figure G-2 in Appendix G shows the locations of the private supply wells sampled.

Hillsborough County is responsible for all O&M costs at the Site. The ROD did not provide an estimate of annual O&M costs for long-term groundwater monitoring. Table 5 summarizes annual costs associated with implementation of the groundwater remedy during the FYR period. Additional costs in 2016 and 2017 were associated with well abandonments (TR-3D, NE-23 and the unmarked well) and repair of well 32-D.

Table 5: O&M Costs Over the FYR Period

Year	Total Cost
2013	$13,000
2014	$13,000
2015	$13,000
2016	$16,000
2017	$17,000

III. PROGRESS SINCE THE PREVIOUS REVIEW

Table 6 summarizes the protectiveness determination and statement from the 2013 FYR Report. There were no issues or recommendations in the 2013 FYR Report.

Table 6: Protectiveness Determination/Statement from the 2013 FYR Report

OU #	Protectiveness Determination	Protectiveness Statement
Sitewide	Protective	The remedy at the Site is protective of human health and the environment. Appropriate institutional controls are in place to restrict construction of groundwater wells and potable use of groundwater at the Site. Groundwater monitoring indicates that groundwater contamination remains confined within the site boundary and that natural attenuation is occurring. FDEP regulates the closed landfills at the Site under its RCRA program and the Site is well maintained. Hillsborough County assessed vapor intrusion at the Site and found that there is not a completed pathway. There are no complete exposure pathways that could result in unacceptable risks at the Site.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Community Involvement and Site Interviews

A public notice was made available by newspaper posting in the Tampa Bay Times, on 3/9/2018 (Appendix E). It stated that the FYR was underway and invited the public to submit any comments to the EPA. The results of the review and the report will be made available at the Site's information repository, Thonotosassa Public Library, located at 10715 Main Street in Thonotosassa, Florida.

During the FYR process, interviews were conducted to document any perceived problems or successes with the remedy that has been implemented to date. The interviews are summarized below. Completed interview forms are included in Appendix F.

FDEP's Miranda McClure stated that the cleanup of the Site is proving to be effective. She indicated that the groundwater plume is stable and the Site is regularly maintained and in reuse.

Michael Townsel of Hillsborough County stated that the remedy is effective and performs well and the Site is well maintained. He indicated that site reuse (remote model aircraft facility, community collection center and household chemical collection center) is positively viewed. He provided details about data, which are included in the data review below. He also provided details about the reduced monitoring schedules, which provided cost savings without affecting the remedy.

A local resident stated that the remedy is progressing as best it can. The resident has a private well that is regularly sampled. The resident is unaware of any trespassing or other issues of concern at the Site.

Data Review

This data review evaluates groundwater and private well data presented in 2013 through 2018 Analytical Data Reports, the 2017 Groundwater Quality Statistical Evaluation Report and the Hillsborough Heights Private Supply Wells Laboratory Analytical Data Reports, dated September 2017 and March 2018. Appendix G includes the detailed evaluation.

Based on the results of this review, the groundwater plume is stable and contained within the compliance ring. COPC concentrations in compliance ring wells have been below groundwater cleanup standards since 2001. Hillsborough County found exceedances in one compliance ring well (C-1) in January 2018, suspected cross contamination, and resampled in March 2018. Results from the resampling were below detection limits and cleanup goals. The results from the 2017 statistical analysis, which took into account data collected between 1995 and 2017, found decreasing trends or no trends for all COPCs in compliance ring wells. Four COPCs (vinyl chloride, benzene, cis-1,2-DCE and mercury) remain above groundwater cleanup goals in interior wells. However, the 2017 statistical analysis found that COPC concentrations in these wells, with the exception of benzene in well 24-D, were decreasing or stable (no trend). Benzene in 24-D reported a statistically significant increasing concentration trend. However, benzene concentrations in 24-D were not significantly above the groundwater cleanup goal of 2 µg/L; concentrations during the seven most recent sampling events ranged between 1.3 and 3.9 µg/L. Most other interior wells reported statistically significant decreasing concentration trends or no significant trends for COPCs. Natural attenuation processes have significantly reduced the number and concentrations of COPCs observed in the interior wells and the compliance ring of groundwater monitoring wells.

Two non-COPCs (manganese in 24-D and pH in TR-4D) are the only constituents with statistically significant increasing trends paired with statistically significant exceedances of Florida secondary drinking water standards in interior wells. The 2017 Groundwater Quality Statistical Evaluation report suggested that it is possible that landfill gas may be causing a reducing environment that allows manganese to precipitate out of solution. Groundwater monitoring will continue for manganese and site COPCs and trend analyses will be conducted prior to the next FYR.

Detected constituents in off-site private wells are below Florida drinking water standards (Appendix G, Table G-4).

Site Inspection

The site inspection took place on 1/22/2018. Participants included Miranda McClure from FDEP, Michael Townsel, Walter Gray and Jeff Greenwell from Hillsborough County, and Johnny Zimmerman-Ward and Jill Billus from Skeo (EPA FYR support contractor). Appendix H includes the completed site inspection checklist. Appendix I includes photographs from the site inspection.

Site inspection participants met at the maintenance facility building of the Hillsborough County landfill complex, located at 6209 County Road 579, to discuss the status of the Site. Site inspection participants then toured the landfill complex. The group observed interior and compliance ring groundwater monitoring wells, perimeter fencing and the vegetative cover over the landfill complex. Monitoring wells were secured and labeled. Monitoring wells, fencing and landfill covers appeared to be in good condition. Hillsborough County indicated that trespassing has not been an issue at the Site.

Site inspection participants observed grading activities on a former orchard property north of the Taylor Road Landfill. Hillsborough County indicated that it recently acquired the property and intends to use it as a debris management area. Site inspection participants also observed areas of the Site that are currently in reuse – the community recycling and collection areas on the western side of the Site, the model airplane flying field on the northern part of the Site, and businesses along the southern portion of the Site.

Skeo staff visited the local site repository, Thonotosassa Public Library, located at 10715 Main Street in Thonotosassa, Florida. The library had Hillsborough County groundwater monitoring reports from 2007 to 2017 on compact disks. The library did not have a copy of any EPA documents.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Yes, the remedy is functioning as intended by the Site's decision documents. Ongoing groundwater monitoring results demonstrate that natural attenuation is reducing contaminant concentrations in groundwater. The groundwater plume is stable and contained within the compliance ring of monitoring wells. COPC concentrations in compliance ring wells have been below groundwater cleanup standards since 2001. Although exceedances were reported in compliance ring well C-1 in January 2018, results from resampling in March 2018 were below detection limits and cleanup goals. Four COPCs remain above groundwater cleanup goals in interior wells. However, the 2017 trend analysis, which evaluated data from 1995 to 2017, shows that all but one well with a 2017 exceedance reported stable or decreasing concentration trends. While benzene in well 24-D reported an increasing concentration trend, concentrations were not significantly above the groundwater cleanup goal. Most interior wells reported decreasing concentration trends or no significant trends for COPCs.

Institutional controls are in place to restrict current and future exposure to contaminated groundwater within the county property and surrounding area. The county has connected businesses and residents within the 270-foot setback of the compliance ring to the public water supply. A private well sampling program is in place to monitor private wells outside the 270-foot setback. Site contamination has not been identified in the private wells above the cleanup levels.

The landfill complex is well maintained and secured with fencing. The FDEP regulates the landfill complex under its RCRA program's landfill closure requirements and has worked closely with the county to ensure compliance.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives used at the time of the remedy selection still valid?

Yes, the exposure assumptions, toxicity data, cleanup levels and remedial action objectives used at the time of remedy selection are still valid.

The Site's decision documents established Florida primary drinking water standards as cleanup levels for groundwater. The groundwater monitoring program determines compliance based on the current standards. The Florida primary drinking water standards are either the same as, or more stringent than, the federal maximum contaminant levels (MCLs), which the ROD also identified as ARARs for the Site (Appendix J).

No changes in site conditions, contaminant characteristics or exposure pathways were observed or are known to have occurred that would call into question the ongoing protectiveness of the remedy. Hillsborough County recently purchased a former orchard property north of the Taylor Road Landfill and intends to use the property as a debris management area.

In 2009 and 2010, the county assessed the potential for vapor intrusion. The assessment included collection of subslab soil gas samples and indoor air samples from the facility's maintenance building and attendants building. Based on the absence of detectable concentrations in the indoor air quality samples and the low concentrations in the subslab soil gas samples, the assessment found the vapor intrusion pathway incomplete and recommended no further action. VOC concentrations in groundwater at the Site have decreased since 2010 and there are no new exposure pathways at the Site. Therefore, it is expected that conclusions from the 2010 assessment remain valid for the county-owned property.

As part of this FYR, EPA/Skeo conducted a screening-level vapor intrusion evaluation using the EPA's Vapor Intrusion Screening Level (VISL) calculator to determine if vapor intrusion may be a concern for areas outside the landfill property under a residential exposure scenario (Appendix K). The maximum detected concentrations of volatile chemicals from well C-2 from the January 2017 sampling event were used in the screening-level evaluation. Well C-2 was selected for the evaluation because it is located outside the county property boundary and reported detectable levels of VOCs. The results were within or below the EPA's risk management range of 1×10^{-4} to 1×10^{-6} and hazard quotients for non-carcinogens were below 1. This indicates that vapor intrusion is not a concern for areas outside the landfill property at this time. However, if site conditions change or contaminant concentrations increase, the potential for vapor intrusion should be re-evaluated.

The remedial action objectives for the Site remain valid. The purpose of the response action is to control risk posed by ingestion of and dermal contact with groundwater and to limit the migration of contaminated groundwater. The remedy is continuing as expected toward meeting this objective.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

The EPA identifies 1,4-dioxane as an emerging contaminant of concern at Superfund sites. 1,4-dioxane is a possible contaminant at many sites contaminated with certain chlorinated solvents (particularly 1,1,1-trichloroethane) because of its widespread use as a stabilizer for chlorinated solvents. Sampling conducted in January 2018 did not find 1,1,1-trichloroethane above detection limits. However, because the Taylor Road Landfill received industrial waste during its operation, the EPA has asked the Hillsborough County to include analysis for 1,4-dioxane at a future sampling event to determine if contamination in groundwater should be further investigated at the Site.

No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the FYR:
Groundwater OU

Issues and Recommendations Identified in the FYR:
None

OTHER FINDINGS

Several additional recommendations were identified during the FYR. These recommendations do not affect current and/or future protectiveness.

- The EPA asked Hillsborough County to include analysis for 1,4-dioxane at a future sampling event.
- Update the site repository with site decision documents and FYRs.

VII. PROTECTIVENESS STATEMENT

Sitewide Protectiveness Statement
Protectiveness Determination: Protective
Protectiveness Statement: The remedy at the Site is protective of human health and the environment. Groundwater monitoring results demonstrate that natural attenuation is reducing contaminant concentrations in groundwater. The groundwater plume is stable and contained within the compliance ring of monitoring wells. Institutional controls are in place to restrict groundwater use. There are no complete exposure pathways that could result in unacceptable risks at the Site.

VIII. NEXT REVIEW

The next FYR Report for the Taylor Road Landfill Superfund site is required five years from the completion date of this review.

APPENDIX A – REFERENCE LIST

Analytical Data Reports, Taylor Road Landfill Superfund Site. Hillsborough County. 2013 through 2018.

Consent Decree. USEPA and Florida Department of Environmental Regulation versus County of Hillsborough. United States District Court, Middle District of Florida, Tampa Division. Case 80-1128. Effective September 29, 1983.

Explanation of Significant Differences. Taylor Road Landfill Superfund Site, Seffner, Hillsborough County, Florida. EPA Region 4. August 3, 2000.

Final Baseline Risk Assessment for the Taylor Road Landfill Site, Hillsborough County, Florida. CDM Federal Programs Corporation. August 29, 1994.

Final Construction Report. Taylor Road Landfill Superfund Site. Hillsborough County Solid Waste Management Department, Management & Environmental Services Section. April 16, 1999.

Final Feasibility Study Report. Taylor Road Landfill Site, Hillsborough County, Florida. ERM-South, Inc. June 1995.

Final Remedial Investigation Report. Taylor Road Landfill Study Area, Hillsborough County, Florida. ERM-South, Inc. May 1995.

First Five-Year Review Report for Taylor Road Landfill, Seffner, Hillsborough County, Florida. EPA Region 4. September 29, 2003.

Groundwater Monitoring Network Optimization, Taylor Road Landfill Superfund Site. GSI Environmental, Inc. for Environmental Management Support, Inc. and USEPA Region 4. August 30, 2007.

Hillsborough Heights Private Supply Wells Laboratory Analytical Data Report, Seffner, Florida, July 2017. Hillsborough County. September 5, 2017.

Proposed Optimization of Groundwater Monitoring Plan. Taylor Road Landfill Superfund Site. Hillsborough County. April 27, 2015.

Record of Decision. Taylor Road Landfill, Seffner, Florida. EPA Region 4. September 29, 1995.

Screening Level Vapor Intrusion Assessment. Taylor Road Landfill Superfund Site. SCS Engineers. October 20, 2009.

Second Five-Year Review Report for Taylor Road Landfill, Seffner, Hillsborough County, Florida. EPA Region 4. September 25, 2008.

Site Specific Indoor Air Quality Assessment for Vapor. Taylor Road Landfill Superfund Site, EPA ID: FLD980494959. SCS Engineers. October 1, 2010.

Taylor Road Landfill Site Groundwater Quality Statistical Evaluation 2017. SCS Engineers. September 7, 2017.

Third Five-Year Review Report for Taylor Road Landfill, Seffner, Hillsborough County, Florida. EPA Region 4. September 2013.

APPENDIX B – CURRENT SITE STATUS

Environmental Indicators
- Current human exposures at the Site are under control. *- Contaminated groundwater migration is under control..*

Are Necessary Institutional Controls in Place?
☒ All ☐ Some ☐ None

Has EPA Designated the Site as Sitewide Ready for Anticipated Use?
☒ Yes ☐ No

Has the Site Been Put into Reuse?
☒ Yes ☐ No

APPENDIX C – SITE CHRONOLOGY

Table C-1: Site Chronology

Event	Date
Hillsborough County began operation of the permitted Taylor Road Landfill	May 1976
The EPA tested monitoring wells and private wells and identified VOCs and metals in the water	October 1979
The Taylor Road Landfill reached capacity and ceased operations Hillsborough County moved waste disposal activities to the adjacent FDOT Borrow Pit Landfill	February 1980
The EPA conducted a preliminary assessment	August 1980
The FDOT Borrow Pit Landfill ceased operations Hillsborough County moved waste disposal activities to the adjacent Hillsborough Heights Landfill	October 1980
The PRPs began initial remedial measures	June 1983
The PRPs completed initial remedial measures The EPA and the PRPs signed a Consent Decree	July 1983
The EPA listed the Site on the NPL Hillsborough County and the FDEP signed a RCRA Consent Decree to maintain and monitor all three landfills	September 1983
Hillsborough Heights Landfill ceased operations	1984
The EPA issued an AOC to conduct the RI/FS The PRPs began the RI/FS	February 1993
The EPA completed the final baseline risk assessment	June 1994
The PRPs completed the RI/FS The EPA issued a ROD	September 1995
The EPA issued an AOC	September 1996
The EPA issued an AOC	July 1997
The EPA and the PRPs signed a Consent Decree for remedial design/remedial action	February 1998
The PRPs began the remedial design	February 1998
The PRPs completed the remedial design and began the remedial action	August 1998
The PRPs completed the first round of sampling under the updated groundwater monitoring program	April 1999
The PRPs completed construction at the Site The EPA prepared the PCOR	June 1999
The EPA issued an Explanation of Significant Differences	August 2000
The EPA issued the Site's first FYR Report	September 2003
The PRPs conducted an updated potable well survey	November 2003
The EPA issued the Site's second FYR Report	September 2008
The PRPs completed Tier 1 Primary Screening and Tier 2 Secondary Screening Vapor Intrusion Assessments	October 2009
The PRPs completed a Tier 3 Site-Specific Pathway Assessment	August 2010
The PRPs completed a Site-Specific Indoor Air Quality Assessment	September 2010
The EPA issued the Site's third FYR Report	September 2013
The PRPs prepared the Optimization of Groundwater Monitoring Plan that changed the groundwater sampling schedule and wells monitored	2015

APPENDIX D – SITE PARCELS

Table D-1: Parcels Within the 270-Foot Setback

Parcel Number	Parcel Owner	Parcel Number	Parcel Owner
2028279EC000000000030U	Private Owner	20282725Y000000000050U	Private Owner
202827ZZZ000002191600U	Hillsborough County	202827ZZZ000002192600U	Private Owner
202827ZZZ000002198000U	Hillsborough County	202827ZZZ000002192500U	Private Owner
202827ZZZ000002197900U	Private Owner	202834ZZZ000002270300U	Hillsborough County
202827ZZZ000002191700U	Hillsborough County	202834ZZZ000002269000U	Hillsborough County
202827ZZZ000002198800U	Private Owner	202834ZZZ000002268900U	Hillsborough County
202827ZZZ000002198700U	Private Owner	2028345WZ000000000070U	Private Owner
202827ZZZ000002191500U	Hillsborough County	20282725Y000000000020U	Private Owner
202827ZZZ000002199100U	Hillsborough County	20282725Y000000000060U	Private Owner
202827ZZZ000002191100U	Hillsborough County	202827ZZZ000002194100U	Private Owner
202827ZZZ000002192000U	Hillsborough County	20282725Y000000000030U	Private Owner
202827ZZZ000002192200U	Hillsborough County	202834ZZZ000002270400U	Hillsborough County
202827ZZZ000002198500U	Private Owner	2028345WZ000000000060U	Private Owner
202827ZZZ000002198100U	Hillsborough County	202834ZZZ000002269500U	Private Owner
202827ZZZ000002191900U	Hillsborough County	202834ZZZ000002268700U	Private Owner
202827ZZZ000002191800U	Hillsborough County	2028279EC000000000010U	Private Owner
20282725Y000000000040U	Private Owner	2028345WZ000000000010U	Private Owner
202827ZZZ000002192300U	Hillsborough County	2028279EC000000000020U	Private Owner
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202827ZZZ000002199201U	Private Owner	202827ZZZ000002193200U	Private Owner
20282725Y000000000010U	Private Owner	202827ZZZ000002193101U	Private Owner
202827ZZZ000002198600U	Private Owner	202827ZZZ000002199200U	Hillsborough County

Notes:
Parcel ownership information obtained from Hillsborough County Geographical Information System at http://gis.hcpafl.org/gissearch.

APPENDIX E – PRESS NOTICE

The U.S. Environmental Protection Agency, Region 4
Announces the Fourth Five-Year Review for the
Taylor Road Landfill Superfund Site,
Seffner, Hillsborough County, Florida

Purpose/Objective: The EPA is conducting a Five-Year Review of the remedy for the Taylor Road Landfill Superfund site (the Site) in Seffner, Florida. The purpose of the Five-Year Review is to make sure the selected cleanup actions effectively protect human health and the environment.

Site Background: The Site is located about 7 miles east of Tampa. The Site includes the Taylor Road Landfill and groundwater contamination caused by the landfill. The Site is a part of a larger, 252-acre, county-owned property that includes three closed landfills: the 42-acre Taylor Road Landfill, the 64-acre Hillsborough Heights Landfill and the 10.6-acre Florida Department of Transportation Borrow Pit Landfill. The unlined Taylor Road Landfill operated between 1976 and 1980 and received residential, commercial and industrial wastes. During the Site's 1995 remedial investigation and feasibility study, investigators evaluated all three landfills on the county-owned property. The EPA determined that only the 42-acre Taylor Road Landfill caused the groundwater contamination at the Site. The EPA proposed the Site for listing on the Superfund National Priorities List (NPL) in December 1982 and finalized the Site's listing on the NPL in September 1983. Groundwater contaminants at the Site include volatile organic compounds and metals.

Cleanup Actions: Early cleanup actions in the 1980s connected affected residences and businesses to the public water supply and installed a gas collection system, landfill cap and drainage system at the Taylor Road Landfill. Hillsborough County also began an operations and maintenance program for all three landfills and a groundwater sampling program to monitor groundwater contamination. The EPA selected the Site's long-term remedy in a September 1995 Record of Decision (ROD) and updated it in a 2000 Explanation of Significant Differences (ESD). The Site's long-term remedy included monitored natural attenuation to address groundwater contamination, quarterly groundwater monitoring, connection of nearby residences to the public water supply, and institutional controls to prohibit the installation of drinking water wells.

Five-Year Review Schedule: The National Contingency Plan requires review of remedial actions that result in any hazardous substances, pollutants or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure every five years to ensure the protection of human health and the environment. The fourth Five-Year Review for the Site will be completed by September 2018.

The EPA Invites Community Participation in the Five-Year Review Process: The EPA is conducting this Five-Year Review to evaluate the effectiveness of the Site's remedy and to ensure that the remedy remains protective of human health and the environment. As part of the Five-Year Review process, EPA staff members are available to answer any questions about the Site. Community members who have questions about the Site or the Five-Year Review process, or who would like to participate in a community interview, are asked to contact:

Erik Spalvins, EPA Remedial Project Manager
Phone: (404) 562-8938
Email: *spalvins.erik@epa.gov*

L'Tonya Spencer, EPA Community Involvement Coordinator
Phone: (404)-562-8463 | (877) 718-3752 (toll-free)
Email: *spencer.latonya@Epa.gov*

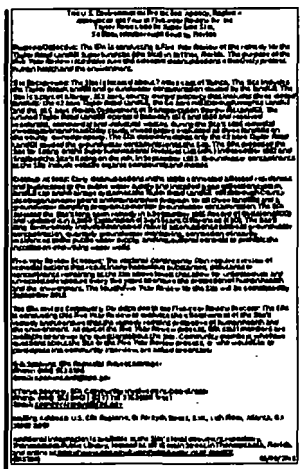
Mailing Address: U.S. EPA Region 4, 61 Forsyth Street, S.W., 11th Floor, Atlanta, GA 30303-8960

Additional information is available at the Site's local document repository, Thonotosassa Public Library, located at 10715 Main Street in Thonotosassa, Florida, and online at *http://www.epa.gov/superfund/taylor-road-landfill*.
(608790) 03/09/2018

Tampa Bay Times
tampabay.com

-Receipt-

Ad Proof



Date:	03/07/18
Account #:	46897
Company Name:	U.S. EPA REGION 4
Contact:	L'TONYA SPENCER
Address:	61 FORSYTH STREET SW 11th FLR
City:	ATLANTA
State:	GA
Zip:	30303
Telephone:	(404) 562-8463

Publications:
Tampa Bay Times,
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Ad ID:	608790
Run Dates:	03/09/18 to 03/09/18
Ad Class:	Legal
Columns wide:	2
Billed of Lines:	132.0
Total Cost:	$563.00
Account Rep:	Jill Harrison
Phone #	
Email:	jharrison@tampabay.com

Payments:

Method	Card Type	Name on Card	Last 4 Digits	Expire Date	Check Number	Amount Paid
CC	VISA		7146			$563.00

Gross:	**$563.00**
Paid Amount:	**- $563.00**
Amount Due:	**$0.00**

APPENDIX F – INTERVIEW FORMS

Taylor Road Landfill Superfund Site **Five-Year Review Interview Form**

Site Name: Taylor Road Landfill **EPA ID No.:** FLD980494959

Subject Name: Miranda McClure **Affiliation:** FDEP
Subject Contact Information: 850/245-8941 or miranda.mcclure@dep.state.fl.us
Time: NA **Date:** 02/15/2018

Interview Format (circle one): In Person Phone Mail Other (Email)

Interview Category: State Agency

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

   Cleanup of the Site is proving to be effective. The groundwater plume is stable, and the Site is currently being regularly maintained through monitoring, inspections and county personnel employed for safe keeping of the landfill. The Site is being reused as a collection site and part of it is leased to the remote airplane club.

2. What is your assessment of the current performance of the remedy in place at the Site?

   The remedy of monitored natural attenuation is effective. The monitoring shows that the groundwater plume is stable.

3. Are you aware of any complaints or inquiries regarding site-related environmental issues or remedial activities from residents in the past five years?

   No.

4. Has your office conducted any site-related activities or communications in the past five years? If so, please describe the purpose and results of these activities.

   The site visit as part of the FYR.

5. Are you aware of any changes to state laws that might affect the protectiveness of the Site's remedy?

   No.

6. Are you comfortable with the status of the institutional controls at the Site? If not, what are the associated outstanding issues?

   Yes.

7. Are you aware of any changes in projected land use(s) at the Site?

   No.

8. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?

   No.

9. Do you consent to have your name included along with your responses to this questionnaire in the FYR Report?

   Yes.

Taylor Road Landfill Superfund Site **Five-Year Review Interview Form**

Site Name: Taylor Road Landfill **EPA ID No.:** FLD980494959

Subject Name: Michael D. Townsel **Affiliation:** Hillsborough County
Subject Contact Information: townselm@hillsboroughcounty.org (813) 663-3221
Time: Not Applicable **Date:** 02/08/2018

Interview Format (circle one): In Person Phone Mail Other: Email

Interview Category: O&M

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)? **Implementation of the selected remedy for the Taylor Rad Landfill Superfund Site continues to be effective in its current configuration. The site continues to be well maintained by site personnel and contractors. Reuse of the property is positively viewed with the TRAC (remote model aircraft) facility, community collection center, and household chemical collection center over non-waste filled areas.**

2. What is your assessment of the current performance of the remedy in place at the Site? **The selected remedy of natural attenuation continues to perform well.**

3. What are the findings from the monitoring data? What are the key trends in contaminant levels that are being documented over time at the Site? **The laboratory analytical data from the semi-annual sampling of the compliance ring monitoring wells continues to demonstrate compliance of water quality criteria over the last 15 years. As outlined in the 2017 Groundwater Quality Statistical Evaluation provided by SCS Engineers, Inc., there are no statistically increasing trends of chemicals of potential concern (COPC's) at these locations.**

   For this observation period, COPC's resulting in increasing trends in any interior monitoring well include 1,4-dichlorobenzene, benzene, cis-1,2-dichloethane, and mercury. The increase of benzene and mercury in interior well 24-D has resulted in exceedances of their respective regulatory limits. The remaining increasing concentration trends of COPC's are within regulatory limits.

   There are a number of non-COPC's exhibiting increasing and decreasing trends below their respective regulatory standards with the exception of manganese in 24-D and TR-1D. The conclusion from the analysis of variance (ANOVA) indicates landfill gas migrating through the soils may be causing a reducing environment, precipitating metals such as manganese. As part of the optimized groundwater monitoring plan, the County has included Oxidation Reduction Potential (ORP) in its analysis.

4. Is there a continuous on-site O&M presence? If so, please describe staff responsibilities and activities. Alternatively, please describe staff responsibilities and the frequency of site inspections and activities if there is not a continuous on-site O&M presence. **Hillsborough County Public Works Department, Solid Waste Management Group employees conduct daily site inspections of the facility and performs routine maintenance associated with the landfill gas collection system, leachate management system, and oversight of contract mowing personnel. In addition, site personnel also conduct daily O&M of the community collection and household chemical collection centers.**

5. Have there been any significant changes in site O&M requirements, maintenance schedules or sampling routines since start-up or in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy? Please describe changes and impacts. **The groundwater sampling schedule for the monitoring wells associated with the Taylor Road Landfill Superfund Site has been modified since the last 5-year review. Hillsborough County submitted an optimized groundwater plan to the U.S. EPA and was approved as part of the new Long-Term Care permit which reduced the monitoring frequency of the ring monitoring wells from quarterly to semi-annual and the interior wells from quarterly to annual. As part of the optimized groundwater plan, monitoring wells NE-23 and TR-3D were abandoned on March 9-10, 2016. The selected remedy in place continues to be effective in protection of the public health and the environment.**

6. Have there been unexpected O&M difficulties or costs at the Site since start-up or in the last five years? If so, please provide details. **None**

7. Have there been opportunities to optimize O&M activities or sampling efforts? Please describe changes and any resulting or desired cost savings or improved efficiencies. **The County and U.S. EPA optimized the groundwater monitoring schedule from quarterly to semi-annual for the compliance ring monitoring wells and annual for the interior monitoring wells. The reduced groundwater sampling frequency resulted in a cost savings to the County without adversely affecting the selected remedy.**

8. Do you have any comments, suggestions or recommendations regarding O&M activities and schedules at the Site? **None**

9. Do you consent to have your name included along with your responses to this questionnaire in the FYR report? **Yes**

Taylor Road Landfill Superfund Site **Five-Year Review Interview Form**

Site Name: Taylor Road Landfill **EPA ID No.:** FLD980494959

Interviewer Name: Johnny Zimmerman-Ward and Jill Billus **Affiliation:** Skeo

Subject Name: Local Resident

Time: 2:30 p.m. **Date:** 1/22/2018

Interview Location: Resident's home

Interview Format (circle one): (In Person) Phone Mail Other:

Interview Category: Residents

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?

   Yes.

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

   They are doing the best they can.

3. What have been the effects of the Site on the surrounding community, if any?

   In the beginning, the community thought it (the remedy) was wrong. It's okay now.

4. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?

   No.

5. Has the EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can the EPA best provide site-related information in the future?

   Nothing lately. A call or mail would be nice. Not receiving the well water sampling reports the county has been mailing.

6. Do you own a private well in addition to or instead of accessing city/municipal water supplies? If so, for what purpose(s) is your private well used?

   Yes, a private well used for all water needs.

7. Do you have any comments, suggestions or recommendations regarding any aspects of the project?

   No.

APPENDIX G – DATA REVIEW

This data review evaluates groundwater data and private well monitoring data presented in 2013 through 2018 Analytical Data Reports (ADRs), the 2017 Groundwater Quality Statistical Evaluation Report and the Hillsborough Heights Private Supply Wells Laboratory Analytical Data Reports, dated September 2017 and March 2018.

Groundwater Monitoring

Compliance Ring Wells

Sampling results from January 2017 and January 2018 are the most recent data available for review. No COPCs were detected in any compliance ring well above groundwater cleanup levels during the January 2017 sampling event. The 2017 ADR states that the 13 compliance ring wells have all exhibited water quality within applicable standards since 2001. In January 2018, benzene (1.6 µg/L) and vinyl chloride (1.3 µg/L) were detected above their cleanup levels (both 1 µg/L) in one compliance ring well (C-1). The county suspected cross contamination and resampled the well in March 2018. Benzene and vinyl chloride were below detection limits and cleanup goals during the resampling event in March 2018. Tables G-1 and G-2 summarize the 2017 and 2018 sampling results, respectively. Historical data from 1995 to 2017 can be found in Appendix B of the 2017 Groundwater Quality Statistical Evaluation report. Figure 2 shows the well locations. Figure G-1 shows the groundwater elevation contours from the January 2018 monitoring event.

Results from the 2017 statistical evaluation found that 11 of the ring wells have statistically significant increasing concentration trends for at least one constituent (chloride, conductivity, dissolved oxygen, nitrates, pH, sulfate, total dissolved solids and vanadium). However, none of these constituents is a COPC. All COPCs exhibited either no trends or decreasing trends. Table G-3 summarizes the results of the 2017 statistical evaluation. The Groundwater Quality Statistical Evaluation Report noted that some trends (both increasing and decreasing) were an artifact of changing detection limits.

Interior Wells

During the January 2017 sampling event, three COPCs (benzene, vinyl chloride and mercury) exceeded their groundwater cleanup levels. Benzene was detected above its groundwater cleanup level in two interior wells (wells 18-D and 24-D); vinyl chloride was detected above its groundwater cleanup level in five interior wells (wells C-2, TR-1D, TR-4D, 24-D and F-14); and mercury was detected above its groundwater cleanup level in one well (24-D). Well 24-D showed the highest concentration of benzene at 2.8 micrograms per liter (µg/L) (cleanup level of 1 µg/L). Well TR-4D showed the highest concentration of vinyl chloride at 10 µg/L (cleanup level of 1 µg/L). Mercury was detected in well 24-D at 4 µg/L (cleanup level of 2 µg/L). No other COPCs were reported above groundwater cleanup levels during the January 2017 sampling event.

During the January 2018 sampling event, four COPCs (benzene, cis-1,2- DCE, vinyl chloride and mercury) exceeded their groundwater cleanup levels. Benzene was detected above its groundwater cleanup level in wells 18-D and 24-D; cis-1,2-DCE was detected above its cleanup level in well 24-D; vinyl chloride was detected above its cleanup level in wells C-2, TR-1D, TR-4D, 18-D, 24-D and F-14; and mercury was detected above its cleanup level in well 24-D. Detected concentrations in 2018 were generally similar to 2017 levels with the exception of cis-1,2-DCE in well 24-D which increased from 52 µg/ in 2017 to 76 µg/L in 2018.

Several detected constituents exceeded Florida secondary drinking water standards. However, the EPA does not consider the secondary standards to be ARARs for the Site. Constituents detected above the Florida secondary standards included pH, total dissolved solids and manganese (Tables G-1 and G-2).

Results from the 2017 statistical evaluation, which took into account data collected between 1995 and 2017, found that 10 of the 11 interior wells have statistically significant increasing concentrations trends for at least one constituent (1,4-dichlorobenzene, ammonia nitrogen, benzene, chloride, cis-1,2-DCE, conductivity, dissolved oxygen, manganese, mercury, nitrates, pH, sulfate, total dissolved solids and vanadium). Of these constituents, only 1,4-dichlorobenzene, benzene, cis-1,2-DCE and mercury are site COPCs and these did not have statistically significant concentrations above the groundwater cleanup levels. As presented in Table G-3, most interior wells showed statistically significant decreasing concentration trends or no significant trends for COPCs, including vinyl chloride, mercury and benzene.

Manganese and pH, which are not COPCs, had statistically significant increasing trends and statistically significant concentrations above Florida secondary drinking water standards in wells 24-D and TR-4D, respectively. The 2017 Groundwater Quality Statistical Evaluation Report suggested that it is possible that landfill gas may be causing a reducing environment that allows manganese to precipitate out of solution. Groundwater monitoring will continue for manganese and site COPCs.

Background Well

COPCs were not detected in the background well F-12 during the January 2017 and January 2018 sampling events, which is consistent with prior results. Manganese was detected at 52 µg/L in 2017 and 54 µg/L in 2018, which are slightly above the Florida secondary drinking water standard of 50 µg/L. Historically, this background water quality well has consistently exhibited manganese just above the secondary drinking water standard.

Private Supply Well Monitoring

Hillsborough County samples private supply wells west and downgradient of the landfill complex semi-annually. Figure G-2 shows the locations of the private supply wells, which include domestic, industrial and irrigation supply wells.

Five of the nine supply wells in the monitoring program were sampled during the most recent events in July 2017 and January 2018. Wells P-19, P-22, P-41 and P-44 could not be sampled due to continued operational problems with the well pumps or electrical connectivity issues. The county will continue to check these wells to resume sampling at these locations. Wells P-19, P-22 and P-44 are located on properties that have been connected to the county's potable water distribution system, and the property owners do not have a need to repair these wells. The irrigation supply well located at the TA Travel Center, P-41, remains disconnected with no power to run the pump, as requested by the county due to the well's location within the 270-foot setback.

During the July 2017 and January 2018 sampling events, detected concentrations of VOCs, metals and general chemistry parameters were below Florida primary and secondary drinking water standards (Chapter 62-550.310-.320, FAC) and the Florida groundwater cleanup target levels (Chapter 62-777, FAC). Table G-4 includes a summary of the results from the July 2017 sampling event.

Table G-1: Monitoring Well Results, 2017

Taylor Road Landfill Superfund Site
Analytical Data Summary Table - Ring Wells
January 23-25, 2017

Field Parameters	Background F-12	Ring Wells F-3	F-15	30-D	31-D	32-D	MCL Standard
conductivity (field) (umhos/cm)	387	414	466	476	494	511	NS
dissolved oxygen (field) (mg/l)	0.78	7.20	1.98	0.71	0.43	0.98	NS
temperature (field) (°C)	23.73	24.45	24.12	24.14	24.66	24.89	NS
turbidity (field) (NTU)	7.93	0.78	0.42	3.1	2.29	34.4	NS
pH (field)	7.76	7.35	7.27	7.15	7.10	7.05	(6.5 - 8.5)**
ORP (mV)	NA	NA	NA	NA	NA	NA	NS
General Parameters							**MCL Standard**
chloride (mg/l)	13	3.2 i	17	12	11	10	250**
sulfate (mg/l)	6.7 i	3.7 i	11	17	14	15	250**
ammonia nitrogen (mg/l)	0.33	0.02 u	0.02 u	0.02 u	0.02 u	0.02 u	NS
total dissolved solids (mg/l)	200	220	230	250	260	260	500**
nitrate (mg/l)	0.5	0.94	3	2.9	2.3	2.1	10*
Metals (mg/l)							**MCL Standard**
arsenic	0.0022	0.00027 i	0.00025 i	0.00058 i	0.00038 i	0.00027 i	0.01*
manganese	0.052	0.000055 u	0.00038 i	0.00023 i	0.0036	0.0018	0.05**
mercury	0.00005 u	0.000051 i	0.00005 u	0.000093 i	0.00005 u	0.00016	0.002*
nickel	0.00011 u	0.00011 u	0.00011 u	0.00011 u	0.00015 i	0.00011 u	0.1*
vanadium	0.00071 u	0.0051	0.003	0.0044	0.0025	0.0056	0.049***

MCL=Maximum Contaminant Level
mg/l=Milligrams Per Liter
µg/l=Micrograms Per Liter
NS=No Standard
NA=Not Analyzed
NTU=Nephelometric Turbidity Units
mV=millivolts
i = reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
u = parameter was analyzed but not detected.
* = Primary Drinking Water Standard
** = Secondary Drinking Water Standard
***= Groundwater Cleanup Target Level (Ch. 62-777, F.A.C.)

Source: Analytical Data Report – January 2017

Taylor Road Landfill Superfund Site
Analytical Data Summary Table - Ring Wells
January 23-25, 2017

Field Parameters	Ring Wells								MCL Standard
	TR-2D	C-1	C-3	C-4	C-7	C-8	C-9	C-10	
conductivity (field) (umhos/cm)	273	482	524	353	469	331	334	420	NS
dissolved oxygen (field) (mg/l)	4.03	1.54	6.88	3.74	6.46	4.49	1.12	2.12	NS
temperature (field) (°C)	24.90	23.45	23.90	23.31	25.18	23.90	24.70	23.72	NS
turbidity (field) (NTU)	0.47	3.09	4.44	9.97	1.7	0.81	0.46	0.76	NS
pH (field)	7.48	7.02	7.11	7.45	7.30	7.35	7.70	7.45	(6.5 - 8.5)**
ORP (mV)	NA	NA	NA	NA	NA	NA	NA	NA	NS
General Parameters									**MCL Standard**
chloride (mg/l)	8.7	11	10	11	16	13	6.1 i	13	250**
sulfate (mg/l)	1.7 i	14	18	6.6	2 u	5.1 i	24	21	250**
ammonia nitrogen (mg/l)	0.02 u	0.02 u	0.02 u	0.02 u	0.02 u	0.02 u	0.02 u	0.02 u	NS
total dissolved solids (mg/l)	110	260	280	180	250	180	190	240	500**
nitrate (mg/l)	3.5	1.8	4.6	3.2	2.5	4.9	0.18 u	4.9	10*
Metals (mg/l)									**MCL Standard**
arsenic	0.000077 u	0.00034 i	0.00095 i	0.00017 i	0.00057 i	0.00012 i	0.00079 i	0.00062 i	0.01*
manganese	0.00099 i	0.0034	0.0024	0.0018	0.000066 i	0.0003 i	0.018	0.000055 u	0.05**
mercury	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.002*
nickel	0.00011 u	0.00068 i	0.00011 u	0.00011 u	0.00011 u	0.00011 u	0.00011 u	0.00011 u	0.1*
vanadium	0.0031	0.0028	0.022	0.0023	0.0055	0.0014 i	0.00071 u	0.0065	0.049***

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µg/l=Micrograms Per Liter
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i = reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
u = parameter was analyzed but not detected.
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** = Secondary Drinking Water Standard
*** = Groundwater Cleanup Target Level (Ch. 62-777, F.A.C.)

Taylor Road Landfill Superfund Site
Analytical Data Summary Table - Interior Monitoring Wells
January 23-25, 2017

Field Parameters	Interior Wells					MCL Standard
	C-2	C-5	C-6	TR-1D	TR-4D	
conductivity (field) (umhos/cm)	709	975	1139	797	1194	NS
dissolved oxygen (field) (mg/l)	0.46	0.32	0.22	0.38	0.91	NS
temperature (field) (°C)	25.62	24.23	24.24	25.52	25.22	NS
turbidity (field) (NTU)	1.88	0.59	2.68	0.49	5.93	NS
pH (field)	6.80	**6.29**	**6.22**	6.67	**6.47**	(6.5 - 8.5)**
ORP (mV)	NA	NA	NA	NA	NA	NS
General Parameters						**MCL Standard**
chloride (mg/l)	21	28	15	28	87	250 ppm**
sulfate (mg/l)	6.3	12	7 i	5.1	1 u	250 ppm**
ammonia nitrogen (mg/l)	0.02 u	0.03 i	0.02 u	0.18	0.56	NS
total dissolved solids (mg/l)	340	**630**	**530**	370	**620**	500 ppm**
nitrate (mg/l)	0.18 u	0.18 u	0.18 u	0.18 u	0.18 u	10 ppm*
Metals (mg/l)						**MCL Standard**
arsenic	0.0013	0.0029	0.0015	0.0061	0.008	0.01*
manganese	**0.089**	**0.14**	0.018	**0.81**	**0.78**	0.05**
mercury	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.002*
nickel	0.0026	0.0058	0.0062	0.0095	0.029	0.1*
vanadium	0.0058	0.00071 u	0.0019 i	0.00071 u	0.00071 u	0.049***
Organic Parameters Detected (ug/l)						**MCL Standard**
1,2-dichlorobenzene	1.1	0.63 u	0.63 u	1.2	5	600*
1,1-dichloroethane	2.3	1.8	1.7	1.7	3.8	70***
1,1-dichloroethene	1.4	0.7 u	0.7 u	1.3	3.8	7*
cis-1,2-dichloroethene	3.8	2.6	1.7	2.7	4.8	70*
trichloroethene	0.97 i	0.75 i	0.66 u	0.65 i	0.66 u	3*
vinyl chloride	**1.3**	1	0.73 u	**1.5**	**10**	1*

MCL=Maximum Contaminant Level
mg/l=Milligrams Per Liter
µg/l=Micrograms Per Liter
NS=No Standard
NA=Not Analyzed
NTU=Nephelometric Turbidity Units
mV=millivolts
i = reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
u = parameter was analyzed but not detected.
* = Primary Drinking Water Standard
** = Secondary Drinking Water Standard
*** = Groundwater Cleanup Target Level (Ch. 62-777, F.A.C.)
0.089 :Exceeds Primary or Secondary Drinking Water Standard, or Groundwater Cleanup Target Level

Taylor Road Landfill Superfund Site
Analytical Data Summary Table - Interior and Background Monitoring Wells
January 23-25, 2017

Field Parameters	Interior Wells						MCL Standard
	18-D	24-D	28-D	F-1A	F-2	F-14	
conductivity (field) (umhos/cm)	1078	607	559	946	638	837	NS
dissolved oxygen (field) (mg/l)	0.11	0.29	1.31	0.71	0.72	0.46	NS
temperature (field) (°C)	27.64	25.18	24.00	23.55	24.90	25.14	NS
turbidity (field) (NTU)	2.8	20	1.47	0.5	3.51	0.44	NS
pH (field)	**6.35**	**6.00**	6.81	**6.38**	6.54	6.75	(6.8 - 8.5)**
ORP (mV)	NA	NA	NA	NA	NA	NA	NS
General Parameters							**MCL Standard**
chloride (mg/l)	38	10	3.8 i	7.1 i	11	54	250 ppm**
sulfate (mg/l)	1 u	3.5 i	1.7 i	2.3 i	6.2	4.8 i	250 ppm**
ammonia nitrogen (mg/l)	0.14	0.02 u	0.02 u	0.02 u	0.02 u	0.33	NS
total dissolved solids (mg/l)	**520**	300	260	**530**	320	420	500 ppm**
nitrate (mg/l)	0.18 u	0.18 u	1.4	0.18 u	0.76	0.18 u	10 ppm*
Metals (mg/l)							**MCL Standard**
arsenic	0.0053	0.0019	0.00035 i	0.0032	0.001	0.0037	0.01*
manganese	**2.9**	**0.59**	0.0027	**0.12**	**0.37**	0.026	0.05**
mercury	0.00005 u	**0.004**	0.00014	0.000057 i	0.00053	0.00005 u	0.002*
nickel	0.017	0.0031	0.0027	0.0019	0.013	0.0086	0.1*
vanadium	0.00071 u	0.00071 u	0.0037	0.0012 i	0.001 i	0.001 i	0.049***
Organic Parameters Detected (ug/l)							**MCL Standard**
benzene	**1.5**	**2.8**	0.34 u	0.34 u	0.34 u	0.34 u	1*
1,2-dichlorobenzene	2	0.63 u	0.63 u	0.63 u	0.63 u	2.1	600*
1,1-dichloroethene	0.86 u	2.6	0.86 u	0.86 u	0.86 u	3.9	70***
1,1-dichloroethane	0.7 u	0.7 u	0.7 u	0.7 u	0.7 u	2.6	7*
1,2-dichloropropane	0.78 i	1.1	0.76 u	0.76 u	0.76 u	0.76 u	5*
trans-1,2-dichloroethene	0.54 i	1.1	0.5 u	0.5 u	0.5 u	0.5 u	100*
cis-1,2-dichloroethene	0.51 u	52	0.51 u	0.51 u	1.3	2.5	70*
methyl tert-butyl ether (MTBE)	0.44 i	0.41 u	0.41 u	0.41 u	0.41 u	0.41 u	20***
trichloroethene	0.66 u	0.99 i	0.66 u	0.66 u	0.66 u	0.66 u	3*
vinyl chloride	0.73 u	**2.7**	0.73 u	0.73 u	0.73 u	**4.4**	1*

MCL=Maximum Contaminant Level

mg/l=Milligrams Per Liter

µg/l=Micrograms Per Liter

NS=No Standard

NA=Not Analyzed

NTU=Nephelometric Turbidity Units

mV=millivolts

i = reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

u = parameter was analyzed but not detected.

* = Primary Drinking Water Standard

** = Secondary Drinking Water Standard

*** = Groundwater Cleanup Target Level (Ch. 62-777, F.A.C.)

6.35 : Exceeds Primary or Secondary Drinking Water Standard, or Groundwater Cleanup Target Level

Table G-2: Monitoring Well Results, 2018

Taylor Road Landfill Superfund Site
Analytical Data Summary Table - Interior and Background Monitoring Wells
January 8-10, 2018

Field	Interior Wells						MCL Standard
Parameters	18-D	24-D	28-D	F-1A	F-2	F-14	
conductivity (field) (umhos/cm)	1063	431	619	1004	639	834	NS
dissolved oxygen (field) (mg/l)	2.11	2.30	1.44	2.37	1.53	1.54	NS
temperature (field) (°C)	27.50	25.20	24.30	23.60	25.10	25.20	NS
turbidity (field) (NTU)	0.92	8.58	0.85	0.55	2.15	0.75	NS
pH (field)	**6.33**	**5.87**	6.65	**6.42**	6.63	6.72	(6.5 - 8.5)**
ORP (mV)	-77.8	-38.3	80.7	-54.1	41	-57.9	NS
General Parameters							**MCL Standard**
chloride (mg/l)	26	9.8 j	5.1 j	6.6 j	9.4 j	58	250 ppm**
sulfate (mg/l)	15 j	5 u	5 u	5 u	6.7 j	5 u	250 ppm**
ammonia nitrogen (mg/l)	0.07 j	0.025 u	0.025 u	0.06 j	0.025 u	0.39 j4	NS
total dissolved solids (mg/l)	470	200	300	490	260	440	500 ppm**
nitrate (mg/l)	0.18 u	0.18 u	0.79	0.18 u	0.59	0.18 u	10 ppm*
Metals (mg/l)							**MCL Standard**
arsenic	0.0043	0.0077	0.00042 j	0.0031	0.0021	0.004	0.01*
manganese	**3.4**	**0.6**	0.018	**0.12**	**0.44**	0.03	0.05**
mercury	0.00005 j	**0.004**	0.00005 j	0.000063 j	0.00029	0.00005 u	0.002*
nickel	0.012	0.0033	0.0084	0.0025	0.016	0.0072	0.1*
vanadium	0.00071 u	0.0025	0.0035	0.0016 j	0.0012 j	0.0010 j	0.049***
Organic Parameters Detected (ug/l)							**MCL Standard**
benzene	**1.2**	**3.9**	0.2 u	0.2 u	0.2 u	0.33 j	1*
1,2-dichlorobenzene	2.2	0.63 u	0.63 u	0.63 u	0.63 u	2.5	600*
1,1-dichloroethane	1.8	4.5	1.3	1.4	1.4	4.9	70***
1,1-dichloroethene	0.7 u	0.96 j	0.7 u	0.7 u	0.95 j	3.4	7*
1,2-dichloropropane	2.8	3.6	0.76 u	0.76 u	0.76 u	2.2	5*
1, 4-dichlorobenzene	12	0.97 u	0.97 u	0.97 u	1.2	2.2	75*
chlorobenzene	2.1	0.70 j	0.56 u	0.56 u	0.56 u	1.5	100*
trans-1,2-dichloroethene	0.5 u	1.1	0.5 u	0.5 u	0.5 u	0.5 u	100*
cis-1,2-dichloroethene	0.51 u	**76**	0.51 u	0.64 j	1.1	2.5	70*
trichloroethene	0.6 u	0.99 j	0.6 u	0.6 u	0.6 u	0.6 u	3*
vinyl chloride	**1.6**	**3.2**	0.2 u	0.58 j	0.98 j	**5.4**	1*

MCL=Maximum Contaminant Level
mg/l=Milligrams Per Liter
µg/l=Micrograms Per Liter
NS=No Standard
NA=Not Analyzed
NTU=Nephelometric Turbidity Units
mV=millivolts
j = reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
u = parameter was analyzed but not detected.
* = Primary Drinking Water Standard
** = Secondary Drinking Water Standard
*** = Groundwater Cleanup Target Level (Ch. 62-777, F.A.C.)
6.33: Exceeds Primary or Secondary Drinking Water Standard, or Groundwater Cleanup Target Level

Source: Analytical Data Report – January 2018

Taylor Road Landfill Superfund Site
Analytical Data Summary Table - Interior Monitoring Wells
January 8-10, 2018

Field Parameters	C-2	Interior Wells C-5	C-6	TR-1D	TR-4D	MCL Standard
conductivity (field) (umhos/cm)	758	1000	1149	704	1194	NS
dissolved oxygen (field) (mg/l)	1.43	1.36	2.05	0.41	2.78	NS
temperature (field) (°C)	25.80	24.40	24.30	25.60	25.40	NS
turbidity (field) (NTU)	2.2	2.1	2.35	1.01	7.88	NS
pH (field)	6.82	**6.35**	**6.32**	6.76	**6.46**	(6.5 - 8.5)**
ORP (mV)	92.5	-108.1	-47.9	-50.5	-48.8	NS
General Parameters						**MCL Standard**
chloride (mg/l)	17	14 i	6.7 i	29	85	250 ppm**
sulfate (mg/l)	6.9 i	5 u	5 u	7 i	5 u	250 ppm**
ammonia nitrogen (mg/l)	0.025 u	1.1	0.025 u	0.025 u	0.84	NS
total dissolved solids (mg/l)	310	**510**	**630**	350	**600**	500 ppm**
nitrate (mg/l)	0.18 u	0.18 u	0.18 u	0.18 u	0.18 u	10 ppm*
Metals (mg/l)						**MCL Standard**
arsenic	0.00066 i	0.0018	0.0018	0.002	0.007	0.01*
manganese	**0.071**	**0.62**	0.022	**0.65**	**0.89**	0.05**
mercury	0.00005 u	0.00005 i	0.00005 u	0.00005 u	0.00005 u	0.002*
nickel	0.003	0.0085	0.012	0.0058	0.03	0.1*
vanadium	0.005	0.00071 u	0.00071 u	0.00071 u	0.0026	0.049***
Organic Parameters Detected (ug/l)						**MCL Standard**
1,2-dichlorobenzene	1.1	0.63 u	0.63 u	0.96 i	6.6	600*
1,1-dichloroethane	3.6	2.2	2.6	2.6	5.2	70***
1,1-dichloroethene	2.2	0.7 u	0.7 u	1.8	4.1	7*
1, 2-dichloropropane	0.76 u	0.76 u	2.2	0.76 u	2.3	5*
1,4-dichlorobenzene	1.9	3.9	3.6	2.4	6.9	75*
benzene	0.2 u	0.2 u	0.27 i	0.2 u	0.88 i	1*
chlorobenzene	0.56 u	0.56 u	0.73 i	0.56 u	3.2	100*
cis-1,2-dichloroethene	4.2	1.5	1.2	2.4	4.7	70*
trichloroethene	0.72 i	0.6 u	0.6 u	0.6 u	0.6 u	3*
vinyl chloride	**1.5**	0.85 i	0.2 u	**1.5**	**12**	1*

MCL=Maximum Contaminant Level
mg/l=Milligrams Per Liter
µg/l=Micrograms Per Liter
NS=No Standard
NA=Not Analyzed
NTU=Nephelometric Turbidity Units
mV=millivolts
i = reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
u = parameter was analyzed but not detected.
* = Primary Drinking Water Standard
** = Secondary Drinking Water Standard
***= Groundwater Cleanup Target Level (Ch. 62-777, F.A.C.)

0.071	:Exceeds Primary or Secondary Drinking Water Standard, or Groundwater Cleanup Target Level

Taylor Road Landfill Superfund Site
Analytical Data Summary Table - Ring Wells
January 8-10, 2018

Field	Background	Ring Wells					MCL Standard
Parameters	F-12	F-3	F-15	30-D	31-D	32-D	
conductivity (field) (umhos/cm)	425.6	468.5	454.1	515	516	496.1	NS
dissolved oxygen (field) (mg/l)	1.09	6.27	2.49	0.31	0.45	1.01	NS
temperature (field) (°C)	23.90	24.70	24.20	24.30	24.90	25.00	NS
turbidity (field) (NTU)	0.66	1	0.55	1.55	0.47	41.2	NS
pH (field)	7.24	7.17	7.17	7.12	7.14	7.08	(6.5 - 8.5)**
ORP (mV)	-25.1	158.6	84.4	98.7	89.3	82	NS
General Parameters							MCL Standard
chloride (mg/l)	13 i	3.2 i	22 i	10 i	8.8 i	12 i	250**
sulfate (mg/l)	43	4.1 i	12 i	15 i	22 i	12 i	250**
ammonia nitrogen (mg/l)	0.31	0.025 u	0.025 u	0.025 u	0.025 u	0.025 u	NS
total dissolved solids (mg/l)	200	180	230	250	240	250	500**
nitrate (mg/l)	0.18 i	0.76	2.8	2.5	2.1	1.9	10*
Metals (mg/l)							MCL Standard
arsenic	0.0011	0.00026 i	0.00027 i	0.00063 i	0.00039 i	0.00025 i	0.01*
manganese	0.054	0.000055 u	0.00081 i	0.0021	0.0029	0.0077	0.05**
mercury	0.00005 u	0.00005 u	0.00005 u	0.00052	0.00005 u	0.00035	0.002*
nickel	0.00051 i	0.00019 i	0.00085	0.00043 i	0.00032 i	0.00074 i	0.1*
vanadium	0.00071 u	0.005	0.0031	0.0046	0.0024	0.006	0.049***
Organic Parameters Detected (ug/l)							MCL Standard
1, 1-dichloroethane	0.86 u	0.86 u	1.8	1.3	1.8	1.4	70***

MCL=Maximum Contaminant Level

mg/l=Milligrams Per Liter

µg/l=Micrograms Per Liter

NS=No Standard

NA=Not Analyzed

NTU=Nephelometric Turbidity Units

mV=millivolts

i = reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

u = parameter was analyzed but not detected.

* = Primary Drinking Water Standard

** = Secondary Drinking Water Standard

*** = Groundwater Cleanup Target Level (Ch. 62-777, F.A.C.)

0.054 :Exceeds Primary or Secondary Drinking Water Standard, or Groundwater Cleanup Target Level

Taylor Road Landfill Superfund Site
Analytical Data Summary Table - Ring Wells
January 8-10, 2018 and March 5, 2018

Field Parameters	Ring Wells									MCL Standard
	TR-2D	C-1	C-1 Resample	C-3	C-4	C-7	C-8	C-9	C-10	
conductivity (field) (umhos/cm)	321.6	524	464	577	374.1	520	334.9	382.7	461.5	NS
dissolved oxygen (field) (mg/l)	4.26	0.23	0.16	5.5	3.51	4.07	4.06	0.29	1.82	NS
temperature (field) (°C)	24.80	24.10	24.10	24.00	23.10	25.30	24.00	25.00	23.70	NS
turbidity (field) (NTU)	0.76	3.24	2.45	2.14	9.32	0.59	0.5	0.17	2.5	NS
pH (field)	7.41	7.07	7.09	7.10	7.38	7.16	7.36	7.52	7.29	(6.5 - 8.5)**
ORP (mV)	110	9.7	137.2	144.3	126.7	140.7	84.1	-117.8	116.3	NS
General Parameters										**MCL Standard**
chloride (mg/l)	8.3 j	10 j	11 j	10	9.6 j	15	12 j	7.0 j	14 j	250**
sulfate (mg/l)	3 j	12 j	12 j	22	6.2 j	2 u	5 u	24	20 j	250**
ammonia nitrogen (mg/l)	0.025 u	0.025 u	0.025 u, j4	0.025 u	0.025 u	0.025 u	0.025 u	0.025 u	0.025 u	NS
total dissolved solids (mg/l)	120	250	240	250	190	230	190	150	230	500**
nitrate (mg/l)	2.7	1.6	1.5	4	3	3.0	5.2	0.18 u	4.6	10*
Metals (mg/l)										**MCL Standard**
arsenic	0.00011 j	0.00032 j	0.00026 j	0.00099 j	0.00021 j	0.00064 j	0.00014 j	0.00083 j	0.0006 j	0.01*
manganese	0.00057 j	0.0041	0.002	0.0014	0.011	0.00011 j	0.0013	0.02	0.00033 j	0.05**
mercury	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.002*
nickel	0.00068 j	0.00052 j	0.00098 u	0.00021 j	0.0012	0.00017 j	0.00011 u	0.00011 j	0.00019 j	0.1*
vanadium	0.0032	0.0027	0.0026	0.023	0.005	0.0069	0.0014 j	0.00071 u	0.0064	0.049***
Organic Parameters Detected (ug/l)										**MCL Standard**
benzene	0.2 u	1.6	0.2 u	0.2 u	0.2 u	0.2 u	0.2 u	0.2 u	0.2 u	1*
Chloroform	0.31 u	0.31 u	0.31 u	0.31 u	0.91 j	0.96 j	0.31 u	0.31 u	0.90 j	70***
1, 1-dichloroethane	1.2	2.7	0.86 u	0.86 u	1.5	0.86 u	0.86 u	0.86 u	0.86 u	70***
1, 2-dichloropropane	0.76 u	2.7	0.76 u	0.76 u	0.76 u	0.76 u	0.76 u	0.76 u	0.76 u	5*
vinyl chloride	0.2 u	1.3	0.2 u	0.2 u	0.2 u	0.2 u	0.2 u	0.2 u	0.2 u	1*
cis-1, 2-dichloroethylene	0.51 u	27	0.51 u	0.51 u	0.51 u	0.51 u	0.51 u	0.51 u	0.51 u	70*

MCL=Maximum Contaminant Level
mg/l=Milligrams Per Liter
µg/l=Micrograms Per Liter
NS=No Standard
NA=Not Analyzed
NTU=Nephelometric Turbidity Units
mV=millivolts
j = reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
u = parameter was analyzed but not detected.
j = estimated value
* = Primary Drinking Water Standard
** = Secondary Drinking Water Standard
*** = Groundwater Cleanup Target Level (Ch. 62-777, F.A.C.)
1.6 :Exceeds Primary or Secondary Drinking Water Standard, or Groundwater Cleanup Target Level

Table G-3: Summary of Statistically Significant Trends and Exceedances, 2017

Table 4.1 SUMMARY OF STATISTICALLY SIGNIFICANT INCREASING/DECREASING TRENDS AND EXCEEDANCES

Monitoring Well Designations and Observations

	Ring Wells															
	Group R-1								Group R2							
	C-8		C-10		C-1		30-D		31-D		32-D		C-9		TR-2D	
Constituent	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX
1,1-Dichloroethane (ug/l)*					D				D		D					
1,1-Dichloroethene (ug/l)*																
1,2-Dichlorobenzene (ug/l)*																
1,2-Dichloroethane (ug/l)*																
1,2-Dichloropropane (ug/l)*																
1,2,4-Trimethylbenzene (ug/l)																
1,3-Dichlorobenzene (ug/l)																
1,4-Dichlorobenzene (ug/l)*																
Acetone (ug/l)																
Ammonia nitrogen (mg/l)			D													
Arsenic (ug/l)	D		D						D		D		D			
Benzene (ug/l)*																
Bromomethane (ug/l)																
Carbon disulfide (ug/l)																
Chloride (mg/l)	D		I		I											
Chlorobenzene (ug/l)																
Chloroethane (ug/l)																
Chloroform (ug/l)*																
Chloromethane (ug/l)*																
cis-1,2-Dichloroethene (ug/l)*									D		D					
Conductivity (umhos/cm)															I	
Dibromodifluoromethane (ug/l)													D			
Dichlorodifluoromethane (ug/l)																
Dibromochloromethane (ug/l)*																
Dissolved oxygen (mg/l)			D		D				D		D		D		D	
Ethylbenzene (ug/l)*																
Isopropylbenzene (ug/l)																
Manganese (ug/l)	D				D				D		D		D			
Mercury (ug/l)*							D		D		D				D	
Methylene chloride (ug/l)*																
Nickel (ug/l)*	D				D		D						D		D	
Nitrates (mg/l)	D				I								D			
pH (S.U.)	D						I		I		I					
Sulfate (mg/l)	I		I		I		I				I					
Styrene (ug/l)																
Tetrachloroethene (ug/l)*																
Toluene (ug/l)																
Total dissolved solids (mg/l)	D						D		D							
trans-1,2-Dichloroethene (ug/l)																
Trichloroethene (ug/l)*									D							
Turbidity (NTU)	D															
Vanadium (ug/l)															I	
Xylenes, total (ug/l)																
Vinyl Chloride (ug/l)*																

	Ring Wells							
	Group R-3							
	C-3		C-7		F-3		F-15	
Constituent	Trend	EX	Trend	EX	Trend	EX	Trend	EX
1,1-Dichloroethane (ug/l)*							D	
1,1-Dichloroethene (ug/l)*								
1,2-Dichlorobenzene (ug/l)*								
1,2-Dichloroethane (ug/l)*								
1,2-Dichloropropane (ug/l)*								
1,2,4-Trimethylbenzene (ug/l)								
1,3-Dichlorobenzene (ug/l)								
1,4-Dichlorobenzene (ug/l)*								
Acetone (ug/l)								
Ammonia nitrogen (mg/l)								
Arsenic (ug/l)			D					
Benzene (ug/l)*							D	
Bromomethane (ug/l)								
Carbon disulfide (ug/l)								
Chloride (mg/l)	D		I		D		I	
Chlorobenzene (ug/l)								
Chloroethane (ug/l)								
Chloroform (ug/l)*								
Chloromethane (ug/l)*								
cis-1,2-Dichloroethene (ug/l)*							D	
Conductivity (umhos/cm)							D	
Dibromodifluoromethane (ug/l)								
Dichlorodifluoromethane (ug/l)								
Dibromochloromethane (ug/l)*								
Dissolved oxygen (mg/l)								
Ethylbenzene (ug/l)*								
Isopropylbenzene (ug/l)								
Manganese (ug/l)	D		D		D		D	
Mercury (ug/l)*			D				D	
Methylene chloride (ug/l)*								
Nickel (ug/l)*	D		D		D			
Nitrates (mg/l)	D		I		D			
pH (S.U.)							I	
Sulfate (mg/l)	I							
Styrene (ug/l)								
Tetrachloroethene (ug/l)*								
Toluene (ug/l)								
Total dissolved solids (mg/l)	D		I				I	
trans-1,2-Dichloroethene (ug/l)								
Trichloroethene (ug/l)*								
Turbidity (NTU)								
Vanadium (ug/l)	D		D		D			
Xylenes, total (ug/l)								
Vinyl Chloride (ug/l)*								

	Interior Wells													
	Group I-1													
	C-5		C-6		18-D		24-D		28-D		F-1A		F-2	
Constituent	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX
1,1-Dichloroethane (ug/l)*	D		D		D				D		D		D	
1,1-Dichloroethene (ug/l)*			D		D									
1,2-Dichlorobenzene (ug/l)*	D								D					
1,2-Dichloroethane (ug/l)*					D									
1,2-Dichloropropane (ug/l)*			D		D									
1,2,4-Trimethylbenzene (ug/l)														
1,3-Dichlorobenzene (ug/l)														
1,4-Dichlorobenzene (ug/l)*	D						D		D		D			
Acetone (ug/l)														
Ammonia nitrogen (mg/l)									D					
Arsenic (ug/l)	D				D				D		D			
Benzene (ug/l)*	D		D		D	X	I		D					
Bromomethane (ug/l)														
Carbon disulfide (ug/l)	D						D				D			
Chloride (mg/l)			I		I				D		D			
Chlorobenzene (ug/l)														
Chloroethane (ug/l)			D		D									
Chloroform (ug/l)*														
Chloromethane (ug/l)*														
cis-1,2-Dichloroethene (ug/l)*	D		D		D		I		D		D		D	
Conductivity (umhos/cm)	D		D						D					
Dibromodifluoromethane (ug/l)			D		D						D			
Dichlorodifluoromethane (ug/l)														
Dibromochloromethane (ug/l)*														
Dissolved oxygen (mg/l)			D		D		D		I		D		D	
Ethylbenzene (ug/l)*														
Isopropylbenzene (ug/l)														
Manganese (ug/l)		X	I			X	I	X	D	X	D	X		
Mercury (ug/l)*			D								D		I	
Methylene chloride (ug/l)*			D											
Nickel (ug/l)*	D		D		D		D		D		D			
Nitrates (mg/l)			D				D						D	
pH (S.U.)		X		X		X	D		I			X		
Sulfate (mg/l)	I		I		D		D				D			
Styrene (ug/l)														
Tetrachloroethene (ug/l)*			D											
Toluene (ug/l)														
Total dissolved solids (mg/l)	D		D	X					D		D	X		
trans-1,2-Dichloroethene (ug/l)			D		D									
Trichloroethene (ug/l)*	D		D		D								D	
Turbidity (NTU)														
Vanadium (ug/l)			D											
Xylenes, total (ug/l)														
Vinyl Chloride (ug/l)*	D	X	D	X	D	X		X	D	X	D		D	

	Interior Wells								Up Gradient Wells			
	Group I-2											
	C-2		F-14		TR-1D		TR-4D		F-12		C-4	
Constituent	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX	Trend	EX
1,1-Dichloroethane (ug/l)*	D		D		D		D	X				
1,1-Dichloroethene (ug/l)*	D		D		D		D					
1,2-Dichlorobenzene (ug/l)*	D		D				D					
1,2-Dichloroethane (ug/l)*							D					
1,2-Dichloropropane (ug/l)*							D					
1,2,4-Trimethylbenzene (ug/l)												
1,3-Dichlorobenzene (ug/l)							D					
1,4-Dichlorobenzene (ug/l)*	D				I		D					
Acetone (ug/l)												
Ammonia nitrogen (mg/l)	D		I				I					
Arsenic (ug/l)			D				D	X	D			
Benzene (ug/l)*							D	X				
Bromomethane (ug/l)												
Carbon disulfide (ug/l)			D				D					
Chloride (mg/l)	I		I				I					
Chlorobenzene (ug/l)			D				D					
Chloroethane (ug/l)												
Chloroform (ug/l)*												
Chloromethane (ug/l)*											D	
cis-1,2-Dichloroethene (ug/l)*	D		D		D		D					
Conductivity (umhos/cm)	D		I		D				D			
Dibromodifluoromethane (ug/l)							D					
Dichlorodifluoromethane (ug/l)												
Dibromochloromethane (ug/l)*												
Dissolved oxygen (mg/l)	D		D		D		D		D		I	
Ethylbenzene (ug/l)*												
Isopropylbenzene (ug/l)												
Manganese (ug/l)	D	X	I		I			X		X		
Mercury (ug/l)*	D				D				D			
Methylene chloride (ug/l)*												
Nickel (ug/l)*	D						D		D		D	
Nitrates (mg/l)	I				D						D	
pH (S.U.)	I						I	X				
Sulfate (mg/l)	I				I		I				I	
Styrene (ug/l)												
Tetrachloroethene (ug/l)*	D				D							
Toluene (ug/l)												
Total dissolved solids (mg/l)	D		I		D		I	X	D			
trans-1,2-Dichloroethene (ug/l)							D					
Trichloroethene (ug/l)*	D		D		D		D	X				
Turbidity (NTU)											D	
Vanadium (ug/l)	I				D							
Xylenes, total (ug/l)												
Vinyl Chloride (ug/l)*	D	X	D	X		X		X				

Notes:

1. "I" Indicates the trend is significantly increasing in concentration or value.
2. "D" Indicates the trend is significantly decreasing in concentration or value.
3. Blanks in the table indicate either no significant trend or trend based on non-detected values.
4. "*" Indicates constituent of concern.
5. Highlighted "X" indicates statistically significant exceedances of Drinking Water Standards or Groundwater Clean-up Target Levels.
6. Deseasonalized results were not included in this table.

Source: 2017 Groundwater Quality Statistical Evaluation Report

Table G-4: Private Well Sampling Results, July 2017

Hillsborough Heights Private Supply Wells
Laboratory Analytical Data
July 26, 2017

Field Parameters	P-18	P-18A	P-24	P-38	P-39	MCL Standard
conductivity (umhos/cm) (field)	883	774	574	853	931	NS
dissolved oxygen (mg/l)	2.35	1.02	2.11	1.43	1.85	NS
ORP (mV)	131.3	37.3	161.7	201.3	153.7	NS
temperature (°C) (field)	24.67	26.21	24.85	24.97	24.43	NS
turbidity (field) (NTU)	0.88	2.18	0.9	1.02	0.81	NS
pH (field)	6.97	7.24	6.91	7.17	6.98	(6.5 - 8.5)**
General Parameters						MCL Standard
chloride (mg/l)	35	17	6.8	29	25	250**
total dissolved solids (mg/l)	350	270	190	300	350	500**
total organic carbon (mg/l)	0.3 i	0.27 i	0.32 i	0.35 i	0.54 i	NS
ammonia nitrogen (mg/l as N)	0.02 u	0.02 u	0.02 u	0.02 u	0.02 u	NS
nitrate (mg/l as N)	3.8	4.1	0.95	3.4	6.7	10*
Metals (mg/l)						MCL Standard
mercury	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.00005 u	0.002*
sodium	15	8.4	3.6	15	15	160*
manganese	0.0011	0.0024	0.0008 i	0.001	0.00011 i	0.05**
Organic Parameters						MCL Standard
Detected (ug/l)						
chloroform (ug/l)	1.1	0.31 u	0.31 u	0.31 u	0.31 u	70***

Note: Ref. Groundwater Guidance Concentrations, FDEP 2012

MCL=Maximum Contaminant Level

ND = No data (ORP Probe Not Operational)

NS=No Standard

NTU=Nephelometric Turbidity Units

mV=millivolts

ug/l=Micrograms Per Liter

mg/l=Milligrams Per Liter

u = parameter was analyzed but not detected

i = value is between the laboratory method detection limit and laboratory practical quantitation limit

*=Denotes Primary Drinking Water Standard

**=Denotes Secondary Drinking Water Standard

***=Denotes FDEP Groundwater Cleanup Target Level

Source: Hillsborough Heights Private Supply Wells Laboratory Analytical Data Report, dated September 2017

Figure G-1: 2018 Groundwater Elevation Contours

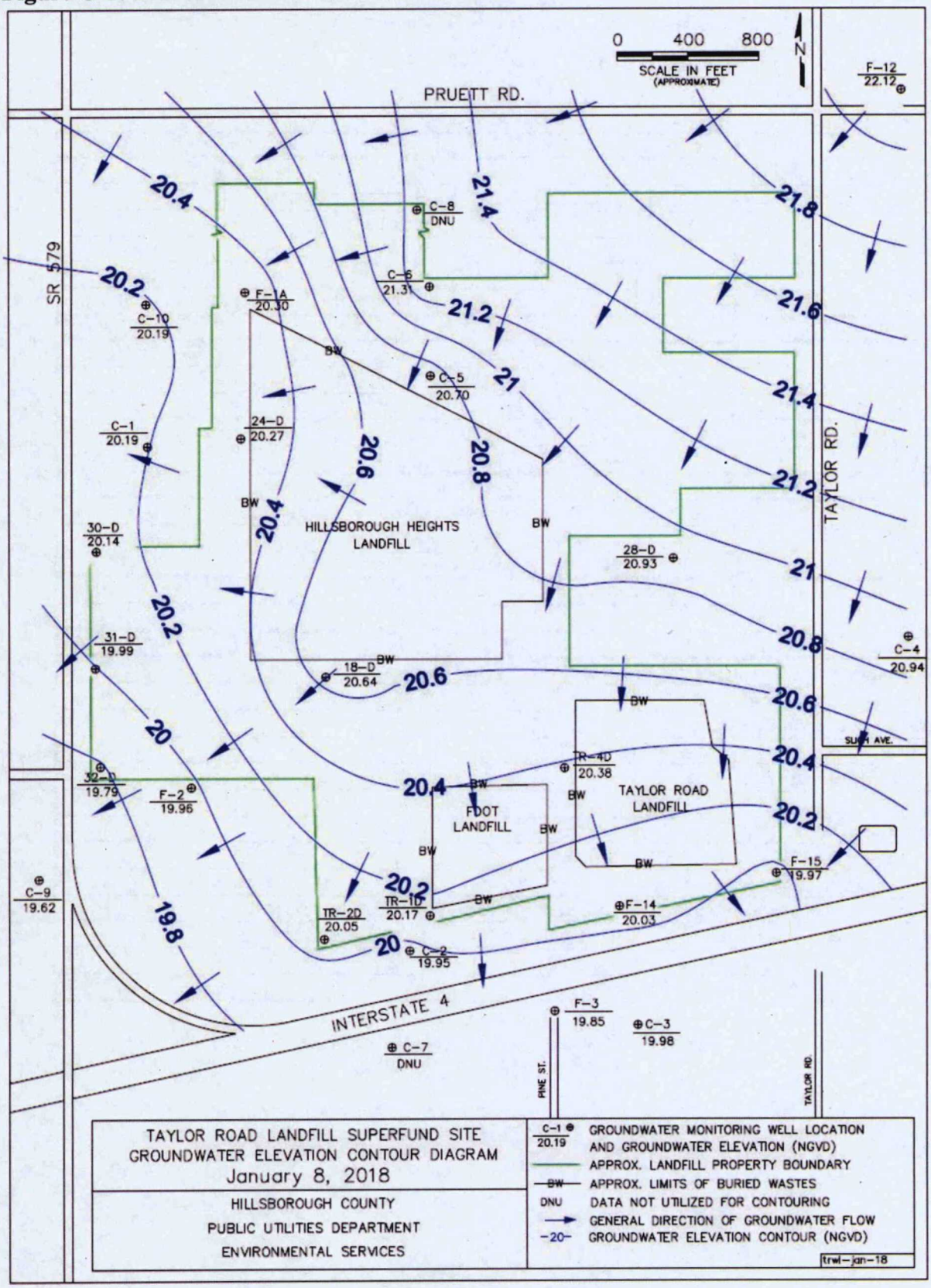
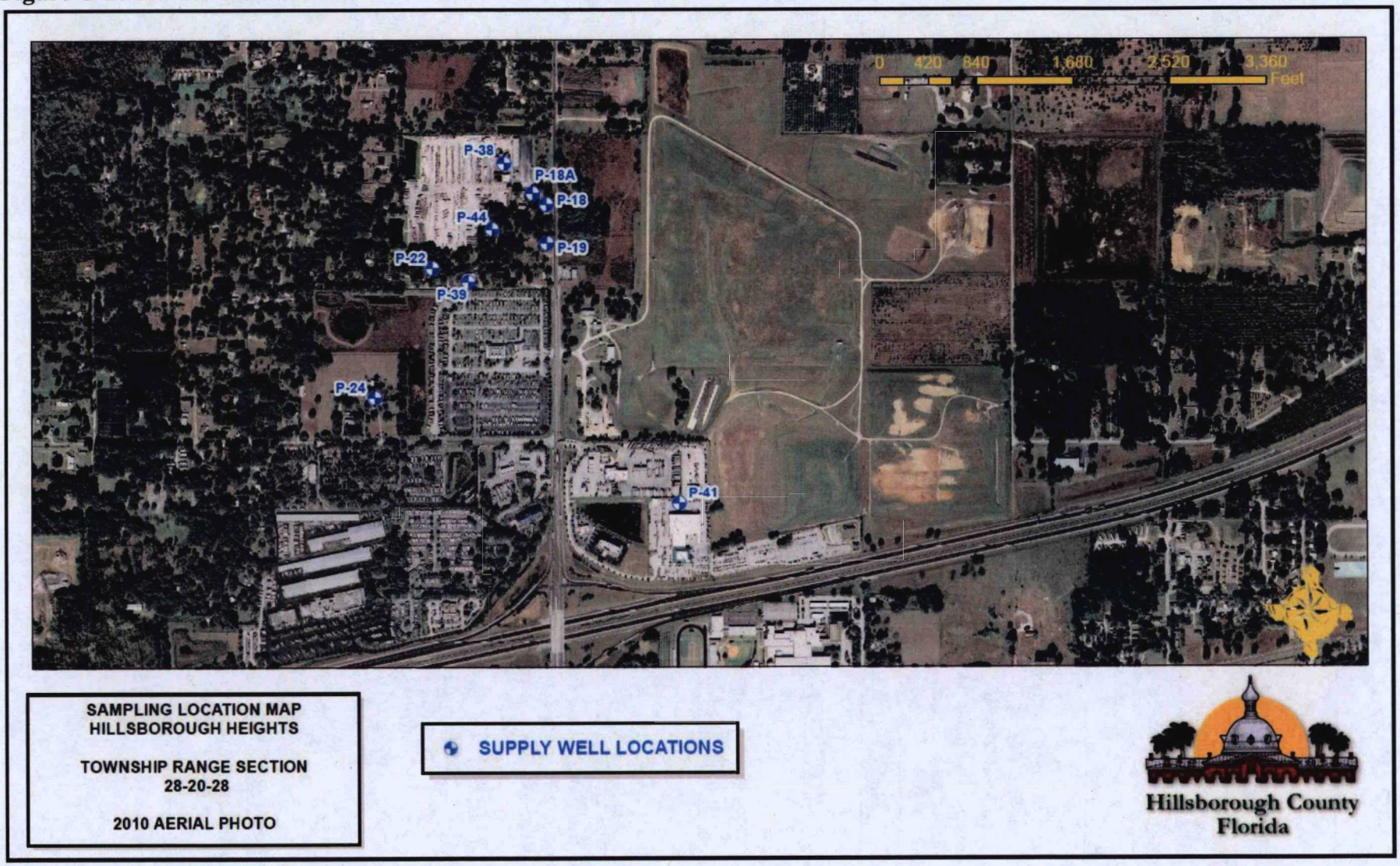


Figure G-2: Private Well Locations



Source: Hillsborough Heights Private Supply Wells Laboratory Analytical Data Report, September 2017

APPENDIX H – SITE INSPECTION CHECKLIST

FIVE-YEAR REVIEW
SITE INSPECTION CHECKLIST

I. SITE INFORMATION

Site Name: Taylor Road Landfill	**Date of Inspection:** 01/22/2018
Location and Region: Seffner, Florida; Region 4	**EPA ID:** FLD980494959
Agency, Office or Company Leading the Five-Year Review: EPA Region 4	**Weather/Temperature:** Sunny, approx. 75° F

Remedy Includes: (Check all that apply)

- ☐ Landfill cover/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ☐ Other: _____
- ☒ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls

Attachments: ☒ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (check all that apply)

1. **O&M Site Manager** Michael Townsel (Name) | Senior Hydrogeologist, Hillsborough County (Title) | 2/8/2018 (Date)
   Interviewed ☐ at site ☐ at office ☒ by email Email: townselm@hillsboroughcounty.org
   Problems, suggestions ☐ Report attached: Interview form included in Appendix F

2. **O&M Staff** _____ (Name) | _____ (Title) | _____ (Date)
   Interviewed ☐ at site ☐ at office ☐ by phone Phone: _____
   Problems/suggestions ☐ Report attached: _____

3. **Local Regulatory Authorities and Response Agencies** (i.e., state and tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices). Fill in all that apply.

   Agency FDEP
   Contact Miranda McClure (Name) | Project Manager (Title) | 2/15/2018 (Date) | miranda.mcclure@dep.state.fl.us (Email)
   Problems/suggestions ☒ Report attached: Interview form included in Appendix F

   Agency _____
   Contact _____ Name | _____ Title | _____ Date | _____ Phone No.
   Problems/suggestions ☐ Report attached: _____

4. **Other Interviews** (optional) ☒ Report attached: Local resident interview form included in Appendix F

III. ON-SITE DOCUMENTS AND RECORDS VERIFIED (check all that apply)				
1.	**O&M Documents**			
	☒ O&M manual[a]	☒ Readily available	☒ Up to date	☒ N/A
	☒ As-built drawings[b]	☒ Readily available	☐ Up to date	☐ N/A
	☐ Maintenance logs	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: a) O&M consists only of groundwater monitoring and maintenance of the well network; b) well construction logs.			
2.	**Site-Specific Health and Safety Plan**	☒ Readily available	☒ Up to date	☐ N/A
	☐ Contingency plan/emergency response plan	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
3.	**O&M and OSHA Training Records**	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
4.	**Permits and Service Agreements**			
	☐ Air discharge permit	☐ Readily available	☐ Up to date	☒ N/A
	☐ Effluent discharge	☐ Readily available	☐ Up to date	☒ N/A
	☐ Waste disposal, POTW	☐ Readily available	☐ Up to date	☒ N/A
	☐ Other permits: _____	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
5.	**Gas Generation Records**	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
6.	**Settlement Monument Records**	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
7.	**Groundwater Monitoring Records**	☒ Readily available	☒ Up to date	☐ N/A
	Remarks: _____			
8.	**Leachate Extraction Records**	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
9.	**Discharge Compliance Records**			
	☐ Air	☐ Readily available	☐ Up to date	☒ N/A
	☐ Water (effluent)	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			
10.	**Daily Access/Security Logs**	☐ Readily available	☐ Up to date	☒ N/A
	Remarks: _____			

IV. O&M COSTS

1. **O&M Organization**

☐ State in-house ☐ Contractor for state

☒ PRP in-house ☐ Contractor for PRP

☐ Federal facility in-house ☐ Contractor for Federal facility

☐ _____

2. **O&M Cost Records**

☒ Readily available ☐ Up to date

☐ Funding mechanism/agreement in place ☐ Unavailable

Original O&M cost estimate: _____ ☐ Breakdown attached

Total annual cost by year for review period if available

From: 01/01/2013 Date	To: 12/31/2013 Date	$13,000 Total cost	☐ Breakdown attached
From: 01/01/2014 Date	To: 12/31/2014 Date	$13,000 Total cost	☐ Breakdown attached
From: 01/01/2015 Date	To: 12/31/2015 Date	$13,000 Total cost	☐ Breakdown attached
From: 01/01/2016 Date	To: 12/31/2016 Date	$16,000 Total cost	☐ Breakdown attached
From: 01/01/2017 Date	To: 12/31/2017 Date	$17,000 Total cost	☐ Breakdown attached

3. **Unanticipated or Unusually High O&M Costs during Review Period**

Describe costs and reasons: Increased costs in 2016 and 2017 were due to well abandonments and repair.

V. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

A. Fencing

1. **Fencing Damaged** ☐ Location shown on site map ☐ Gates secured ☐ N/A

Remarks: The perimeter fence around the landfill facility was in good condition. The main entrance gate is open during normal business hours to allow public access to the Community Collections Recycling Center. All other gates were locked and secured.

B. Other Access Restrictions

1. **Signs and Other Security Measures** ☐ Location shown on site map ☐ N/A

Remarks: signs

C. Institutional Controls (ICs)

1. **Implementation and Enforcement**

Site conditions imply ICs not properly implemented ☐ Yes ☒ No ☐ N/A

Site conditions imply ICs not being fully enforced ☐ Yes ☒ No ☐ N/A

Type of monitoring (e.g., self-reporting, drive by): self-reporting

Frequency: county personnel are onsite Monday through Friday

Responsible party/agency: Hillsborough County

Contact	Name	Title	Email
	Michael Townsel	Senior Hydrogeologist, Hillsborough County	townselm@hillsborough county.org

Reporting is up to date ☐ Yes ☐ No ☒ N/A

Reports are verified by the lead agency ☐ Yes ☐ No ☒ N/A

Specific requirements in deed or decision documents have been met ☒ Yes ☐ No ☐ N/A

Violations have been reported ☐ Yes ☒ No ☐ N/A

Other problems or suggestions: ☐ Report attached

2. **Adequacy** ☒ ICs are adequate ☐ ICs are inadequate ☐ N/A

Remarks: The Site is located within a Florida Groundwater Delineated Area.

D. General

1. **Vandalism/Trespassing** ☐ Location shown on site map ☒ No vandalism evident

Remarks: _____

2. **Land Use Changes On Site** ☐ N/A

Remarks: Hillsborough County recently purchased the orange grove property, located north of Taylor Road Landfill and within the compliance ring boundaries. The property has been cleared of buildings and vegetation. Hillsborough County indicated that the area will be a debris collection area.

3. **Land Use Changes Off Site** ☐ N/A

Remarks: No changes to off-site land use (mixed commercial and residential).

VI. GENERAL SITE CONDITIONS

A. Roads ☒ Applicable ☐ N/A

1. **Roads Damaged** ☐ Location shown on site map ☒ Roads adequate ☐ N/A

Remarks: _____

B. Other Site Conditions

Remarks: The landfill complex appeared well maintained.

VII. LANDFILL COVERS ☐ Applicable ☒ N/A

VIII. VERTICAL BARRIER WALLS ☐ Applicable ☒ N/A

IX. GROUNDWATER/SURFACE WATER REMEDIES ☒ Applicable ☐ N/A

A. Groundwater Extraction Wells, Pumps and Pipelines ☐ Applicable ☒ N/A

1. **Pumps, Wellhead Plumbing and Electrical**

☐ Good condition ☐ All required wells properly operating ☐ Needs maintenance ☐ N/A

Remarks: _____

2. **Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances**

☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Spare Parts and Equipment**

☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided

Remarks: _____

B. Surface Water Collection Structures, Pumps and Pipelines ☐ Applicable ☒ N/A

1. **Collection Structures, Pumps and Electrical**

☐ Good condition ☐ Needs maintenance

Remarks: _____

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances**

☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Spare Parts and Equipment**

☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided

Remarks: _____

C. Treatment System ☐ Applicable ☒ N/A

1. **Treatment Train** (check components that apply)

☐ Metals removal ☐ Oil/water separation ☐ Bioremediation

☐ Air stripping ☐ Carbon adsorbers

☐ Filters: _____

☐ Additive (e.g., chelation agent, flocculent): _____

☐ Others: _____

☐ Good condition ☐ Needs maintenance

☐ Sampling ports properly marked and functional

☐ Sampling/maintenance log displayed and up to date

☐ Equipment properly identified

☐ Quantity of groundwater treated annually: _____

☐ Quantity of surface water treated annually: _____

Remarks: _____

2. **Electrical Enclosures and Panels** (properly rated and functional)

☐ N/A ☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Tanks, Vaults, Storage Vessels**

☐ N/A ☐ Good condition ☐ Proper secondary containment ☐ Needs maintenance

Remarks: _____

4. **Discharge Structure and Appurtenances**

☐ N/A ☐ Good condition ☐ Needs maintenance

Remarks: _____

5. **Treatment Building(s)**

☐ N/A ☐ Good condition (esp. roof and doorways) ☐ Needs repair

☐ Chemicals and equipment properly stored

Remarks: _____

6. **Monitoring Wells** (pump and treatment remedy)

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ All required wells located ☐ Needs maintenance ☐ N/A

Remarks: _____

D. Monitoring Data

1. **Monitoring Data**

☒ Is routinely submitted on time ☒ Is of acceptable quality

2. **Monitoring Data Suggests:**

☒ Groundwater plume is effectively contained ☒ Contaminant concentrations are declining

E. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)

☒ Properly secured/locked ☒ Functioning ☒ Routinely sampled ☒ Good condition

☒ All required wells located ☐ Needs maintenance ☐ N/A

Remarks: _____

X. OTHER REMEDIES

If there are remedies applied at the site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions).

The objective of the remedy is to prevent current and future exposure to contaminated groundwater through provision of county water to affected residents and businesses and MNA. The remedy is effective and functioning as designed. Residents and businesses within the compliance ring and setback area have been connected to the public water supply. Institutional controls are in place to prevent construction of any type of supply well within the compliance ring and setback area. Hillsborough County conducts semi-annual groundwater monitoring to evaluate the effectiveness of MNA. Contaminant concentrations are generally decreasing at the Site.

B.	Adequacy of O&M
	Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. O&M is adequate at this time.
C.	**Early Indicators of Potential Remedy Problems**
	Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future. None at this time.
D.	**Opportunities for Optimization**
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. None at this time. Hillsborough County implemented updates to the long-term groundwater sampling program in 2016.

Site Inspection Participants:
Miranda McClure, FDEP
Michael Townsel, Hillsborough County
Walter Gray, Hillsborough County
Jeff Greenwell, Hillsborough County
Johnny Zimmerman-Ward, Skeo
Jill Billus, Skeo

APPENDIX I – SITE INSPECTION PHOTOS

Taylor Road Landfill looking east – Interstate I-4 in background

Well TR-4D with Taylor Road Landfill behind

View from FDOT Borrow Pit Landfill, looking north to the Hillsborough Heights Landfill

Debris management area north of Taylor Road Landfill

Compliance ring well C-8 on the north end of the Site

Fencing around the county landfill complex

The model airplane flying field on the northern end of the Site

Recycling center with Taylor Road Landfill in the background, on the southwest corner of the Site

Household hazardous waste collection area on the western side of the Site

APPENDIX J – ARARS SUPPORTING DOCUMENTATION

Table I-1: Comparison of Florida Primary Drinking Water Standards to Federal MCLs

Groundwater COPC[a]	2018 Florida Primary Drinking Water Standard[b] (µg/L)	2018 MCL[c] (µg/L)	ARAR Comparison
1,1-DCA	NA[d]	NA[d]	Same
1,1-DCE	7	7	Same
1,2-Dichlorobenzene	600	600	Same
1,2-DCA	3	5	State standard more stringent
1,2-Dichloropropane	5	5	Same
1,4-Dichlorobenzene	75	75	Same
Benzene	1	5	State standard more stringent
Chloroform	80[e]	80[f]	Same
Chloromethane	NA[d]	NA[d]	Same
Dibromochloromethane	80[e]	80[f]	Same
Ethylbenzene	700	700	Same
Methylene chloride	5	5	Same
PCE	3	5	State standard more stringent
Toluene	1,000	1,000	Same
Trans-1,2-DCE	100	100	Same
Cis-1,2-DCE	70	70	Same
TCE	3	5	State standard more stringent
Vinyl chloride	1	2	State standard more stringent
Mercury	2	2	Same
Nickel	100	NA[d]	State standard more stringent

Notes:

a) Source: Table 5.1 of the 1995 ROD.

b) Florida primary drinking water standards, available at http://www.floridahealth.gov/environmental-health/drinking-water/_documents/hal-list.pdf, accessed February 20, 2018.

c) Federal MCLs, available at https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations, accessed February 15, 2018.

d) NA = not applicable; no drinking water standard established.

e) Florida primary drinking water standard for total trihalomethane compounds: chloroform, dibromochloromethane, bromodichloromethane and tribromomethane.

f) MCL for total trihalomethane compounds.

µg/L = micrograms per liter

APPENDIX K – VAPOR INTRUSION SCREENING-LEVEL EVALUATION[1]

Resident Vapor Intrusion Risk
Output generated 01MAR2018:09:26:47

Chemical	CAS Number	Site Groundwater Concentration C_{gw} (µg/L)	Site Indoor Air Concentration C_{La} (µg/m³)	VI Carcinogenic Risk CR	VI Hazard HQ
Dichlorobenzene, 1,2-	95-50-1	1.1	8.96E-02		4.30E-04
Dichloroethane, 1,1-	75-34-3	2.3	5.41E-01	3.08E-07	
Dichloroethylene, 1,1-	75-35-4	1.4	1.52E+00		7.31E-03
Trichloroethylene	79-01-6	0.97	4.01E-01	8.39E-07	1.92E-01
Vinyl Chloride	75-01-4	1.3	1.50E+00	8.94E-06	1.44E-02
*Sum				*1.01E-05*	*2.14E-01*

Chemical	Inhalation Unit Risk (ug/m³)⁻¹	IUR Ref	Chronic RfC (mg/m³)	RfC Ref	Temperature (°C) for Groundwater Vapor Concentration	Mutagen?
Dichlorobenzene, 1,2-			2.00E-01	HEAST	25.62	
Dichloroethane, 1,1-	1.60E-06	C			25.62	
Dichloroethylene, 1,1-			2.00E-01	IRIS	25.62	
Trichloroethylene	4.10E-06	I	2.00E-03	IRIS	25.62	Mut
Vinyl Chloride	4.40E-06	I	1.00E-01	IRIS	25.62	Mut
*Sum						

[1] Site-specific data from well C-2, including groundwater temperature, from the January 2017 sampling event.

RETURN TO USE INITIATIVE
2006 Demonstration Project

TAYLOR ROAD LANDFILL:
Seffner, Florida

THE SITE: Hillsborough County owned and operated the 42-acre Taylor Road Landfill as a municipal landfill from 1976 to 1980. Two additional landfills are adjacent to the Taylor Road Landfill. In 1979, EPA discovered volatile organic compounds and metals in site monitoring wells and numerous private wells drilled into the Floridan Aquifer, which provides drinking water to much of the greater Tampa area. Hillsborough County closed all three landfills in 1983 and began a 30-year maintenance and monitoring program. EPA listed the Taylor Road Landfill on the Superfund National Priorities List that same year. Contamination in the area of the landfills has significantly abated since that time. In 1995, EPA selected a final remedy to address the ground water contamination at the Taylor Road Landfill Superfund site: monitoring ground water to document attenuation, creating a buffer zone around the landfills by supplying additional residents with municipal water, and planning for active ground water remediation in the future if needed. This work was completed in 1999.

PICTURED: A grassy field on the Taylor Road Landfill site. (source: EPA)

BARRIERS:
Superfund site stigma and liability concerns; uncertainty about whether some future use options are available under the remedy; need to coordinate with numerous stakeholders at once.

SOLUTION:
Ongoing dialogue about the site between EPA and stakeholders; offer of Superfund Redevelopment tools.

THE OPPORTUNITY: The Taylor Road Landfill Superfund site currently contains a newly-opened first-rate residential Community Collection Center (CCC), a Household Chemical/Electronics Collection Center (HHCCC), a Site Maintenance Facility, and Environmental Field Office. A portion of the landfill is complex is currently being utilized by a model airplane club with a paved runway and covered working areas. Hillsborough County considers reuse of the site for additional solid waste management purposes a key component of their future plans. The potential solid waste management uses of the property include a yard waste processing facility, a disaster debris management area, and other processing operations for waste separation and recycling. In addition, the County has expressed their interest in seeking grant funding for the placement of solar panels in an effort towards development of an energy park. These potential future uses of the property make it essential to meeting the ongoing and future solid waste needs of Hillsborough County.

PICTURED: A wide view of the TRAX runway and the east side of the landfill. (source: EPA)

BEFORE:
Cleaned up landfill with some current recreational use and ongoing ground water monitoring.

AFTER:
Currently, municipal collection centers, an Environmental Field Office, and other areas for waste separation and recycling; other possible future uses TBD.

THE BARRIERS: Regardless of the future use, some Hillsborough County residents expressed concern that reusing the Site is unsafe. The other two landfills in the complex are managed by the state, so reuse at the site must be coordinated with the Florida Department of Environmental Protection to ensure that remedies at these sites are protected. Any reuse option must be compatible with the remedy and the proposed reuse must include considerations for managing landfill leachate and gas.

THE SOLUTION: The site's EPA remedial project manager and the EPA Region 4 Superfund Redevelopment Coordinator have discussed reuse ideas with Hillsborough County and potential developers. EPA's goal is to facilitate the removal of barriers to reuse. EPA will not promote one use over another. Thus far, EPA has been able to answer questions about liability issues and the compatibility of reuse with the remedy. EPA has also proposed a number of Superfund Redevelopment tools that address concerns about safety and health hazards. A portion of the landfill complex is currently being used by a local model airplane club. The County will work with the aeromodelers to ensure that the flying field is not negatively impacted by the future uses.

THE SITE NOW: If the County decides not to use the landfill for additional municipal purposes, the County will determine future site uses or development according to the County's public bidding process. EPA will continue to work with Hillsborough County and any other stakeholders to remove obstacles to reuse at the site. A number of Superfund Redevelopment tools may be appropriate to assist the County, such as a Ready for Reuse Determination, comfort letter, prospective purchaser support, or enhanced stakeholder involvement support. Hillsborough County was recently selected to receive EPA Region 4's "Excellence in Site Reuse" Award for 2010 for the County's redevelopment work at the site.

PICTURED: New Community Collection Center (CCC) which opened at the site in May 2010. (source: EPA)

PICTURED: Household Chemical & Electronics Collection Center located at the Hillsborough Heights /Taylor Road Landfill Complex. (source: EPA)

PICTURED: Commercial center adjacent to landfill complex; landfill area visible behind. (source: EPA)

FOR MORE INFORMATION, PLEASE CONTACT: Erik Spalvins, Remedial Project Manager, at (404) 562-8938 or spalvins.erik@epa.gov; or Bill Denman, Region 4 Superfund Redevelopment Coordinator, at (404) 562-8939 or denman.bill@epa.gov.

Hillsborough County Florida

PUBLIC UTILITIES
PO Box 1110 Tampa, FL 33601-1110

BOARD OF COUNTY COMMISSIONERS
Ken Hagan
Pat Kemp
Lesley "Les" Miller, Jr.
Sandra L. Murman
Kimberly Overman
Mariella Smith
Stacy R. White
COUNTY ADMINISTRATOR
Bonnie M. Wise
COUNTY ATTORNEY
Christine M. Beck
INTERNAL AUDITOR
Peggy Caskey

DEPUTY COUNTY ADMINISTRATOR DEVELOPMENT & INFRASTRUCTURE
Lucia E. Garsys

February 15, 2021

Mr. Steve Morgan
Solid Waste Section
Department of Environmental Protection
Southwest District
13051 N. Telecom Pkwy
Temple Terrace, Florida 33637-0926

Subject: Hillsborough Heights/Taylor Road Landfills–January 2021 Monthly Operations Report

Dear Mr. Morgan:

As requested in the Florida Department of Environmental Protection's (DEP) February 6, 1998 correspondence, the Solid Waste Management Division of the Public Utilities Department (SWMD) is providing the January 2021 monthly operations report for the Hillsborough Heights and Taylor Road Landfills (Landfill). The report provides information concerning the operation and maintenance of the landfill gas collection systems, leachate and condensate removal, and site maintenance status.

The January 2021 report includes the following attachments.

- Attachment A, Taylor Road Landfill - Landfill Gas Extraction Wells Monitoring Results.
- Attachment B, Taylor Road Landfill – Liquids Management Summary (Gas Extraction Wells and Condensate Sumps).
- Attachment C, Hillsborough Heights Landfill - Landfill Gas Extraction Wells Monitoring Results.
- Attachment D, Hillsborough Heights Landfill - Liquids Management Summary (Gas Extraction Wells and Leachate Sumps).

Liquids Removal

The liquids removed from the Hillsborough Heights and Taylor Road Landfills are discharged directly into the sanitary sewer system. As shown in Attachments B and D, for January 2021 the total liquids removed is summarized below.

Taylor Road Condensate	1,525 gallons
Taylor Road Gas Extraction Wells Pumping Activities	0 gallons
Hillsborough Heights Gas Extraction Wells Pumping Activities	195,977 gallons
Hillsborough Heights Landfill Leachate Collection System Sump Removal Quantities	71,502 gallons
TOTAL REMOVAL QUANTITY	**269,004 gallons**

Maintenance and Repair

1. During the month of January 2021, maintenance was not required for the Taylor Road Landfill.

2. During the month of January 2021, maintenance required for the Hillsborough Heights Landfill included removing cleaning and re-installing the pneumatic pump of extraction well No. 2.

Also included in this package for your information is a Glossary of Terms. Should you have any questions concerning the information provided, please call me at (813) 671-7707.

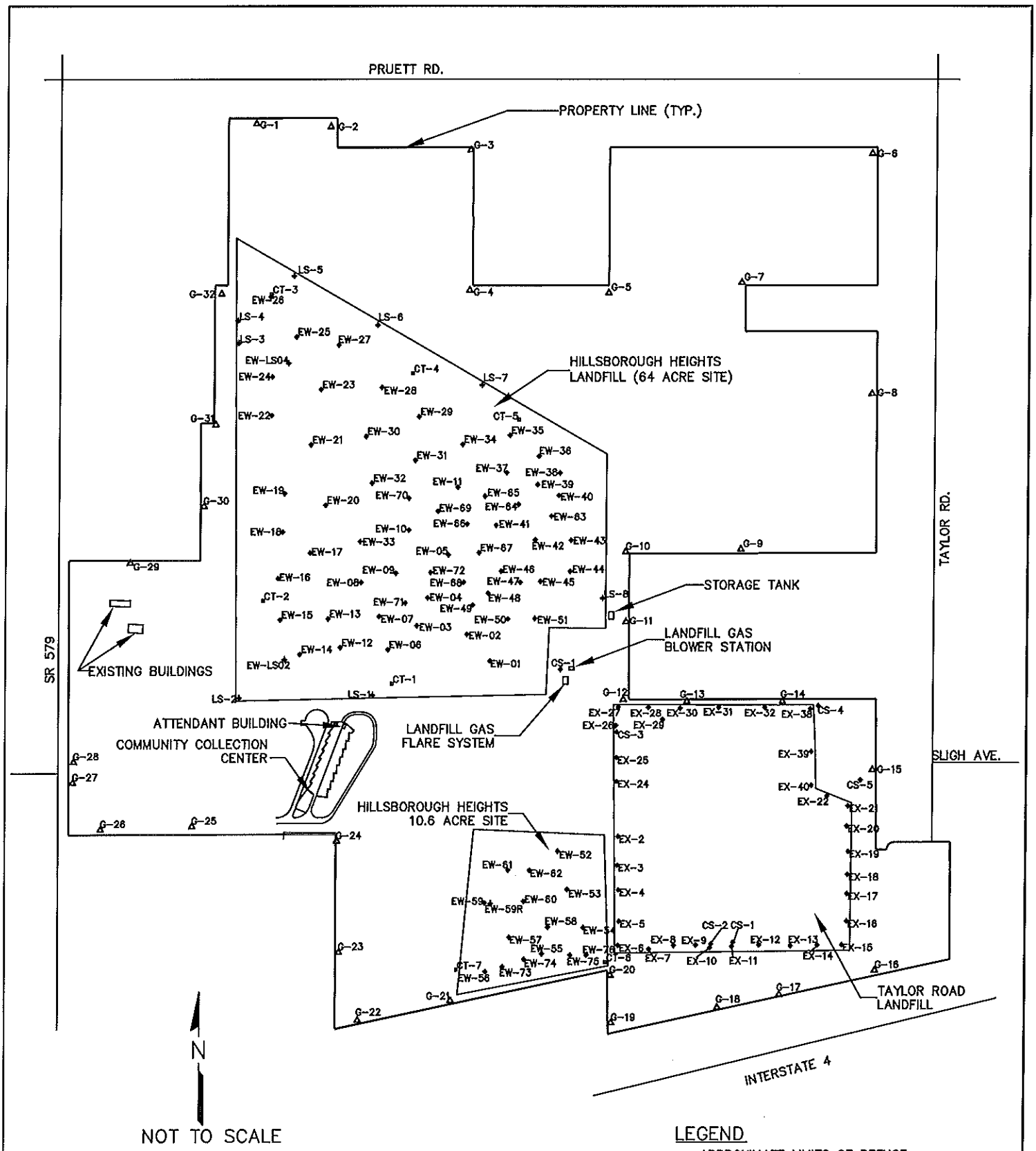
Sincerely,

Walter Gray FOR

Larry E. Ruiz, SC
Manager Landfill Operations
Solid Waste Management Division

LR/wg
Enclosures
xc: Kimberly Byer, SWMD
Michael Townsel, SWMD
Erik Spalvins, EPA
Ron Cope, EPC

Figure 1



LEGEND

- APPROXIMATE LIMITS OF REFUSE
- G-18 LFG PERIMETER MONITORING WELL
- EW-55 LFG EXTRACTION WELL
- EX-4 LFG EXTRACTION WELL (TAYLOR RD)
- CS-5 CONDENSATE SUMP
- CT-7 CONDENSATE TRAP
- LS-1 LEACHATE SUMP

FIGURE 1. LANDFILL GAS MANAGEMENT SYSTEMS
HILLSBOROUGH HEIGHTS/TAYLOR ROAD LANDFILLS

HILLSBOROUGH COUNTY PUBLIC UTILITIES DEPARTMENT
SOLID WASTE MANAGEMENT GROUP

MAY 2011

ATTACHMENT A

TAYLOR ROAD LANDFILL
LANDFILL GAS EXTRACTION
WELLS MONITORING RESULTS

TAYLOR ROAD LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE JANUARY 26, 2021

		CARBON		BALANCE		GAS		
VELL NUMBE	METHANE	DIOXIDE	OXYGEN	GAS	PRESSURE	EMPERATUI	FLOW	COMMENTS
	(%VOL.)	(%VOL.)	(%VOL.)	(%VOL.)	(IN W.C.)	(DEF. F.)	(S.C.F.M.)	
E.W.02	39.4	30.7	0.4	29.5	-0.95	68.9	0	
E.W.03	1.2	6.2	14.6	78	-0.24	68.5	0	CLOSED
E.W.04	51.3	35.1	0.4	13.2	-2.19	71.7	4.6	
E.W.05	32.2	24.1	4.5	39.2	-1.27	69.3	0	
E.W.06	37.2	30.6	0.4	31.8	-0.52	69.8	3.4	
E.W.07	0.2	2	19	78.8	-0.54	71.1	0	CLOSED
E.W.08	0.1	0.3	20.1	79.5	-2.02	71.8	0	CLOSED
E.W.09	55.2	33.4	2.6	8.8	-0.23	70.6	1.9	
E.W.10	40.2	33	0.7	26.1	-4.42	70.4	15.2	
E.W.11	32.9	30	0.4	36.7	-1.6	71.9	4.5	
E.W.12	0.1	1.2	19.3	79.4	-0.11	70.9	3.4	CLOSED
E.W.13	18	22	2.3	57.7	-0.79	73.5	4.9	
E.W.14	32	29.6	0.7	37.7	-2.47	72.1	6.7	
E.W.15	31.4	30.6	0.1	37.9	-1.91	69.7	6.7	
E.W.16	27.9	29.5	0.6	42	-2.32	70.7	6.7	
E.W.17	17.2	21	3.2	58.6	-1.34	72.8	7	
E.W.18	2.6	18.4	2.2	76.8	-0.75	70.7	2	CLOSED
E.W.19	0.1	14.9	6	79	0	70.9	0	CLOSED
E.W.20	0	0.4	20	79.6	-0.19	71.9	0	CLOSED
E.W.21	0	0.7	19.7	79.6	-0.05	75.1	0	CLOSED
E.W.22	0	7.9	12.9	79.2	-0.12	72	0	CLOSED
E.W.24	58.4	36.6	0.6	4.4	-9.27	75	6.5	
E.W.25	27.4	12.8	11.8	48	-20.88	73.9	0	
E.W.26	57.4	37.7	0.3	4.6	-3.35	77.1	11	
E.W.27	57.5	37.7	0.2	4.6	-5.74	76.3	5.8	
E.W.28	57.4	34.7	0.1	7.8	-0.87	73.7	0	
E.W.29	55.9	34.2	0.4	9.5	-11.86	75.5	3.3	
E.W.30	50	31.4	0.1	18.5	-2.99	73.5	0	
E.W.31	15.4	12.1	12.5	60	-5.92	71.8	0	
E.W.32	5.8	11	8.5	74.7	-0.29	75.7	0	
E.W.38	0	3	17.4	79.6	-0.04	74.4	0	CLOSED
E.W.39	6.5	11.2	11.8	70.5	-3.07	75.7	0	
E.W.40	0	4.3	16.8	78.9	-0.81	76.9	0	CLOSED
E.W.41	1.8	1.9	19	77.3	-0.11	75.7	0	CLOSED
E.W.42	1.3	4.3	15.8	78.6	-0.2	79.4	0	CLOSED
E.W.43	53.2	36.9	0.7	9.2	-6.74	76.2	9.1	
E.W.44	19.1	21.5	0.9	58.5	-6.56	74.3	4	
E.W.45	0.6	0.8	19.9	78.7	-0.38	80.6	0	CLOSED
E.W.46	23.1	26.2	0.5	50.2	-6.33	85.7	34.9	

ATTACHMENT B

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT SUMMARY
GAS EXTRACTION WELLS AND CONDENSATE SUMPS)

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

CONDENSATE SUMPS

	Condensate Sump Number					
	#1	#2	#3	#4	#5	
January 2021 Removal Rate (Gallons)	725	300	500	0	0	
Total January 2021 Removal:						1,525

NOTE: All 5 Condensate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS

	EW#05	EW#7	EW#41	EW#42	EW#43	EW#44	EW#45	EW#46
January 2021 Removal Rate (Gallons)	0	0	0	0	0	0	0	0
Total January 2021 Removal:								0

NOTE:This data only reflects the extraction well that are required to be pumped.

ATTACHMENT C

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS EXTRACTION WELLS
MONITORING RESULTS

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE JANUARY 27, 2021

		CARBON		BALANCE	GAS	GAS		
WELL NUMBER	METHANE	DIOXIDE	OXYGEN	GAS	PRESSURE	TEMPERATURE	FLOW	COMMENTS
	(%VOL.)	(%VOL.)	(%VOL.)	(%VOL.)	(IN W.C.)	(DEF. F.)	(S.C.F.M.)	
E.W.01	46.2	27.3	5.3	21.2	-18.73	69	0	
E.W.02	13.1	7.5	16.2	63.2	-1.55	69.5	0	
E.W.03	5.2	4.6	18.3	71.9	-27.17	68.5	0	
E.W.04	8.8	8.6	16.6	66	-30.33	71.3	0	
E.W.05	0.3	11.5	15.6	72.6	-0.62	70	0	CLOSED
E.W.06	31.6	17.4	10.7	40.3	-12.52	71.5	0	
E.W.07	38.9	19.4	8.4	33.3	-30.49	71.3	2.8	
E.W.08	0.2	0.7	20.2	78.9	-14.94	70.9	0	CLOSED
E.W.09	34.1	10.9	11.2	43.8	-0.13	72.2	5.2	
E.W.10	0.2	8.2	11.3	80.3	-1.53	72.3	0	CLOSED
E.W.11	65.2	34.5	0.3	0	-28.92	71.8	0	
E.W.12	27	25.9	1.6	45.5	-12.23	74.9	0	
E.W.13	49.8	28.3	3.9	18	-18.95	74.2	0	
E.W.14	45.5	31.1	3.4	20	-27.72	74.9	0	
L.S.02	22.7	17.8	12.4	47.1	-16.26	70.8	0	
E.W.15	55.9	36.4	1.5	6.2	-29.31	72.6	0	
E.W.16	58.2	41.8	0	0	-15.99	86.4	8.1	
E.W.17	15.6	10.1	14.7	59.6	-3.72	74.4	1	
E.W.18	0.2	20	8.2	71.6	-1.27	76.2	4.1	CLOSED
E.W.19	22.9	14.8	12.8	49.5	-0.3	75.7	11.1	
E.W.20	45	24.6	5.8	24.6	-29.83	76.2	4.3	
E.W.21	59.4	39.1	0.1	1.4	-18.51	92.8	17.7	
E.W.22	59.6	40.3	0.1	0	-29.94	72.4	3.9	
E.W.23	24.7	14.5	12.5	48.3	-29.69	73.6	3.1	
E.W.24	53.5	30.7	1.2	14.6	-25.89	72.9	0	
L.S.04	0.6	1.6	19.4	78.4	-30.07	77.8	0	CLOSED
E.W.25	41	30.5	0.1	28.4	-15.83	76.5	5.7	
E.W.26	3.6	2.2	19	75.2	-8.06	77.6	0	CLOSED
E.W.27	10.2	4.8	17.2	67.8	-8.34	72.6	0	
E.W.28	56.5	25.2	3.4	14.9	-29.81	80.2	4.8	
E.W.29	4.1	3.9	18.3	73.7	-29.96	80	0	CLOSED
E.W.30	60.8	29.8	1.2	8.2	-29.95	83.6	7.3	
E.W.31	8.9	10.4	12.7	68	-29.91	82.9	0	
E.W.32	17.8	7.8	13.9	60.5	-28.56	81.5	1.8	
E.W.33	1.2	2.2	19.3	77.3	-29.21	81.3	0	CLOSED
E.W.34	69.1	29.4	0.3	1.2	-28.52	83.1	6.9	
E.W.35	44.3	19	7	29.7	-14.39	82.8	5	
E.W.36	0.9	3.7	18.9	76.5	-20.1	82.7	0	CLOSED
E.W.37	10.6	9.3	14.9	65.2	-29.91	87.9	0	
E.W.38	7.9	19.8	0.2	72.1	0.07	87.2	1	

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE JANUARY 27, 2021

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	GAS PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.39	2.3	12.4	16.3	69	-9.81	84	0	
E.W.40	36.3	31.8	0.3	31.6	-2.99	85.8	1.8	
E.W.41	58	30.1	1.8	10.1	-30.09	87.3	6.3	
E.W.42	1.9	2.7	17.9	77.5	-3	83.2	0	CLOSED
E.W.43	20.3	10.5	13.6	55.6	-30.4	83.2	3.3	
E.W.44	12	8.4	15.3	64.3	-17.33	78.9	3.8	
E.W.45	14.7	12	10.9	62.4	-29.89	84.1	2.7	
E.W.46	2.3	4.8	18.3	74.6	-29.18	85.1	0	CLOSED
E.W.47	0.1	2.2	18.7	79	-0.43	84.1	0	CLOSED
E.W.48	57.9	41	0.1	1	0.02	85.2	6.8	
E.W.49	1.8	6.3	18.5	73.4	-0.04	68.9	0	CLOSED
E.W.50	0.3	1.4	19.6	78.7	-15.27	85.3	0	CLOSED
E.W.51	56.3	36.3	1.1	6.3	-23.58	84.2	15.9	
E.W.52	10.5	6.1	16.6	66.8	-12.48	83.1	0	
E.W.53	0.1	0.5	20	79.4	-14.56	85.1	0	CLOSED
E.W.54	48.8	26.8	4.7	19.7	-0.04	85.6	0	
E.W.55	37.1	22.9	7.6	32.4	-1.48	83.9	1.5	
E.W.56	1.9	2.7	17.8	77.6	-5.65	82.4	3.6	CLOSED
E.W.57	63.5	32.8	0.4	3.3	-28.31	85	5.5	
E.W.58	11.8	8.2	15.9	64.1	-0.12	88	0	
E.W.59	0.2	0.5	19.9	79.4	-0.9	90.3	0	CLOSED
E.W.60	35.3	15.9	8.8	40	-25.02	83.4	3.7	
E.W.61	0.1	0.8	19.8	79.3	-0.08	89.3	1.4	CLOSED
E.W.62	29.4	26.3	0.3	44	-24.07	85.2	6.6	
E.W.63	0.7	1.7	19.2	78.4	-30.12	83.9	0	CLOSED
E.W.64	24.4	19.7	8.4	47.5	-2.32	86	4.9	
E.W.65	62.4	36	0	1.6	-29.09	84.3	29.8	
E.W.66	61.9	33.2	0.4	4.5	-28.06	87.5	4.2	
E.W.67	0.3	1.2	19.7	78.8	-13.81	84.3	0	CLOSED
E.W.68	5.3	16.1	11.1	67.5	-19.66	89	0	CLOSED
E.W.69	1.5	2.4	19	77.1	-29.57	88.3	0	CLOSED
E.W.70	0.1	9.5	9.1	81.3	-0.21	84.9	1.7	CLOSED
E.W.71	0.1	1.2	19.9	78.8	-29.7	84.6	0	CLOSED
E.W.72	53.4	30	2.6	14	-23.16	84.9	0	
E.W.73	22.7	22.6	2.6	52.1	-24.97	86.6	2.7	
E.W.74	25.2	14.9	12.1	47.8	-7.39	86.7	0	
E.W.75	34.1	19	8.6	38.3	-28.26	87.1	0	
E.W.76	43.5	25.5	5.8	25.2	-27.06	84.5	0	

ATTACHMENT D

HILLSBOROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT SUMMARY
(GAS EXTRACTION WELLS AND LEACHATE SUMPS)

HILLSBROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

LEACHATE SUMPS

Leachate Sump Number

	#1	#4	#6	#7	#8
January 2021 Removal Rate (Gallons)	9,655	2,800	2,918	6,937	49,192

Total January 2021 Removal: 71,502

NOTE: All 9 leachate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS/FLOW METER/CONDTRAP

EW#02	EW#03	EW#06	EW#07	EW#08	EW17	EW#25	EW#28	EW#31	EW#33		Pneumatic Pumps
EW#35	EW#36	EW#44	EW#56	EW#57	EW#58	EW#59	EW#54	EW#55			
EW#52	EW#53	EW#60	EW#61	EW#62							195,977

Total January 2021 Removal: Rate (Gallons)

NOTE: This data only reflects extraction well outfitted with pneumatic pumps

GLOSSARY OF TERMS

CONDENSATE- Liquid generated by the heat from the landfill gas flowing thru the system.

SURGING-The vacuum is interrupted by liquids in the landfill gas system.

PERIMETER MONITORING WELLS- Wells installed around the property boundary of the Landfill sites to monitor landfill gas levels for Compliance with regulatory standards.

PB01- Bar punch probe test- this is only conducted on the perimeter monitoring wells that read higher than 5% methane, this test is only conducted once a month.

WELL CLOSED-Valve closed, conditions vary.

ND-Non –Detected.

WATER BLOCKAGE/WATERED IN-Liquids in the well prohibiting the flow of landfill gas thru the system.

EW-Extraction wells on the landfill gas system.

SCFM's-Standar cubic feet per minute.

PURGED-To cause evacuation.

NA-No adjustment

Hillsborough County Florida

PUBLIC UTILITIES
PO Box 1110 Tampa, FL 33601-1110

BOARD OF COUNTY COMMISSIONERS
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Christine M. Beck
INTERNAL AUDITOR
Peggy Caskey

DEPUTY COUNTY ADMINISTRATOR DEVELOPMENT & INFRASTRUCTURE
Lucia E. Garsys

January 12, 2021

Mr. Steve Morgan
Solid Waste Section
Department of Environmental Protection
Southwest District
13051 N. Telecom Pkwy
Temple Terrace, Florida 33637-0926

Subject: Hillsborough Heights/Taylor Road Landfills–December 2020 Monthly Operations Report

Dear Mr. Morgan:

As requested in the Florida Department of Environmental Protection's (DEP) February 6, 1998 correspondence, the Solid Waste Management Division of the Public Utilities Department (SWMD) is providing the December 2020 monthly operations report for the Hillsborough Heights and Taylor Road Landfills (Landfill). The report provides information concerning the operation and maintenance of the landfill gas collection systems, leachate and condensate removal, and site maintenance status.

Also, in accordance with Specific Condition, Section 2, E. a. of the Long-Term Care Permit #69683-011-SF/14, the SWMD is submitting the ambient gas monitoring results (see Figure 2).

The December 2020 report includes the following attachments.

- Attachment A, Taylor Road Landfill - Landfill Gas Extraction Wells Monitoring Results
- Attachment B, Taylor Road Landfill – Liquids Management Summary (Gas Extraction Wells and Condensate Sumps)
- Attachment C, Hillsborough Heights Landfill - Landfill Gas Extraction Wells Monitoring Results
- Attachment D, Hillsborough Heights Landfill - Liquids Management Summary (Gas Extraction Wells and Leachate Sumps)
- Attachment E, Hillsborough Heights/Taylor Road Landfills - Landfill Perimeter Gas Monitoring Well Results

Liquids Removal

The liquids removed from the Hillsborough Heights and Taylor Road Landfills are discharged directly into the sanitary sewer system. As shown in Attachments B and D, for December 2020 the total liquids removed is summarized below.

Taylor Road Condensate	5,600 gallons
Taylor Road Gas Extraction Wells Pumping Activities	6,200 gallons
Hillsborough Heights Gas Extraction Wells Pumping Activities	235,010 gallons
Hillsborough Heights Landfill Leachate Collection System Sump Removal Quantities	117,779 gallons
TOTAL REMOVAL QUANTITY	**364,589 gallons**

Maintenance and Repair

1. During the month of December 2020, maintenance was not required for the Taylor Road Landfill.

2. During the month of December 2020, maintenance required for the Hillsborough Heights Landfill included removing, cleaning and re-installing pneumatic pumps on condensate trap No. 6.

Also included in this package for your information is a Glossary of Terms. Should you have any questions concerning the information provided, please call me at (813) 671-7707.

Sincerely,

Larry E. Ruiz, SC
Manager Landfill Operations
Solid Waste Management Division

LR/wg
Enclosures
xc: Kimberly Byer, SWMD
Michael Townsel, SWMD
Erik Spalvins, EPA
Ron Cope, EPC

Figure 1

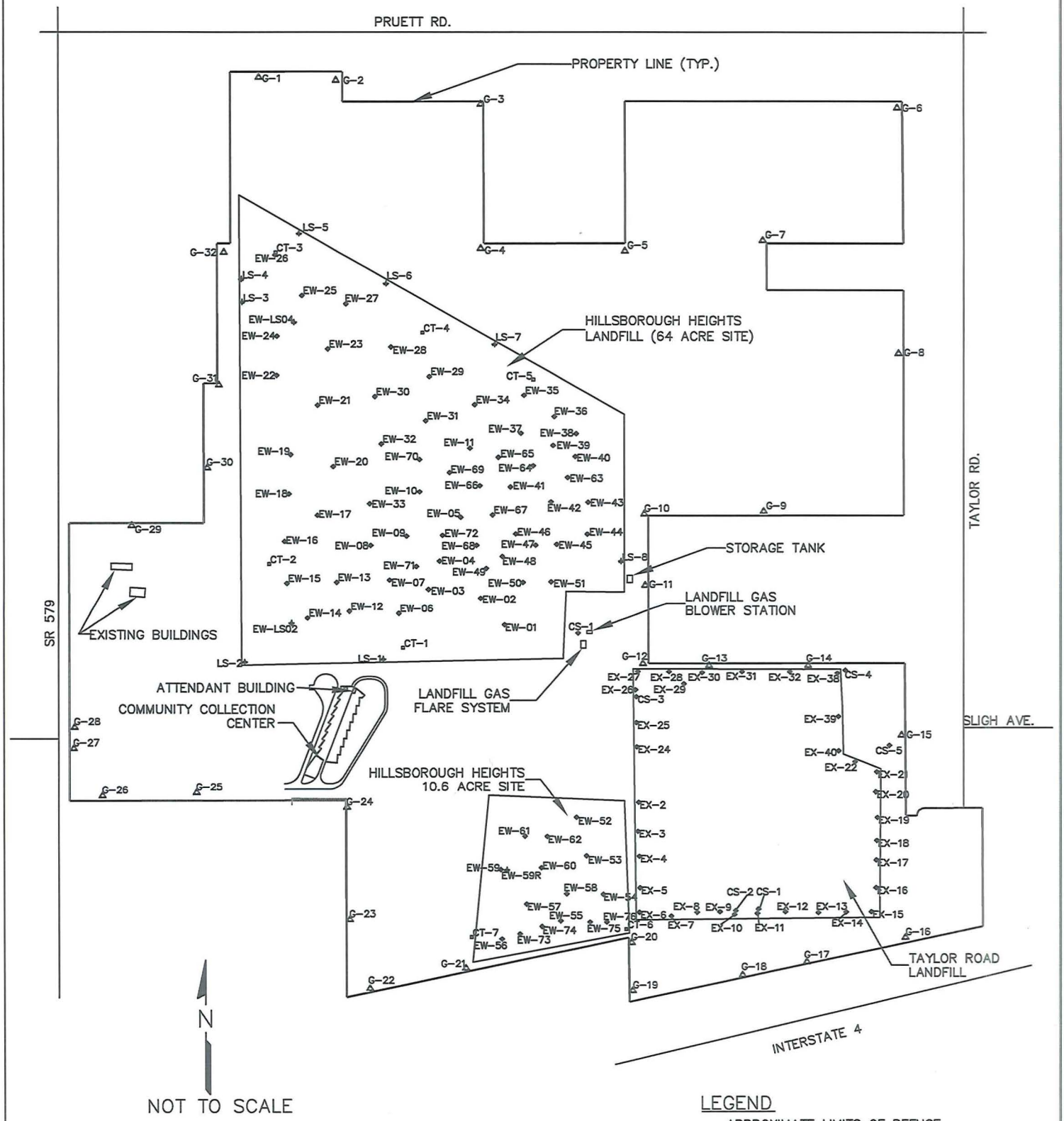
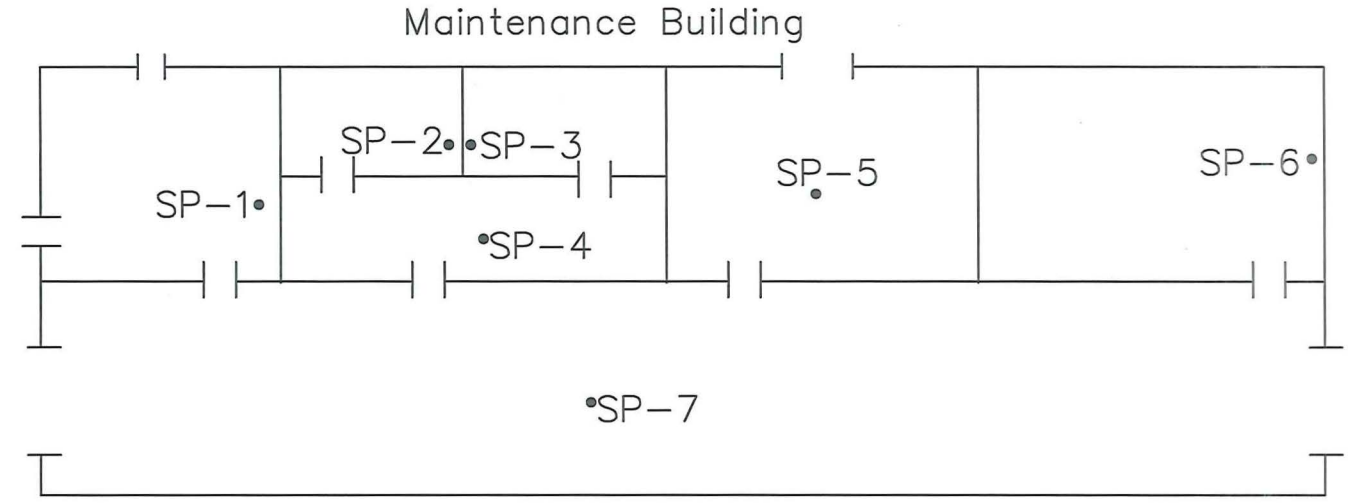


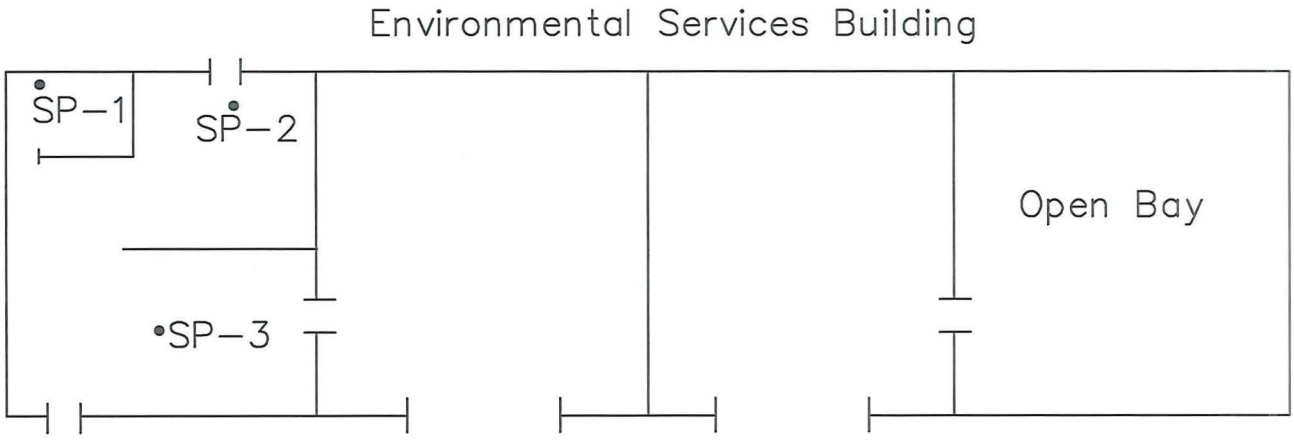
FIGURE 1. LANDFILL GAS MANAGEMENT SYSTEMS
HILLSBOROUGH HEIGHTS/TAYLOR ROAD LANDFILLS

HILLSBOROUGH COUNTY PUBLIC UTILITIES DEPARTMENT
SOLID WASTE MANAGEMENT GROUP

MAY 2011

Figure 2





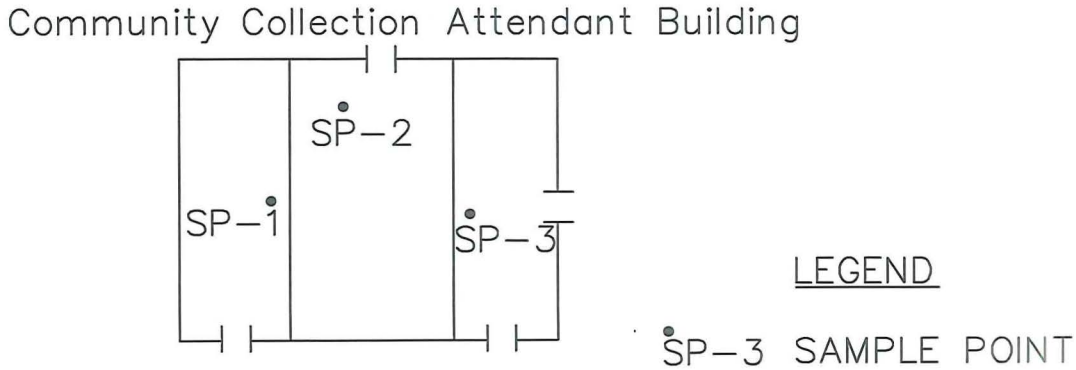


FIGURE 2. HILLSBOROUGH HEIGHTS/TAYLOR ROAD STRUCTURAL READINGS SAMPLE POINTS

HILLSBOROUGH COUNTY SOLID WASTE MANAGEMENT DEPARTMENT

FEBRUARY 2008

HILLSBOROUGH COUNTY SOLID WASTE MANAGEMENT DEPARTMENT
TAYLOR ROAD & HILLSBOROUGH HEIGHTS LANDFILLS
STRUCTURAL READINGS

MAINTENANCE BUILDING

	METHANE GAS	L.E.L.	CARBON DIOXIDE	OXYGEN	BALANCE GAS
S.P.1	0	0	0.1	20.6	79.3
S.P.2	0	0	0.1	20.6	79.3
S.P.3	0	0	0.1	20.7	79.2
S.P.4	0	0	0.1	20.7	79.2
S.P.5	0	0	0.1	20.7	79.2
S.P.6	0	0	0.1	20.7	79.2
S.P.7	0	0	0.1	20.7	79.2

ENVIRONMENTAL SERVICES BUILDING

	METHANE GAS	L.E.L.	CARBON DIOXIDE	OXYGEN	BALANCE GAS
S.P.1	0	0	0.1	20.7	79.2
S.P.2	0	0	0.1	20.7	79.2
S.P.3	0	0	0.1	20.7	79.2

COMMUNITY COLLECTION /ATTENDANT BUILDING

	METHANE GAS	L.E.L.	CARBON DIOXIDE	OXYGEN	BALANCE GAS
S.P.1	0	0	0.1	20.8	79.1
S.P.2	0	0	0.1	20.8	79.1
S.P.3	0	0	0.1	20.8	79.1

TECHNICIAN SIGNATURE: Michael Snyder

SUPERVISOR SIGNATURE: Walter Gr

DATE: December 17, 2020

COMMENTS:

LEGEND: S.P.=SAMPLE POINT. (SEE FIGURE)

ATTACHMENT A

TAYLOR ROAD LANDFILL
LANDFILL GAS EXTRACTION
WELLS MONITORING RESULTS

TAYLOR ROAD LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE DECEMBER 15, 2020

		CARBON		BALANCE		GAS		
WELL NUMBER	METHANE	DIOXIDE	OXYGEN	GAS	PRESSURE	TEMPERATURE	FLOW	COMMENTS
	(%VOL.)	(%VOL.)	(%VOL.)	(%VOL.)	(IN W.C.)	(DEF. F.)	(S.C.F.M.)	
E.W.02	35.9	31.3	0.3	32.5	-1.53	79.2	0	
E.W.03	0.5	3.4	16.3	79.8	-0.46	84	0	CLOSED
E.W.04	51.5	35.6	0.3	12.6	-1.88	82.2	0	
E.W.05	69.6	24.9	0	5.5	-3.4	82.1	0	
E.W.06	41.6	32.8	0	25.6	-0.67	83.9	0	
E.W.07	0.2	5.1	15.6	79.1	-0.87	85.7	0	CLOSED
E.W.08	0	0.3	19.7	80	-2.64	83.3	0	CLOSED
E.W.09	51.8	31.5	3.3	13.4	-0.2	86.4	6.2	
E.W.10	43.1	33.9	0.4	22.6	-7.27	80.7	0	
E.W.11	37.7	32	0.1	30.2	-1.57	79.6	2.1	
E.W.12	29.7	19.8	9.2	41.3	-0.2	83.3	0	
E.W.13	20.4	24.4	0.8	54.4	-1	81.6	0	
E.W.14	32.8	30	0.1	37.1	-2.3	80.4	2.6	
E.W.15	30.3	31.4	0	38.3	-1.44	79.3	0	
E.W.16	26.8	29.8	0.1	43.3	-1.71	78.9	0	
E.W.17	19.8	25.1	0.2	54.9	-1.12	78.7	2.8	
E.W.18	2.7	20.3	0.3	76.7	-0.18	82.9	1.7	CLOSED
E.W.19	5.4	21.7	1.1	71.8	-0.77	84.4	0	
E.W.20	0	1.3	19	79.7	-0.1	81.5	0	CLOSED
E.W.21	0	1	19.2	79.8	-0.05	84.8	0	CLOSED
E.W.22	0.1	12.7	7.5	79.7	-0.21	83.8	2.5	CLOSED
E.W.24	58.4	37.1	0.3	4.2	-10.79	77.4	5.7	
E.W.25	10.3	6.1	15.7	67.9	-19.58	79.9	0	
E.W.26	57.5	37.9	0.1	4.5	-2.81	79.1	11.1	
E.W.27	58.3	37.5	0.1	4.1	-5.32	79.1	0	
E.W.28	58.5	34.5	0.1	6.9	-0.22	80.5	0	
E.W.29	57.2	35.2	0	7.6	-11.03	78.5	5.3	
E.W.30	50.1	31.2	0.7	18	-3.13	81.1	5.5	
E.W.31	21.3	16.7	10.4	51.6	-6.67	77.4	5.4	
E.W.32	2.1	7.8	10.9	79.2	-0.22	82.1	4.2	CLOSED
E.W.38	0	7	12.3	80.7	-0.12	81.5	4.9	CLOSED
E.W.39	13.1	20.7	4.8	61.4	-4.47	83.4	6.2	
E.W.40	0	6	14.9	79.1	-2.22	82	5.8	CLOSED
E.W.41	4.6	3.2	18	74.2	-0.18	78.8	5.2	CLOSED
E.W.42	4.3	9.1	10.5	76.1	-0.74	85.3	0	CLOSED
E.W.43	54.7	37.4	0.4	7.5	-11.05	78.4	7.3	
E.W.44	14.4	11.9	9.7	64	-1.89	80.6	1.8	
E.W.45	1.2	1.2	19.4	78.2	-0.14	83.4	0	CLOSED
E.W.46	23.7	27.1	0.5	48.7	-5.77	85.4	25.1	

ATTACHMENT B

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT SUMMARY
GAS EXTRACTION WELLS AND CONDENSATE SUMPS)

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

CONDENSATE SUMPS

Condensate Sump Number

	#1	#2	#3	#4	#5
December 2020 Removal Rate (Gallons)	0	2,225	3,375	0	0

Total December 2020 Removal: 5,600

NOTE: All 5 Condensate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS

	EW#05	EW#7	EW#41	EW#42	EW#43	EW#44	EW#45	EW#46
December 2020 Removal Rate (Gallons)	0	0	0	0	0	1,925	4,275	0

Total December 2020 Removal: 6,200

NOTE:This data only reflects the extraction well that are required to be pumped.

ATTACHMENT C

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS EXTRACTION WELLS
MONITORING RESULTS

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE DECEMBER 16, 2020

		CARBON		BALANCE	GAS	GAS		
WELL NUMBER	METHANE	DIOXIDE	OXYGEN	GAS	PRESSURE	TEMPERATURE	FLOW	COMMENTS
	(%VOL.)	(%VOL.)	(%VOL.)	(%VOL.)	(IN W.C.)	(DEF. F.)	(S.C.F.M.)	
E.W.01	59.3	33	1.7	6	-29.32	66.5	0	
E.W.02	3.5	2.8	19.3	74.4	-0.11	67.2	0	CLOSED
E.W.03	42.4	33.4	1.7	22.5	-2.17	64.4	2.4	
E.W.04	2.9	4.4	19	73.7	-26.17	66.3	0	CLOSED
E.W.05	0.4	1.9	20.2	77.5	-25.24	64.7	0	CLOSED
E.W.06	1.7	2.1	19.3	76.9	-20.74	66.8	0	CLOSED
E.W.07	47.5	25.3	5.4	21.8	-25.54	69.3	2.9	CLOSED
E.W.08	0.4	1	20.3	78.3	-12.3	66.4	0	CLOSED
E.W.09	33	10.7	11.8	44.5	-0.5	68	4.1	
E.W.10	0.1	5.3	13.9	80.7	-1.43	68.5	2.1	CLOSED
E.W.11	64.8	33.8	0.8	0.6	-25.99	72.5	8	
E.W.12	26.6	21.5	5.7	46.2	-12.06	73.8	3.8	
E.W.13	48.2	26.9	4.8	20.1	-17.44	73.1	5.7	
E.W.14	39.1	25.7	6.9	28.3	-26.21	73.2	5.8	
L.S.02	23.1	18.2	12.3	46.4	-12.44	71.8	3.5	
E.W.15	30.1	20.6	10.5	38.8	-27.08	73.4	5.9	
E.W.16	56.1	39.5	1	3.4	-14.05	87.4	10.4	
E.W.17	19.6	11.3	13.9	55.2	-2.8	75.7	6	
E.W.18	4.5	23.6	0.7	71.2	-1.15	81.8	5.6	CLOSED
E.W.19	22.3	14.2	12.8	50.7	-0.53	76.9	12.4	
E.W.20	30.9	16.9	10.7	41.5	-28.44	75.9	4.9	
E.W.21	58	38.6	0.4	3	-12.77	94.6	19.8	
E.W.22	57.2	39.2	0.6	3	-28.47	76.8	6.7	
E.W.23	28.1	16.7	11.7	43.5	-27.83	75.2	0	
E.W.24	55.5	30.8	1.9	11.8	-24.62	74.9	5.8	
L.S.04	53.8	39.6	1.1	5.5	-26.68	73.2	12.4	
E.W.25	50.7	30.1	1.8	17.4	-11.87	79.9	7	
E.W.26	59.3	31.6	1.3	7.8	-27.16	78.4	6.7	
E.W.27	4.5	4.4	18.3	72.8	-28.82	80.1	4.4	CLOSED
E.W.28	50.8	22.3	5.1	21.8	-28.36	79.7	8.6	
E.W.29	1.4	2.6	19.3	76.7	-28.59	78.4	0	CLOSED
E.W.30	57.9	30.3	2.2	9.6	-28.32	82	4.4	
E.W.31	2.2	4.9	16.1	76.8	-28.51	80.9	0	CLOSED
E.W.32	23.2	10.5	12.8	53.5	-24.94	81.3	6.6	
E.W.33	0.2	1.1	19.8	78.9	-28.23	80.3	0	CLOSED
E.W.34	69.4	30.3	0.2	0.1	-26.69	82.1	7.5	
E.W.35	45	19.1	6.5	29.4	-15.41	81.7	4.3	
E.W.36	6.3	23.9	9.6	60.2	-12.51	84.6	0	
E.W.37	1.7	4	18.7	75.6	-28.38	84.1	0	CLOSED
E.W.38	7.4	19.5	0.5	72.6	-0.15	84.4	0	

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE DECEMBER 16, 2020

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	GAS PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.39	0.7	4.4	18.7	76.2	-0.33	81.2	0	CLOSED
E.W.40	34.6	31.4	0.5	33.5	-0.06	83.4	0	
E.W.41	56.8	29.7	2.7	10.8	-28.49	82.9	0	
E.W.42	3.7	3.8	18	74.5	-2.43	78.6	0	CLOSED
E.W.43	27.7	18	8.4	45.9	-3.88	78.8	0	
E.W.44	21.4	16.2	11.3	51.1	-15.82	75.8	0	
E.W.45	29.9	21.2	6.1	42.8	-27.77	81.6	0	
E.W.46	0.8	2	19.4	77.8	-28.26	82.7	0	CLOSED
E.W.47	0	0.3	20.3	79.4	-13.46	78.9	0	CLOSED
E.W.48	0	0.3	20.3	79.4	-10.24	80.7	0	CLOSED
E.W.49	2.6	7.6	18.4	71.4	-0.5	65.1	0	CLOSED
E.W.50	0	0.3	20.3	79.4	-20.3	82.2	0	CLOSED
E.W.51	50.5	31.8	3	14.7	-24.36	80.7	12.3	
E.W.52	16.7	9.2	15.1	59	-23.1	79.5	0	
E.W.53	0	0.4	19.5	80.1	-4.17	78.4	0	CLOSED
E.W.54	36.4	18.4	9	36.2	-0.23	78.4	2.2	
E.W.55	63.2	35.5	0.4	0.9	-0.02	78.5	0	
E.W.56	3.3	4.2	17.2	75.3	-10.02	79.8	0	CLOSED
E.W.57	59.1	30.6	1.9	8.4	-25.73	78.9	0	
E.W.58	16.5	9.3	15	59.2	-0.13	78.5	0	
E.W.59	0.1	0.9	20.2	78.8	-0.8	77.8	0	CLOSED
E.W.60	41.6	22.8	7.1	28.5	-25.51	75.9	0	
E.W.61	0.1	0.9	20.2	78.8	-0.35	78.9	0	CLOSED
E.W.62	55.2	32.1	0.7	12	-26.43	77.3	0	
E.W.63	0.8	1.6	19.4	78.2	-26.78	82.6	0	CLOSED
E.W.64	35	27.5	3.3	34.2	-3.12	82.9	1	
E.W.65	62.9	36.3	0.1	0.7	-27.21	82.1	0	
E.W.66	63.6	34.8	0.2	1.4	-25.99	77.2	0	
E.W.67	0.3	2.3	19.4	78	-16.9	78.3	0	CLOSED
E.W.68	2.6	12.6	12.9	71.9	-19.27	78.7	0	CLOSED
E.W.69	0.3	1.6	20	78.1	-28.27	78.1	0	CLOSED
E.W.70	0.4	5.9	13.7	80	-0.18	75.9	10.2	CLOSED
E.W.71	0	0.7	20.4	78.9	-28.2	75.6	4.9	CLOSED
E.W.72	25.5	14.3	12.4	47.8	-19.35	75.2	7.5	
E.W.73	25.3	21.9	3.6	49.2	-22.53	78.3	0	
E.W.74	29	16.9	10.9	43.2	-9.77	78.9	0	
E.W.75	34.7	18.7	9.3	37.3	-27.24	78.9	0	
E.W.76	43.9	24.5	6.1	25.5	-25.64	77.7	0	

ATTACHMENT D

HILLSBOROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT SUMMARY
(GAS EXTRACTION WELLS AND LEACHATE SUMPS)

HILLSBROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

LEACHATE SUMPS

Leachate Sump Number

	#1	#4	#6	#7	#8														
December 2020 Removal Rate (Gallons)	7,150	35,100	4,483	10,221	60,825														
Total December 2020 Removal:							117,779												

NOTE: All 9 leachate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS/FLOW METER/CONDTRAP

EW#02	EW#03	EW#06	EW#07	EW#08	EW17	EW#25	EW#28	EW#31	EW#33		Pneumatic Pumps								
EW#35	EW#36	EW#44	EW#56	EW#57	EW#58	EW#59	EW#54	EW#55											
EW#52	EW#53	EW#60	EW#61	EW#62							292,760								
Total December 2020 Removal:																			
Rate (Gallons)																			

NOTE: This data only reflects extraction well outfitted with pneumatic pumps

1/12/2021

ATTACHMENT E

HILLSBOROUGH HEIGHTS/TAYLOR ROAD LANDFILLS
LANDFILL PERIMETER GAS
MONITORING WELL RESULTS

Hillsborough Heights/Taylor Road Landfills

Landfill Gas Perimeter Monitoring Well Reading Summary

CH_4 (%VOLUME)*

Gas Monitoring Well

DATE	GW #4	GW #9	GW #10	GW #20	GW #30	GW # 31	GW #32	COMMENTS
12/18/2020	0	0	0	0	0	0	0	

Note: 1% by volume is equal to 20% LEL

*Table only includes wells with historical gas readings

Attachment E
Hillsborough Heights/Taylor Road Landfills
Landfill Perimeter Gas Monitoring Well Results

Date	Location	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	PRESSURE (IN W.C.)	Comments
12/18/2020	G-01	0	3.6	18.7	77.7	0	
	G-02	0	1.7	20.2	78.1	0	
	G-03	0	1.1	20.5	78.4	0	
	G-04	0	2.3	19.5	78.2	0	
	G-05	0	4.6	16.4	79	0	
	G-06	0	1	20.8	78.2	0	
	G-07	0	0.3	21.2	78.5	0	
	G-08	0	0.2	21.2	78.6	0	
	G-09	0	0.3	20.9	78.8	0	
	G-10	0	0.2	21.1	78.7	0	
	G-11	0	0.7	20.5	78.8	0	
	G-12	0	1.4	19.7	78.9	0	
	G-13	0	1.8	18.6	79.6	0	
	G-14	0	2.5	17.9	79.6	0	
	G-15	0	1.5	20.1	78.4	0	
	G-16	0	1.4	19.8	78.8	0	
	G-17	0	1	20.2	78.8	0	
	G-18	0	0.6	20.5	78.9	0	
	G-19	0	0.6	20.4	79	0	
	G-20	0	1.2	19.2	79.6	0	
	G-21	0	0.5	20.7	78.8	0	
	G-22	0	0.8	20.2	79	0	
	G-23	0	0.8	20.3	78.9	0	
	G-24	0	0.4	20.9	78.7	0	
	G-25	0	0.6	20.6	78.8	0	
	G-26	0	0.9	20.5	78.6	0	
	G-27	0	1.7	19.4	78.9	0	
	G-28	0	1.3	19.8	78.9	0	
	G-29	0	0.8	19.5	79.7	0	
	G-30	0	2.3	18.8	78.9	0	
	G-31	0	0.7	20.7	78.6	0	
	G-32	0	1.5	19.3	79.2	0	

GLOSSARY OF TERMS

CONDENSATE- Liquid generated by the heat from the landfill gas flowing thru the system.

SURGING-The vacuum is interrupted by liquids in the landfill gas system.

PERIMETER MONITORING WELLS- Wells installed around the property boundary of the Landfill sites to monitor landfill gas levels for Compliance with regulatory standards.

PB01- Bar punch probe test- this is only conducted on the perimeter monitoring wells that read higher than 5% methane, this test is only conducted once a month.

WELL CLOSED-Valve closed, conditions vary.

ND-Non –Detected.

WATER BLOCKAGE/WATERED IN-Liquids in the well prohibiting the flow of landfill gas thru the system.

EW-Extraction wells on the landfill gas system.

SCFM's-Standar cubic feet per minute.

PURGED-To cause evacuation.

NA-No adjustment

Hillsborough County Florida

PUBLIC UTILITIES
PO Box 1110 Tampa, FL 33601-1110

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DEPUTY COUNTY ADMINISTRATOR DEVELOPMENT & INFRASTRUCTURE
Lucia E. Garsys

November 10, 2020

Mr. Steve Morgan
Solid Waste Section
Department of Environmental Protection
Southwest District
13051 N. Telecom Pkwy
Temple Terrace, Florida 33637-0926

Subject: Hillsborough Heights/Taylor Road Landfills–October 2020 Monthly Operations Report

Dear Mr. Morgan:

As requested in the Florida Department of Environmental Protection's (DEP) February 6, 1998 correspondence, the Solid Waste Management Division of the Public Utilities Department (SWMD) is providing the October 2020 monthly operations report for the Hillsborough Heights and Taylor Road Landfills (Landfill). The report provides information concerning the operation and maintenance of the landfill gas collection systems, leachate and condensate removal, and site maintenance status.

The October 2020 report includes the following attachments.

- Attachment A, Taylor Road Landfill - Landfill Gas Extraction Wells Monitoring Results
- Attachment B, Taylor Road Landfill – Liquids Management Summary (Gas Extraction Wells and Condensate Sumps)
- Attachment C, Hillsborough Heights Landfill - Landfill Gas Extraction Wells Monitoring Results
- Attachment D, Hillsborough Heights Landfill - Liquids Management Summary (Gas Extraction Wells and Leachate Sumps)

Liquids Removal

The liquids removed from the Hillsborough Heights and Taylor Road Landfills are discharged directly into the sanitary sewer system. As shown in Attachments B and D, for October 2020 the total liquids removed is summarized below.

Taylor Road Condensate	3,400 gallons
Taylor Road Gas Extraction Wells Pumping Activities	23,825 gallons
Hillsborough Heights Gas Extraction Wells Pumping Activities	251,951 gallons
Hillsborough Heights Landfill Leachate Collection System Sump Removal Quantities	133,005 gallons
TOTAL REMOVAL QUANTITY	**412,181 gallons**

Maintenance and Repair

1. During the month of October 2020, maintenance was not required for the Taylor Road Landfill.

2. During the month of October 2020, maintenance required for the Hillsborough Heights Landfill included removing, cleaning and re-installing pneumatic pumps on extraction well No. 76 and No. 28.

Also included in this package for your information is a Glossary of Terms. Should you have any questions concerning the information provided, please call me at (813) 671-7707.

Sincerely,

Larry E. Ruiz

Larry E. Ruiz, SC
Manager Landfill Operations
Solid Waste Management Division

LR/wg
Enclosures
xc: Kimberly Byer, SWMD
Michael Townsel, SWMD
Erik Spalvins, EPA
Ron Cope, EPC

Figure 1

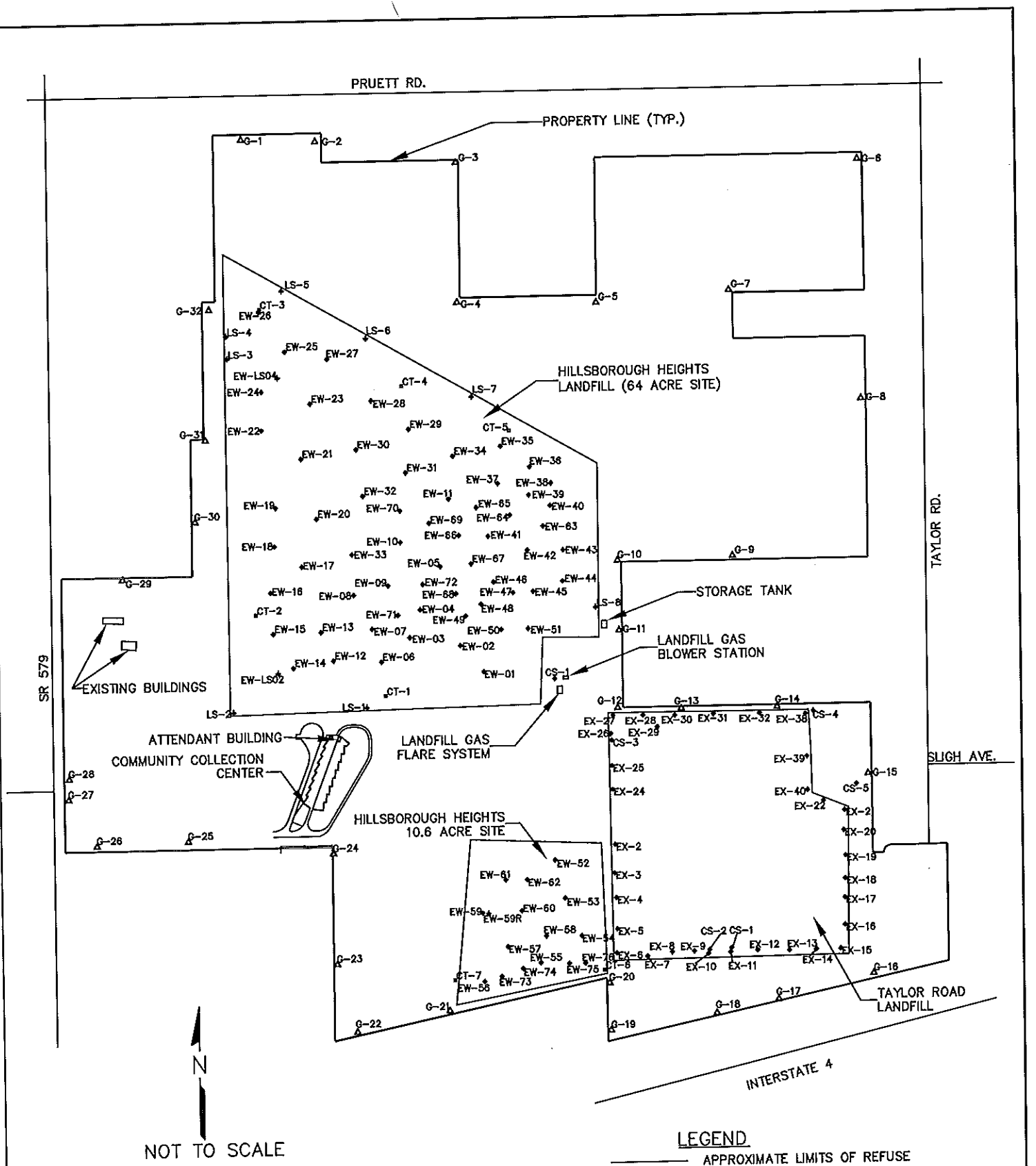

FIGURE 1. LANDFILL GAS MANAGEMENT SYSTEMS
HILLSBOROUGH HEIGHTS/TAYLOR ROAD LANDFILLS

HILLSBOROUGH COUNTY PUBLIC UTILITIES DEPARTMENT
SOLID WASTE MANAGEMENT GROUP

MAY 2011

ATTACHMENT A

TAYLOR ROAD LANDFILL
LANDFILL GAS EXTRACTION
WELLS MONITORING RESULTS

TAYLOR ROAD LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE OCTOBER 15, 2020

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL)	PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.02	38.1	32.4	0.1	29.4	-1.96	91.8	62.6	
E.W.03	1	5.1	14.3	79.6	-0.85	90.4	0	CLOSED
E.W.04	48.2	35.8	0.1	15.9	-2.73	91.8	6.2	
E.W.05	65.5	18.4	0.2	15.9	4.35	94.4	8.1	
E.W.06	38.6	32.6	0.1	28.7	-0.47	98	3.8	
E.W.07	0.3	10.2	6.3	83.2	-1.66	98.4	4.8	CLOSED
E.W.08	0	0.4	19.3	80.3	-0.16	97.1	0	CLOSED
E.W.09	46.6	29.5	4.6	19.3	-0.02	97.6	5.7	
E.W.10	46.9	34.5	0.2	18.4	-8.89	96.4	2.3	
E.W.11	48	33.2	0	18.8	-0.87	96.4	0	
E.W.12	25.5	17.2	10.5	46.8	-0.29	95.3	0	
E.W.13	19.7	24.5	1.9	53.9	-1.12	92.2	0	
E.W.14	25	28.5	0.1	46.4	-3.24	88.8	0	
E.W.15	26	30.8	0	43.2	-1.72	91.8	0	
E.W.16	23.1	29.4	0.2	47.3	-2.04	92.8	0	
E.W.17	20.5	25.6	0.1	53.8	-1.47	88	3.8	
E.W.18	2.8	19.5	2.1	75.6	-2.15	91.8	0	
E.W.19	12	21.4	1.3	65.3	-1.71	99.4	0	CLOSED
E.W.20	4.4	18.7	2.2	74.7	-3.61	91.9	2.9	CLOSED
E.W.21	0	0.6	19.5	79.9	-0.38	97.5	1	CLOSED
E.W.22	0.2	12.8	7.4	79.6	-0.08	95.5	0	CLOSED
E.W.24	58.2	37.2	0.3	4.3	-9.81	84.1	7.2	
E.W.25	30.5	15.1	10	44.4	-1.54	90.3	2.1	
E.W.26	57.7	37.4	0.1	4.8	-2.56	83.9	11.6	
E.W.27	57.5	37.4	0.1	5	-5.12	87.5	9.7	
E.W.28	57.1	35.7	0	7.2	0.04	101.2	0	
E.W.29	56.3	35.7	0	8	-10.83	86.4	0	
E.W.30	51.8	33.8	0.2	14.2	-2.93	91.8	1.5	
E.W.31	20.5	17.2	9.8	52.5	-5.93	90.4	0	
E.W.32	30.4	25.2	0.3	44.1	-3.14	99.3	2.8	
E.W.38	0	5.4	13.2	81.4	-0.24	94	0	CLOSED
E.W.39	2.9	4.6	16.5	76	-1.34	95.4	0	
E.W.40	0	9.2	9.8	81	-1.38	98	0	CLOSED
E.W.41	11.4	10.8	12.7	65.1	0.03	104.4	2.9	
E.W.42	0.1	0.5	20	79.4	-0.73	103.7	0	CLOSED
E.W.43	52.9	38.1	0.2	8.8	-14.71	87.2	9.1	
E.W.44	13.4	16.5	7.9	62.2	-4.04	102.2	3.4	
E.W.45	36.3	27.9	2.9	32.9	-0.05	98	4	
E.W.46	23.8	27.7	0.4	48.1	-9.99	85.7	49.7	

ATTACHMENT B

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT SUMMARY
GAS EXTRACTION WELLS AND CONDENSATE SUMPS)

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

CONDENSATE SUMPS

	Condensate Sump Number					
	#1	#2	#3	#4	#5	
October 2020 Removal Rate (Gallons)	0	700	2,700	0	0	
Total October 2020 Removal:						3,400

NOTE: All 5 Condensate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS

	EW#05	EW#7	EW#41	EW#42	EW#43	EW#44	EW#45	EW#46
October 2020 Removal Rate (Gallons)	0	0	0	0	0	12,475	11,350	0
Total September 2020 Removal:								23,825

NOTE:This data only reflects the extraction well that are required to be pumped.

ATTACHMENT C

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS EXTRACTION WELLS
MONITORING RESULTS

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE OCTOBER 16, 2020

		CARBON		BALANCE	GAS	GAS		
WELL NUMBER	METHANE	DIOXIDE	OXYGEN	GAS	PRESSURE	TEMPERATURE	FLOW	COMMENTS
	(%VOL.)	(%VOL.)	(%VOL.)	(%VOL.)	(IN W.C.)	(DEF. F.)	(S.C.F.M.)	
E.W.01	58.9	32.4	1.7	7	-29.23	83.6	0	
E.W.02	0.9	11.6	6	81.5	-0.07	81.8	0	CLOSED
E.W.03	4.5	4.5	18	73	-29.93	80.1	0	CLOSED
E.W.04	5.1	7.9	17.2	69.8	-30.22	77.6	0	CLOSED
E.W.05	0.4	2.8	19.5	77.3	-30.29	83.1	0	CLOSED
E.W.06	20.8	11.5	13.4	54.3	-30.36	87.3	0	
E.W.07	0.1	1	20	78.9	-26.9	81.7	0	CLOSED
E.W.08	0	0.3	20.2	79.5	-29.86	89.6	0	CLOSED
E.W.09	34.4	11.8	10.8	43	-1.58	84.1	5.9	
E.W.10	1.9	4.7	15.5	77.9	-9.06	83	0	CLOSED
E.W.11	61.5	33.1	1.2	4.2	-27.26	89.6	0	
E.W.12	8.1	5	17.4	69.5	-26.74	86.2	0	
E.W.13	40.8	22.3	7.1	29.8	-17.24	85.4	6.5	
E.W.14	45.6	28.2	4.9	21.3	-25.95	86.5	6.3	
L.S.02	37.1	29.3	6.1	27.5	-7.98	88.6	6.2	
E.W.15	34.4	23.2	8.5	33.9	-27.47	90.2	2.7	
E.W.16	33	24.6	8.5	33.9	-12.7	89.8	0	
E.W.17	43.8	23.8	6.2	26.2	-0.72	90.7	7.3	
E.W.18	0.7	16.7	9.1	73.5	-0.02	98.4	2.4	CLOSED
E.W.19	21.9	13.7	12.6	51.8	-0.51	87.8	8.7	
E.W.20	32	16.8	9.4	41.8	-27.66	88.1	0	
E.W.21	59.1	39.6	0.1	1.2	-15.22	95.7	14.5	
E.W.22	58.9	40	0	1.1	-27.82	85.7	0	
E.W.23	31.4	18.5	9.9	40.2	-27.66	86.6	26.1	
E.W.24	60.3	32.2	0.9	6.6	-25.69	85	0	
L.S.04	56.6	41.3	0.1	2	-22.93	84.9	25	
E.W.25	46.2	28.1	2.8	22.9	-13.33	87.6	0	
E.W.26	36	20.9	6.8	36.3	-27	85.9	0	
E.W.27	38.4	19.5	7.6	34.5	-28.66	92.2	0	
E.W.28	61.1	27.1	1.9	9.9	-28.84	89.1	0	
E.W.29	5	4.6	17.8	72.6	-29.47	89.2	0	CLOSED
E.W.30	63.7	32.1	0.7	3.5	-29.18	94.3	0	
E.W.31	2.4	3.9	17.1	76.6	-29.31	94.9	0	CLOSED
E.W.32	66.4	33.2	0	0.4	-1.85	95.7	0	
E.W.33	0.4	1.1	19.4	79.1	-29.38	93.6	0	CLOSED
E.W.34	68	29.6	0.4	2	-27.62	96	4.1	
E.W.35	32.6	14.4	9.8	43.2	-19.56	93.4	1.8	
E.W.36	0.7	2.8	18.7	77.8	-20	97.7	0	CLOSED
E.W.37	2.6	5.6	16.6	75.2	-29.23	101.2	0	CLOSED
E.W.38	4.4	19.9	0.1	75.6	0	103.1	3.8	CLOSED

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE OCTOBER 16, 2020

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	GAS PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.39	0.8	5.5	18	75.7	-5.42	96.4	4	CLOSED
E.W.40	1.1	19.9	3.2	75.8	-0.21	103.1	0	CLOSED
E.W.41	41.2	23.9	5.9	29	-29.25	98.6	1	
E.W.42	4.7	3.8	17.5	74	-8.14	97.1	1.7	CLOSED
E.W.43	2.9	2.3	18.5	76.3	-27.66	98.6	0	CLOSED
E.W.44	21.7	14.7	12.4	51.2	-13.19	92.2	4.6	
E.W.45	0.4	8.9	13.4	77.3	-0.58	98	0	CLOSED
E.W.46	56.3	30.5	1.8	11.4	-29.07	100.8	0	
E.W.47	21.5	24.9	0.1	53.5	-0.32	101.5	2.5	
E.W.48	0.9	4.3	18.5	76.3	-23.59	97.6	0	CLOSED
E.W.49	3.9	11.5	16	68.6	-0.14	77	0	CLOSED
E.W.50	0.2	0.7	19.2	79.9	-13.4	96.7	0	CLOSED
E.W.51	50.4	32.6	2.8	14.2	-23.24	95.6	10	
E.W.52	18.8	10.5	13.6	57.1	-24.29	92.2	0	
E.W.53	0.1	0.5	19.4	80	-1.43	97.2	0	CLOSED
E.W.54	11.4	5.5	16.3	66.8	-0.66	98.2	3.1	
E.W.55	20.2	10	13.6	56.2	-1.53	92.3	4.2	
E.W.56	7	6	15.5	71.5	-13.9	89.5	4	CLOSED
E.W.57	62.2	30.9	0.9	6	-28.52	95.4	7.7	
E.W.58	13.3	7.9	15.8	63	-0.2	96.9	4.9	
E.W.59	0.2	0.5	20	79.3	-1.32	100.2	1.7	CLOSED
E.W.60	39	20.7	7.9	32.4	-27.25	91.5	4.4	
E.W.61	2.9	7.3	15.9	73.9	-1.38	98.6	0	CLOSED
E.W.62	61.5	33.4	0.4	4.7	-27.58	92.4	0	
E.W.63	3.5	2.9	18.1	75.5	-29.41	97.3	0	CLOSED
E.W.64	33.8	27.3	4.7	34.2	-9.18	97.7	0	
E.W.65	58.3	34.3	1	6.4	-28.4	90.7	4.7	
E.W.66	57.9	31.8	1.3	9	-27.48	93.6	3.4	
E.W.67	0.2	0.7	19.9	79.2	-14.64	88.9	0	CLOSED
E.W.68	2.4	13.8	10.6	73.2	-26.18	93.8	1.9	CLOSED
E.W.69	2	2.5	18.7	76.8	-29.15	95.5	0	CLOSED
E.W.70	11.9	19.5	2.6	66	-0.18	96	3.6	
E.W.71	0	0.3	19.8	79.9	-29.19	94.1	0	CLOSED
E.W.72	35.1	19.9	7.3	37.7	-25.14	93.8	2.9	
E.W.73	13.1	7.2	15.7	64	-28.78	93.6	2.2	
E.W.74	38.8	22.1	7.1	32	-12.07	94.3	0	
E.W.75	36.8	19.7	8.6	34.9	-28.06	94.9	0	
E.W.76	38.8	22.5	7	31.7	-26.61	93.1	0	

ATTACHMENT D

HILLSBOROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT SUMMARY
(GAS EXTRACTION WELLS AND LEACHATE SUMPS)

HILLSBROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

LEACHATE SUMPS

Leachate Sump Number

	#1	#4	#6	#7	#8
October 2020 Removal Rate (Gallons)	8,104	34,553	4,995	10,057	75,296
Total October 2020 Removal:					133,005

NOTE: All 9 leachate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS/FLOW METER/CONDTRAP

	EW#02	EW#03	EW#06	EW#07	EW#08	EW17	EW#25	EW#28	EW#31	EW#33	Pneumatic Pumps
	EW#35	EW#36	EW#44	EW#56	EW#57	EW#58	EW#59	EW#54	EW#55		
	EW#52	EW#53	EW#60	EW#61	EW#62						251,951
Total October 2020 Removal: Rate (Gallons)											

NOTE: This data only reflects extraction well outfitted with pneumatic pumps

11/9/2020

GLOSSARY OF TERMS

CONDENSATE- Liquid generated by the heat from the landfill gas flowing thru the system.

SURGING-The vacuum is interrupted by liquids in the landfill gas system.

PERIMETER MONITORING WELLS- Wells installed around the property boundary of the Landfill sites to monitor landfill gas levels for Compliance with regulatory standards.

PB01- Bar punch probe test- this is only conducted on the perimeter monitoring wells that read higher than 5% methane, this test is only conducted once a month.

WELL CLOSED-Valve closed, conditions vary.

ND-Non –Detected.

WATER BLOCKAGE/WATERED IN-Liquids in the well prohibiting the flow of landfill gas thru the system.

EW-Extraction wells on the landfill gas system.

SCFM's-Standar cubic feet per minute.

PURGED-To cause evacuation.

NA-No adjustment

Hillsborough County Florida

PUBLIC UTILITIES
PO Box 1110 Tampa, FL 33601-1110

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Peggy Caskey

DEPUTY COUNTY ADMINISTRATOR DEVELOPMENT & INFRASTRUCTURE
Lucia E. Garsys

December 8, 2020

Mr. Steve Morgan
Solid Waste Section
Department of Environmental Protection
Southwest District
13051 N. Telecom Pkwy
Temple Terrace, Florida 33637-0926

Subject: Hillsborough Heights/Taylor Road Landfills–November 2020 Monthly Operations Report

Dear Mr. Morgan:

As requested in the Florida Department of Environmental Protection's (DEP) February 6, 1998 correspondence, the Solid Waste Management Division of the Public Utilities Department (SWMD) is providing the November 2020 monthly operations report for the Hillsborough Heights and Taylor Road Landfills (Landfill). The report provides information concerning the operation and maintenance of the landfill gas collection systems, leachate and condensate removal, and site maintenance status.

The November 2020 report includes the following attachments.

- Attachment A, Taylor Road Landfill - Landfill Gas Extraction Wells Monitoring Results
- Attachment B, Taylor Road Landfill – Liquids Management Summary (Gas Extraction Wells and Condensate Sumps)
- Attachment C, Hillsborough Heights Landfill - Landfill Gas Extraction Wells Monitoring Results
- Attachment D, Hillsborough Heights Landfill - Liquids Management Summary (Gas Extraction Wells and Leachate Sumps)

Liquids Removal

The liquids removed from the Hillsborough Heights and Taylor Road Landfills are discharged directly into the sanitary sewer system. As shown in Attachments B and D, for November 2020 the total liquids removed is summarized below.

Taylor Road Condensate	11,525 gallons
Taylor Road Gas Extraction Wells Pumping Activities	9,225 gallons
Hillsborough Heights Gas Extraction Wells Pumping Activities	292,760 gallons
Hillsborough Heights Landfill Leachate Collection System Sump Removal Quantities	103,774 gallons
TOTAL REMOVAL QUANTITY	**417,284 gallons**

Maintenance and Repair

1. During the month of November 2020, maintenance required for the Taylor Road Landfill included replacement of broken PVC pipe with coupling on extraction well No. 2.

2. During the month of November 2020, maintenance required for the Hillsborough Heights Landfill included removing, cleaning, replaced air regulator, flex hose and re-installing pneumatic pumps on extraction well No. 73. Replace air regulator and air line hose on condensate trap No. 6.

Also included in this package for your information is a Glossary of Terms. Should you have any questions concerning the information provided, please call me at (813) 671-7707.

Sincerely,

Larry E. Ruiz, SC
Manager Landfill Operations
Solid Waste Management Division

LR/wg
Enclosures
xc: Kimberly Byer, SWMD
Michael Townsel, SWMD
Erik Spalvins, EPA
Ron Cope, EPC

Figure 1

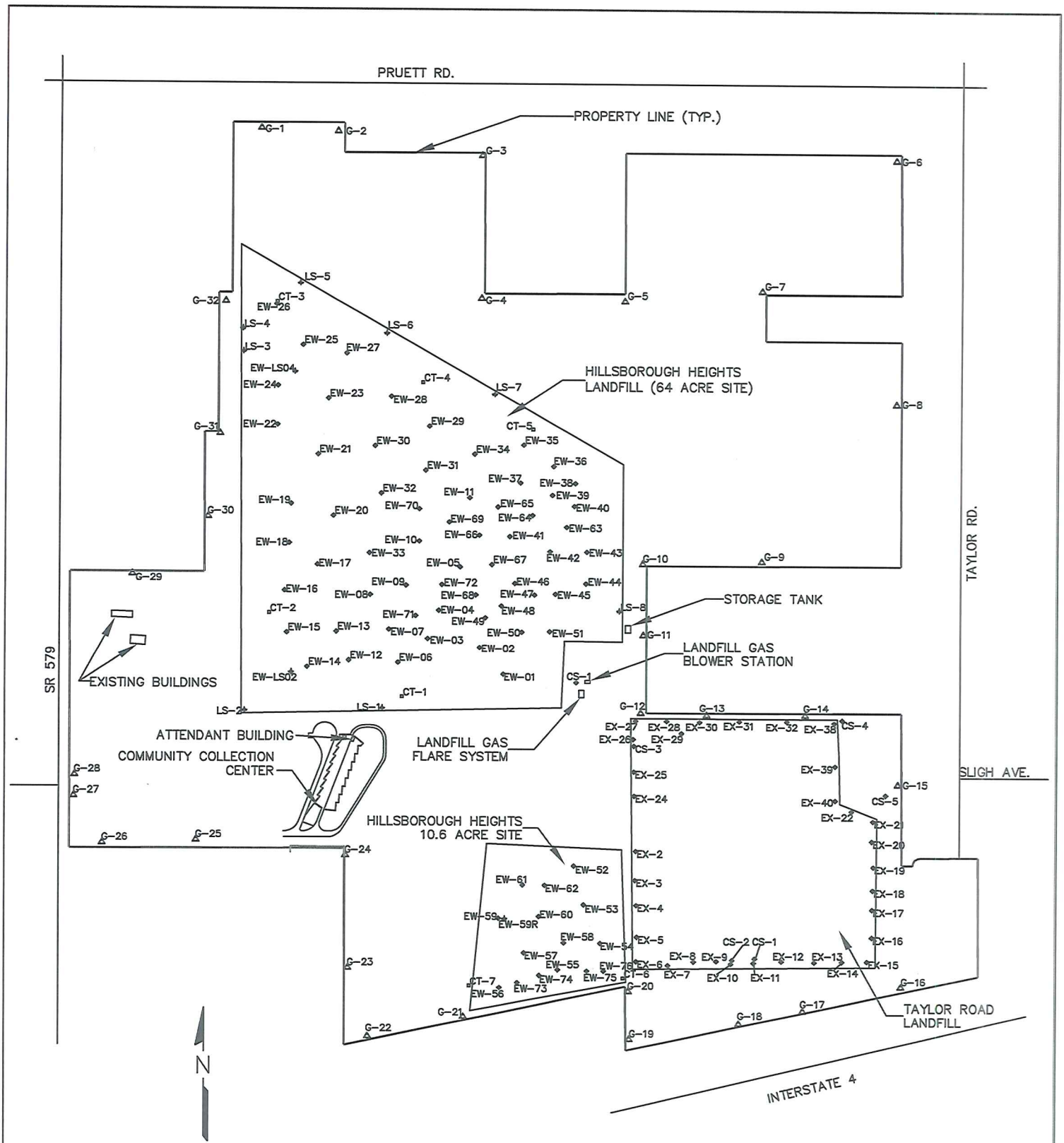

FIGURE 1. LANDFILL GAS MANAGEMENT SYSTEMS
HILLSBOROUGH HEIGHTS/TAYLOR ROAD LANDFILLS

HILLSBOROUGH COUNTY PUBLIC UTILITIES DEPARTMENT
SOLID WASTE MANAGEMENT GROUP

MAY 2011

ATTACHMENT A

TAYLOR ROAD LANDFILL
LANDFILL GAS EXTRACTION
WELLS MONITORING RESULTS

TAYLOR ROAD LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE NOVEMBER 18, 2020

		CARBON		BALANCE		GAS		
WELL NUMBER	METHANE	DIOXIDE	OXYGEN	GAS	PRESSURE	TEMPERATURE	FLOW	COMMENTS
	(%VOL.)	(%VOL.)	(%VOL.)	(%VOL.)	(IN W.C.)	(DEF. F.)	(S.C.F.M.)	
E.W.02	43.5	32.9	0.1	23.5	-4.32	81.4	10.5	
E.W.03	1.4	6	13.8	78.8	-0.81	84	1	CLOSED
E.W.04	54.7	36.2	0.2	8.9	-1.99	85.3	8	
E.W.05	69.6	19.5	0.1	10.8	1.4	82	7.6	
E.W.06	48.8	34.1	0.1	17	-0.26	82.9	4.8	
E.W.07	0	8.4	12.1	79.5	-0.6	82.9	0	CLOSED
E.W.08	0.2	0.4	20.1	79.3	-0.85	81.5	0	CLOSED
E.W.09	9.1	6.3	17.4	67.2	-0.31	82.9	0	
E.W.10	47.5	34.4	0.1	18	-3.37	81.9	1.5	
E.W.11	43.3	32.4	0.1	24.2	-0.98	81.1	2.1	
E.W.12	37.3	24.8	5.3	32.6	-0.12	86.4	0	
E.W.13	24.9	24	0	51.1	-0.73	84.4	0	
E.W.14	34	29.7	0.1	36.2	-1.76	80.1	1	
E.W.15	37	31.9	0	31.1	-0.92	81.3	0	
E.W.16	27.6	29.4	0.2	42.8	-1.26	81.4	0	
E.W.17	19.5	21.8	3.1	55.6	-0.9	79.4	3.2	
E.W.18	2.8	20.1	0.8	76.3	-0.04	86.9	0	
E.W.19	9.7	17.7	1	71.6	-2.79	87.4	0	
E.W.20	0	0.7	19.6	79.7	-0.04	82.8	0	CLOSED
E.W.21	0	0.5	19.7	79.8	-0.01	90.4	0	CLOSED
E.W.22	0	1.4	18.3	80.3	0.1	92.5	0	CLOSED
E.W.24	58.9	36.6	0.3	4.2	-10.75	80	0	
E.W.25	44.4	24.2	5.3	26.1	-13.63	84.1	0	
E.W.26	57.8	37.3	0.1	4.8	-2.75	80.2	0	
E.W.27	57.6	37.6	0.1	4.7	-5.25	83	0	
E.W.28	58.1	34.6	0	7.3	-0.05	83.7	0	
E.W.29	56.8	35.2	0.1	7.9	-11.12	82.9	0	
E.W.30	53.3	32.7	0.2	13.8	-3.03	83.3	0	
E.W.31	23.4	17.9	9.5	49.2	-11.68	82.1	0	
E.W.32	0	4.6	13.3	82.1	-21.15	86.7	0	CLOSED
EW.38	0	4.1	14.6	81.3	-0.2	81.2	0	CLOSED
EW.39	18	17	6.9	58.1	-5.56	84.3	0	
EW.40	0	8	12.6	79.4	-1.78	84.3	0	CLOSED
EW.41	11.6	9.4	14	65	-0.41	81.8	0	
EW.42	0	0.4	20.3	79.3	-2.18	85.8	0	CLOSED
EW.43	55.3	38.1	0.2	6.4	-6.69	79.8	0	
EW.44	21.6	16.9	8.8	52.7	-1	77.8	0	
EW.45	2.6	1.9	19.2	76.3	-0.19	80	0	CLOSED
EW.46	26.2	27.3	0.6	45.9	-6.27	85.6	0	

ATTACHMENT B

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT SUMMARY
GAS EXTRACTION WELLS AND CONDENSATE SUMPS)

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

CONDENSATE SUMPS

Condensate Sump Number

	#1	#2	#3	#4	#5
November 2020 Removal Rate (Gallons)	500	1425	4,150	4,425	1,025

Total Noverber 2020 Removal: **11,525**

NOTE: All 5 Condensate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS

	EW#05	EW#7	EW#41	EW#42	EW#43	EW#44	EW#45	EW#46
November 2020 Removal Rate (Gallons)	0	0	0	0	0	5,150	4,075	0

Total November 2020 Removal: **9,225**

NOTE:This data only reflects the extraction well that are required to be pumped.

ATTACHMENT C

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS EXTRACTION WELLS
MONITORING RESULTS

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE NOVEMBER 20, 2020

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	GAS PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.01	63.3	33.2	1.3	2.2	-28.34	75.5	7.1	
E.W.02	26.8	18.6	6.4	48.2	-3.19	75.6	6.4	
E.W.03	2.1	1.4	19.3	77.2	-1.8	74.2	9.2	CLOSED
E.W.04	5.1	7.7	17.3	69.9	-26.09	75.1	10.3	
E.W.05	0.5	3.1	19.3	77.1	-26.91	77.3	0	CLOSED
E.W.06	16.6	7.7	14.9	60.8	-19.72	81.4	0	
E.W.07	37.9	23	7.8	31.3	-14.97	81.6	3	
E.W.08	0.4	1.6	19.8	78.2	-24.44	82.6	0	CLOSED
E.W.09	30.5	10.1	12.2	47.2	-0.5	78.8	3.9	
E.W.10	0.3	7.9	11.6	80.2	-2.7	78.7	0	CLOSED
E.W.11	65.6	34.2	0.3	N/A	-26.18	83.1	0	
E.W.12	35.5	27.9	2.7	33.9	-12.78	78.4	0	
E.W.13	51.1	28.2	3.6	17.1	-15.68	78.9	0	
E.W.14	43	27.8	5.4	23.8	-25.94	80.1	6	
L.S.02	27.5	21.2	10.3	41	-7.57	79.4	0	
E.W.15	37.4	24.6	7.4	30.6	-24.9	82.5	0	
E.W.16	58	40.9	0.1	1	-14.88	88.2	8.1	
E.W.17	16.2	7.9	15	60.9	-3.11	82.7	0	
E.W.18	29.3	22.4	5.6	42.7	-0.64	89.6	0	
E.W.19	22.1	13.4	12.8	51.7	-0.36	80.6	8.8	
E.W.20	35.9	19.4	8.8	35.9	-24.16	83.3	0	
E.W.21	58.5	38.4	0.7	2.4	-11.33	95	14.8	
E.W.22	60	39.3	0.2	0.5	-24.65	80.5	4.2	
E.W.23	35.4	20	8.9	35.7	-25.35	81.5	7.2	
E.W.24	60.9	31.4	1.3	6.4	-23.99	81.9	0	
L.S.04	57.1	39.5	0.4	3	-22.66	78	16.3	
E.W.25	56.6	31.5	0.7	11.2	-13.4	82.5	5.1	
E.W.26	46.2	25.4	5.1	23.3	-24.89	82.1	2.6	
E.W.27	1.3	1.2	19.4	78.1	-27.91	87.1	0	CLOSED
E.W.28	48	22.1	5.5	24.4	-27.83	83.7	2.1	
E.W.29	9.3	8.3	16.5	65.9	-28.23	83.9	0	
E.W.30	63.8	33.4	0.5	2.3	-28.22	86.9	2.4	
E.W.31	0.5	1.5	18.9	79.1	-28.69	87.9	0	CLOSED
E.W.32	22.5	9.9	12.7	54.9	-26.58	84.9	2.1	
E.W.33	0.1	0.7	19.8	79.4	-28.73	84.2	0	CLOSED
E.W.34	68.8	30	0.2	1	-26.31	87.5	7.5	
E.W.35	41.1	17.5	7.9	33.5	-17.57	84.3	5.3	
E.W.36	3.9	17.9	12.9	65.3	-8.99	87.7	0	CLOSED
E.W.37	2.1	6.3	17.6	74	-28.56	90.6	0	CLOSED
E.W.38	5.4	19.2	0.2	75.2	0.01	91.3	4.4	CLOSED

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE NOVEMBER 20, 2020

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	GAS PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.39	0.2	2.1	19.4	78.3	-17.73	87	2.7	CLOSED
E.W.40	26.9	26.5	3.6	43	-0.94	88.4	6.6	
E.W.41	41.8	23.7	7	27.5	-28.19	85.6	3.8	
E.W.42	1.3	1.9	19.2	77.6	-2.18	85	1.8	CLOSED
E.W.43	19.5	12	12.3	56.2	-3.04	84.4	4.7	
E.W.44	13.5	8.9	15.3	62.3	-26.62	83.2	2.5	
E.W.45	0.5	9.4	13.3	76.8	-3.85	88	0	CLOSED
E.W.46	33	19.2	9.4	38.4	-27.39	87	2.3	
E.W.47	12.3	20.6	2.2	64.9	-0.28	87.8	4.7	
E.W.48	0.1	0.8	20	79.1	-15.11	87	0	CLOSED
E.W.49	1.2	4.8	18.6	75.4	-1.55	76.5	5.8	CLOSED
E.W.50	6.5	16.4	12.7	64.4	-11.66	82.9	0	CLOSED
E.W.51	52	34.3	2.3	11.4	-20.93	84.4	26.2	
E.W.52	11	6.1	16.3	66.6	-22.86	84.5	0	
E.W.53	0.1	0.9	19.7	79.3	-3.5	84.4	0	CLOSED
E.W.54	18.9	9.5	14.1	57.5	-0.48	86.3	0	
E.W.55	45.1	25.5	5.5	23.9	-0.27	83.9	2.7	
E.W.56	2.4	3	17.7	76.9	-6.04	84.9	3.6	CLOSED
E.W.57	63.7	32.2	0.6	3.5	-26.42	89.5	5.6	
E.W.58	9.2	5.2	17	68.6	-0.29	90.2	3	
E.W.59	0.2	0.6	19.9	79.3	-0.85	91.4	0	CLOSED
E.W.60	42.3	20	6.7	31	-25.83	84.1	2.6	
E.W.61	0.1	0.7	19.9	79.3	-0.74	90	3.5	CLOSED
E.W.62	47.7	31.3	0.3	20.7	-26.14	86	11.9	
E.W.63	2.7	2.6	18.9	75.8	-28.62	84.6	0	CLOSED
E.W.64	32.3	26.2	4.5	37	-2.86	86.3	4.3	
E.W.65	62.4	35.8	0	1.8	-27.65	87	7.2	
E.W.66	63.5	34.4	0.2	1.9	-26.88	88.4	5.9	
E.W.67	0.2	0.8	19.8	79.2	-15.46	84.6	0	CLOSED
E.W.68	1.5	9	13.9	75.6	-23.93	88.2	3.3	CLOSED
E.W.69	0.7	1.6	19.5	78.2	-28.33	87.4	3.4	CLOSED
E.W.70	0	3.6	16.8	79.6	-0.18	83.8	0	CLOSED
E.W.71	0	0.6	20.1	79.3	-28.72	83.1	0	CLOSED
E.W.72	32.9	19.1	6.1	41.9	-20.62	83.7	0	
E.W.73	34.8	21.7	6.8	36.7	-24.7	88.3	0	
E.W.74	30.7	17.3	10.3	41.7	-8.77	86.2	0	
E.W.75	30.6	16	10.5	42.9	-27.48	85.8	4.4	
E.W.76	36.1	20.3	8.2	35.4	-25.41	85.1	2.6	

ATTACHMENT D

HILLSBOROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT SUMMARY
(GAS EXTRACTION WELLS AND LEACHATE SUMPS)

HILLSBROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

LEACHATE SUMPS

Leachate Sump Number

	#1	#4	#6	#7	#8
November 2020 Removal Rate (Gallons)	2,929	30,525	4,809	8,441	57,070

Total November 2020 Removal: 103,774

NOTE: All 9 leachate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS/FLOW METER/CONDTRAP

										Pneumatic Pumps
EW#02	EW#03	EW#06	EW#07	EW#08	EW17	EW#25	EW#28	EW#31	EW#33	
EW#35	EW#36	EW#44	EW#56	EW#57	EW#58	EW#59	EW#54	EW#55		
EW#52	EW#53	EW#60	EW#61	EW#62						292,760

Total November 2020 Removal Rate (Gallons)

NOTE: This data only reflects extraction well outfitted with pneumatic pumps

GLOSSARY OF TERMS

CONDENSATE- Liquid generated by the heat from the landfill gas flowing thru the system.

SURGING-The vacuum is interrupted by liquids in the landfill gas system.

PERIMETER MONITORING WELLS- Wells installed around the property boundary of the Landfill sites to monitor landfill gas levels for Compliance with regulatory standards.

PB01- Bar punch probe test- this is only conducted on the perimeter monitoring wells that read higher than 5% methane, this test is only conducted once a month.

WELL CLOSED-Valve closed, conditions vary.

ND-Non –Detected.

WATER BLOCKAGE/WATERED IN-Liquids in the well prohibiting the flow of landfill gas thru the system.

EW-Extraction wells on the landfill gas system.

SCFM's-Standar cubic feet per minute.

PURGED-To cause evacuation.

NA-No adjustment

Hillsborough County Florida

PUBLIC UTILITIES
PO Box 1110 Tampa, FL 33601-1110

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DEPUTY COUNTY ADMINISTRATOR DEVELOPMENT & INFRASTRUCTURE
Lucia E. Garsys

April 12, 2021

Mr. Steve Morgan
Solid Waste Section
Department of Environmental Protection
Southwest District
13051 N. Telecom Pkwy
Temple Terrace, Florida 33637-0926

Subject: Hillsborough Heights/Taylor Road Landfills–March 2021 Monthly Operations Report

Dear Mr. Morgan:

As requested in the Florida Department of Environmental Protection's (DEP) February 6, 1998 correspondence, the Solid Waste Management Division of the Public Utilities Department (SWMD) is providing the March 2021 monthly operations report for the Hillsborough Heights and Taylor Road Landfills (Landfill). The report provides information concerning the operation and maintenance of the landfill gas collection systems, leachate and condensate removal, and site maintenance status.

Also, in accordance with Specific Condition, Section 2, E. a. of the Long-Term Care Permit #69683-011-SF/14, the SWMD is submitting the ambient gas monitoring results (see Figure 2).

The March 2021 report includes the following attachments.

- Attachment A, Taylor Road Landfill - Landfill Gas Extraction Wells Monitoring Results.
- Attachment B, Taylor Road Landfill – Liquids Management Summary (Gas Extraction Wells and Condensate Sumps).
- Attachment C, Hillsborough Heights Landfill - Landfill Gas Extraction Wells Monitoring Results.
- Attachment D, Hillsborough Heights Landfill - Liquids Management Summary (Gas Extraction Wells and Leachate Sumps).
- Attachment E, Hillsborough Heights/Taylor Road Landfills - Landfill Perimeter Gas Monitoring Well Results

Liquids Removal

The liquids removed from the Hillsborough Heights and Taylor Road Landfills are discharged directly into the sanitary sewer system. As shown in Attachments B and D, for March 2021 the total liquids removed is summarized below.

Taylor Road Condensate	300 gallons
Taylor Road Gas Extraction Wells Pumping Activities	5,625 gallons
Hillsborough Heights Gas Extraction Wells Pumping Activities	120,967 gallons
Hillsborough Heights Landfill Leachate Collection System Sump Removal Quantities	94,737 gallons
TOTAL REMOVAL QUANTITY	**221,629 gallons**

Maintenance and Repair

1. During the month of March 2021, maintenance required for the Taylor Road Landfill included replacing all wellheads on the extraction wells.

2. During the month of March 2021, maintenance for the Hillsborough Heights. included replacing all wellheads on the extraction wells.

Also included in this package for your information is a Glossary of Terms. Should you have any questions concerning the information provided, please call me at (813) 671-7707.

Sincerely,

Larry E. Ruiz, SC
Manager Landfill Operations
Solid Waste Management Division

LR/wg
Enclosures
xc: Kimberly Byer, SWMD
Michael Townsel, SWMD
Erik Spalvins, EPA
Ron Cope, EPC

Figure 1

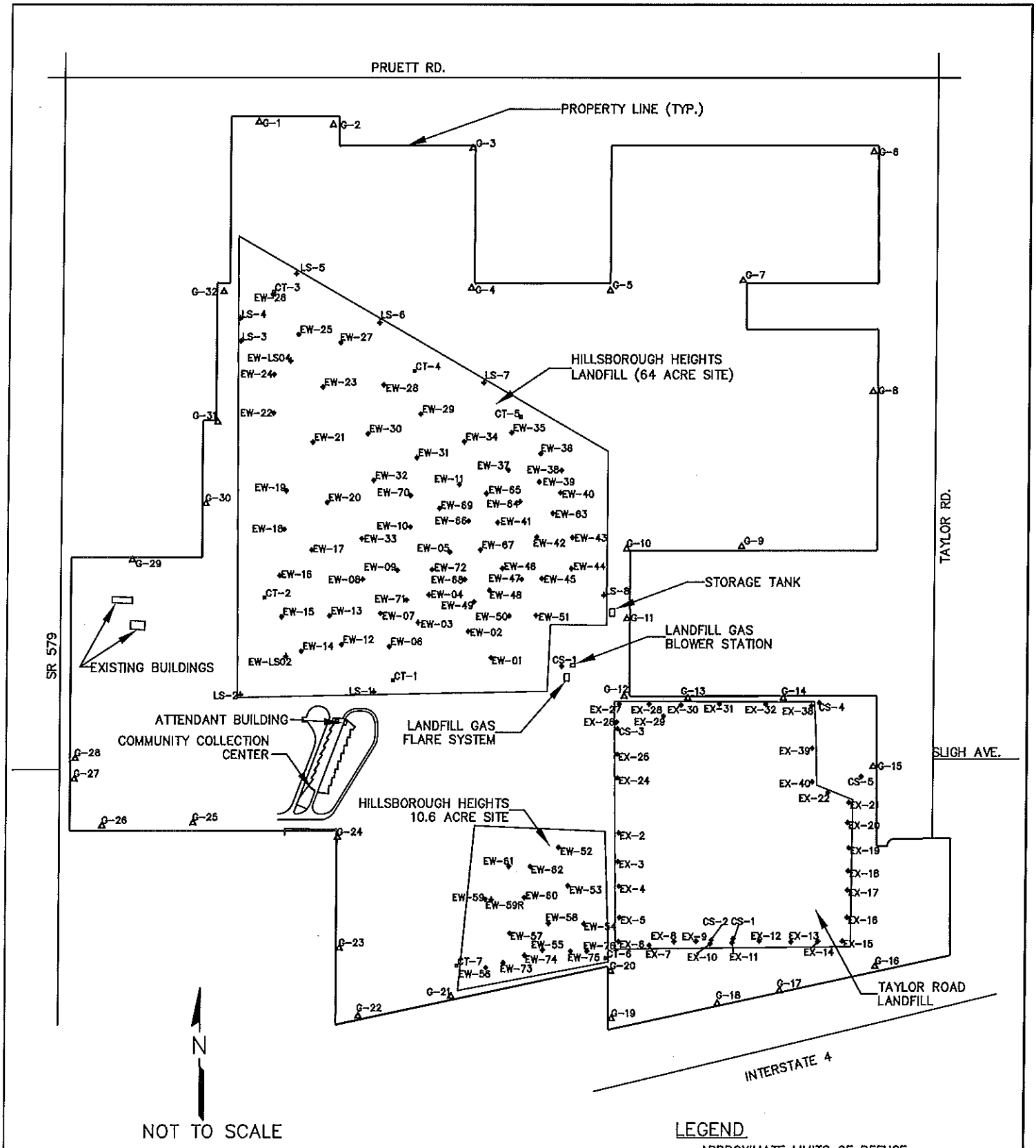
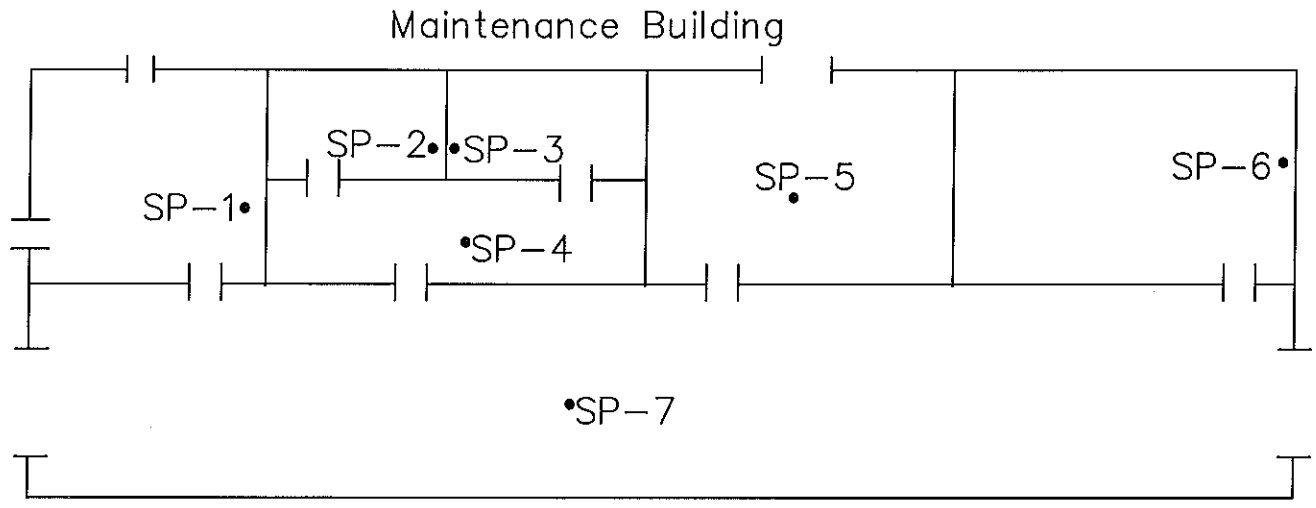


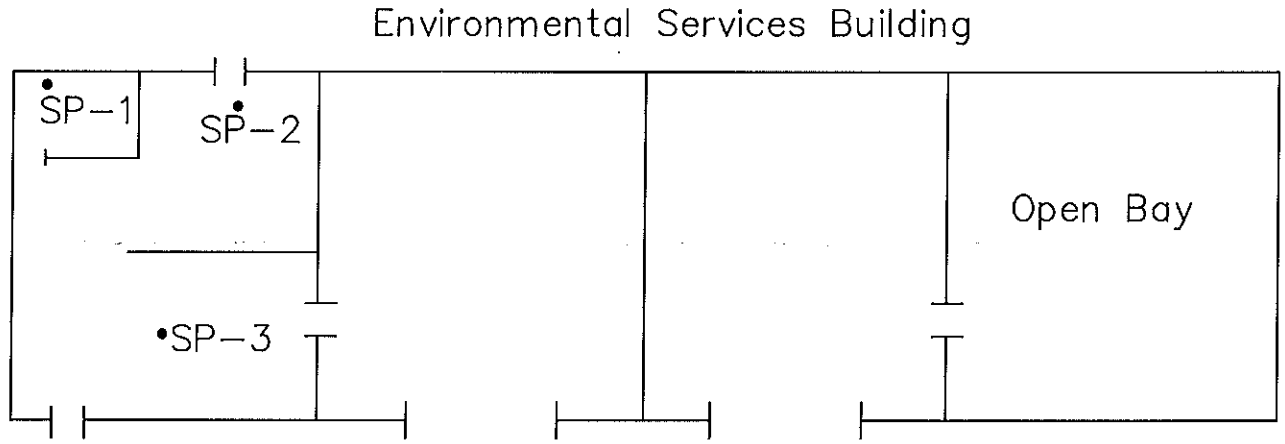
FIGURE 1. LANDFILL GAS MANAGEMENT SYSTEMS
HILLSBOROUGH HEIGHTS/TAYLOR ROAD LANDFILLS

HILLSBOROUGH COUNTY PUBLIC UTILITIES DEPARTMENT
SOLID WASTE MANAGEMENT GROUP

MAY 2011

Figure 2





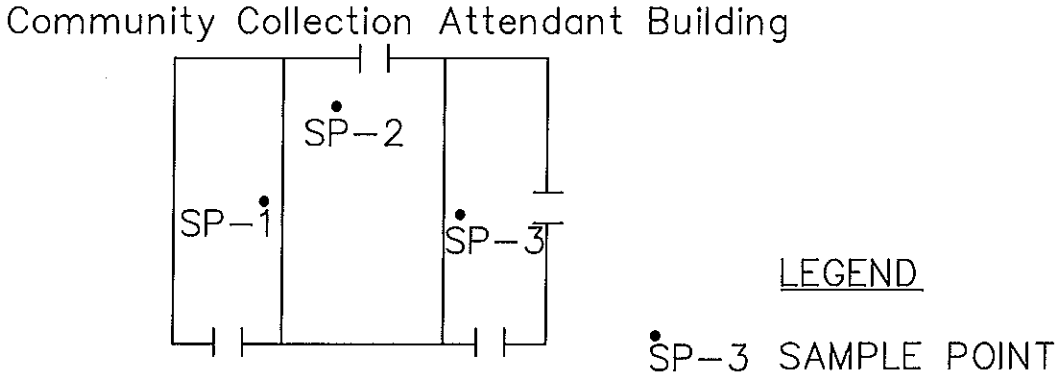


FIGURE 2. HILLSBOROUGH HEIGHTS/TAYLOR ROAD STRUCTURAL READINGS SAMPLE POINTS

HILLSBOROUGH COUNTY SOLID WASTE MANAGEMENT DEPARTMENT

FEBRUARY 2008

HILLSBOROUGH COUNTY SOLID WASTE MANAGEMENT DEPARTMENT
TAYLOR ROAD & HILLSBOROUGH HEIGHTS LANDFILLS
STRUCTURAL READINGS

MAINTENANCE BUILDING

	METHANE GAS	L.E.L.	CARBON DIOXIDE	OXYGEN	BALANCE GAS
S.P.1	0	0	0.1	20.8	79.1
S.P.2	0	0	0.1	20.8	79.1
S.P.3	0	0	0.1	20.8	79.1
S.P.4	0	0	0.1	20.8	79.1
S.P.5	0	0	0.1	20.9	79.0
S.P.6	0	0	0.1	20.9	79.0
S.P.7	0	0	0.1	20.9	79.0

ENVIRONMENTAL SERVICES BUILDING

	METHANE GAS	L.E.L.	CARBON DIOXIDE	OXYGEN	BALANCE GAS
S.P.1	0	0	0.1	21.0	79.9
S.P.2	0	0	0.1	21.0	79.9
S.P.3	0	0	0.1	21.0	79.9

COMMUNITY COLLECTION /ATTENDANT BUILDING

	METHANE GAS	L.E.L.	CARBON DIOXIDE	OXYGEN	BALANCE GAS
S.P.1	0	0	0.1	21.0	78.9
S.P.2	0	0	0.1	21.0	78.9
S.P.3	0	0	0.1	21.0	78.9

TECHNICIAN SIGNATURE: Michael Krysiak

SUPERVISOR SIGNATURE: _____

DATE: March 16, 2021

COMMENTS: _____

LEGEND: S.P.=SAMPLE POINT. (SEE FIGURE)

ATTACHMENT A

TAYLOR ROAD LANDFILL
LANDFILL GAS EXTRACTION
WELLS MONITORING RESULTS

TAYLOR ROAD LANDFILL

LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS

MONITORING DATE MARCH 16, 2021

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL)	PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.02	40.5	30.6	0.4	28.5	0.01	78.3	3.4	
E.W.03	0.5	10.1	6.5	82.9	-0.03	84.4	0	CLOSED
E.W.04	49.2	34.9	0.3	15.6	-2.2	76.9	6.4	
E.W.05	58	33.4	0.1	8.5	-2.39	86	5.8	
E.W.06	37.5	30.6	0.1	31.8	-0.36	85.1	4.3	
E.W.07	32.4	22.8	5.2	39.6	-0.56	86.3	6.3	
E.W.08	0.7	1.5	19.5	78.3	-0.02	87.8	0	CLOSED
E.W.09	47.4	28.9	4.7	19	0.01	85.1	0	
E.W.10	39.4	33.2	0.2	27.2	-0.05	81.2	0	
E.W.11	31.7	30.1	0	38.2	-0.01	79.1	2.1	
E.W.12	1.4	2.9	18.4	77.3	0.01	88.6	0	CLOSED
E.W.13	18.2	21.9	2.6	57.3	-0.88	80.9	3.8	
E.W.14	32.9	30.1	0.4	36.6	-2.33	80.7	3.5	
E.W.15	32.2	31.2	0.1	36.5	-1.65	82.6	2.6	
E.W.16	29.1	29.7	0.3	40.9	-2.07	79.4	3	
E.W.17	20.1	23.7	0.1	56.1	-1.29	78.5	4.9	
E.W.18	6	20.7	0.4	72.9	-0.55	84.1	2.9	CLOSED
E.W.19	0	17.2	6.2	76.6	0.03	86.8	0	CLOSED
E.W.20	0	0.5	20.3	79.2	0	84.8	0	CLOSED
E.W.21	0	0.8	19.9	79.3	-0.01	84.4	0	CLOSED
E.W.22	0	7	12.9	80.1	-0.01	83.5	0	CLOSED
E.W.24	58.7	37.6	0.1	3.6	-8.06	77.8	8.5	
E.W.25	64.2	32.9	0.4	2.5	-7.41	84	0	
E.W.26	55.9	37.8	0.2	6.1	-3	79.2	10	
E.W.27	54.9	37.3	0.3	7.5	-4.91	79.4	7.6	
E.W.28	53.7	33	0.4	12.9	-0.52	85.2	16.7	
E.W.29	53.2	33.8	0.7	12.3	-10.24	80.9	6.8	
E.W.30	44.6	30	0.4	25	-2.38	79.8	4.8	
E.W.31	17.6	13.4	11.8	57.2	-3.83	78.2	5	
E.W.32	4.7	10.6	9.5	75.2	-0.31	90	3.4	CLOSED
E.W.38	0.2	2	18.6	79.2	-0.11	90.3	3.1	CLOSED
E.W.39	0.6	1.8	18.5	79.1	-0.05	90.8	0	CLOSED
E.W.40	0	2.8	17.4	79.8	-0.74	89.2	0	CLOSED
E.W.41	1.6	1.4	18.3	78.7	-0.56	86.3	0	CLOSED
E.W.42	1.4	3.9	15.3	79.4	-1.09	92.8	1.4	CLOSED
E.W.43	54.7	38.1	0.1	7.1	-2.21	82.2	7.5	
E.W.44	21.2	18.6	3.6	56.6	-0.21	88.4	0	
E.W.45	5.8	3.4	17.7	73.1	-0.28	91	0	CLOSED
E.W.46	23.2	26.3	0.8	49.7	-1.94	85.9	8.5	

ATTACHMENT B

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT SUMMARY
GAS EXTRACTION WELLS AND CONDENSATE SUMPS)

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

CONDENSATE SUMPS

Condensate Sump Number

	#1	#2	#3	#4	#5	
March 2021 Removal Rate (Gallons)	0	0	60	140	100	
Total March 2021 Removal:						300

NOTE: All 5 Condensate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS

	EW#05	EW#7	EW#41	EW#42	EW#43	EW#44	EW#45	EW#46
March 2021 Removal Rate (Gallons)	0	0	0	0	0	600	5,025	0
Total March 2021 Removal:								5,625

NOTE:This data only reflects the extraction well that are required to be pumped.

ATTACHMENT C

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS EXTRACTION WELLS
MONITORING RESULTS

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE MARCH 17, 2021

		CARBON		BALANCE	GAS	GAS		
WELL NUMBER	METHANE	DIOXIDE	OXYGEN	GAS	PRESSURE	TEMPERATURE	FLOW	COMMENTS
	(%VOL.)	(%VOL.)	(%VOL.)	(%VOL.)	(IN W.C.)	(DEF. F.)	(S.C.F.M.)	
E.W.39	0.4	3.2	18.6	77.8	-28.27	88.1	0	CLOSED
E.W.40	40.4	28.5	4.3	26.8	-0.88	89.4	6.7	
E.W.41	47.1	26.6	4.8	21.5	-29.39	89.3	0	
E.W.42	1.3	2.1	18.2	78.4	-1.66	87	2.9	CLOSED
E.W.43	6.7	3.6	17.3	72.4	-25.8	86.5	2.5	CLOSED
E.W.44	9.1	6.9	15.9	68.1	-6.36	82.3	4.1	
E.W.45	5.1	7.9	13.1	73.9	-29.33	88.1	2.2	CLOSED
E.W.46	0.6	0.9	19.7	78.8	-27.39	89.4	0	CLOSED
E.W.47	0	4.3	17.4	78.3	-0.37	89.8	5.1	CLOSED
E.W.48	57.2	41.6	0.1	1.1	0.03	91.2	5.7	
E.W.49	0.2	0.9	20.2	78.7	0.02	70.2	0	CLOSED
E.W.50	0.3	1.7	19.3	78.7	-11.18	90.4	2.3	CLOSED
E.W.51	45.2	28.7	4.1	22	-24.07	90.5	21.7	
E.W.52	8.8	4.6	16.9	69.7	-10.74	90.1	4.6	
E.W.53	0	0.3	19.9	79.8	0	92.1	0	CLOSED
E.W.54	60.4	31.4	1.6	6.6	-0.02	92.9	0	
E.W.55	31.8	19.4	9.6	39.2	-2.22	88.4	0	
E.W.56	1.4	2.5	17.8	78.3	-1.64	85.9	0	CLOSED
E.W.57	59.7	31.8	1.3	7.2	-28.88	93	5.6	
E.W.58	12.6	7.2	15.8	64.4	-0.24	93.4	2.8	
E.W.59	0.1	0.4	20	79.5	-0.04	94.3	4.9	CLOSED
E.W.60	39.3	22	7.2	31.5	-26.92	86	0	
E.W.61	0.1	0.4	19.8	79.7	-0.21	93.9	5.9	CLOSED
E.W.62	30.3	25.6	0.3	43.8	-22.24	88.3	7.8	
E.W.63	2.9	3.1	18.4	75.6	-3.32	88.3	0	CLOSED
E.W.64	38.3	33.1	0.2	28.4	-0.66	88.8	3.8	
E.W.65	62.2	36.2	0	1.6	-29.06	87.7	9.8	
E.W.66	63.7	33.8	0	2.5	-27.82	91	7.5	
E.W.67	0.4	2	19.1	78.5	-12.44	91.2	0	CLOSED
E.W.68	3	14.6	12.1	70.3	-18.51	95.6	1.7	CLOSED
E.W.69	1.1	2.6	18.7	77.6	-29.69	93.9	0	CLOSED
E.W.70	0	3.8	16.3	79.9	-0.02	93	3.8	CLOSED
E.W.71	0	0.4	20	79.6	-5.97	93.2	0	CLOSED
E.W.72	40.3	23.3	6.1	30.3	-25.98	90.8	1.4	
E.W.73	19.6	20.4	4.3	55.7	0.01	89.1	2.3	
E.W.74	27.8	16.6	10.8	44.8	-7.7	89.1	0	
E.W.75	16.4	9.3	14.2	60.1	-28.33	91.1	0	
E.W.76	37.2	21.6	8	33.2	-25.59	90	0	

HILLSBOROUGH HEIGHTS LANDFILL

LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS

MONITORING DATE MARCH 17, 2021

		CARBON		BALANCE	GAS	GAS		
WELL NUMBER	METHANE	DIOXIDE	OXYGEN	GAS	PRESSURE	TEMPERATURE	FLOW	COMMENTS
	(%VOL.)	(%VOL.)	(%VOL.)	(%VOL.)	(IN W.C.)	(DEF. F.)	(S.C.F.M.)	
E.W.01	58.4	32.3	1.7	7.6	-22.77	73.7	8.9	
E.W.02	0.3	0.9	20	78.8	-0.49	71.5	6.9	CLOSED
E.W.03	0.7	1	20	78.3	-25.52	73.5	0	CLOSED
E.W.04	9.1	11.6	14.4	64.9	-27.06	70.5	0	CLOSED
E.W.05	0.3	11.4	15.7	72.6	0.01	74.9	0	CLOSED
E.W.06	66	33.9	0.1	0	-0.29	77.1	6.7	
E.W.07	0.4	1	20.3	78.3	-0.05	75.3	0	CLOSED
E.W.08	0.2	0.5	20.6	78.7	-12.67	78.9	0	CLOSED
E.W.09	12	2.8	17.4	67.8	-6.86	77	1.5	
E.W.10	1	11.1	11.5	76.4	0	76.4	0	CLOSED
E.W.11	59.1	30.8	2.3	7.8	-24.18	82.2	0	
E.W.12	25.9	26.7	0.9	46.5	-0.01	78.6	0	
E.W.13	54	30.2	2.6	13.2	-2.33	79.1	5.7	
E.W.14	46.8	33.4	1.1	18.7	-0.02	79.4	3.1	
L.S.02	25.1	19.6	11.6	43.7	-12.68	76.3	0	
E.W.15	43.8	29.2	5.1	21.9	-21.55	79.9	0	
E.W.16	54.9	39.3	1.2	4.6	-11.42	87.8	9.6	
E.W.17	19.4	14.4	12.7	53.5	-3.14	78.4	0	
E.W.18	0.6	13	14.8	71.6	-0.16	85.6	3.2	CLOSED
E.W.19	21.2	13.2	13.4	52.2	-0.23	81.1	11	
E.W.20	40.3	22.1	7.5	30.1	-28.39	80.6	5.7	
E.W.21	57.3	38	0.8	3.9	-16.69	94.8	17.6	
E.W.22	59.7	40.3	0.1	N/A	-28.66	78	4.8	
E.W.23	20.9	12.9	13.4	52.8	-28.19	77.7	4.8	
E.W.24	50.7	28.8	1.8	18.7	-26.5	78.4	5.1	
L.S.04	55.6	41.1	0.5	2.8	-19.73	76.7	7.7	
E.W.25	39.6	27	2.7	30.7	-9.88	82.6	6.8	
E.W.26	53.6	31	0	15.4	-27.21	79.4	10.2	
E.W.27	8.7	4.4	17.8	69.1	-0.08	78.7	8.3	
E.W.28	52.4	23.9	4.5	19.2	-28.89	83.5	7	
E.W.29	9.2	7.4	16.9	66.5	-29.32	81.7	3.8	
E.W.30	62	32	0.9	5.1	-29.26	87.1	8	
E.W.31	1.1	5.1	16.8	77	-29.34	86.4	0	CLOSED
E.W.32	32.6	14.2	9.9	43.3	-26.35	85.5	6.9	
E.W.33	0.2	0.5	20	79.3	-27.18	82	0	CLOSED
E.W.34	69.1	29.8	0.3	0.8	-26.85	85.1	10	
E.W.35	41	18.1	7.9	33	-9.92	85.8	5.6	
E.W.36	2.2	24.1	9	64.7	0	87	0	CLOSED
E.W.37	0.9	2.6	18.8	77.7	-2.72	84.7	0	CLOSED
E.W.38	6.9	20.4	0.3	72.4	-1.04	88.8	0	CLOSED

ATTACHMENT D

HILLSBOROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT SUMMARY
(GAS EXTRACTION WELLS AND LEACHATE SUMPS)

HILLSBROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

LEACHATE SUMPS

Leachate Sump Number

	#1	#4	#6	#7	#8
March 2021 Removal Rate (Gallons)	14,844	21,120	4,170	12,422	42,181

Total March 2021 Removal: 94,737

NOTE: All 9 leachate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS/FLOW METER/CONDTRAP

EW#02	EW#03	EW#06	EW#07	EW#08	EW17	EW#25	EW#28	EW#31	EW#33	Pneumatic Pumps	
EW#35	EW#36	EW#44	EW#56	EW#57	EW#58	EW#59	EW#54	EW#55			
EW#52	EW#53	EW#60	EW#61	EW#62						120,967	

Total March 2021 Removal Rate (Gallons)

NOTE: This data only reflects extraction well outfitted with pneumatic pumps

ATTACHMENT E

HILLSBOROUGH HEIGHTS/TAYLOR ROAD LANDFILLS
LANDFILL PERIMETER GAS
MONITORING WELL RESULTS

Hillsborough Heights/Taylor Road Landfills

Landfill Gas Perimeter Monitoring Well Reading Summary

CH_4 (%VOLUME)*

	Gas Monitoring Well							
DATE	GW #4	GW #9	GW #10	GW #20	GW #30	GW # 31	GW #32	COMMENTS
12/18/2020	0	0	0	0	0	0	0	
3/15/2021	0	0	0	0	0	0	0	

Note: 1% by volume is equal to 20% LEL

*Table only includes wells with historical gas readings

Attachment E
Hillsborough Heights/Taylor Road Landfills
Landfill Perimeter Gas Monitoring Well Results

DATE	LOCATION	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	PRESSURE (IN W.C.)	Comments
3/15/2021	G-01	0	2.7	19.1	78.2	0	
	G-02	0	0.1	20.3	79.6	0	
	G-03	0	0.1	20.4	79.5	0	
	G-04	0	2.5	17.9	79.6	0	
	G-05	0	3.1	18.1	78.8	0	
	G-06	0	0.6	20	79.4	0	
	G-07	0	0.6	19.5	79.9	0	
	G-08	0	0.1	20.6	79.3	0	
	G-09	0	0.1	20.4	79.5	0	
	G-10	0	0.1	20.4	79.5	0	
	G-11	0	1.4	17.5	81.1	0	
	G-12	0	1.1	19	79.9	0	
	G-13	0	3.4	15.9	80.7	0	
	G-14	0	2.9	16.5	80.6	0	
	G-15	0	0.7	19.6	79.7	0	
	G-16	0	1.3	19.2	79.5	0	
	G-17	0	0.6	19.7	79.7	0	
	G-18	0	0.1	20.1	79.8	0	
	G-19	0	0.5	19.8	79.7	0	
	G-20	0	1.8	18.5	79.7	0	
	G-21	0	3.7	17.2	79.1	0	
	G-22	0	1	19.4	79.6	0	
	G-23	0	0.9	19.6	79.5	0	
	G-24	0	0.9	19.4	79.7	0	
	G-25	0	0.7	19.7	79.6	0	
	G-26	0	0.9	19.6	79.5	0	
	G-27	0	1.5	18.9	79.6	0	
	G-28	0	1.2	19.3	79.5	0	
	G-29	0	0.1	20.4	79.5	0	
	G-30	0	1.9	18.5	79.6	0	
	G-31	0	0.2	20.3	79.5	0	
	G-32	0	0.4	20.1	79.5	0	

GLOSSARY OF TERMS

CONDENSATE- Liquid generated by the heat from the landfill gas flowing thru the system.

SURGING-The vacuum is interrupted by liquids in the landfill gas system.

PERIMETER MONITORING WELLS- Wells installed around the property boundary of the Landfill sites to monitor landfill gas levels for Compliance with regulatory standards.

PB01- Bar punch probe test- this is only conducted on the perimeter monitoring wells that read higher than 5% methane, this test is only conducted once a month.

WELL CLOSED-Valve closed, conditions vary.

ND-Non –Detected.

WATER BLOCKAGE/WATERED IN-Liquids in the well prohibiting the flow of landfill gas thru the system.

EW-Extraction wells on the landfill gas system.

SCFM's-Standar cubic feet per minute.

PURGED-To cause evacuation.

NA-No adjustment

Hillsborough County Florida

PUBLIC UTILITIES
PO Box 1110, Tampa, FL 33601-1110
(813) 209-3009

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George Cassady

May 12, 2021

Mr. Steve Morgan
Solid Waste Section
Department of Environmental Protection
Southwest District
13051 N. Telecom Pkwy
Temple Terrace, Florida 33637-0926

Subject: Hillsborough Heights/Taylor Road Landfills–April 2021 Monthly Operations Report

Dear Mr. Morgan:

As requested in the Florida Department of Environmental Protection's (DEP) February 6, 1998 correspondence, the Solid Waste Management Division of the Public Utilities Department (SWMD) is providing the April 2021 monthly operations report for the Hillsborough Heights and Taylor Road Landfills (Landfill). The report provides information concerning the operation and maintenance of the landfill gas collection systems, leachate and condensate removal, and site maintenance status.

The April 2021 report includes the following attachments.

- Attachment A, Taylor Road Landfill - Landfill Gas Extraction Wells Monitoring Results.
- Attachment B, Taylor Road Landfill – Liquids Management Summary (Gas Extraction Wells and Condensate Sumps).
- Attachment C, Hillsborough Heights Landfill - Landfill Gas Extraction Wells Monitoring Results.
- Attachment D, Hillsborough Heights Landfill - Liquids Management Summary (Gas Extraction Wells and Leachate Sumps).

Liquids Removal

The liquids removed from the Hillsborough Heights and Taylor Road Landfills are discharged directly into the sanitary sewer system. As shown in Attachments B and D, for April 2021 the total liquids removed is summarized below.

Taylor Road Condensate	525	gallons
Taylor Road Gas Extraction Wells Pumping Activities	7,000	gallons
Hillsborough Heights Gas Extraction Wells Pumping Activities	91,101	gallons
Hillsborough Heights Landfill Leachate Collection System Sump Removal Quantities	77,053	gallons
TOTAL REMOVAL QUANTITY	**175,679**	**gallons**

Maintenance and Repair

1. During the month of April 2021, maintenance was not required for the Taylor Road Landfill.

2. During the month of April 2021, maintenance was required for the Hillsborough Heights included replacing flex hose on extraction well number 59.

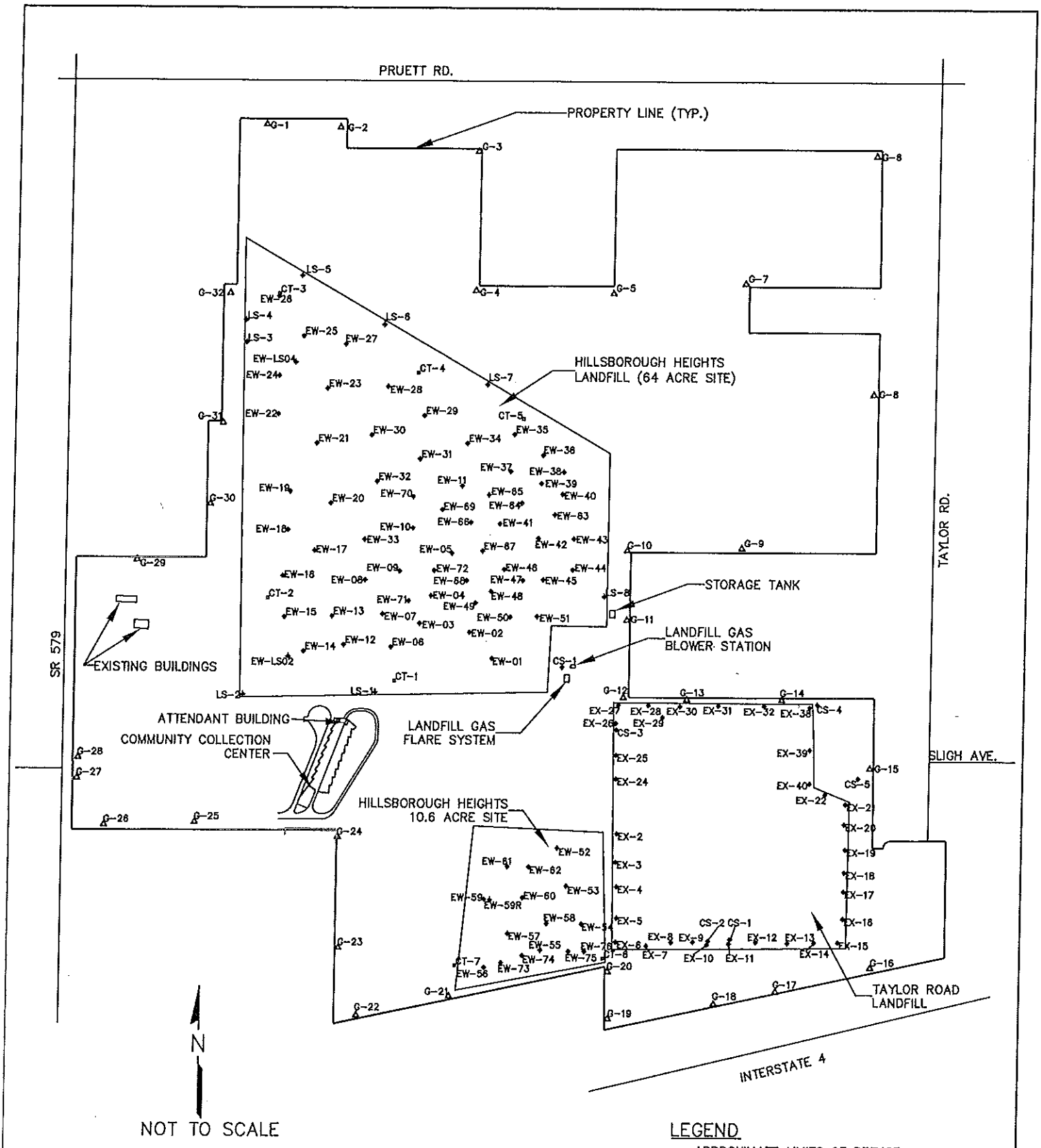
Also included in this package for your information is a Glossary of Terms. Should you have any questions concerning the information provided, please call me at (813) 671-7707.

Sincerely,

Larry E. Ruiz, SC
Manager Landfill Operations
Solid Waste Management Division

LR/wg
Enclosures
xc: Kimberly Byer, SWMD
Michael Townsel, SWMD
Erik Spalvins, EPA
Ron Cope, EPC

Figure 1



LEGEND

———	APPROXIMATE LIMITS OF REFUSE
G-18	LFG PERIMETER MONITORING WELL
EW-55	LFG EXTRACTION WELL
EX-4	LFG EXTRACTION WELL (TAYLOR RD)
CS-5	CONDENSATE SUMP
CT-7	CONDENSATE TRAP
LS-1	LEACHATE SUMP

FIGURE 1. LANDFILL GAS MANAGEMENT SYSTEMS
HILLSBOROUGH HEIGHTS/TAYLOR ROAD LANDFILLS

HILLSBOROUGH COUNTY PUBLIC UTILITIES DEPARTMENT
SOLID WASTE MANAGEMENT GROUP

MAY 2011

ATTACHMENT A

TAYLOR ROAD LANDFILL
LANDFILL GAS EXTRACTION
WELLS MONITORING RESULTS

TAYLOR ROAD LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE APRIL 22, 2021

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.02	26.1	27.8	0.2	45.9	-7.31	77.6	0	
E.W.03	0.1	2.8	17.4	79.7	-8.91	80.3	0	CLOSED
E.W.04	47.3	32.8	0.3	19.6	-3.9	77.6	0	
E.W.05	5.9	6.4	14.9	72.8	-13.25	79.1	1	
E.W.06	13	13.6	5	68.4	-8.1	83.6	0	
E.W.07	38.6	30.3	0.7	30.4	-12.2	79.7	0.8	
E.W.08	0.1	1	19.7	79.2	-10.58	82.2	0	CLOSED
E.W.09	24	11.9	12.8	51.3	-10.94	78.8	0.3	
E.W.10	34.8	29.3	0.2	35.7	-9.74	78.8	0	
E.W.11	15.7	25.6	0.1	58.6	-6.14	78.1	0	
E.W.12	7.5	8.4	14.8	69.3	-3.73	75.7	0	
E.W.13	8.5	16.9	4.5	70.1	-1.74	81.5	0	
E.W.14	17.5	26.4	0.2	55.9	-6.11	78.8	0	
E.W.15	15.5	26.7	0.2	57.6	-8.63	82.4	0	
E.W.16	20.7	25.6	1.4	52.3	-7.85	80.6	0	
E.W.17	14.1	20.9	0.2	64.8	-2.36	80.4	0	
E.W.18	5.9	18.8	0.8	74.5	-7.12	80.6	0	
E.W.19	0	0.5	20.1	79.4	-1.89	85.3	0.1	CLOSED
E.W.20	15	17.9	1.2	65.9	-7.43	81	0	
E.W.21	0	1.2	19.4	79.4	-0.95	85.1	0	CLOSED
E.W.22	5.1	12.7	5.9	76.3	-0.49	81.4	0	CLOSED
E.W.24	57.3	36.4	0.2	6.1	-15.11	79.2	0	
E.W.25	57	29.4	1.6	12	-18.64	82	1.3	
E.W.26	56.1	33.6	0.2	10.1	-4.26	80	0	
E.W.27	52.2	36.6	0	11.2	-10.48	79	0	
E.W.28	50.3	32.8	0.1	16.8	-15.19	78.9	0	
E.W.29	50.5	32.5	0.1	16.9	-10.56	78.3	0.3	
E.W.30	32.8	26.3	0.2	40.7	-8.68	80.9	0	
E.W.31	15.3	12.7	10.4	61.6	-2.41	81.4	0	
E.W.32	14.9	16.4	1.8	66.9	-11.35	86.9	0.6	
E.W.38	0	3.5	15.8	80.7	0.03	87.2	0	CLOSED
E.W.39	0	1.6	17.7	80.7	0.17	87.6	0.3	CLOSED
E.W.40	0	0.5	20	79.5	-11.43	88.4	0	CLOSED
E.W.41	3.7	1.9	18.3	76.1	-1.7	81.6	0	CLOSED
E.W.42	0.4	0.8	19.2	79.6	-16.44	91.7	0.5	CLOSED
E.W.43	57.3	37	0.2	5.5	-1.4	79.7	0.8	
E.W.44	7.1	17.9	0.2	74.8	-5.39	84.5	1.5	CLOSED
E.W.45	24.4	20.5	7.2	47.9	-10.47	88	0.1	
E.W.46	42.1	26	0.3	31.6	-0.05	84	0.8	

ATTACHMENT B

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT SUMMARY
GAS EXTRACTION WELLS AND CONDENSATE SUMPS)

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

CONDENSATE SUMPS

	Condensate Sump Number					
	#1	#2	#3	#4	#5	
April 2021 Removal Rate (Gallons)	300	100	50	0	75	
Total April 2021 Removal:						525

NOTE: All 5 Condensate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS

	EW#05	EW#7	EW#41	EW#42	EW#43	EW#44	EW#45	EW#46
April 2021 Removal Rate (Gallons)	0	0	0	0	0	650	6,350	0
Total April 2021 Removal:								7,000

NOTE:This data only reflects the extraction well that are required to be pumped.

ATTACHMENT C

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS EXTRACTION WELLS
MONITORING RESULTS

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE APRIL 23, 2021

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	GAS PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.01	64.6	35.3	0.2	N/A	-21.75	87.4	0.4	
E.W.02	0.2	1.5	20	78.3	-1.44	79.1	0	CLOSED
E.W.03	1.2	3.1	18.5	77.2	-14.32	82.5	0	CLOSED
E.W.04	1.3	2.7	18.7	77.3	-21.6	80.8	0	CLOSED
E.W.05	0	1.2	19.8	79	-21.31	82.1	0	CLOSED
E.W.06	33.6	18.2	8.8	39.4	-21.37	82.3	0	
E.W.07	0.1	1	19.8	79.1	3.22	85.2	0	CLOSED
E.W.08	0	0.2	20	79.8	-21.15	85.4	0	CLOSED
E.W.09	16.3	4.6	15.2	63.9	-21.43	84.3	0.2	
E.W.10	1.9	3.6	16.5	78	-4.91	82.4	0	CLOSED
E.W.11	61.4	27.2	1.5	9.9	-20.69	82.6	0.8	
E.W.12	17.3	22.8	0.2	59.7	-15.93	80.4	3.7	
E.W.13	52.6	31	0.9	15.5	-18.04	80.5	2.3	
E.W.14	40.8	24.1	3.3	31.8	-17.5	81.7	1.6	
L.S.02	26.1	19.6	10.4	43.9	-17.54	78.3	2.5	
E.W.15	17.8	8.6	14.7	58.9	-6.95	85.1	0.2	
E.W.16	57	39.9	0.2	2.9	-12.85	88	2.1	
E.W.17	24.4	27.4	0.1	48.1	-20.78	85.1	3.6	
E.W.18	2.7	2.7	19	75.6	-12.41	82.2	0	CLOSED
E.W.19	7.1	3.2	17.8	71.9	-2.12	82.6	0	
E.W.20	44.3	23.5	5.6	26.6	-20.41	82.6	0.4	
E.W.21	56.9	37.2	0.5	5.4	-20.2	95.1	2.3	
E.W.22	59.6	36.1	0.2	4.1	-20.47	79.5	2.9	
E.W.23	19.9	11.7	12.7	55.7	-20.3	77.8	2.6	
E.W.24	36.1	23.9	1.7	38.3	-20.65	83	1.5	
L.S.04	55.8	38.1	0.4	5.7	-20.79	81.4	2.3	
E.W.25	30	22	0.9	47.1	-20.5	84.9	3.3	
E.W.26	46.4	24.1	4.1	25.4	-0.45	87.2	1.1	
E.W.27	48.8	15.6	5.6	30	-0.47	87	1.1	
E.W.28	51.9	22.4	4	21.7	-20.61	86.1	0.2	
E.W.29	29.9	17.3	10.3	42.5	-20.49	88.2	0.2	
E.W.30	63.3	32.1	0.2	4.4	-20.66	88.1	0.3	
E.W.31	32.4	19.9	8.1	39.6	-20.65	86.7	0.2	CLOSED
E.W.32	23.4	10.2	13.3	53.1	-21.02	87	0.2	
E.W.33	0	0.5	20.3	79.2	-20.7	89	0.1	CLOSED
E.W.34	66.1	27.5	0.6	5.8	-20.81	87.5	0.3	
E.W.35	31.3	10.5	10.9	47.3	-20.83	88.3	0.3	
E.W.36	0.3	1.7	19.9	78.1	-21.61	87.8	0	CLOSED
E.W.37	23.2	14	12.3	50.5	-21.65	84.6	0	
E.W.38	2.7	6.1	13.9	77.3	-19.13	83.7	0	CLOSED

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE APRIL 23, 2021

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	GAS PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.39	0.9	3.8	18.1	77.2	-21.12	85	0.1	CLOSED
E.W.40	4.7	8.5	12.2	74.6	-14.05	79.5	0	
E.W.41	48.6	23.2	4.3	23.9	-21.41	86.5	0.2	
E.W.42	1.1	1.7	19	78.2	-10.14	87.3	0	CLOSED
E.W.43	2.3	1.4	19.2	77.1	-21.48	98.8	0.2	CLOSED
E.W.44	8.5	6.3	15	70.2	-4.79	89.2	0	
E.W.45	0	1.2	18.5	80.3	-21.47	88.8	0.2	CLOSED
E.W.46	27.6	11.1	10.7	50.6	-20.49	92	0.3	
E.W.47	24.3	12.4	11.5	51.8	-21.48	89.9	0.3	
E.W.48	31.2	30.9	0.5	37.4	-19.84	85	0	
E.W.49	48.7	35.7	0.2	15.4	-15.73	79.2	1.4	
E.W.50	2.7	4.6	16.3	76.4	-21.43	86	0.1	CLOSED
E.W.51	60.3	34.2	0.3	5.2	-21.56	97.2	0	
E.W.52	14.4	7	15.2	63.4	-18.91	93.1	0	
E.W.53	0	0.4	20.2	79.4	-16.62	89.2	0.1	CLOSED
E.W.54	64	28.5	0.4	7.1	-21.02	87	0	
E.W.55	53.8	22.2	3.4	20.6	-20.67	89.4	0	
E.W.56	0.8	2.2	17.7	79.3	-0.9	86.9	0	CLOSED
E.W.57	9	3.4	18.1	69.5	-18.89	89.5	0	
E.W.58	0.9	0.8	20.2	78.1	-18.11	88.8	0	
E.W.59	0	0.3	20.6	79.1	-19.6	90.8	0	CLOSED
E.W.60	33.9	14.2	9.3	42.6	-19.26	88.7	0	
E.W.61	0.1	1.4	20.3	78.2	-0.8	88	0.2	CLOSED
E.W.62	33.2	19.5	0.4	46.9	-20.29	88.6	0	
E.W.63	1	1.3	19.7	78	-21.5	92.7	0.2	
E.W.64	0	0.6	19.3	80.1	-10.57	88.8	0	
E.W.65	65.9	28.8	0.4	4.9	-19.08	86.5	0	
E.W.66	67.6	27.7	0.4	4.3	-21.46	89.8	0	
E.W.67	36.4	17.3	8.4	37.9	-21.53	94.8	0	
E.W.68	0.1	2.7	19.4	77.8	-21.91	89.4	0.1	CLOSED
E.W.69	0	0.4	20.4	79.2	-20.65	88.8	0.2	CLOSED
E.W.70	0.5	0.6	19.6	79.3	-12.93	88.2	0	CLOSED
E.W.71	5.2	1.9	18.7	74.2	-21.32	90.3	0.2	CLOSED
E.W.72	30.4	7.8	11.8	50	-21.3	85.9	0.4	
E.W.73	9.7	13.2	8.3	68.8	-19.11	87.7	0	
E.W.74	47.6	24.9	1.7	25.8	-19.88	86.8	0	
E.W.75	38.8	17.8	4.9	38.5	-20.64	86.9	0	
E.W.76	51.3	28.2	2.7	17.8	-20.91	90.2	0.9	

ATTACHMENT D

HILLSBOROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT SUMMARY
(GAS EXTRACTION WELLS AND LEACHATE SUMPS)

HILLSBROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

LEACHATE SUMPS

	Leachate Sump Number					
	#1	#4	#6	#7	#8	
April 2021 Removal Rate (Gallons)	11,895	18,870	2,861	6,057	37,370	
Total April 2021 Removal:						77,053

NOTE: All 9 leachate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS/FLOW METER/CONDTRAP

	EW#02	EW#03	EW#06	EW#07	EW#08	EW17	EW#25	EW#28	EW#31	EW#33		Pneumatic Pumps
	EW#35	EW#36	EW#44	EW#56	EW#57	EW#58	EW#59	EW#54	EW#55			
	EW#52	EW#53	EW#60	EW#61	EW#62							
Total April 2021 Removal:												91,101
Rate (Gallons)												

NOTE: This data only reflects extraction well outfitted with pneumatic pumps

GLOSSARY OF TERMS

CONDENSATE- Liquid generated by the heat from the landfill gas flowing thru the system.

SURGING-The vacuum is interrupted by liquids in the landfill gas system.

PERIMETER MONITORING WELLS- Wells installed around the property boundary of the Landfill sites to monitor landfill gas levels for Compliance with regulatory standards.

PB01- Bar punch probe test- this is only conducted on the perimeter monitoring wells that read higher than 5% methane, this test is only conducted once a month.

WELL CLOSED-Valve closed, conditions vary.

ND-Non –Detected.

WATER BLOCKAGE/WATERED IN-Liquids in the well prohibiting the flow of landfill gas thru the system.

EW-Extraction wells on the landfill gas system.

SCFM's-Standar cubic feet per minute.

PURGED-To cause evacuation.

NA-No adjustment

Hillsborough County Florida

SOLID WASTE MANAGEMENT
PO Box 1110, Tampa, FL 33601-1110
813-612-7718

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Bonnie M. Wise
COUNTY ATTORNEY
Christine M. Beck
INTERNAL AUDITOR
Peggy Caskey

ASSISTANT COUNTY ADMINISTRATOR
George Cassady

June 14, 2021

Mr. Steve Morgan
Solid Waste Section
Department of Environmental Protection
Southwest District
13051 N. Telecom Pkwy
Temple Terrace, Florida 33637-0926

Subject: Hillsborough Heights/Taylor Road Landfills–May 2021
Monthly Operations Report

Dear Mr. Morgan:

As requested in the Florida Department of Environmental Protection's (DEP) February 6, 1998 correspondence, the Solid Waste Management Division of the Public Utilities Department (SWMD) is providing the May 2021 monthly operations report for the Hillsborough Heights and Taylor Road Landfills (Landfill). The report provides information concerning the operation and maintenance of the landfill gas collection systems, leachate and condensate removal, and site maintenance status.

The May 2021 report includes the following attachments.

- Attachment A, Taylor Road Landfill - Landfill Gas Extraction Wells Monitoring Results.
- Attachment B, Taylor Road Landfill – Liquids Management Summary (Gas Extraction Wells and Condensate Sumps).
- Attachment C, Hillsborough Heights Landfill - Landfill Gas Extraction Wells Monitoring Results.
- Attachment D, Hillsborough Heights Landfill - Liquids Management Summary (Gas Extraction Wells and Leachate Sumps).

Liquids Removal

The liquids removed from the Hillsborough Heights and Taylor Road Landfills are discharged directly into the sanitary sewer system. As shown in Attachments B and D, for May 2021 the total liquids removed is summarized below.

Taylor Road Condensate	0	gallons
Taylor Road Gas Extraction Wells Pumping Activities	5,400	gallons
Hillsborough Heights Gas Extraction Wells Pumping Activities	109,113	gallons
Hillsborough Heights Landfill Leachate Collection System Sump Removal Quantities	63,494	gallons
TOTAL REMOVAL QUANTITY	**178,007**	**gallons**

Maintenance and Repair

1. During the month of May 2021, maintenance was not required for the Taylor Road Landfill.

2. During the month of May 2021, maintenance was required for the Hillsborough Heights included removing, cleaning and re-installing pneumatic pump from extraction well no. 2 and replacing check valve.

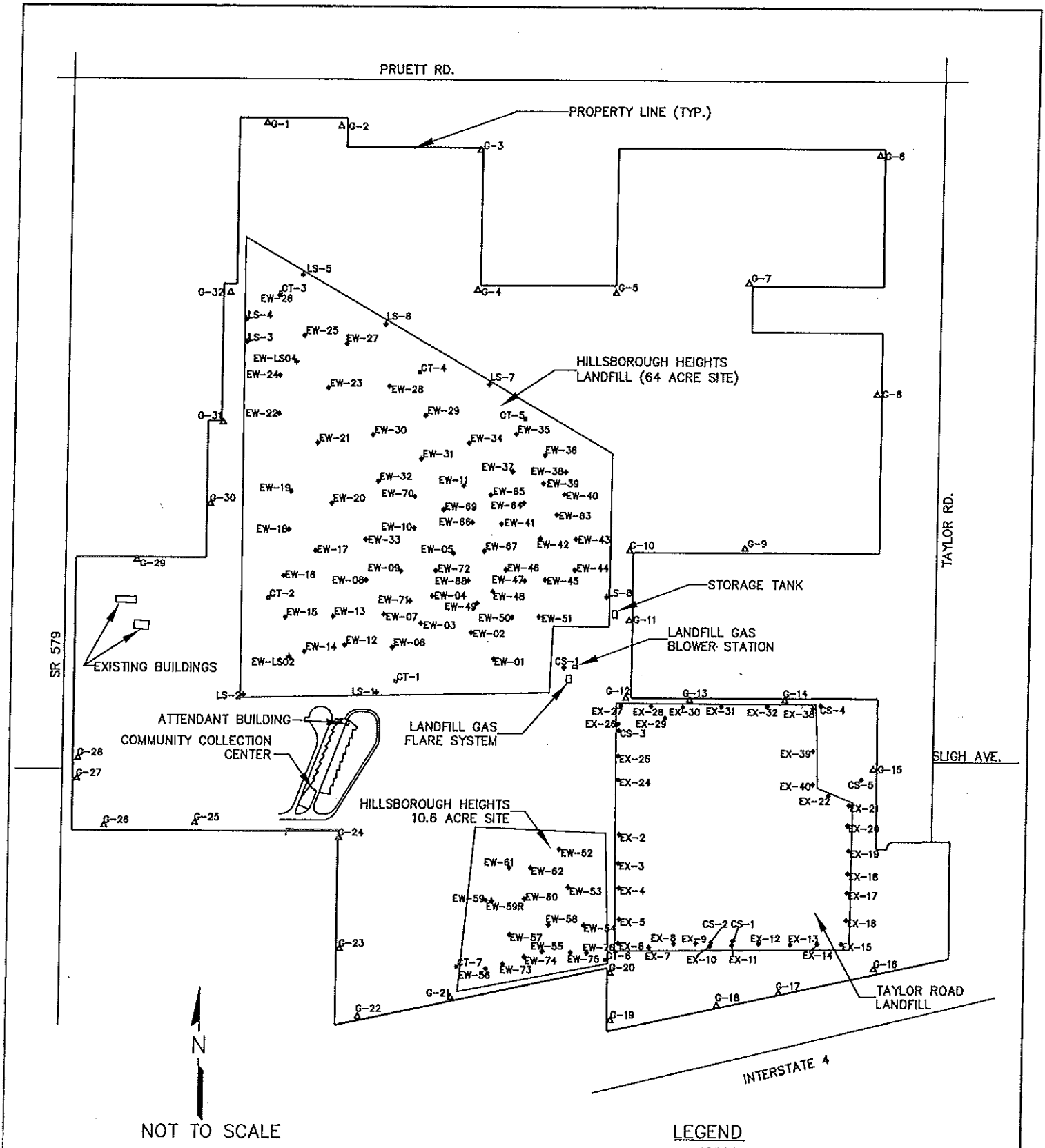
Also included in this package for your information is a Glossary of Terms. Should you have any questions concerning the information provided, please call me at (813) 671-7707.

Sincerely,

Larry E. Ruiz, SC
Manager Landfill Operations
Solid Waste Management Division

LR/wg
Enclosures
xc: Kimberly Byer, SWMD
Michael Townsel, SWMD
Erik Spalvins, EPA
Ron Cope, EPC

Figure 1



LEGEND

- APPROXIMATE LIMITS OF REFUSE
- G-18 LFG PERIMETER MONITORING WELL
- EW-55 LFG EXTRACTION WELL
- EX-4 LFG EXTRACTION WELL (TAYLOR RD)
- CS-5 CONDENSATE SUMP
- CT-7 CONDENSATE TRAP
- LS-1 LEACHATE SUMP

FIGURE 1. LANDFILL GAS MANAGEMENT SYSTEMS
HILLSBOROUGH HEIGHTS/TAYLOR ROAD LANDFILLS

HILLSBOROUGH COUNTY PUBLIC UTILITIES DEPARTMENT
SOLID WASTE MANAGEMENT GROUP

MAY 2011

ATTACHMENT A

TAYLOR ROAD LANDFILL
LANDFILL GAS EXTRACTION
WELLS MONITORING RESULTS

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

CONDENSATE SUMPS

	Condensate Sump Number					
	#1	#2	#3	#4	#5	
May 2021 Removal Rate (Gallons)	0	0	0	0	0	
Total May 2021 Removal:						0

NOTE: All 5 Condensate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS

	EW#05	EW#7	EW#41	EW#42	EW#43	EW#44	EW#45	EW#46
May 2021 Removal Rate (Gallons)	0	0	0	0	0	550	4,850	0
Total May 2021 Removal:								5,400

NOTE:This data only reflects the extraction well that are required to be pumped.

ATTACHMENT B

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT SUMMARY
GAS EXTRACTION WELLS AND CONDENSATE SUMPS)

TAYLOR ROAD LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE MAY 19, 2021

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.02	24.9	25.2	0.1	49.8	-4.97	85.8	0	
E.W.03	0.5	3.7	17.4	78.4	-3.06	82.6	0	CLOSED
E.W.04	46	33.6	0.1	20.3	-3.78	79.5	0	
E.W.05	7.4	6.1	15.7	70.8	-6.01	88.4	0.2	
E.W.06	9.5	14.9	7.4	68.2	-6.96	87.5	0	
E.W.07	27.8	22.9	0.7	48.6	-7.43	88	0	
E.W.08	0.2	1.6	19.5	78.7	-2.53	90	0.2	CLOSED
E.W.09	25.5	12.7	12.4	49.4	-9.11	89.3	0.4	
E.W.10	31.9	29.7	0.2	38.2	-7.81	84.1	0	
E.W.11	12.4	23.3	0.1	64.2	-5.29	82.9	0	
E.W.12	4.6	5.3	16.1	74	-2.42	85	0	CLOSED
E.W.13	6.9	14.2	4.9	74	-1.64	86.2	0	CLOSED
E.W.14	15.9	24	0.3	59.8	-6.07	84.1	0	
E.W.15	14.4	25.4	0.1	60.1	-8.58	87.3	0	
E.W.16	20	23	1.7	55.3	-7.81	85.8	0	
E.W.17	15.3	18.8	0.2	65.7	-2.56	84.5	0	
E.W.18	7.9	19.3	0.8	72	-5.36	85.1	0	
E.W.19	3.9	14.9	1.6	79.6	-0.17	90.1	0.3	CLOSED
E.W.20	19.6	21.5	0.1	58.8	-6.67	89	0.2	
E.W.21	0	0.7	19.8	79.5	-0.09	89.7	0	CLOSED
E.W.22	6.2	13.3	5.9	74.6	-0.5	88.5	0	CLOSED
E.W.24	56	35.8	0.2	8	-13.01	82.3	0	
E.W.25	54.7	29.4	0.3	15.6	-16.83	92.7	0	
E.W.26	52	36.4	0	11.6	-4.28	82	0	
E.W.27	48.8	35.4	0.4	15.4	-8.92	82.7	0	
E.W.28	49.5	31	0.1	19.4	-12.07	82.9	0	
E.W.29	59	34.6	0	6.4	-0.28	88.4	0	
E.W.30	45.1	30.9	0	24	-5.62	83.4	0	
E.W.31	13.7	10.3	12.8	63.2	-1.34	88.7	0	
E.W.32	14.7	20.5	0.7	64.1	-5.15	91.9	0.4	
E.W.38	0	4.2	15.1	80.7	-0.05	92.6	0	CLOSED
E.W.39	0	3	15.7	81.3	-0.05	91	0	CLOSED
E.W.40	0	0.7	19.9	79.4	-1.36	94	0.1	CLOSED
E.W.41	1.3	0.9	19.5	78.3	-0.55	84.4	0	CLOSED
E.W.42	0	0.3	20.2	79.5	-5.22	86.6	0	CLOSED
E.W.43	56.9	36.5	0.2	6.4	-0.68	87.7	0	
E.W.44	5.8	19.1	0.1	75	-3	90.5	0.2	CLOSED
E.W.45	16.5	25.4	0.1	58	-8.95	91.7	0	
E.W.46	50	33	0.1	16.9	0.1	87.8	2.7	

ATTACHMENT C

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS EXTRACTION WELLS
MONITORING RESULTS

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE MAY 20, 2021

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	GAS PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.01	64.9	34.9	0.1	0.1	-16.69	80.9	0	
E.W.02	14.5	9.4	15.7	60.4	-0.23	79.7	0	
E.W.03	1.5	4.1	18.3	76.1	-11.17	80.2	0	CLOSED
E.W.04	0.9	2.2	19.6	77.3	-16.3	81.3	0	CLOSED
E.W.05	0	1.1	20.3	78.6	-16.41	82.4	0	CLOSED
E.W.06	34.4	17.9	8.9	38.8	-17.03	82.7	0.3	
E.W.07	65.6	30.9	0.2	3.3	-3.72	82.9	0	
E.W.08	3.5	2.8	19.4	74.3	-16.95	80.5	0.1	CLOSED
E.W.09	27.8	8.7	12.6	50.9	-17.02	79.6	0	
E.W.10	0.4	2.1	18.6	78.9	-3.65	84.9	0	CLOSED
E.W.11	58	29.9	2.3	9.8	-16.55	83.5	0	
E.W.12	17.7	24.6	0.1	57.6	-11.87	81.5	0	
E.W.13	51.5	31.4	1	16.1	-13.58	82.8	0	
E.W.14	38.9	27.3	3.7	30.1	-13.83	82.8	0	
L.S.02	23.4	17.9	12.1	46.6	-12.87	82.2	0	
E.W.15	57.9	34.8	0.7	6.6	-14.67	88.6	0.4	
E.W.16	58.9	39.7	0.1	1.3	-5	89.5	0	
E.W.17	27.5	29.2	0	43.3	-12.82	83.3	0	
E.W.18	1.9	2	19.5	76.6	-4.82	83	0	CLOSED
E.W.19	8.4	4.5	17.8	69.3	-1.23	85.6	0	
E.W.20	43.4	21.4	6.4	28.8	-16.63	83.6	0.2	
E.W.21	54.1	33.5	2.3	10.1	-15.4	95.5	0	
E.W.22	17	11.5	14.3	57.2	-0.05	86.1	0.2	
E.W.23	12.3	6.2	16.2	65.3	-13.95	80	0	
E.W.24	28	14.9	2	55.1	-16.63	86.1	0	
L.S.04	56	40.5	0.3	3.2	-15.58	84.3	0	
E.W.25	17.3	16.9	9.6	56.2	-14.99	84.6	0	
E.W.26	1.5	2.1	19.7	76.7	-8.07	85.9	0	CLOSED
E.W.27	35.5	16.8	8.7	39	-0.03	85.8	0.1	
E.W.28	54.5	22.2	4.1	19.2	-17.26	85.6	0	
E.W.29	30.7	17.9	10	41.4	-17.34	88.4	0	
E.W.30	66.3	31.1	0.2	2.4	-17.21	88.1	0.2	
E.W.31	1.6	1.9	19.2	77.3	-5.89	85.8	0	CLOSED
E.W.32	30.9	10	11.2	47.9	-17.2	89.6	0	
E.W.33	0	0.3	20.2	79.5	-16.85	90.2	0	CLOSED
E.W.34	66.6	29.1	0.4	3.9	-16.76	90.7	0	
E.W.35	36.6	12.9	9.2	41.3	-16.7	90.4	0	
E.W.36	0.5	2.2	19.6	77.7	-17.78	89.7	0	CLOSED
E.W.37	28.4	14.7	10.5	46.4	-18.14	90.2	0.1	
E.W.38	6.5	16.4	1.7	75.4	-1.98	85.8	0	CLOSED

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE MAY 20, 2021

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	GAS PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.39	42.7	28.6	4.2	24.5	-17.73	89.7	0.3	CLOSED
E.W.40	3.6	6.2	13.7	76.5	-10.37	84.1	0	
E.W.41	57.4	29.5	1.7	11.4	-17.66	90.4	0.3	
E.W.42	0.2	1.2	19.4	79.2	-5.38	87.4	0	CLOSED
E.W.43	3.6	2.3	18.5	75.6	-17.09	90.9	0.2	CLOSED
E.W.44	8.3	6.7	15.3	69.7	-2.82	88.5	0	
E.W.45	0	0.7	19.4	79.9	-17.58	91.3	0.1	CLOSED
E.W.46	35.1	19.8	7.6	37.5	-17.77	94.1	0.3	
E.W.47	24.1	12.9	10.8	52.2	-17.86	93.6	0.3	
E.W.48	7.6	15.6	5.4	71.4	-14.59	90.5	0	
E.W.49	8.7	20	4	67.3	-1.64	82.6	0	
E.W.50	6	8	13.7	72.3	-17.68	89.5	0.2	CLOSED
E.W.51	60	34.8	0.3	4.9	-17.78	91.6	0	
E.W.52	19	9.6	13.8	57.6	-15.63	89	0	
E.W.53	0.1	0.5	19.8	79.6	-16.62	92.1	0.2	CLOSED
E.W.54	52.9	26.2	0.9	20	-17.13	90	0	
E.W.55	61	27.6	1.3	10.1	-16.81	90.7	0.2	
E.W.56	0.8	2.7	17.5	79	-0.43	89.5	0	CLOSED
E.W.57	7.5	3.3	18.2	71	-14.21	94.5	0	
E.W.58	33	16.2	9.1	41.7	-17.82	88.1	0.1	
E.W.59	0	0.7	20	79.3	-12.78	90.3	0.4	CLOSED
E.W.60	42	19.7	6.3	32	-14.89	91	0.3	
E.W.61	0	1.1	20	78.9	-1.2	90.8	0.2	CLOSED
E.W.62	33.5	22.8	0.4	43.3	-16.73	91.1	0.3	
E.W.63	1.4	1.5	19.3	77.8	-17.57	91.7	0	CLOSED
E.W.64	12.7	8	15.4	63.9	-9.98	88.3	0	
E.W.65	61.7	34.7	0.2	3.4	-15.53	89.2	0	
E.W.66	62.8	33.9	0.1	3.2	-18.19	93.4	0	
E.W.67	33.2	19.8	8.9	38.1	-18.51	95.2	0.2	
E.W.68	2.7	5.2	16.6	75.5	-18.63	91.4	0.3	CLOSED
E.W.69	0	0.5	20.2	79.3	-17.77	90.4	0.2	CLOSED
E.W.70	0	0.5	20	79.5	-7.37	89.3	0	CLOSED
E.W.71	9.6	7.6	15.8	67	-18.05	91.5	0.3	
E.W.72	36.1	17.9	7.6	38.4	-18.21	88	0.3	
E.W.73	8.7	11.5	8.9	70.9	-7.82	92.8	0.3	
E.W.74	50.8	25.3	1.7	22.2	-16.5	90.6	0	
E.W.75	40	23.4	3.3	33.3	-16.31	89.5	0.3	
E.W.76	43.9	21.7	4.5	29.9	-15.42	90.3	0.4	

ATTACHMENT D

HILLSBOROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT SUMMARY
(GAS EXTRACTION WELLS AND LEACHATE SUMPS)

HILLSBROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

LEACHATE SUMPS

	Leachate Sump Number					
	#1	#4	#6	#7	#8	
May 2021 Removal Rate (Gallons)	9,122	15,486	1,721	3,223	33,942	
Total May 2021 Removal:						63,494

NOTE: All 9 leachate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS/FLOW METER/CONDTRAP

EW#02	EW#03	EW#06	EW#07	EW#08	EW17	EW#25	EW#28	EW#31	EW#33		Pneumatic Pumps
EW#35	EW#36	EW#44	EW#56	EW#57	EW#58	EW#59	EW#54	EW#55			
EW#52	EW#53	EW#60	EW#61	EW#62							109,113

Total May 2021 Removal: Rate (Gallons)

NOTE: This data only reflects extraction well outfitted with pneumatic pumps

GLOSSARY OF TERMS

CONDENSATE- Liquid generated by the heat from the landfill gas flowing thru the system.

SURGING-The vacuum is interrupted by liquids in the landfill gas system.

PERIMETER MONITORING WELLS- Wells installed around the property boundary of the Landfill sites to monitor landfill gas levels for Compliance with regulatory standards.

PB01- Bar punch probe test- this is only conducted on the perimeter monitoring wells that read higher than 5% methane, this test is only conducted once a month.

WELL CLOSED-Valve closed, conditions vary.

ND-Non –Detected.

WATER BLOCKAGE/WATERED IN-Liquids in the well prohibiting the flow of landfill gas thru the system.

EW-Extraction wells on the landfill gas system.

SCFM's-Standar cubic feet per minute.

PURGED-To cause evacuation.

NA-No adjustment

Hillsborough County Florida

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PO Box 1110, Tampa, FL 33601-1110
813-612-7718

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ASSISTANT COUNTY ADMINISTRATOR
George Cassady

July 14, 2021

Mr. Steve Morgan
Solid Waste Section
Department of Environmental Protection
Southwest District
13051 N. Telecom Pkwy
Temple Terrace, Florida 33637-0926

Subject: Hillsborough Heights/Taylor Road Landfills–June 2021 Monthly Operations Report

Dear Mr. Morgan:

As requested in the Florida Department of Environmental Protection's (DEP) February 6, 1998 correspondence, the Solid Waste Management Division of the Public Utilities Department (SWMD) is providing the June 2021 monthly operations report for the Hillsborough Heights and Taylor Road Landfills (Landfill). The report provides information concerning the operation and maintenance of the landfill gas collection systems, leachate and condensate removal, and site maintenance status.

Also, in accordance with Specific Condition, Section 2, E. a. of the Long-Term Care Permit #69683-011-SF/14, the SWMD is submitting the ambient gas monitoring results (see Figure 2).

The June 2021 report includes the following attachments.

- Attachment A, Taylor Road Landfill - Landfill Gas Extraction Wells Monitoring Results.
- Attachment B, Taylor Road Landfill – Liquids Management Summary (Gas Extraction Wells and Condensate Sumps).
- Attachment C, Hillsborough Heights Landfill - Landfill Gas Extraction Wells Monitoring Results.
- Attachment D, Hillsborough Heights Landfill - Liquids Management Summary (Gas Extraction Wells and Leachate Sumps).
- Attachment E, Hillsborough Heights/Taylor Road Landfills - Landfill Perimeter Gas Monitoring Well Results

Liquids Removal

The liquids removed from the Hillsborough Heights and Taylor Road Landfills are discharged directly into the sanitary sewer system. As shown in Attachments B and D, for June 2021 the total liquids removed is summarized below.

Taylor Road Condensate	4,600	gallons
Taylor Road Gas Extraction Wells Pumping Activities	4,950	gallons
Hillsborough Heights Gas Extraction Wells Pumping Activities	151,281	gallons
Hillsborough Heights Landfill Leachate Collection System Sump Removal Quantities	68,581	gallons
TOTAL REMOVAL QUANTITY	**229,412**	**gallons**

Maintenance and Repair

1. During the month of June 2021, maintenance was required for the Taylor Road Landfill included the replacement of the broken PVC pipe on extraction well # 3.

2. During the month of June 2021, no maintenance was required for the Hillsborough Heights.

Also included in this package for your information is a Glossary of Terms. Should you have any questions concerning the information provided, please call me at (813) 671-7707.

Sincerely,

Larry E. Ruiz, SC
Manager Landfill Operations
Solid Waste Management Division

LR/wg
Enclosures
xc: Kimberly Byer, SWMD
Michael Townsel, SWMD
Erik Spalvins, EPA
Ron Cope, EPC

Figure 1

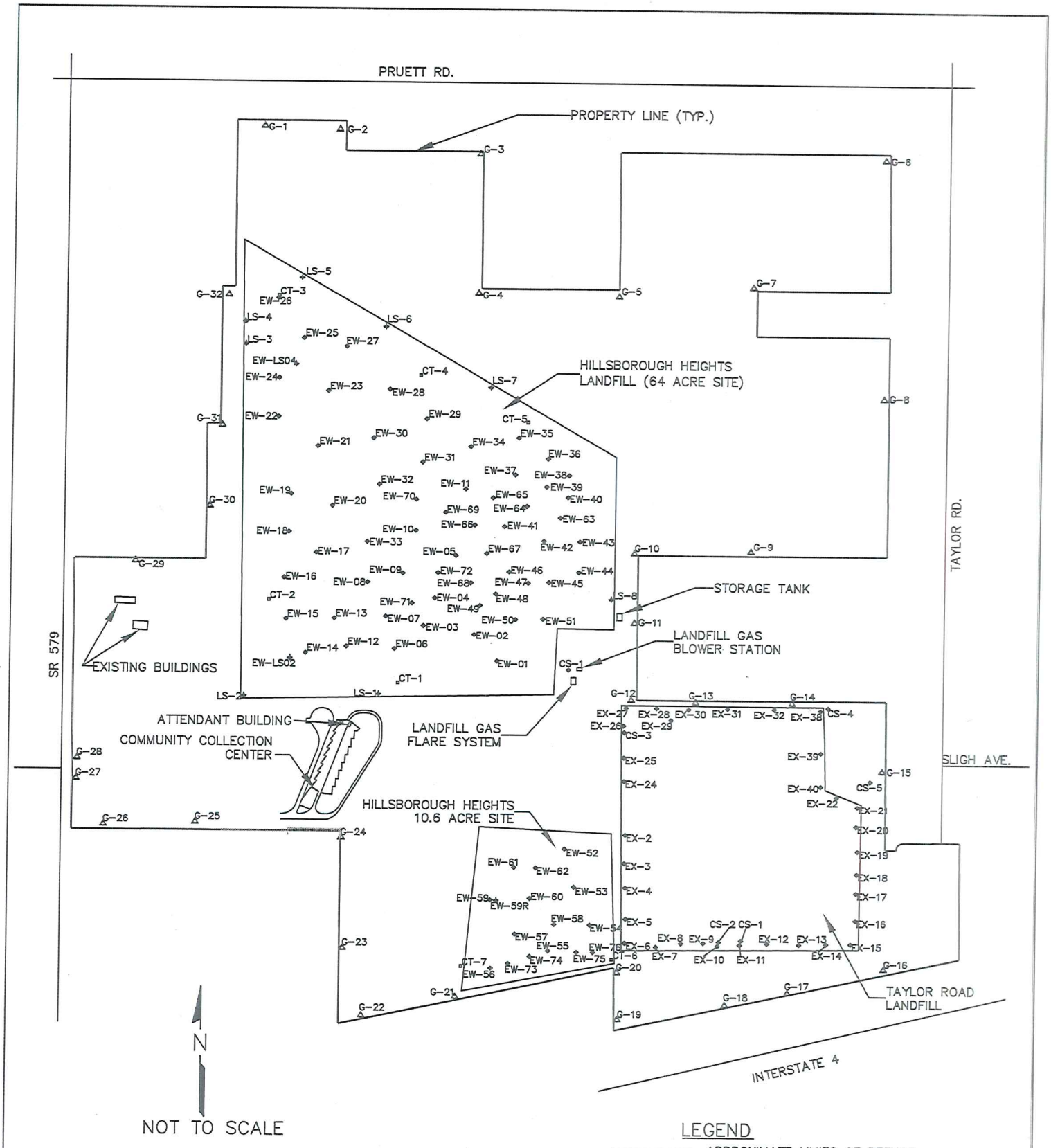

FIGURE 1. LANDFILL GAS MANAGEMENT SYSTEMS
HILLSBOROUGH HEIGHTS/TAYLOR ROAD LANDFILLS

HILLSBOROUGH COUNTY PUBLIC UTILITIES DEPARTMENT
SOLID WASTE MANAGEMENT GROUP

MAY 2011

Figure 2

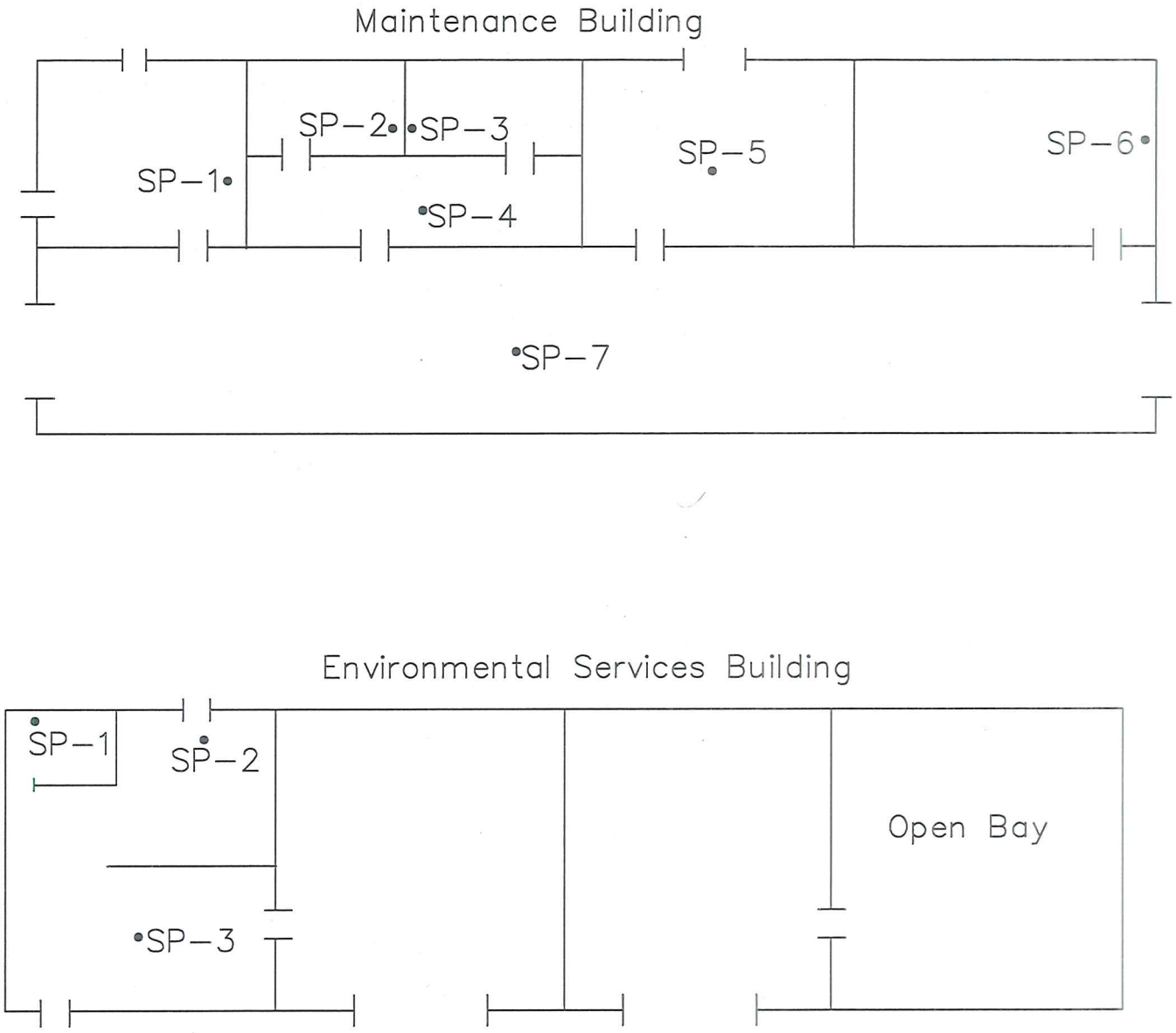

FIGURE 2. HILLSBOROUGH HEIGHTS/TAYLOR ROAD STRUCTURAL READINGS SAMPLE POINTS

HILLSBOROUGH COUNTY SOLID WASTE MANAGEMENT DEPARTMENT

FEBRUARY 2008

HILLSBOROUGH COUNTY SOLID WASTE MANAGEMENT DIVISION
TAYLOR ROAD & HILLSBOROUGH HEIGHTS LANDFILLS
STRUCTURAL READINGS

MAINTENANCE BUILDING

	METHANE GAS	L.E.L.	CARBON DIOXIDE	OXYGEN	BALANCE GAS
S.P.1	0	0	0.1	20.7	79.2
S.P.2	0	0	0.1	20.7	79.2
S.P.3	0	0	0.1	20.7	79.2
S.P.4	0	0	0.1	20.7	79.2
S.P.5	0	0	0.1	20.7	79.2
S.P.6	0	0	0.1	20.5	79.4
S.P.7	0	0	0.1	20.5	79.4

HAZARDOUS HOUSEHOLD WASTE BUILDING

	METHANE GAS	L.E.L.	CARBON DIOXIDE	OXYGEN	BALANCE GAS
S.P.1	0	0	0.1	20.5	79.4
S.P.2	0	0	0.1	20.5	79.4
S.P.3	0	0	0.1	20.5	79.4

COMMUNITY COLLECTION /ATTENDANT BUILDING

	METHANE GAS	L.E.L.	CARBON DIOXIDE	OXYGEN	BALANCE GAS
S.P.1	0	0	0	20.4	79.6
S.P.2	0	0	0	20.4	79.6
S.P.3	0	0	0	20.4	79.6

TECHNICIAN SIGNATURE: Michael Snyder

SUPERVISOR SIGNATURE: Walter [illegible]

DATE: June 10, 2021

COMMENTS:

LEGEND: S.P.=SAMPLE POINT. (SEE FIGURE)

ATTACHMENT A

TAYLOR ROAD LANDFILL
LANDFILL GAS EXTRACTION
WELLS MONITORING RESULTS

TAYLOR ROAD LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE JUNE 9, 2021

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.02	27.9	26	0.3	45.8	-1.48	84.9	0	
E.W.03	1	5.5	14.5	79	-0.14	84.3	0	CLOSED
E.W.04	44.9	33.8	0.2	21.1	-5.13	81.6	0	
E.W.05	18	14.1	10.6	57.3	-6.45	86.9	5.8	
E.W.06	8.1	13	8.6	70.3	-5.12	87.2	0	
E.W.07	21.6	26.6	0.5	51.3	-11.68	87.4	0	
E.W.08	0.7	5.2	17.6	76.5	-1.89	95.5	0	CLOSED
E.W.09	48.7	29.8	3.1	18.4	-12.95	99.1	0	
E.W.10	31.4	30.2	0.2	38.2	-10.4	86.4	0	
E.W.11	12.5	22.3	0.2	65	-7.02	86.5	0	
E.W.12	4.4	5.2	15.9	74.5	-1.26	89.6	0	CLOSED
E.W.13	7.2	16.2	4.5	72.1	-1.33	87.6	0	
E.W.14	16	24.6	0.3	59.1	-8.21	87.4	0	
E.W.15	14.8	25.4	0.4	59.4	-12.8	89.6	0	
E.W.16	19.7	24.6	1.4	54.3	-11.41	87.1	0	
E.W.17	16.9	22.1	0.1	60.9	-3.39	84.9	0	
E.W.18	5.9	19.2	1.2	73.7	-4.56	87.7	0	CLOSED
E.W.19	19.3	20.8	0.1	59.8	-2.91	92.8	0.1	
E.W.20	19.6	22.3	0.2	57.9	-10.77	92.6	0	
E.W.21	0	1.1	19.7	79.2	-0.59	92.3	0	CLOSED
E.W.22	5	10.9	7.5	76.6	-1.45	90.8	0	CLOSED
E.W.24	55.1	36.3	0.2	8.4	-14.78	83.2	0	
E.W.25	52	30.8	0.4	16.8	-18.76	97.8	0	
E.W.26	50.5	36.5	0.1	12.9	-2.63	85.1	0	
E.W.27	49	34.6	0.4	16	-11.51	83.6	0	
E.W.28	48	30.2	0.3	21.5	-16.13	87.5	0	
E.W.29	58.7	33.3	0.2	7.8	-2.01	93.6	0	
E.W.30	43.7	29.5	0.3	26.5	-7.39	89.5	0	
E.W.31	40.9	31.2	0.1	27.8	-1.93	91.8	0	
E.W.32	12.3	18.2	2.3	67.2	-7.27	96.7	0	
E.W38	0	3.5	15.8	80.7	-0.1	98.9	0	CLOSED
E.W39	0	2.7	14.2	83.1	-0.03	99.2	0.1	CLOSED
E.W40	0	2.6	16.7	80.7	-1.24	96.8	0.2	CLOSED
E.W41	2.2	2	18.1	77.7	-0.88	89.2	0	CLOSED
E.W42	0	0.5	19.5	80	-0.07	89.7	0	CLOSED
E.W43	56.5	34.8	0.3	8.4	-2.95	86.9	0	
E.W44	36.1	29	0	34.9	-0.6	98.2	0	
E.W45	10.6	22.5	0.1	66.8	-7.77	88.9	0	CLOSED
E.W46	42.5	31.6	0.1	25.8	-0.89	87.7	0	

ATTACHMENT B

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT SUMMARY
GAS EXTRACTION WELLS AND CONDENSATE SUMPS)

TAYLOR ROAD LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

CONDENSATE SUMPS

Condensate Sump Number

	#1	#2	#3	#4	#5
June 2021 Removal Rate (Gallons)	320	500	1,280	1,600	900

Total June 2021 Removal: 4,600

NOTE: All 5 Condensate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS

	EW#05	EW#7	EW#41	EW#42	EW#43	EW#44	EW#45	EW#46
June 2021 Removal Rate (Gallons)	0	0	0	0	0	800	4,150	0

Total June 2021 Removal: 4,950

NOTE:This data only reflects the extraction well that are required to be pumped.

ATTACHMENT C

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS EXTRACTION WELLS
MONITORING RESULTS

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE JUNE 23, 2021

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	GAS PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.01	55.3	36.1	0.1	8.5	-20.34	79.5	0	
E.W.02	31.2	18.3	9.3	41.2	-11.73	82.2	0	
E.W.03	14.2	10.8	13.5	61.5	-20.43	78.4	0.1	
E.W.04	0.1	0.7	20.7	78.5	-8.15	80.6	0	CLOSED
E.W.05	0	0.5	20.7	78.8	-1.82	83	0	CLOSED
E.W.06	66.2	32.5	0.4	0.9	-0.43	89.4	0.2	
E.W.07	19	15.2	12.9	52.9	-16.55	83.7	0	CLOSED
E.W.08	67.6	23.6	1.8	7	-20.58	87.8	0.2	
E.W.09	41.8	14.1	8.5	35.6	-21.04	87.1	0.2	
E.W.10	7.6	12.8	8.5	71.1	-4.54	88.7	0	CLOSED
E.W.11	63	33.4	0.8	2.8	-20.21	91	0	
E.W.12	15	21.9	0.3	62.8	-15.87	84	0	
E.W.13	46.9	32.9	0.6	19.6	-17.17	87.1	0	
E.W.14	44.4	35.9	0	19.7	-17.72	91.1	0	
L.S.02	24.7	20.1	11.1	44.1	-17.2	87.5	0	
E.W.15	49.3	36.5	0.2	14	-18.63	91.9	0.2	
E.W.16	57.9	40.8	0	1.3	-15.51	89.9	0	
E.W.17	23.1	26.1	0.6	50.2	-15.8	87.2	3.4	
E.W.18	1.7	3.9	18.5	75.9	-4.84	88.3	0	CLOSED
E.W.19	7	4.3	18.2	70.5	-1.44	87	0	CLOSED
E.W.20	66.5	31.1	0.3	2.1	-20.21	106.9	0.6	
E.W.21	58	38.2	0.2	3.6	-18.92	97.2	0	
E.W.22	54.4	38.8	0.8	6	-16.25	87.2	6.1	
E.W.23	10.5	7	15.7	66.8	-14.64	85.8	3.7	
E.W.24	22.5	22.1	0.3	55.1	-19.76	88.6	3.6	
L.S.04	56.4	41.6	0.1	1.9	-18.36	86.2	0	
E.W.25	26.1	26.4	0.3	47.2	-18.77	91.8	0	
E.W.26	47.8	27	2.4	22.8	-20	95	0	
E.W.27	10.8	5	17.1	67.1	-11.54	90.5	0	
E.W.28	63.5	29.1	1.1	6.3	-20.8	100.2	0.3	
E.W.29	39.4	20.6	7.2	32.8	-20.79	96.9	0.3	
E.W.30	64.2	32.5	0	3.3	-20.72	102.1	0.4	
E.W.31	55.3	38.9	0.1	5.7	-0.46	105.9	0.4	
E.W.32	32.4	14.4	10.4	42.8	-21.18	97.1	0.4	
E.W.33	13.7	19.4	6.9	60	-0.54	100.3	0.4	CLOSED
E.W.34	66.9	30.1	0	3	-20.87	101.6	0.4	
E.W.35	39.2	15.9	8.3	36.6	-20.94	97.7	0.3	
E.W.36	0.1	1.2	20	78.7	-22.42	98.2	0.2	CLOSED
E.W.37	29	15.4	10.7	44.9	-22.05	93.7	0.4	
E.W.38	12.7	19.6	1.6	66.1	-19.82	91.5	0	CLOSED

HILLSBOROUGH HEIGHTS LANDFILL
LANDFILL GAS MONITORING RESULTS-EXTRACTION WELLS
MONITORING DATE JUNE 23, 2021

WELL NUMBER	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	GAS PRESSURE (IN W.C.)	GAS TEMPERATURE (DEF. F.)	FLOW (S.C.F.M.)	COMMENTS
E.W.39	47.5	31.7	3.7	17.1	-22.24	96.3	0.4	
E.W.40	11.5	14.6	6.7	67.2	-2.58	95.8	0	
E.W.41	64.3	33.1	0.4	2.2	-22.72	79	0.3	
E.W.42	1.4	5.3	17.4	75.9	-2.07	81.6	0	
E.W.43	0.1	1.2	20.6	78.1	-11.53	78.3	0	CLOSED
E.W.44	15.4	13	12.1	59.5	-2.5	83.7	0	
E.W.45	0	1.2	20.3	78.5	-0.21	80.1	0	
E.W.46	41.3	23.5	6.8	28.4	-23.05	81.4	0.5	
E.W.47	21.4	13.7	12.7	52.2	-23.04	81.5	0	
E.W.48	10.8	19.3	2.9	67	-18.74	91.7	0	
E.W.49	9.1	19	3.4	68.5	-2.19	85.6	0	
E.W.50	9.5	11.1	13.6	65.8	-22.95	83.3	0	
E.W.51	59.8	39.4	0.1	0.7	-22.73	82.4	0	
E.W.52	36.8	22.8	7.8	32.6	-21.25	82.8	0	
E.W.53	62.1	36.9	0.2	0.8	-3.24	82.7	0	
E.W.54	42.2	30.9	0.1	26.8	-21.67	82.2	0	
E.W.55	53.6	31.1	0.6	14.7	-21.93	84.5	0.5	
E.W.56	30.2	20.3	0	49.5	-0.09	87.5	0	
E.W.57	4.9	3.5	19.3	72.3	-19.94	82.4	0	CLOSED
E.W.58	59.3	35.1	0.8	4.8	-22.47	85	0.3	
E.W.59	0.3	2.1	20.4	77.2	-0.09	85.1	0	
E.W.60	37.3	20.3	8.7	33.7	-21.64	87.7	0	
E.W.61	0	0.8	21.3	77.9	-1.08	88.7	0	
E.W.62	32.4	26.6	0.3	40.7	-20.57	86.9	0	
E.W.63	2.9	2.7	18.1	76.3	-22.56	88.6	0.4	
E.W.64	14.9	12.1	10.7	62.3	-13.86	92.4	0	
E.W.65	58.1	34.3	0	7.6	-19.74	88.2	0	
E.W.66	63.2	34.2	0	2.6	-22.44	91.1	0	
E.W.67	34.7	21.2	8.7	35.4	-22.85	88.5	0	
E.W.68	11.1	15.2	11.4	62.3	-22.79	91.4	0	
E.W.69	0.1	1.5	20.7	77.7	-22.02	85.4	0	CLOSED
E.W.70	0.7	1.9	19	78.4	-14.19	86.3	0	CLOSED
E.W.71	20.3	13.2	12.7	53.8	-22.48	87.3	0	
E.W.72	29.5	19	10.4	41.1	-22.53	91.3	0	
E.W.73	45.4	25.3	5.1	24.2	-0.53	81.4	0	
E.W.74	47.1	30.3	1.3	21.3	-21.28	85.2	0	
E.W.75	34.4	23.4	2.7	39.5	-22.35	84.5	0.5	
E.W.76	43.6	28.6	2.1	25.7	-22.25	83.7	0	

ATTACHMENT D

HILLSBOROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT SUMMARY
(GAS EXTRACTION WELLS AND LEACHATE SUMPS)

HILLSBROUGH HEIGHTS LANDFILL
LIQUIDS MANAGEMENT MONTHLY SUMMARY

LEACHATE SUMPS

Leachate Sump Number

	#1	#4	#6	#7	#8
June 2021 Removal Rate (Gallons)	10,445	18,074	2,512	3,918	33,632

Total June 2021 Removal: 68,581

NOTE: All 9 leachate sumps were checked. This data only reflects the sumps that are required to be pumped.

LANDFILL GAS SYSTEM EXTRACTION WELLS/FLOW METER/CONDTRAP

EW#02	EW#03	EW#06	EW#07	EW#08	EW17	EW#25	EW#28	EW#31	EW#33		Pneumatic Pumps	
EW#35	EW#36	EW#44	EW#56	EW#57	EW#58	EW#59	EW#54	EW#55				
EW#52	EW#53	EW#60	EW#61	EW#62							151,281	

Total June 2021 Removal Rate (Gallons):

NOTE: This data only reflects extraction well outfitted with pneumatic pumps

ATTACHMENT E

HILLSBOROUGH HEIGHTS/TAYLOR ROAD LANDFILLS
LANDFILL PERIMETER GAS
MONITORING WELL RESULTS

Hillsborough Heights/Taylor Road Landfills

Landfill Gas Perimeter Monitoring Well Reading Summary

CH_4 (%VOLUME)*

Gas Monitoring Well

DATE	GW #4	GW #9	GW #10	GW #20	GW #30	GW # 31	GW #32	COMMENTS
12/18/2020	0	0	0	0	0	0	0	
3/15/2021	0	0	0	0	0	0	0	
6/15/2021	0	0	0	0	0	0	0	

Note: 1% by volume is equal to 20% LEL

*Table only includes wells with historical gas readings

Attachment E
Hillsborough Heights/Taylor Road Landfills
Landfill Perimeter Gas Monitoring Well Results

DATE	LOCATION	METHANE (%VOL.)	CARBON DIOXIDE (%VOL.)	OXYGEN (%VOL.)	BALANCE GAS (%VOL.)	PRESSURE (IN W.C.)	Comments
6/15/2021	G-01	0	1.6	18.6	79.8	0	
	G-02	0	0.7	19.4	79.9	0	
	G-03	0	1.3	18.9	79.8	0	
	G-04	0	2.2	18.1	79.7	0	
	G-05	0	1.8	18.2	80	0	
	G-06	0	0.4	20.3	79.3	0	
	G-07	0	1.1	19	79.9	0	
	G-08	0	0.1	20.6	79.3	0	
	G-09	0	0.6	19.8	79.6	0	
	G-10	0	0.1	20.6	79.3	0	
	G-11	0	1.3	18.4	80.3	0	
	G-12	0	0.7	19.8	79.5	0	
	G-13	0	0.6	19.8	79.6	0	
	G-14	0	1.2	19	79.8	0	
	G-15	0	0.5	19.9	79.6	0	
	G-16	0	0.9	19.7	79.4	0	
	G-17	0	0.3	20.1	79.6	0	
	G-18	0	0.1	20.3	79.6	0	
	G-19	0	0.5	19.8	79.7	0	
	G-20	0	0.9	19.2	79.9	0	
	G-21	0	2.2	18.2	79.6	0	
	G-22	0	0.9	19.5	79.6	0	
	G-23	0	0.8	19.5	79.7	0	
	G-24	0	0.1	20.3	79.6	0	
	G-25	0	0.6	19.7	79.7	0	
	G-26	0	1.1	19.2	79.7	0	
	G-27	0	1.2	18.9	79.9	0	
	G-28	0	0.4	19.9	79.7	0	
	G-29	0	0.1	20.3	79.6	0	
	G-30	0	0.9	19.1	80	0	
	G-31	0	0.3	20.4	79.3	0	
	G-32	0	0.2	20.2	79.6	0	

GLOSSARY OF TERMS

CONDENSATE- Liquid generated by the heat from the landfill gas flowing thru the system.

SURGING-The vacuum is interrupted by liquids in the landfill gas system.

PERIMETER MONITORING WELLS- Wells installed around the property boundary of the Landfill sites to monitor landfill gas levels for Compliance with regulatory standards.

PB01- Bar punch probe test- this is only conducted on the perimeter monitoring wells that read higher than 5% methane, this test is only conducted once a month.

WELL CLOSED-Valve closed, conditions vary.

ND-Non –Detected.

WATER BLOCKAGE/WATERED IN-Liquids in the well prohibiting the flow of landfill gas thru the system.

EW-Extraction wells on the landfill gas system.

SCFM's-Standar cubic feet per minute.

PURGED-To cause evacuation.

NA-No adjustment

From: Townsel, Michael <TownselM@HillsboroughCounty.ORG>
Sent: Tuesday, November 17, 2020 2:23 PM
To: Spalvins, Erik
Cc: Morgan, Steve; Chamberlain, Justin; SWD_Waste; Byer, Kimberly; Watson, Edward; Aguilar, Tiffany; McClure, Miranda; Cope, Ronald; Lacsamana, Al
Subject: Taylor Road Landfill Superfund Site - July 2020 Groundwater Report, FDEP Facility ID# SWD-29-41191
Attachments: 2020-07 TRLF ADR.pdf

Dear Mr. Spalvins,

Please find attached an electronic copy of the July 2020 Groundwater Data Report for the Taylor Road Landfill Superfund Site. Copies of this report shall be sent to the Taylor Road Civic Association and the designated repository at the Thonotosassa Public Library. Additionally, the AdaPT files and report shall be submitted through the FDEP Business Portal. The next monitoring event is scheduled for January 2021.

Should you or anyone copied on this e-mail submittal have any questions or concerns, please feel free to call me at (813) 852-4753.

Best Regards,
Michael

Michael D. Townsel
Senior Hydrogeologist
Public Utilities Department – Environmental Services

P: (813) 663-3222
VOIP: 43955
E: townselm@HCFLGov.net
W: HCFLGov.net

Hillsborough County
332 N. Falkenburg Road, Tampa, FL 33619

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Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form #: 62-701.900(31), F.A.C
Form Title: Water Quality Monitoring Certification
Effective Date: January 6, 2010
Incorporated in Rule 62-701.510(9), F.A.C.

WATER QUALITY MONITORING CERTIFICATION

PART I GENERAL INFORMATION

(1) Facility Name Hillsborough Heights Taylor Road Closed Class I Landfill

Address 6209 County Road 579

City Seffner Zip 33584 County Hillsborough

Telephone Number (813) 272-5977

(2) WACS Facility ID SWD-29-41191

(3) DEP Permit Number 69683-012-SF/MM

(4) Authorized Representative's Name Jeffry S. Greenwell Title Manager

Address 332 North Falkenburg Road

City Tampa Zip 33619 County Hillsborough

Telephone Number (813) 612-7757

Email address (if available) greenwellj@HCFLgov.net

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission of false information including the possibility of fine and imprisonment.

11/17/2020 (Date)

Jeffry Greenwell (Owner or Authorized Representative's Signature)

PART II QUALITY ASSURANCE REQUIREMENTS

Sampling Organization Hillsborough County Public Utilities Dept.

Analytical Lab NELAC / HRS Certification # #E82574 and E84589

Lab Name Advanced Environmental Laboratories

Address 9610 Princess Palm Avenue, Tampa, FL 33619

Phone Number (813) 630-9616

Email address (if available)

Hillsborough County Florida

PUBLIC UTILITIES
PO Box 1110
Tampa, FL 33601-1110

Taylor Road Landfill Superfund Site
6209 County Road 579
Seffner, Florida
Long Term Care Permit #69683-012-SF/14
WACS Facility #SWD/29/41191

Groundwater Quality Report - July 2020

Hillsborough County
Public Utilities Department
Environmental Services Division
332 North Falkenburg Road
Tampa, Florida 33619

Michael D. Townsel

Michael D. Townsel
Hydrologist
Environmental Services Division
Public Utilities Department

JEFFRY SCOT GREENWELL LICENSE No. Pe48157 STATE OF FLORIDA PROFESSIONAL ENGINEER

Jeffry S. Greenwell, P.E.
Section Manager
Environmental Services Division
Public Utilities Department

Background

The Hillsborough County Public Utilities Department (County) has prepared the semi-annual groundwater monitoring report for the July 2020 monitoring event conducted at the Taylor Road Landfill Superfund Site (TRLFSS). As required in Appendix 4, Para. 3 and Appendix 4, Para. 4.c. of the Water Quality Monitoring Plan, within the Florida Department of Environmental Protection (Department) Long Term Care Permit, representative samples were collected on July 27-29, 2020 from thirteen (13) compliance ring monitoring wells and one (1) background monitoring well set within the Upper Floridan Aquifer (UFA). Groundwater samples were collected and analyzed for Volatile Organic Compounds (VOCs) by EPA Method 8260B, total dissolved solids (TDS), chloride, sulfate, nitrate, ammonia, arsenic, manganese, mercury, nickel, vanadium, and six (6) field parameters. Parameter analysis was completed by our contracted laboratory, Advanced Environmental Laboratories, Inc. (AEL). An updated site map of each monitoring location is depicted in **Figure 1**.

Laboratory analytical results from the monitoring event indicated the compliance ring monitoring wells were within water quality standards as natural attenuation continues across the TRLFSS. **Table 1** and **Table 2** depict the analytical data for the July 2020 monitoring event.

In addition, property immediately adjacent to the west of the 64-acre Hillsborough Heights disposal footprint has completed commercial use development. Property transaction was completed in May 2019 and is owned by USRLP I-4 Tampa, LLC, a transportation and logistics provider. The County has been in contact with the site development contractors to ensure the protectiveness of monitoring well C-1R. The County shall maintain communication and closely observe the activities on the property.

<u>Compliance Ring Groundwater Monitoring Wells</u>

pH

The pH in the compliance ring monitoring wells were all within the Secondary Drinking Water Standard (SDWS) acceptable range of 6.5 - 8.5 pH units. There were no unusual changes in the pH from the groundwater monitoring wells samples collected and the July 2020 data set continues to be consistent with historical water quality.

ORP

Oxidation-Reduction Potential (ORP) in each of the groundwater compliance ring monitoring wells ranged from -63.0 to 199.3 millivolts (mV). Groundwater ORP results were consistent with historical water quality and the County will continue to utilize the data in future evaluations.

Total Dissolved Solids (TDS)

The TDS values in the thirteen (13) compliance ring monitoring wells were all below the SDWS of 500 mg/l, with values ranging from 200 to 410 mg/l. No unusual changes in the TDS values in any of the monitoring wells were observed and are consistent over the period of record.

Manganese

Manganese was below the SDWS of 0.05 mg/l in each of the compliance ring monitoring wells, from below the detection limit (<0.00055) to 0.022 mg/l. Background water quality monitoring well, F-12 exhibited manganese at a concentration of 0.08 mg/l and over the period of record has consistently exhibited manganese above the SDWS. Historical data continues to support the position that manganese is not migrating outward from the source area to the compliance ring of groundwater monitoring wells.

Mercury

Mercury was detected below the PDWS of 0.002 mg/l in each compliance ring monitoring wells from below detection limits (<0.000050) to 0.0012 mg/l. Mercury has consistently been detected below the PDWS in the western monitoring wells over the period of record; however, mercury has continued above the standard in the interior monitoring wells. The County will continue to closely monitor mercury levels at the site.

Volatile Organic Compounds

Analytical results continue to indicate no VOC contaminants above maximum contaminant level in the compliance ring monitoring wells. Tetrachloroethylene (PCE) was detected in compliance ring wells C-7 and C-10 at concentrations of 2.1 and 2.9 ug/l; however, were below the standard of 3 ug/l. A review of the historical data has not indicated PCE in the compliance ring or interior wells over the period. The County will closely monitor for the existence of PCE in all monitoring wells associated with the TRLFSS.

The plume of contaminated groundwater at the TRLSS remains stable inside the zone of compliance as natural attenuation processes have significantly reduced the number and concentrations of VOCs both within the interior and the compliance ring of groundwater monitoring wells over the period of record. The complete laboratory report from AEL for the July 2020 water quality monitoring event is provided in **Attachment A**.

Direction of Groundwater Flow

Groundwater elevation data from all the available data points were recorded on July 27, 2020, and the data is included in **Table 3**. Elevation data from ring wells C-7 and C-8 continue to create concentrated low and high areas on the potentiometric surface contour diagram. Since the purpose of the evaluation is to determine the general direction of flow across the site, the diagram was prepared without utilizing the anomalous elevation data from C-7 and C-8.

Additionally, elevation data used for the contour diagram continues to create areas of localized flow in variable directions across the site as depicted in **Figure 2**. General flow pattern within the upper Floridan aquifer across the TRLSS continues to the southwest with localized components to the south, which is consistent with the historical data set.

Conclusions

Analytical data generated from the July 2020 monitoring event concludes the compliance ring of groundwater monitoring wells remains stable and effective in its current configuration and does not represent any significant changes to water quality at or in the areas surrounding the TRLSS. The thirteen (13) compliance ring groundwater monitoring wells have all exhibited water quality within the applicable standards since 2001.

Background water quality monitoring well, F-12 exhibited manganese at a concentration above the SDWS of 0.05 mg/l and is consistent with the historical data over the period of record. Natural attenuation processes continue to reduce the number and concentrations of VOCs and within the interior and compliance ring groundwater monitoring wells over the period of record. Water quality at the TRLFSS will continue to be further evaluated as ongoing biodegradation and site improvements continue. The optimized groundwater monitoring plan continues to provide the protectiveness required by the 1995 Record of Decision. The next scheduled sampling event at the TRLSS will be conducted in January 2021.

Taylor Road Wells & Hillsborough Heights Wells With 270 Foot Setback

Figure 1

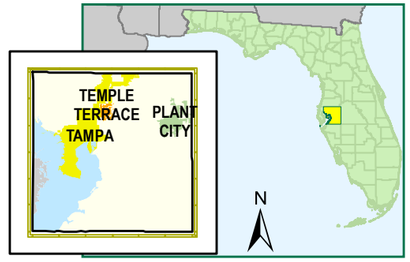
Public Utilities Strategic Planning & Analysis GIS & Records

Hillsborough County Florida

EST. 1834 SM

Legend

- Existing Ground Water Monitoring Wells
- Hillsborough Heights Supply Wells
- 270 Foot Setback
- Compliance Ring Of Groundwater Monitoring Wells
- 2019 Aerials
- RGB
- Red: Red
- Green: Green
- Blue: Blue



NOTE: Every reasonable effort has been made to assure the accuracy of this map. Hillsborough County does not assume any liability arising from use of this map. THIS MAP IS PROVIDED WITHOUT WARRANTY OF ANY KIND, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

SOURCE: This map has been prepared for the inventory of real property found within Hillsborough County and is compiled from recorded deeds, plats, and other public records; it has been based on BEST AVAILABLE data.

Users of this map are hereby notified that the aforementioned public primary information sources should be consulted for verification of the information contained on this map.

BSOC
332 N. Falkenburg Rd
Tampa, FL 33619
(813)612-7773
Bonczj@hillsboroughcounty.org

Table 1 - Taylor Road Landfill Superfund Site

Analytical Data Summary - Compliance Ring Groundwater Monitoring Wells

Field	Background	Ring Wells							MCL Standard
Parameters	TR-2D	C-1R	C-3	C-4	C-7	C-8	C-9	C-10	
Sample Date	07/28/2020	07/28/2020	07/27/2020	07/27/2020	07/27/2020	07/29/2020	07/28/2020	07/28/2020	NS
conductivity (field) (umhos/cm)	302.60	460.30	504.00	310.80	427.70	288.90	317.70	405.30	NS
dissolved oxygen (field) (mg/l)	8.05	0.14	3.99	2.98	3.96	2.93	0.25	1.76	NS
ORP (field) (mV)	99.10	143.60	196.60	175.70	198.60	152.40	-63.00	174.10	NS
temperature (field) (°C)	25.50	24.50	24.60	23.90	25.70	24.10	25.60	23.90	NS
turbidity (field) (NTU)	0.74	0.89	0.53	1.74	18.10	0.97	0.35	2.25	NS
pH (field)	7.73	6.92	6.79	7.17	6.92	7.20	7.25	7.09	(6.5 - 8.5)
General Parameters (mg/l)									MCL Standard
chloride	9.7 I	14.0	9.1 I	11.0	17.0	11.0	6.4 I	13.0	250
sulfate	2.2 I	20.0	22.0	8.1 I	2.0 U	6.5 I	25.0	21.0	250
ammonia nitrogen	0.015 U	0.050	0.030	0.040	0.080	0.015 U	0.340	0.060	NS
total dissolved solids	200	310	410	220	300	270	240	320	500
nitrate	3.400	2.700	3.900	2.200	3.100	3.400	0.092 U	4.400	10
Metals (mg/l)									MCL Standard
arsenic	0.000140 I	0.000720 I	0.001400	0.000077 U	0.000860 I	0.000077 U	0.000960 I	0.000540 I	0.01
manganese	0.00150	0.00360	0.00055 U	0.00300	0.00690	0.00380	0.02200	0.00110	0.05
mercury	0.000050 U	0.000050 U	0.001200	0.000050 U	0.000050 U	0.000050 U	0.000050 U	0.000050 U	0.002
nickel	0.00110 IV	0.00140 I	0.00098 U	0.04900	0.00098 U	0.00098 U	0.00098 U	0.00098 U	0.1
vanadium	0.00400	0.00610	0.02900	0.00230	0.01200	0.00190 I	0.00071 U	0.00730	0.049
Organic Parameters (ug/l)									MCL Standard
1,1,1,2-Tetrachloroethane	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	1.3
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	200
1,1,2-Trichloroethane	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	5
1,1-Dichloroethane	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	70
1,1-Dichloroethylene	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	7
1,1-Dichloropropene	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	NS
1,2,3-Trichlorobenzene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	70
1,2,4-Trichlorobenzene	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	70
1,2,4-Trimethylbenzene	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	10
1,2-Dichlorobenzene	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	600
1,2-Dichloroethane	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	3
1,2-Dichloropropane	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	5
1,3,5-Trimethylbenzene	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	10
1,3-Dichlorobenzene	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	210
1,3-Dichloropropane	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.4
1,4-Dichlorobenzene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	75
2,2-Dichloropropane	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	NS
2-Butanone (MEK)	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	4200
2-Chloroethyl Vinyl Ether	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	NS
2-Chlorotoluene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	140
2-Hexanone	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	280
4-Chlorotoluene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	140
4-Methyl-2-pentanone (MIBK)	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	560
Acetone	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	6300
Acrolein (Propenal)	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	3.5
Benzene	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	1
Bromobenzene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	NS
Bromochloromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	91
Bromodichloromethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.6
Bromoform	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	4.4
Bromomethane	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	9.8
Carbon Disulfide	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	700
Carbon Tetrachloride	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	5
Chlorobenzene	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	100
Chloroethane	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	12
Chloroform	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	70
Chloromethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	2.7
cis-1,2-Dichloroethylene	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	70
cis-1,3-Dichloropropene	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.4
Dibromochloromethane	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.4
Dibromomethane	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	70
Dichlorodifluoromethane	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	1400
Ethylbenzene	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	700
Hexachlorobutadiene	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.4
Iodomethane (Methyl Iodide)	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	NS
Isopropylbenzene	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.8
Methyl tert-butyl Ether (MTBE)	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	20
Methylene Chloride	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	5
Naphthalene	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	14
n-Butylbenzene	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	NS
n-propylbenzene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	NS
sec-butylbenzene	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	NS
Styrene	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	100
tert-butylbenzene	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	NS
Tetrachloroethylene (PCE)	0.45 U	0.45 U	0.45 U	0.45 U	2.10	0.45 U	0.45 U	2.90	3
Toluene	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	1000
trans-1,2-Dichloroethylene	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	100
trans-1,3-Dichloropropylene	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.4
Trichloroethene	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	3
Trichlorofluoromethane	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	2100
Vinyl Acetate	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	88
Vinyl Chloride	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	1
Xylene(Total)	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	10000

MCL Standards Derived from the Primary Drinking Water Standard (Ch. 62-520, F.A.C.), the Secondary Drinking Water Standard (Ch. 62-302, F.A.C.), and the Groundwater Cleanup target Levels (Ch. 62-777, F.A.C

MCL=Maximum Contaminant Level

mg/l=Milligrams Per Liter

µg/l=Micrograms Per Liter

umhos/cm = micromhos/centimeter

NTU=Nephelometric Turbidity Units

mV=millivolts

NS=No Standard

I = Reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

U = Parameter was analyzed but not detected.

J4 = Estimated result

Table 2 - Taylor Road Landfill Superfund Site
Analytical Data Summary - Compliance Ring and Background Groundwater Monitoring Wells

Field Parameters	Background	Ring Wells					MCL Standard
	F-12	F-3	F-15	30-D	31-D	32-D	
Sample Date	07/28/2020	07/27/2020	07/29/2020	07/29/2020	07/29/2020	07/29/2020	NS
conductivity (field) (umhos/cm)	358.80	371.40	406.60	438.40	467.40	433.00	NS
dissolved oxygen (field) (mg/l)	5.96	6.69	8.57	1.35	1.91	1.04	NS
ORP (mV)	-11.80	199.30	166.70	145.90	111.80	130.90	NS
temperature (field) (°C)	24.80	24.90	24.50	24.60	25.00	25.30	NS
turbidity (field) (NTU)	1.46	0.26	1.05	1.38	0.15	11.00	NS
pH (field)	7.50	7.16	7.45	6.96	6.87	7.07	(6.5 - 8.5)
General Parameters (mg/l)							**MCL Standard**
chloride	13.0	2.9 I	17.0	12.0	11.0	9.8 I	250
sulfate	14.0	4.4 I	13.0	18.0	15.0	14.0	250
ammonia nitrogen	0.040	0.030	0.015 U	0.015 U	0.015 U	0.015 U	NS
total dissolved solids	280	270	340	340	280	280	500
nitrate	0.092 U	0.650	2.100	2.400	1.600	1.600	10
Metals (mg/l)							**MCL Standard**
arsenic	0.001400	0.000180 I	0.000120 I	0.000580 I	0.000500 I	0.000077 U	0.01
manganese	**0.08000**	0.00055 U	0.00055 U	0.00570	0.00300	0.01000	0.05
mercury	0.000050 U	0.000050 U	0.000050 U	0.000240	0.000050 U	0.000290	0.002
nickel	0.00200 I	0.00098 U	0.00099 I	0.00098 U	0.00098 U	0.00098 U	0.1
vanadium	0.00071 U	0.00590	0.00330	0.00470	0.00340	0.00420	0.049
Organic Parameters ug/l							**MCL Standard**
1,1,1,2-Tetrachloroethane	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	1.3
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	200
1,1,2-Trichloroethane	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	5
1,1-Dichloroethane	0.38 U	0.38 U	0.59 I	0.38 U	0.41 I	0.38 U	70
1,1-Dichloroethylene	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	7
1,1-Dichloropropene	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	NS
1,2,3-Trichlorobenzene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	70
1,2,4-Trichlorobenzene	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	70
1,2,4-Trimethylbenzene	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	10
1,2-Dichlorobenzene	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	600
1,2-Dichloroethane	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	3
1,2-Dichloropropane	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	5
1,3,5-Trimethylbenzene	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	10
1,3-Dichlorobenzene	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	210
1,3-Dichloropropane	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.4
1,4-Dichlorobenzene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	75
2,2-Dichloropropane	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	NS
2-Butanone (MEK)	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	4200
2-Chloroethyl Vinyl Ether	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	NS
2-Chlorotoluene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	140
2-Hexanone	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	280
4-Chlorotoluene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	140
4-Methyl-2-pentanone (MIBK)	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	560
Acetone	2.90	0.90 U	0.90 U	0.90 U	0.90 U	0.90 U	6300
Acrolein (Propenal)	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	1.80 U	3.5
Benzene	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	1
Bromobenzene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	NS
Bromochloromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	91
Bromodichloromethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.6
Bromoform	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	4.4
Bromomethane	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	9.8
Carbon Disulfide	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	700
Carbon Tetrachloride	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	5
Chlorobenzene	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	100
Chloroethane	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	12
Chloroform	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	70
Chloromethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	2.7
cis-1,2-Dichloroethylene	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	70
cis-1,3-Dichloropropene	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.4
Dibromochloromethane	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.4
Dibromomethane	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	70
Dichlorodifluoromethane	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	1400
Ethylbenzene	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	700
Hexachlorobutadiene	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	NS
Iodomethane (Methyl Iodide)	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	NS
Isopropylbenzene	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.8
Methyl tert-butyl Ether (MTBE)	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	20
Methylene Chloride	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	5
Naphthalene	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	14
n-Butylbenzene	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	NS
n-propylbenzene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	NS
sec-butylbenzene	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	NS
Styrene	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	100
tert-butylbenzene	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	NS
Tetrachloroethylene (PCE)	0.45 U	0.45 U	0.45 U	0.45 U	0.50 I	0.45 U	3
Toluene	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	1000
trans-1,2-Dichloroethylene	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	100
trans-1,3-Dichloropropylene	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.4
Trichloroethene	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	3
Trichlorofluoromethane	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	2100
Vinyl Acetate	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	88
Vinyl Chloride	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	1
Xylene(Total)	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	10000

MCL Standards Derived from the Primary Drinking Water Standard (Ch. 62-520, F.A.C.), the Secondary Drinking Water Standard (Ch. 62-302, F.A.C.), and the Groundwater Cleanup target Levels (Ch. 62-777, F.A.C.)

MCL = Maximum Contaminant Level

mg/l = Milligrams Per Liter

µg/l = Micrograms Per Liter

umhos/cm = micromhos/centimeter

NTU=Nephelometric Turbidity Units

mV=millivolts

NS=No Standard

I = reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

U = parameter was analyzed but not detected.

:Exceeds Primary or Secondary Drinking Water Standard, or Groundwater Cleanup Target Level

Table 3 - Groundwater Elevations
Taylor Road Landfill Superfund Site
07/27/20

Measuring Point I.D.	T.O.C. Elevations (NGVD)	W.L. B.T.O.C.	W.L. (NGVD)
RING WELLS			
F-3	95.85	77.57	18.28
F-15	83.89	65.57	18.32
30-D	63.13	44.74	18.39
31-D	55.92	37.19	18.73
32-D	47.75	29.41	18.34
TR-2D	86.25	67.76	18.49
C-1R	64.86	46.08	18.78
C-3	87.59	69.16	18.43
C-4	85.04	65.96	19.08
C-7	91.69	81.44	10.25
C-8	88.14	63.18	24.96
C-9	71.99	53.84	18.15
C-10	68.20	49.52	18.68
INTERIOR WELLS			
F-1A	76.79	58.12	18.67
C-2	88.71	70.59	18.12
C-5	102.25	83.41	18.84
C-6	101.79	82.75	19.04
18-D	78.41	59.74	18.67
24-D	74.14	55.52	18.62
28-D	85.31	66.19	19.12
F-2	61.02	42.51	18.51
F-14	91.23	72.87	18.36
TR-1D	91.04	72.44	18.60
TR-4D	100.90	82.14	18.76
BACKGROUND WELL			
***F-12**	73.62		73.62

NGVD = National Geodetic Vertical Datum
T.O.C. = Top of Casing
B.T.O.C. = Below Top of Casing
W.L. = Water Level

* Access issue unable to get water level first day

Upper Floridan Aquifer Groundwater Contour Map

July 27, 2020

Hillsborough County Florida

EST. 1834 SM

Legend

- Existing Ground Water Monitoring Wells
- Hillsborough Heights Supply Wells
- 270 Foot Setback
- Compliance Ring Of Groundwater Monitoring Wells

2019 Aerials

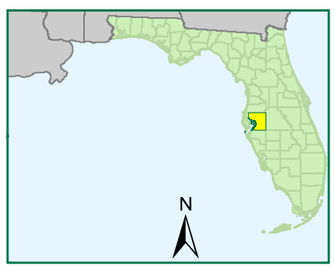
RGB

- Red: Band_1
- Green: Band_2
- Blue: Band_3

- Groundwater Elevation Contour (NGVD)
- General Direction Groundwater Flow

DNU Did Not Utilize For Contouring

ND No Data



NOTE: Every reasonable effort has been made to assure the accuracy of this map. Hillsborough County does not assume any liability arising from use of this map. THIS MAP IS PROVIDED WITHOUT WARRANTY OF ANY KIND, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

SOURCE: This map has been prepared for the inventory of real property found within Hillsborough County and is compiled from recorded deeds, plats, and other public records; it has been based on BEST AVAILABLE data.

Users of this map are hereby notified that the aforementioned public primary information sources should be consulted for verification of the information contained on this map.

BSOC
332 N. Falkenburg Rd
Tampa, FL 33619
(813)612-7773
Bonczj@hillsboroughcounty.org

1,000 500 0 Feet

Appendix A

July 2020 Laboratory Data Report

Advanced Environmental Laboratories, Inc.

Advanced Environmental Laboratories, Inc
9610 Princess Palm Ave Tampa, FL 33619
Payments: P.O. Box 551580 Jacksonville, FL 32255-1580
Phone: (813)630-9616
Fax: (813)630-4327

September 14, 2020

Michael Townsel
Hillsborough Co Public Utilites
332 North Falkenburg Rd
Tampa, FL 33619

RE: Workorder: T2013998 Taylor Road Landfill Superfund

Dear Michael Townsel:

Enclosed are the analytical results for sample(s) received by the laboratory between Monday, July 27, 2020 and Thursday, July 30, 2020. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Heidi Parker - Project Manager
HParker@AELLab.com

Enclosures

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Phone: (813)630-9616
Fax: (813)630-4327

SAMPLE SUMMARY

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID	Sample ID	Matrix	Date Collected	Date Received
T2013998001	Trip Blank	Water	7/27/2020 00:00	7/27/2020 14:10
T2013998002	Field Blank	Water	7/27/2020 09:07	7/27/2020 14:10
T2013998003	C-7	Water	7/27/2020 09:35	7/27/2020 14:10
T2013998004	F-3	Water	7/27/2020 10:59	7/27/2020 14:10
T2013998005	C-3	Water	7/27/2020 11:36	7/27/2020 14:10
T2013998006	C-4	Water	7/27/2020 12:33	7/27/2020 14:10
T2013998007	Trip Blank	Water	7/28/2020 00:00	7/28/2020 14:30
T2013998008	C-10	Water	7/28/2020 08:24	7/28/2020 14:30
T2013998009	C-1R	Water	7/28/2020 09:12	7/28/2020 14:30
T2013998010	Duplicate	Water	7/28/2020 00:00	7/28/2020 14:30
T2013998011	C-9	Water	7/28/2020 10:06	7/28/2020 14:30
T2013998012	F-12	Water	7/28/2020 13:10	7/28/2020 14:30
T2013998013	TR-2D	Water	7/28/2020 14:03	7/28/2020 14:30
T2013998014	Trip Blank	Water	7/29/2020 00:00	7/29/2020 14:35
T2013998015	32-D	Water	7/29/2020 08:55	7/29/2020 14:35
T2013998016	31-D	Water	7/29/2020 10:29	7/29/2020 14:35
T2013998017	30-D	Water	7/29/2020 12:09	7/29/2020 14:35
T2013998018	C-8	Water	7/29/2020 12:52	7/29/2020 14:35
T2013998019	F-15	Water	7/29/2020 14:05	7/29/2020 14:35

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Phone: (813)630-9616
Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998001** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **Trip Blank** Date Collected: 07/27/20 00:00

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/6/2020 13:06	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:06	T
1,1,2,2-Tetrachloroethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:06	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 13:06	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 13:06	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:06	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 13:06	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 13:06	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/6/2020 13:06	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/6/2020 13:06	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:06	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/6/2020 13:06	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/6/2020 13:06	T
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 13:06	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/6/2020 13:06	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:06	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 13:06	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:06	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 13:06	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/6/2020 13:06	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/6/2020 13:06	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/6/2020 13:06	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 13:06	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 13:06	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 13:06	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 13:06	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/6/2020 13:06	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/6/2020 13:06	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/6/2020 13:06	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/6/2020 13:06	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 13:06	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/6/2020 13:06	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:06	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 13:06	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:06	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 13:06	T

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Phone: (813)630-9616
Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998001** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **Trip Blank** Date Collected: 07/27/20 00:00

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:06	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 13:06	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 13:06	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/6/2020 13:06	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:06	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 13:06	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:06	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/6/2020 13:06	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/6/2020 13:06	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/6/2020 13:06	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:06	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/6/2020 13:06	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 13:06	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/6/2020 13:06	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/6/2020 13:06	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/6/2020 13:06	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/6/2020 13:06	T
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/6/2020 13:06	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/6/2020 13:06	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:06	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 13:06	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/6/2020 13:06	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/6/2020 13:06	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/6/2020 13:06	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:06	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 13:06	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/6/2020 13:06	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 13:06	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:06	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 13:06	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:06	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 13:06	T
1,2-Dichloroethane-d4 (S)	**91**		**%**	**1**	70-128		8/6/2020 13:06	
Toluene-d8 (S)	**97**		**%**	**1**	77-119		8/6/2020 13:06	
Bromofluorobenzene (S)	**109**		**%**	**1**	86-123		8/6/2020 13:06	

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Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998002** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **Field Blank** Date Collected: 07/27/20 09:07

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.000077**	**U**	**mg/L**	**1**	0.0010	0.000077	7/31/2020 18:59	J
Manganese	**0.00055**	**U**	**mg/L**	**1**	0.0010	0.00055	7/31/2020 18:59	J
Nickel	**0.00098**	**U**	**mg/L**	**1**	0.0020	0.00098	7/31/2020 18:59	J
Vanadium	**0.00071**	**U**	**mg/L**	**1**	0.0020	0.00071	7/31/2020 18:59	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.000050**	**U**	**mg/L**	**1**	0.00010	0.000050	7/30/2020 13:33	T
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/6/2020 13:32	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:32	T
1,1,2,2-Tetrachloroethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:32	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 13:32	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 13:32	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:32	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 13:32	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 13:32	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/6/2020 13:32	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/6/2020 13:32	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:32	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/6/2020 13:32	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/6/2020 13:32	T
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 13:32	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/6/2020 13:32	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:32	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 13:32	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:32	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 13:32	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/6/2020 13:32	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/6/2020 13:32	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/6/2020 13:32	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 13:32	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998002** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **Field Blank** Date Collected: 07/27/20 09:07

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 13:32	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 13:32	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 13:32	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/6/2020 13:32	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/6/2020 13:32	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/6/2020 13:32	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/6/2020 13:32	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 13:32	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/6/2020 13:32	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:32	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 13:32	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:32	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 13:32	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:32	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 13:32	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 13:32	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/6/2020 13:32	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:32	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 13:32	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:32	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/6/2020 13:32	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/6/2020 13:32	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/6/2020 13:32	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:32	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/6/2020 13:32	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 13:32	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/6/2020 13:32	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/6/2020 13:32	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/6/2020 13:32	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/6/2020 13:32	T
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/6/2020 13:32	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/6/2020 13:32	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:32	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 13:32	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/6/2020 13:32	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/6/2020 13:32	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/6/2020 13:32	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:32	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 13:32	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/6/2020 13:32	T

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Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998002** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **Field Blank** Date Collected: 07/27/20 09:07

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 13:32	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:32	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 13:32	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:32	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 13:32	T
1,2-Dichloroethane-d4 (S)	**93**		**%**	**1**	70-128		8/6/2020 13:32	
Toluene-d8 (S)	**95**		**%**	**1**	77-119		8/6/2020 13:32	
Bromofluorobenzene (S)	**106**		**%**	**1**	86-123		8/6/2020 13:32	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**1.0**	**U**	**mg/L**	**1**	5.0	1.0	7/29/2020 14:40	T
Sulfate	**1.0**	**U**	**mg/L**	**1**	5.0	1.0	7/29/2020 14:40	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.02**	**I**	**mg/L**	**1**	0.030	0.015	8/3/2020 14:55	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**10**	**U**	**mg/L**	**1**	10	10	7/29/2020 15:00	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**0.092**	**U**	**mg/L**	**1**	0.10	0.092	7/28/2020 15:18	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998003** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **C-7** Date Collected: 07/27/20 09:35

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**427.7**		**umhos/cm**	**1**			7/27/2020 09:35	....
Dissolved Oxygen	**3.96**		**mg/L**	**1**			7/27/2020 09:35	....
ORP-2580BW	**198.6**		**mV**	**1**			7/27/2020 09:35	....
Temperature	**25.7**		**°C**	**1**			7/27/2020 09:35	....
Turbidity	**18.1**		**NTU**	**1**			7/27/2020 09:35	....
pH	**6.92**		**SU**	**1**			7/27/2020 09:35	....
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.00086**	**I**	**mg/L**	**1**	0.0010	0.000077	7/31/2020 19:05	J
Manganese	**0.0069**		**mg/L**	**1**	0.0010	0.00055	7/31/2020 19:05	J
Nickel	**0.00098**	**U**	**mg/L**	**1**	0.0020	0.00098	7/31/2020 19:05	J
Vanadium	**0.012**		**mg/L**	**1**	0.0020	0.00071	7/31/2020 19:05	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.000050**	**U**	**mg/L**	**1**	0.00010	0.000050	7/30/2020 13:36	T
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/6/2020 13:58	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:58	T
1,1,2,2-Tetrachloroethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:58	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 13:58	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 13:58	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:58	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 13:58	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 13:58	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/6/2020 13:58	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/6/2020 13:58	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:58	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/6/2020 13:58	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/6/2020 13:58	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998003** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **C-7** Date Collected: 07/27/20 09:35

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 13:58	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/6/2020 13:58	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:58	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 13:58	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:58	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 13:58	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/6/2020 13:58	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/6/2020 13:58	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/6/2020 13:58	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 13:58	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 13:58	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 13:58	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 13:58	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/6/2020 13:58	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/6/2020 13:58	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/6/2020 13:58	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/6/2020 13:58	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 13:58	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/6/2020 13:58	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:58	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 13:58	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:58	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 13:58	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:58	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 13:58	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 13:58	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/6/2020 13:58	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:58	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 13:58	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:58	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/6/2020 13:58	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/6/2020 13:58	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/6/2020 13:58	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:58	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/6/2020 13:58	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 13:58	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/6/2020 13:58	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/6/2020 13:58	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/6/2020 13:58	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/6/2020 13:58	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998003** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **C-7** Date Collected: 07/27/20 09:35

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Tetrachloroethylene (PCE)	**2.1**		**ug/L**	**1**	1.0	0.45	8/6/2020 13:58	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/6/2020 13:58	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 13:58	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 13:58	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/6/2020 13:58	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/6/2020 13:58	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/6/2020 13:58	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:58	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 13:58	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/6/2020 13:58	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 13:58	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 13:58	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 13:58	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 13:58	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 13:58	T
1,2-Dichloroethane-d4 (S)	**93**		**%**	**1**	70-128		8/6/2020 13:58	
Toluene-d8 (S)	**96**		**%**	**1**	77-119		8/6/2020 13:58	
Bromofluorobenzene (S)	**104**		**%**	**1**	86-123		8/6/2020 13:58	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**17**		**mg/L**	**2**	10	2.0	7/29/2020 14:08	T
Sulfate	**2.0**	**U**	**mg/L**	**2**	10	2.0	7/29/2020 14:08	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.08**		**mg/L**	**1**	0.030	0.015	8/3/2020 14:58	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**300**		**mg/L**	**1**	10	10	7/30/2020 13:42	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**3.1**		**mg/L**	**1**	0.10	0.092	7/28/2020 15:19	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998004** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **F-3** Date Collected: 07/27/20 10:59

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**371.4**		**umhos/cm**	**1**			7/27/2020 10:59	....
Dissolved Oxygen	**6.69**		**mg/L**	**1**			7/27/2020 10:59	....
ORP-2580BW	**199.3**		**mV**	**1**			7/27/2020 10:59	....
Temperature	**24.9**		**°C**	**1**			7/27/2020 10:59	....
Turbidity	**0.26**		**NTU**	**1**			7/27/2020 10:59	....
pH	**7.16**		**SU**	**1**			7/27/2020 10:59	....
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.00018**	**I**	**mg/L**	**1**	0.0010	0.000077	7/31/2020 19:11	J
Manganese	**0.00055**	**U**	**mg/L**	**1**	0.0010	0.00055	7/31/2020 19:11	J
Nickel	**0.00098**	**U**	**mg/L**	**1**	0.0020	0.00098	7/31/2020 19:11	J
Vanadium	**0.0059**		**mg/L**	**1**	0.0020	0.00071	7/31/2020 19:11	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.000050**	**U**	**mg/L**	**1**	0.00010	0.000050	7/30/2020 13:56	T
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/6/2020 14:23	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 14:23	T
1,1,2,2-Tetrachloroethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 14:23	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 14:23	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 14:23	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 14:23	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 14:23	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 14:23	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/6/2020 14:23	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/6/2020 14:23	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 14:23	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/6/2020 14:23	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/6/2020 14:23	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998004** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **F-3** Date Collected: 07/27/20 10:59

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 14:23	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/6/2020 14:23	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 14:23	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 14:23	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 14:23	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 14:23	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/6/2020 14:23	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/6/2020 14:23	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/6/2020 14:23	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 14:23	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 14:23	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 14:23	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 14:23	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/6/2020 14:23	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/6/2020 14:23	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/6/2020 14:23	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/6/2020 14:23	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 14:23	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/6/2020 14:23	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 14:23	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 14:23	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 14:23	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 14:23	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 14:23	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 14:23	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 14:23	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/6/2020 14:23	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 14:23	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 14:23	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 14:23	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/6/2020 14:23	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/6/2020 14:23	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/6/2020 14:23	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 14:23	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/6/2020 14:23	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 14:23	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/6/2020 14:23	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/6/2020 14:23	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/6/2020 14:23	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/6/2020 14:23	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998004** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **F-3** Date Collected: 07/27/20 10:59

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/6/2020 14:23	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/6/2020 14:23	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 14:23	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 14:23	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/6/2020 14:23	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/6/2020 14:23	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/6/2020 14:23	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 14:23	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 14:23	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/6/2020 14:23	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 14:23	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 14:23	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 14:23	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 14:23	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 14:23	T
1,2-Dichloroethane-d4 (S)	**93**		**%**	**1**	70-128		8/6/2020 14:23	
Toluene-d8 (S)	**98**		**%**	**1**	77-119		8/6/2020 14:23	
Bromofluorobenzene (S)	**107**		**%**	**1**	86-123		8/6/2020 14:23	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**2.9**	**I**	**mg/L**	**2**	10	2.0	7/29/2020 14:24	T
Sulfate	**4.4**	**I**	**mg/L**	**2**	10	2.0	7/29/2020 14:24	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.03**		**mg/L**	**1**	0.030	0.015	8/3/2020 14:59	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**270**		**mg/L**	**1**	10	10	7/30/2020 13:42	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**0.65**		**mg/L**	**1**	0.10	0.092	7/28/2020 15:19	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998005** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **C-3** Date Collected: 07/27/20 11:36

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**504**		**umhos/cm**	**1**			7/27/2020 11:36	....
Dissolved Oxygen	**3.99**		**mg/L**	**1**			7/27/2020 11:36	....
ORP-2580BW	**196.6**		**mV**	**1**			7/27/2020 11:36	....
Temperature	**24.6**		**°C**	**1**			7/27/2020 11:36	....
Turbidity	**0.53**		**NTU**	**1**			7/27/2020 11:36	....
pH	**6.79**		**SU**	**1**			7/27/2020 11:36	....
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.0014**		**mg/L**	**1**	0.0010	0.000077	7/31/2020 19:16	J
Manganese	**0.00055**	**U**	**mg/L**	**1**	0.0010	0.00055	7/31/2020 19:16	J
Nickel	**0.00098**	**U**	**mg/L**	**1**	0.0020	0.00098	7/31/2020 19:16	J
Vanadium	**0.029**		**mg/L**	**1**	0.0020	0.00071	7/31/2020 19:16	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.0012**		**mg/L**	**1**	0.00010	0.000050	7/30/2020 13:58	T
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/6/2020 14:49	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 14:49	T
1,1,2,2-Tetrachloroethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 14:49	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 14:49	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 14:49	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 14:49	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 14:49	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 14:49	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/6/2020 14:49	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/6/2020 14:49	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 14:49	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/6/2020 14:49	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/6/2020 14:49	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998005** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **C-3** Date Collected: 07/27/20 11:36

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 14:49	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/6/2020 14:49	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 14:49	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 14:49	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 14:49	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 14:49	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/6/2020 14:49	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/6/2020 14:49	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/6/2020 14:49	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 14:49	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 14:49	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 14:49	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 14:49	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/6/2020 14:49	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/6/2020 14:49	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/6/2020 14:49	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/6/2020 14:49	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 14:49	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/6/2020 14:49	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 14:49	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 14:49	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 14:49	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 14:49	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 14:49	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 14:49	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 14:49	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/6/2020 14:49	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 14:49	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 14:49	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 14:49	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/6/2020 14:49	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/6/2020 14:49	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/6/2020 14:49	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 14:49	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/6/2020 14:49	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 14:49	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/6/2020 14:49	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/6/2020 14:49	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/6/2020 14:49	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/6/2020 14:49	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998005** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **C-3** Date Collected: 07/27/20 11:36

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/6/2020 14:49	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/6/2020 14:49	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 14:49	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 14:49	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/6/2020 14:49	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/6/2020 14:49	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/6/2020 14:49	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 14:49	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 14:49	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/6/2020 14:49	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 14:49	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 14:49	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 14:49	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 14:49	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 14:49	T
1,2-Dichloroethane-d4 (S)	**92**		**%**	**1**	70-128		8/6/2020 14:49	
Toluene-d8 (S)	**97**		**%**	**1**	77-119		8/6/2020 14:49	
Bromofluorobenzene (S)	**104**		**%**	**1**	86-123		8/6/2020 14:49	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**9.1**	**I**	**mg/L**	**2**	10	2.0	7/29/2020 14:56	T
Sulfate	**22**		**mg/L**	**2**	10	2.0	7/29/2020 14:56	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.03**		**mg/L**	**1**	0.030	0.015	8/3/2020 15:00	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**410**		**mg/L**	**1**	10	10	7/30/2020 13:42	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**3.9**		**mg/L**	**1**	0.10	0.092	7/28/2020 15:20	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998006** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **C-4** Date Collected: 07/27/20 12:33

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**310.8**		**umhos/cm**	**1**			7/27/2020 12:33	....
Dissolved Oxygen	**2.98**		**mg/L**	**1**			7/27/2020 12:33	....
ORP-2580BW	**175.7**		**mV**	**1**			7/27/2020 12:33	....
Temperature	**23.9**		**°C**	**1**			7/27/2020 12:33	....
Turbidity	**1.74**		**NTU**	**1**			7/27/2020 12:33	....
pH	**7.17**		**SU**	**1**			7/27/2020 12:33	....
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.000077**	**U**	**mg/L**	**1**	0.0010	0.000077	7/31/2020 19:19	J
Manganese	**0.0030**		**mg/L**	**1**	0.0010	0.00055	7/31/2020 19:19	J
Nickel	**0.049**		**mg/L**	**1**	0.0020	0.00098	7/31/2020 19:19	J
Vanadium	**0.0023**		**mg/L**	**1**	0.0020	0.00071	7/31/2020 19:19	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.000050**	**U**	**mg/L**	**1**	0.00010	0.000050	7/30/2020 14:03	T
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/6/2020 15:15	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 15:15	T
1,1,2,2-Tetrachloroethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 15:15	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 15:15	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 15:15	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 15:15	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 15:15	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 15:15	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/6/2020 15:15	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/6/2020 15:15	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 15:15	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/6/2020 15:15	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/6/2020 15:15	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998006** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **C-4** Date Collected: 07/27/20 12:33

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 15:15	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/6/2020 15:15	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 15:15	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 15:15	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 15:15	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 15:15	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/6/2020 15:15	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/6/2020 15:15	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/6/2020 15:15	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 15:15	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 15:15	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 15:15	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 15:15	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/6/2020 15:15	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/6/2020 15:15	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/6/2020 15:15	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/6/2020 15:15	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 15:15	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/6/2020 15:15	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 15:15	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 15:15	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 15:15	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 15:15	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 15:15	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 15:15	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 15:15	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/6/2020 15:15	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 15:15	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 15:15	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 15:15	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/6/2020 15:15	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/6/2020 15:15	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/6/2020 15:15	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 15:15	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/6/2020 15:15	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 15:15	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/6/2020 15:15	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/6/2020 15:15	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/6/2020 15:15	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/6/2020 15:15	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998006** Date Received: 07/27/20 14:10 Matrix: Water

Sample ID: **C-4** Date Collected: 07/27/20 12:33

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/6/2020 15:15	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/6/2020 15:15	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 15:15	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 15:15	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/6/2020 15:15	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/6/2020 15:15	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/6/2020 15:15	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 15:15	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 15:15	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/6/2020 15:15	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 15:15	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 15:15	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 15:15	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 15:15	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 15:15	T
1,2-Dichloroethane-d4 (S)	**93**		**%**	**1**	70-128		8/6/2020 15:15	
Toluene-d8 (S)	**98**		**%**	**1**	77-119		8/6/2020 15:15	
Bromofluorobenzene (S)	**107**		**%**	**1**	86-123		8/6/2020 15:15	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**11**		**mg/L**	**2**	10	2.0	7/29/2020 15:12	T
Sulfate	**8.1**	**I**	**mg/L**	**2**	10	2.0	7/29/2020 15:12	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.04**		**mg/L**	**1**	0.030	0.015	8/3/2020 15:01	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**220**		**mg/L**	**1**	10	10	7/30/2020 13:42	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**2.2**		**mg/L**	**1**	0.10	0.092	7/28/2020 15:25	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998007** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **Trip Blank** Date Collected: 07/28/20 00:00

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/6/2020 15:40	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 15:40	T
1,1,2,2-Tetrachloroethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 15:40	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 15:40	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 15:40	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 15:40	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 15:40	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 15:40	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/6/2020 15:40	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/6/2020 15:40	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 15:40	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/6/2020 15:40	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/6/2020 15:40	T
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 15:40	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/6/2020 15:40	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 15:40	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 15:40	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 15:40	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 15:40	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/6/2020 15:40	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/6/2020 15:40	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/6/2020 15:40	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 15:40	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 15:40	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 15:40	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/6/2020 15:40	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/6/2020 15:40	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/6/2020 15:40	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/6/2020 15:40	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/6/2020 15:40	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 15:40	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/6/2020 15:40	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 15:40	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 15:40	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 15:40	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 15:40	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998007** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **Trip Blank** Date Collected: 07/28/20 00:00

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 15:40	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 15:40	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 15:40	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/6/2020 15:40	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 15:40	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/6/2020 15:40	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 15:40	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/6/2020 15:40	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/6/2020 15:40	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/6/2020 15:40	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 15:40	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/6/2020 15:40	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/6/2020 15:40	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/6/2020 15:40	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/6/2020 15:40	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/6/2020 15:40	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/6/2020 15:40	T
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/6/2020 15:40	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/6/2020 15:40	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/6/2020 15:40	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 15:40	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/6/2020 15:40	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/6/2020 15:40	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/6/2020 15:40	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 15:40	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 15:40	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/6/2020 15:40	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/6/2020 15:40	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/6/2020 15:40	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/6/2020 15:40	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/6/2020 15:40	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/6/2020 15:40	T
1,2-Dichloroethane-d4 (S)	**94**		**%**	**1**	70-128		8/6/2020 15:40	
Toluene-d8 (S)	**97**		**%**	**1**	77-119		8/6/2020 15:40	
Bromofluorobenzene (S)	**106**		**%**	**1**	86-123		8/6/2020 15:40	

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998008** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **C-10** Date Collected: 07/28/20 08:24

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**405.3**		**umhos/cm**	**1**			7/28/2020 08:24	....
Dissolved Oxygen	**1.76**		**mg/L**	**1**			7/28/2020 08:24	....
ORP-2580BW	**174.1**		**mV**	**1**			7/28/2020 08:24	....
Temperature	**23.9**		**°C**	**1**			7/28/2020 08:24	....
Turbidity	**2.25**		**NTU**	**1**			7/28/2020 08:24	....
pH	**7.09**		**SU**	**1**			7/28/2020 08:24	....
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.00054**	**I**	**mg/L**	**1**	0.0010	0.000077	7/31/2020 17:50	J
Manganese	**0.0011**		**mg/L**	**1**	0.0010	0.00055	7/31/2020 17:50	J
Nickel	**0.00098**	**U**	**mg/L**	**1**	0.0020	0.00098	7/31/2020 17:50	J
Vanadium	**0.0073**		**mg/L**	**1**	0.0020	0.00071	7/31/2020 17:50	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.000050**	**U**	**mg/L**	**1**	0.00010	0.000050	7/30/2020 14:06	T
VOLATILES								
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**4.4**		**mg/L**	**5**	0.50	0.46	7/29/2020 17:12	T
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/7/2020 06:40	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 06:40	T
1,1,2,2-Tetrachloroethane	**0.20**	**U**	**ug/L**	**1**	1.0	0.20	8/7/2020 06:40	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 06:40	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 06:40	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 06:40	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 06:40	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 06:40	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/7/2020 06:40	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/7/2020 06:40	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998008** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **C-10** Date Collected: 07/28/20 08:24

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 06:40	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/7/2020 06:40	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/7/2020 06:40	T
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 06:40	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/7/2020 06:40	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 06:40	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 06:40	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 06:40	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 06:40	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/7/2020 06:40	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/7/2020 06:40	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/7/2020 06:40	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 06:40	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 06:40	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 06:40	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 06:40	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/7/2020 06:40	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/7/2020 06:40	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/7/2020 06:40	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/7/2020 06:40	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 06:40	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/7/2020 06:40	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 06:40	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 06:40	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 06:40	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 06:40	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 06:40	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 06:40	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 06:40	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/7/2020 06:40	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 06:40	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 06:40	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 06:40	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/7/2020 06:40	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/7/2020 06:40	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/7/2020 06:40	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 06:40	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/7/2020 06:40	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 06:40	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/7/2020 06:40	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998008** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **C-10** Date Collected: 07/28/20 08:24

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/7/2020 06:40	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/7/2020 06:40	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/7/2020 06:40	T
Tetrachloroethylene (PCE)	**2.9**		**ug/L**	**1**	1.0	0.45	8/7/2020 06:40	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/7/2020 06:40	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 06:40	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 06:40	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/7/2020 06:40	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/7/2020 06:40	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/7/2020 06:40	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 06:40	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 06:40	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/7/2020 06:40	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 06:40	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 06:40	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 06:40	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 06:40	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 06:40	T
1,2-Dichloroethane-d4 (S)	**95**		**%**	**1**	70-128		8/7/2020 06:40	
Toluene-d8 (S)	**99**		**%**	**1**	77-119		8/7/2020 06:40	
Bromofluorobenzene (S)	**108**		**%**	**1**	86-123		8/7/2020 06:40	

VOLATILES

Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**13**		**mg/L**	**2**	10	2.0	7/29/2020 16:00	T
Sulfate	**21**		**mg/L**	**2**	10	2.0	7/29/2020 16:00	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.06**		**mg/L**	**1**	0.030	0.015	8/3/2020 15:15	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**320**		**mg/L**	**1**	10	10	7/30/2020 13:42	T

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Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998009** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **C-1R** Date Collected: 07/28/20 09:12

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**460.3**		**umhos/cm**	**1**			7/28/2020 09:12	....
Dissolved Oxygen	**0.14**		**mg/L**	**1**			7/28/2020 09:12	....
ORP-2580BW	**143.6**		**mV**	**1**			7/28/2020 09:12	....
Temperature	**24.5**		**°C**	**1**			7/28/2020 09:12	....
Turbidity	**0.89**		**NTU**	**1**			7/28/2020 09:12	....
pH	**6.92**		**SU**	**1**			7/28/2020 09:12	....
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.00072**	**I**	**mg/L**	**1**	0.0010	0.000077	7/31/2020 17:56	J
Manganese	**0.0036**		**mg/L**	**1**	0.0010	0.00055	7/31/2020 17:56	J
Nickel	**0.0014**	**I**	**mg/L**	**1**	0.0020	0.00098	7/31/2020 17:56	J
Vanadium	**0.0061**		**mg/L**	**1**	0.0020	0.00071	7/31/2020 17:56	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.000050**	**U**	**mg/L**	**1**	0.00010	0.000050	7/30/2020 14:09	T
VOLATILES								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**14**		**mg/L**	**2**	10	2.0	7/29/2020 16:16	T
Sulfate	**20**		**mg/L**	**2**	10	2.0	7/29/2020 16:16	T
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/7/2020 07:06	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:06	T
1,1,2,2-Tetrachloroethane	**0.20**	**U**	**ug/L**	**1**	1.0	0.20	8/7/2020 07:06	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 07:06	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 07:06	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:06	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 07:06	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 07:06	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/7/2020 07:06	T

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Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998009** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **C-1R** Date Collected: 07/28/20 09:12

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/7/2020 07:06	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:06	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/7/2020 07:06	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/7/2020 07:06	T
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 07:06	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/7/2020 07:06	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:06	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 07:06	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 07:06	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 07:06	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/7/2020 07:06	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/7/2020 07:06	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/7/2020 07:06	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 07:06	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 07:06	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 07:06	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 07:06	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/7/2020 07:06	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/7/2020 07:06	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/7/2020 07:06	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/7/2020 07:06	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 07:06	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/7/2020 07:06	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:06	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 07:06	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 07:06	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 07:06	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:06	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 07:06	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 07:06	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/7/2020 07:06	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:06	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 07:06	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:06	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/7/2020 07:06	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/7/2020 07:06	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/7/2020 07:06	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 07:06	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/7/2020 07:06	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 07:06	T

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Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998009** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **C-1R** Date Collected: 07/28/20 09:12

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/7/2020 07:06	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/7/2020 07:06	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/7/2020 07:06	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/7/2020 07:06	T
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/7/2020 07:06	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/7/2020 07:06	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 07:06	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 07:06	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/7/2020 07:06	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/7/2020 07:06	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/7/2020 07:06	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:06	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 07:06	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/7/2020 07:06	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 07:06	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:06	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 07:06	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:06	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 07:06	T
1,2-Dichloroethane-d4 (S)	**93**		**%**	**1**	70-128		8/7/2020 07:06	
Toluene-d8 (S)	**99**		**%**	**1**	77-119		8/7/2020 07:06	
Bromofluorobenzene (S)	**106**		**%**	**1**	86-123		8/7/2020 07:06	
WET CHEMISTRY								
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.05**		**mg/L**	**1**	0.030	0.015	8/3/2020 15:16	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**310**		**mg/L**	**1**	10	10	7/30/2020 13:42	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**2.7**		**mg/L**	**1**	0.10	0.092	7/29/2020 16:43	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998010** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **Duplicate** Date Collected: 07/28/20 00:00

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.00077**	**I**	**mg/L**	**1**	0.0010	0.000077	7/31/2020 18:02	J
Manganese	**0.0036**		**mg/L**	**1**	0.0010	0.00055	7/31/2020 18:02	J
Nickel	**0.00098**	**U**	**mg/L**	**1**	0.0020	0.00098	7/31/2020 18:02	J
Vanadium	**0.0064**		**mg/L**	**1**	0.0020	0.00071	7/31/2020 18:02	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.000050**	**U**	**mg/L**	**1**	0.00010	0.000050	7/30/2020 14:12	T
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/7/2020 07:32	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:32	T
1,1,2,2-Tetrachloroethane	**0.20**	**U**	**ug/L**	**1**	1.0	0.20	8/7/2020 07:32	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 07:32	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 07:32	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:32	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 07:32	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 07:32	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/7/2020 07:32	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/7/2020 07:32	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:32	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/7/2020 07:32	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/7/2020 07:32	T
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 07:32	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/7/2020 07:32	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:32	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 07:32	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 07:32	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 07:32	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/7/2020 07:32	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/7/2020 07:32	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/7/2020 07:32	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 07:32	T

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Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998010** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **Duplicate** Date Collected: 07/28/20 00:00

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 07:32	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 07:32	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 07:32	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/7/2020 07:32	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/7/2020 07:32	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/7/2020 07:32	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/7/2020 07:32	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 07:32	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/7/2020 07:32	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:32	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 07:32	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 07:32	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 07:32	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:32	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 07:32	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 07:32	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/7/2020 07:32	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:32	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 07:32	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:32	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/7/2020 07:32	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/7/2020 07:32	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/7/2020 07:32	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 07:32	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/7/2020 07:32	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 07:32	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/7/2020 07:32	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/7/2020 07:32	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/7/2020 07:32	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/7/2020 07:32	T
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/7/2020 07:32	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/7/2020 07:32	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 07:32	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 07:32	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/7/2020 07:32	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/7/2020 07:32	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/7/2020 07:32	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:32	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 07:32	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/7/2020 07:32	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998010** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **Duplicate** Date Collected: 07/28/20 00:00

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 07:32	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:32	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 07:32	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:32	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 07:32	T
1,2-Dichloroethane-d4 (S)	**92**		**%**	**1**	70-128		8/7/2020 07:32	
Toluene-d8 (S)	**98**		**%**	**1**	77-119		8/7/2020 07:32	
Bromofluorobenzene (S)	**106**		**%**	**1**	86-123		8/7/2020 07:32	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**14**		**mg/L**	**2**	10	2.0	7/29/2020 17:04	T
Sulfate	**20**		**mg/L**	**2**	10	2.0	7/29/2020 17:04	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.05**		**mg/L**	**1**	0.030	0.015	8/3/2020 15:16	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**360**		**mg/L**	**1**	10	10	7/30/2020 13:42	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**2.7**		**mg/L**	**1**	0.10	0.092	7/29/2020 16:44	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998011** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **C-9** Date Collected: 07/28/20 10:06

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**317.7**		**umhos/cm**	**1**			7/28/2020 10:06	....
Dissolved Oxygen	**0.25**		**mg/L**	**1**			7/28/2020 10:06	....
ORP-2580BW	**-63**		**mV**	**1**			7/28/2020 10:06	....
Temperature	**25.6**		**°C**	**1**			7/28/2020 10:06	....
Turbidity	**0.35**		**NTU**	**1**			7/28/2020 10:06	....
pH	**7.25**		**SU**	**1**			7/28/2020 10:06	....
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.00096**	**I**	**mg/L**	**1**	0.0010	0.000077	7/31/2020 18:09	J
Manganese	**0.022**		**mg/L**	**1**	0.0010	0.00055	7/31/2020 18:09	J
Nickel	**0.00098**	**U**	**mg/L**	**1**	0.0020	0.00098	7/31/2020 18:09	J
Vanadium	**0.00071**	**U**	**mg/L**	**1**	0.0020	0.00071	7/31/2020 18:09	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.000050**	**U**	**mg/L**	**1**	0.00010	0.000050	7/30/2020 14:17	T
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/7/2020 07:57	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:57	T
1,1,2,2-Tetrachloroethane	**0.20**	**U**	**ug/L**	**1**	1.0	0.20	8/7/2020 07:57	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 07:57	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 07:57	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:57	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 07:57	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 07:57	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/7/2020 07:57	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/7/2020 07:57	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:57	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/7/2020 07:57	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/7/2020 07:57	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998011** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **C-9** Date Collected: 07/28/20 10:06

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 07:57	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/7/2020 07:57	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:57	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 07:57	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 07:57	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 07:57	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/7/2020 07:57	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/7/2020 07:57	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/7/2020 07:57	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 07:57	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 07:57	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 07:57	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 07:57	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/7/2020 07:57	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/7/2020 07:57	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/7/2020 07:57	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/7/2020 07:57	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 07:57	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/7/2020 07:57	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:57	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 07:57	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 07:57	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 07:57	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:57	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 07:57	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 07:57	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/7/2020 07:57	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:57	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 07:57	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:57	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/7/2020 07:57	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/7/2020 07:57	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/7/2020 07:57	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 07:57	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/7/2020 07:57	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 07:57	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/7/2020 07:57	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/7/2020 07:57	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/7/2020 07:57	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/7/2020 07:57	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998011** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **C-9** Date Collected: 07/28/20 10:06

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/7/2020 07:57	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/7/2020 07:57	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 07:57	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 07:57	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/7/2020 07:57	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/7/2020 07:57	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/7/2020 07:57	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:57	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 07:57	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/7/2020 07:57	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 07:57	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 07:57	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 07:57	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 07:57	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 07:57	T
1,2-Dichloroethane-d4 (S)	**95**		**%**	**1**	70-128		8/7/2020 07:57	
Toluene-d8 (S)	**98**		**%**	**1**	77-119		8/7/2020 07:57	
Bromofluorobenzene (S)	**108**		**%**	**1**	86-123		8/7/2020 07:57	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**6.4**	**I**	**mg/L**	**2**	10	2.0	7/29/2020 17:20	T
Sulfate	**25**		**mg/L**	**2**	10	2.0	7/29/2020 17:20	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.34**		**mg/L**	**1**	0.030	0.015	8/3/2020 15:17	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**240**		**mg/L**	**1**	10	10	7/30/2020 13:42	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**0.092**	**U**	**mg/L**	**1**	0.10	0.092	7/29/2020 16:44	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998012** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **F-12** Date Collected: 07/28/20 13:10

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**358.8**		**umhos/cm**	**1**			7/28/2020 13:10	....
Dissolved Oxygen	**5.96**		**mg/L**	**1**			7/28/2020 13:10	....
ORP-2580BW	**-11.8**		**mV**	**1**			7/28/2020 13:10	....
Temperature	**24.8**		**°C**	**1**			7/28/2020 13:10	....
Turbidity	**1.46**		**NTU**	**1**			7/28/2020 13:10	....
pH	**7.5**		**SU**	**1**			7/28/2020 13:10	....
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.0014**		**mg/L**	**1**	0.0010	0.000077	7/31/2020 18:12	J
Manganese	**0.080**		**mg/L**	**1**	0.0010	0.00055	7/31/2020 18:12	J
Nickel	**0.0020**	**I**	**mg/L**	**1**	0.0020	0.00098	7/31/2020 18:12	J
Vanadium	**0.00071**	**U**	**mg/L**	**1**	0.0020	0.00071	7/31/2020 18:12	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.000050**	**U**	**mg/L**	**1**	0.00010	0.000050	7/30/2020 14:20	T
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/7/2020 08:23	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 08:23	T
1,1,2,2-Tetrachloroethane	**0.20**	**U**	**ug/L**	**1**	1.0	0.20	8/7/2020 08:23	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 08:23	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 08:23	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 08:23	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 08:23	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 08:23	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/7/2020 08:23	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/7/2020 08:23	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 08:23	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/7/2020 08:23	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/7/2020 08:23	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998012** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **F-12** Date Collected: 07/28/20 13:10

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 08:23	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/7/2020 08:23	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 08:23	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 08:23	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 08:23	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 08:23	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/7/2020 08:23	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/7/2020 08:23	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/7/2020 08:23	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 08:23	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 08:23	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 08:23	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 08:23	T
Acetone	**2.9**		**ug/L**	**1**	2.0	0.90	8/7/2020 08:23	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/7/2020 08:23	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/7/2020 08:23	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/7/2020 08:23	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 08:23	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/7/2020 08:23	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 08:23	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 08:23	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 08:23	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 08:23	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 08:23	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 08:23	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 08:23	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/7/2020 08:23	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 08:23	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 08:23	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 08:23	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/7/2020 08:23	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/7/2020 08:23	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/7/2020 08:23	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 08:23	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/7/2020 08:23	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 08:23	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/7/2020 08:23	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/7/2020 08:23	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/7/2020 08:23	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/7/2020 08:23	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998012** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **F-12** Date Collected: 07/28/20 13:10

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/7/2020 08:23	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/7/2020 08:23	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 08:23	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 08:23	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/7/2020 08:23	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/7/2020 08:23	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/7/2020 08:23	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 08:23	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 08:23	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/7/2020 08:23	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 08:23	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 08:23	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 08:23	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 08:23	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 08:23	T
1,2-Dichloroethane-d4 (S)	**93**		**%**	**1**	70-128		8/7/2020 08:23	
Toluene-d8 (S)	**99**		**%**	**1**	77-119		8/7/2020 08:23	
Bromofluorobenzene (S)	**107**		**%**	**1**	86-123		8/7/2020 08:23	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**13**		**mg/L**	**2**	10	2.0	7/29/2020 17:36	T
Sulfate	**14**		**mg/L**	**2**	10	2.0	7/29/2020 17:36	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.04**		**mg/L**	**1**	0.030	0.015	8/3/2020 15:18	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**280**		**mg/L**	**1**	10	10	7/30/2020 13:42	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**0.092**	**U**	**mg/L**	**1**	0.10	0.092	7/29/2020 16:45	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998013** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **TR-2D** Date Collected: 07/28/20 14:03

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**302.6**		**umhos/cm**	**1**			7/28/2020 14:03	....
Dissolved Oxygen	**8.05**		**mg/L**	**1**			7/28/2020 14:03	....
ORP-2580BW	**99.1**		**mV**	**1**			7/28/2020 14:03	....
Temperature	**25.5**		**°C**	**1**			7/28/2020 14:03	....
Turbidity	**0.74**		**NTU**	**1**			7/28/2020 14:03	....
pH	**7.73**		**SU**	**1**			7/28/2020 14:03	....
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.00014**	**I**	**mg/L**	**1**	0.0010	0.000077	8/6/2020 18:30	J
Manganese	**0.0015**		**mg/L**	**1**	0.0010	0.00055	8/6/2020 18:30	J
Nickel	**0.0011**	**I,V**	**mg/L**	**1**	0.0020	0.00098	8/6/2020 18:30	J
Vanadium	**0.0040**		**mg/L**	**1**	0.0020	0.00071	8/6/2020 18:30	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.000050**	**U**	**mg/L**	**1**	0.00010	0.000050	7/30/2020 14:23	T
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/7/2020 08:49	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 08:49	T
1,1,2,2-Tetrachloroethane	**0.20**	**U**	**ug/L**	**1**	1.0	0.20	8/7/2020 08:49	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 08:49	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 08:49	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 08:49	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 08:49	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 08:49	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/7/2020 08:49	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/7/2020 08:49	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 08:49	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/7/2020 08:49	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/7/2020 08:49	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998013** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **TR-2D** Date Collected: 07/28/20 14:03

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 08:49	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/7/2020 08:49	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 08:49	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 08:49	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 08:49	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 08:49	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/7/2020 08:49	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/7/2020 08:49	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/7/2020 08:49	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 08:49	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 08:49	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 08:49	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/7/2020 08:49	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/7/2020 08:49	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/7/2020 08:49	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/7/2020 08:49	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/7/2020 08:49	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 08:49	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/7/2020 08:49	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 08:49	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 08:49	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 08:49	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 08:49	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 08:49	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 08:49	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 08:49	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/7/2020 08:49	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 08:49	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/7/2020 08:49	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 08:49	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/7/2020 08:49	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/7/2020 08:49	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/7/2020 08:49	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 08:49	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/7/2020 08:49	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/7/2020 08:49	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/7/2020 08:49	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/7/2020 08:49	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/7/2020 08:49	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/7/2020 08:49	T

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Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998013** Date Received: 07/28/20 14:30 Matrix: Water

Sample ID: **TR-2D** Date Collected: 07/28/20 14:03

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/7/2020 08:49	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/7/2020 08:49	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/7/2020 08:49	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 08:49	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/7/2020 08:49	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/7/2020 08:49	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/7/2020 08:49	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 08:49	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 08:49	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/7/2020 08:49	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/7/2020 08:49	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/7/2020 08:49	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/7/2020 08:49	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/7/2020 08:49	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/7/2020 08:49	T
1,2-Dichloroethane-d4 (S)	**93**		**%**	**1**	70-128		8/7/2020 08:49	
Toluene-d8 (S)	**98**		**%**	**1**	77-119		8/7/2020 08:49	
Bromofluorobenzene (S)	**105**		**%**	**1**	86-123		8/7/2020 08:49	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**9.7**	**I**	**mg/L**	**2**	10	2.0	7/29/2020 17:52	T
Sulfate	**2.2**	**I**	**mg/L**	**2**	10	2.0	7/29/2020 17:52	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.015**	**U**	**mg/L**	**1**	0.030	0.015	8/17/2020 10:46	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**200**		**mg/L**	**1**	10	10	7/30/2020 13:42	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**3.4**		**mg/L**	**1**	0.10	0.092	7/29/2020 16:46	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998014** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **Trip Blank** Date Collected: 07/29/20 00:00

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/11/2020 01:24	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 01:24	T
1,1,2,2-Tetrachloroethane	**0.20**	**U**	**ug/L**	**1**	1.0	0.20	8/11/2020 01:24	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 01:24	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 01:24	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 01:24	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 01:24	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 01:24	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/11/2020 01:24	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/11/2020 01:24	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 01:24	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/11/2020 01:24	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/11/2020 01:24	T
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 01:24	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/11/2020 01:24	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 01:24	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 01:24	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 01:24	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 01:24	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/11/2020 01:24	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/11/2020 01:24	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/11/2020 01:24	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 01:24	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 01:24	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 01:24	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 01:24	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/11/2020 01:24	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/11/2020 01:24	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/11/2020 01:24	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/11/2020 01:24	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 01:24	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/11/2020 01:24	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 01:24	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 01:24	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 01:24	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 01:24	T

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Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998014** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **Trip Blank** Date Collected: 07/29/20 00:00

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 01:24	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 01:24	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 01:24	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/11/2020 01:24	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 01:24	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 01:24	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 01:24	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/11/2020 01:24	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/11/2020 01:24	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/11/2020 01:24	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 01:24	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/11/2020 01:24	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 01:24	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/11/2020 01:24	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/11/2020 01:24	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/11/2020 01:24	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/11/2020 01:24	T
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/11/2020 01:24	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/11/2020 01:24	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 01:24	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 01:24	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/11/2020 01:24	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/11/2020 01:24	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/11/2020 01:24	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 01:24	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 01:24	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/11/2020 01:24	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 01:24	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 01:24	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 01:24	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 01:24	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 01:24	T
1,2-Dichloroethane-d4 (S)	**99**		**%**	**1**	70-128		8/11/2020 01:24	
Toluene-d8 (S)	**100**		**%**	**1**	77-119		8/11/2020 01:24	
Bromofluorobenzene (S)	**113**		**%**	**1**	86-123		8/11/2020 01:24	

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998015** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **32-D** Date Collected: 07/29/20 08:55

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**433**		**umhos/cm**	**1**			7/29/2020 08:55	....
Dissolved Oxygen	**1.04**		**mg/L**	**1**			7/29/2020 08:55	....
ORP-2580BW	**130.9**		**mV**	**1**			7/29/2020 08:55	....
Temperature	**25.3**		**°C**	**1**			7/29/2020 08:55	....
Turbidity	**11**		**NTU**	**1**			7/29/2020 08:55	....
pH	**7.07**		**SU**	**1**			7/29/2020 08:55	....
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.000077**	**U**	**mg/L**	**1**	0.0010	0.000077	7/31/2020 18:19	J
Manganese	**0.010**		**mg/L**	**1**	0.0010	0.00055	7/31/2020 18:19	J
Nickel	**0.00098**	**U**	**mg/L**	**1**	0.0020	0.00098	7/31/2020 18:19	J
Vanadium	**0.0042**		**mg/L**	**1**	0.0020	0.00071	7/31/2020 18:19	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.00029**		**mg/L**	**1**	0.00010	0.000050	7/31/2020 14:01	T
VOLATILES								
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**280**		**mg/L**	**1**	10	10	7/31/2020 11:55	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**1.6**		**mg/L**	**1**	0.10	0.092	7/30/2020 15:27	T
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/11/2020 01:50	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 01:50	T
1,1,2,2-Tetrachloroethane	**0.20**	**U**	**ug/L**	**1**	1.0	0.20	8/11/2020 01:50	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 01:50	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 01:50	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 01:50	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998015** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **32-D** Date Collected: 07/29/20 08:55

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 01:50	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 01:50	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/11/2020 01:50	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/11/2020 01:50	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 01:50	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/11/2020 01:50	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/11/2020 01:50	T
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 01:50	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/11/2020 01:50	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 01:50	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 01:50	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 01:50	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 01:50	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/11/2020 01:50	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/11/2020 01:50	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/11/2020 01:50	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 01:50	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 01:50	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 01:50	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 01:50	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/11/2020 01:50	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/11/2020 01:50	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/11/2020 01:50	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/11/2020 01:50	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 01:50	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/11/2020 01:50	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 01:50	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 01:50	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 01:50	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 01:50	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 01:50	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 01:50	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 01:50	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/11/2020 01:50	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 01:50	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 01:50	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 01:50	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/11/2020 01:50	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/11/2020 01:50	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/11/2020 01:50	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998015** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **32-D** Date Collected: 07/29/20 08:55

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 01:50	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/11/2020 01:50	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 01:50	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/11/2020 01:50	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/11/2020 01:50	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/11/2020 01:50	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/11/2020 01:50	T
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/11/2020 01:50	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/11/2020 01:50	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 01:50	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 01:50	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/11/2020 01:50	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/11/2020 01:50	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/11/2020 01:50	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 01:50	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 01:50	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/11/2020 01:50	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 01:50	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 01:50	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 01:50	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 01:50	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 01:50	T
1,2-Dichloroethane-d4 (S)	**97**		**%**	**1**	70-128		8/11/2020 01:50	
Toluene-d8 (S)	**98**		**%**	**1**	77-119		8/11/2020 01:50	
Bromofluorobenzene (S)	**111**		**%**	**1**	86-123		8/11/2020 01:50	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**9.8**	**I**	**mg/L**	**2**	10	2.0	7/31/2020 10:50	T
Sulfate	**14**		**mg/L**	**2**	10	2.0	7/31/2020 10:50	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.015**	**U**	**mg/L**	**1**	0.030	0.015	8/17/2020 10:47	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998016** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **31-D** Date Collected: 07/29/20 10:29

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**467.4**		**umhos/cm**	**1**			7/29/2020 10:29	....
Dissolved Oxygen	**1.91**		**mg/L**	**1**			7/29/2020 10:29	....
ORP-2580BW	**111.8**		**mV**	**1**			7/29/2020 10:29	....
Temperature	**25**		**°C**	**1**			7/29/2020 10:29	....
Turbidity	**0.15**		**NTU**	**1**			7/29/2020 10:29	....
pH	**6.87**		**SU**	**1**			7/29/2020 10:29	....
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.00050**	**I**	**mg/L**	**1**	0.0010	0.000077	7/31/2020 18:25	J
Manganese	**0.0030**		**mg/L**	**1**	0.0010	0.00055	7/31/2020 18:25	J
Nickel	**0.00098**	**U**	**mg/L**	**1**	0.0020	0.00098	7/31/2020 18:25	J
Vanadium	**0.0034**		**mg/L**	**1**	0.0020	0.00071	7/31/2020 18:25	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.000050**	**U**	**mg/L**	**1**	0.00010	0.000050	7/31/2020 14:05	T
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/11/2020 02:16	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 02:16	T
1,1,2,2-Tetrachloroethane	**0.20**	**U**	**ug/L**	**1**	1.0	0.20	8/11/2020 02:16	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 02:16	T
1,1-Dichloroethane	**0.41**	**I**	**ug/L**	**1**	1.0	0.38	8/11/2020 02:16	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 02:16	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 02:16	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 02:16	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/11/2020 02:16	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/11/2020 02:16	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 02:16	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/11/2020 02:16	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/11/2020 02:16	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998016** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **31-D** Date Collected: 07/29/20 10:29

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 02:16	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/11/2020 02:16	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 02:16	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 02:16	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 02:16	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 02:16	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/11/2020 02:16	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/11/2020 02:16	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/11/2020 02:16	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 02:16	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 02:16	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 02:16	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 02:16	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/11/2020 02:16	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/11/2020 02:16	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/11/2020 02:16	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/11/2020 02:16	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 02:16	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/11/2020 02:16	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 02:16	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 02:16	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 02:16	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 02:16	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 02:16	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 02:16	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 02:16	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/11/2020 02:16	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 02:16	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 02:16	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 02:16	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/11/2020 02:16	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/11/2020 02:16	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/11/2020 02:16	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 02:16	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/11/2020 02:16	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 02:16	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/11/2020 02:16	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/11/2020 02:16	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/11/2020 02:16	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/11/2020 02:16	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998016** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **31-D** Date Collected: 07/29/20 10:29

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Tetrachloroethylene (PCE)	**0.50**	**I**	**ug/L**	**1**	1.0	0.45	8/11/2020 02:16	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/11/2020 02:16	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 02:16	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 02:16	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/11/2020 02:16	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/11/2020 02:16	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/11/2020 02:16	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 02:16	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 02:16	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/11/2020 02:16	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 02:16	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 02:16	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 02:16	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 02:16	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 02:16	T
1,2-Dichloroethane-d4 (S)	**98**		**%**	**1**	70-128		8/11/2020 02:16	
Toluene-d8 (S)	**101**		**%**	**1**	77-119		8/11/2020 02:16	
Bromofluorobenzene (S)	**110**		**%**	**1**	86-123		8/11/2020 02:16	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**11**		**mg/L**	**2**	10	2.0	7/31/2020 11:06	T
Sulfate	**15**		**mg/L**	**2**	10	2.0	7/31/2020 11:06	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.015**	**U**	**mg/L**	**1**	0.030	0.015	8/17/2020 10:47	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**280**		**mg/L**	**1**	10	10	7/31/2020 11:55	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**1.6**		**mg/L**	**1**	0.10	0.092	7/30/2020 15:29	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998017** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **30-D** Date Collected: 07/29/20 12:09

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**438.4**		**umhos/cm**	**1**			7/29/2020 12:09	....
Dissolved Oxygen	**1.35**		**mg/L**	**1**			7/29/2020 12:09	....
ORP-2580BW	**145.9**		**mV**	**1**			7/29/2020 12:09	....
Temperature	**24.6**		**°C**	**1**			7/29/2020 12:09	....
Turbidity	**1.38**		**NTU**	**1**			7/29/2020 12:09	....
pH	**6.96**		**SU**	**1**			7/29/2020 12:09	....
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.00058**	**I**	**mg/L**	**1**	0.0010	0.000077	7/31/2020 18:31	J
Manganese	**0.0057**		**mg/L**	**1**	0.0010	0.00055	7/31/2020 18:31	J
Nickel	**0.00098**	**U**	**mg/L**	**1**	0.0020	0.00098	7/31/2020 18:31	J
Vanadium	**0.0047**		**mg/L**	**1**	0.0020	0.00071	7/31/2020 18:31	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.00024**		**mg/L**	**1**	0.00010	0.000050	7/31/2020 14:08	T
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/11/2020 02:41	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 02:41	T
1,1,2,2-Tetrachloroethane	**0.20**	**U**	**ug/L**	**1**	1.0	0.20	8/11/2020 02:41	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 02:41	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 02:41	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 02:41	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 02:41	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 02:41	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/11/2020 02:41	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/11/2020 02:41	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 02:41	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/11/2020 02:41	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/11/2020 02:41	T

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Payments: P.O. Box 551580 Jacksonville, FL 32255-1580
Phone: (813)630-9616
Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998017** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **30-D** Date Collected: 07/29/20 12:09

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 02:41	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/11/2020 02:41	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 02:41	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 02:41	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 02:41	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 02:41	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/11/2020 02:41	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/11/2020 02:41	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/11/2020 02:41	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 02:41	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 02:41	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 02:41	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 02:41	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/11/2020 02:41	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/11/2020 02:41	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/11/2020 02:41	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/11/2020 02:41	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 02:41	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/11/2020 02:41	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 02:41	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 02:41	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 02:41	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 02:41	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 02:41	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 02:41	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 02:41	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/11/2020 02:41	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 02:41	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 02:41	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 02:41	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/11/2020 02:41	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/11/2020 02:41	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/11/2020 02:41	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 02:41	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/11/2020 02:41	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 02:41	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/11/2020 02:41	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/11/2020 02:41	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/11/2020 02:41	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/11/2020 02:41	T

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Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998017** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **30-D** Date Collected: 07/29/20 12:09

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/11/2020 02:41	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/11/2020 02:41	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 02:41	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 02:41	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/11/2020 02:41	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/11/2020 02:41	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/11/2020 02:41	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 02:41	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 02:41	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/11/2020 02:41	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 02:41	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 02:41	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 02:41	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 02:41	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 02:41	T
1,2-Dichloroethane-d4 (S)	**98**		**%**	**1**	70-128		8/11/2020 02:41	
Toluene-d8 (S)	**99**		**%**	**1**	77-119		8/11/2020 02:41	
Bromofluorobenzene (S)	**111**		**%**	**1**	86-123		8/11/2020 02:41	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**12**		**mg/L**	**2**	10	2.0	7/31/2020 11:22	T
Sulfate	**18**		**mg/L**	**2**	10	2.0	7/31/2020 11:22	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.015**	**U**	**mg/L**	**1**	0.030	0.015	8/17/2020 10:48	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**340**		**mg/L**	**1**	10	10	7/31/2020 11:55	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**2.4**		**mg/L**	**1**	0.10	0.092	7/30/2020 15:30	T

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Phone: (813)630-9616
Fax: (813)630-4327

ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998018** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **C-8** Date Collected: 07/29/20 12:52

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**288.9**		**umhos/cm**	**1**			7/29/2020 12:52	....
Dissolved Oxygen	**2.93**		**mg/L**	**1**			7/29/2020 12:52	....
ORP-2580BW	**152.4**		**mV**	**1**			7/29/2020 12:52	....
Temperature	**24.1**		**°C**	**1**			7/29/2020 12:52	....
Turbidity	**0.97**		**NTU**	**1**			7/29/2020 12:52	....
pH	**7.2**		**SU**	**1**			7/29/2020 12:52	....
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.000077**	**U**	**mg/L**	**1**	0.0010	0.000077	7/31/2020 18:36	J
Manganese	**0.0038**		**mg/L**	**1**	0.0010	0.00055	7/31/2020 18:36	J
Nickel	**0.00098**	**U**	**mg/L**	**1**	0.0020	0.00098	7/31/2020 18:36	J
Vanadium	**0.0019**	**I**	**mg/L**	**1**	0.0020	0.00071	7/31/2020 18:36	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.000050**	**U**	**mg/L**	**1**	0.00010	0.000050	7/31/2020 14:12	T
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/11/2020 03:07	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 03:07	T
1,1,2,2-Tetrachloroethane	**0.20**	**U**	**ug/L**	**1**	1.0	0.20	8/11/2020 03:07	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 03:07	T
1,1-Dichloroethane	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 03:07	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 03:07	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 03:07	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 03:07	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/11/2020 03:07	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/11/2020 03:07	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 03:07	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/11/2020 03:07	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/11/2020 03:07	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998018** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **C-8** Date Collected: 07/29/20 12:52

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 03:07	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/11/2020 03:07	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 03:07	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 03:07	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 03:07	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 03:07	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/11/2020 03:07	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/11/2020 03:07	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/11/2020 03:07	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 03:07	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 03:07	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 03:07	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 03:07	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/11/2020 03:07	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/11/2020 03:07	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/11/2020 03:07	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/11/2020 03:07	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 03:07	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/11/2020 03:07	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 03:07	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 03:07	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 03:07	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 03:07	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 03:07	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 03:07	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 03:07	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/11/2020 03:07	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 03:07	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 03:07	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 03:07	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/11/2020 03:07	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/11/2020 03:07	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/11/2020 03:07	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 03:07	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/11/2020 03:07	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 03:07	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/11/2020 03:07	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/11/2020 03:07	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/11/2020 03:07	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/11/2020 03:07	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998018** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **C-8** Date Collected: 07/29/20 12:52

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/11/2020 03:07	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/11/2020 03:07	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 03:07	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 03:07	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/11/2020 03:07	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/11/2020 03:07	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/11/2020 03:07	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 03:07	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 03:07	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/11/2020 03:07	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 03:07	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 03:07	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 03:07	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 03:07	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 03:07	T
1,2-Dichloroethane-d4 (S)	**96**		**%**	**1**	70-128		8/11/2020 03:07	
Toluene-d8 (S)	**100**		**%**	**1**	77-119		8/11/2020 03:07	
Bromofluorobenzene (S)	**109**		**%**	**1**	86-123		8/11/2020 03:07	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**11**		**mg/L**	**2**	10	2.0	7/31/2020 11:38	T
Sulfate	**6.5**	**I**	**mg/L**	**2**	10	2.0	7/31/2020 11:38	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.015**	**U**	**mg/L**	**1**	0.030	0.015	8/17/2020 10:49	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**270**		**mg/L**	**1**	10	10	7/31/2020 11:55	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**3.4**		**mg/L**	**1**	0.10	0.092	7/30/2020 15:31	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998019** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **F-15** Date Collected: 07/29/20 14:05

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
FIELD PARAMETERS								
Analysis Desc: Data entry of field measurements	Analytical Method: Field Measurements							
Conductivity	**406.6**		**umhos/cm**	**1**			7/29/2020 14:05	....
Dissolved Oxygen	**8.57**		**mg/L**	**1**			7/29/2020 14:05	....
ORP-2580BW	**166.7**		**mV**	**1**			7/29/2020 14:05	....
Temperature	**24.5**		**°C**	**1**			7/29/2020 14:05	....
Turbidity	**1.05**		**NTU**	**1**			7/29/2020 14:05	....
pH	**7.45**		**SU**	**1**			7/29/2020 14:05	....
METALS								
Analysis Desc: SW846 6020B Analysis,Total	Preparation Method: SW-846 3010A Analytical Method: SW-846 6020							
Arsenic	**0.00012**	**I**	**mg/L**	**1**	0.0010	0.000077	7/31/2020 18:52	J
Manganese	**0.00055**	**U**	**mg/L**	**1**	0.0010	0.00055	7/31/2020 18:52	J
Nickel	**0.00099**	**I**	**mg/L**	**1**	0.0020	0.00098	7/31/2020 18:52	J
Vanadium	**0.0033**		**mg/L**	**1**	0.0020	0.00071	7/31/2020 18:52	J
Analysis Desc: SW846 7470A Analysis,Water	Preparation Method: SW-846 7470A Analytical Method: SW-846 7470A							
Mercury	**0.000050**	**U**	**mg/L**	**1**	0.00010	0.000050	7/31/2020 14:15	T
VOLATILES								
Analysis Desc: 8260B VOCs Analysis, Water	Preparation Method: SW-846 5030B Analytical Method: SW-846 8260B							
1,1,1,2-Tetrachloroethane	**0.47**	**U**	**ug/L**	**1**	1.0	0.47	8/11/2020 03:33	T
1,1,1-Trichloroethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 03:33	T
1,1,2,2-Tetrachloroethane	**0.20**	**U**	**ug/L**	**1**	1.0	0.20	8/11/2020 03:33	T
1,1,2-Trichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 03:33	T
1,1-Dichloroethane	**0.59**	**I**	**ug/L**	**1**	1.0	0.38	8/11/2020 03:33	T
1,1-Dichloroethylene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 03:33	T
1,1-Dichloropropene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 03:33	T
1,2,3-Trichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 03:33	T
1,2,3-Trichloropropane	**0.22**	**U**	**ug/L**	**1**	1.0	0.22	8/11/2020 03:33	T
1,2,4-Trichlorobenzene	**0.52**	**U**	**ug/L**	**1**	1.0	0.52	8/11/2020 03:33	T
1,2,4-Trimethylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 03:33	T
1,2-Dibromo-3-Chloropropane	**0.38**	**U**	**ug/L**	**1**	3.0	0.38	8/11/2020 03:33	T
1,2-Dichlorobenzene	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/11/2020 03:33	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998019** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **F-15** Date Collected: 07/29/20 14:05

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
1,2-Dichloroethane	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 03:33	T
1,2-Dichloropropane	**0.18**	**U**	**ug/L**	**1**	1.0	0.18	8/11/2020 03:33	T
1,3,5-Trimethylbenzene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 03:33	T
1,3-Dichlorobenzene	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 03:33	T
1,3-Dichloropropane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 03:33	T
1,4-Dichlorobenzene	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 03:33	T
2,2-Dichloropropane	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/11/2020 03:33	T
2-Butanone (MEK)	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/11/2020 03:33	T
2-Chloroethyl Vinyl Ether	**0.79**	**U**	**ug/L**	**1**	1.0	0.79	8/11/2020 03:33	T
2-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 03:33	T
2-Hexanone	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 03:33	T
4-Chlorotoluene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 03:33	T
4-Methyl-2-pentanone (MIBK)	**0.40**	**U**	**ug/L**	**1**	1.0	0.40	8/11/2020 03:33	T
Acetone	**0.90**	**U**	**ug/L**	**1**	2.0	0.90	8/11/2020 03:33	T
Acrolein (Propenal)	**1.8**	**U**	**ug/L**	**1**	4.0	1.8	8/11/2020 03:33	T
Acrylonitrile	**0.38**	**U**	**ug/L**	**1**	5.0	0.38	8/11/2020 03:33	T
Benzene	**0.28**	**U**	**ug/L**	**1**	1.0	0.28	8/11/2020 03:33	T
Bromobenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 03:33	T
Bromochloromethane	**0.33**	**U**	**ug/L**	**1**	1.0	0.33	8/11/2020 03:33	T
Bromodichloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 03:33	T
Bromoform	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 03:33	T
Bromomethane	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 03:33	T
Carbon Disulfide	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 03:33	T
Carbon Tetrachloride	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 03:33	T
Chlorobenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 03:33	T
Chloroethane	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 03:33	T
Chloroform	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/11/2020 03:33	T
Chloromethane	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 03:33	T
Dibromochloromethane	**0.36**	**U**	**ug/L**	**1**	1.0	0.36	8/11/2020 03:33	T
Dibromomethane	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 03:33	T
Dichlorodifluoromethane	**0.53**	**U**	**ug/L**	**1**	1.0	0.53	8/11/2020 03:33	T
Ethylbenzene	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/11/2020 03:33	T
Ethylene Dibromide (EDB)	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/11/2020 03:33	T
Hexachlorobutadiene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 03:33	T
Iodomethane (Methyl Iodide)	**0.83**	**U**	**ug/L**	**1**	1.0	0.83	8/11/2020 03:33	T
Isopropylbenzene	**0.42**	**U**	**ug/L**	**1**	1.0	0.42	8/11/2020 03:33	T
Methyl tert-butyl Ether (MTBE)	**0.71**	**U**	**ug/L**	**1**	1.0	0.71	8/11/2020 03:33	T
Methylene Chloride	**0.56**	**U**	**ug/L**	**1**	1.0	0.56	8/11/2020 03:33	T
Naphthalene	**0.93**	**U**	**ug/L**	**1**	1.0	0.93	8/11/2020 03:33	T
Styrene	**0.29**	**U**	**ug/L**	**1**	1.0	0.29	8/11/2020 03:33	T

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ANALYTICAL RESULTS

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID: **T2013998019** Date Received: 07/29/20 14:35 Matrix: Water

Sample ID: **F-15** Date Collected: 07/29/20 14:05

Sample Description: Location:

Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
Tetrachloroethylene (PCE)	**0.45**	**U**	**ug/L**	**1**	1.0	0.45	8/11/2020 03:33	T
Toluene	**0.66**	**U**	**ug/L**	**1**	1.0	0.66	8/11/2020 03:33	T
Trichloroethene	**0.32**	**U**	**ug/L**	**1**	1.0	0.32	8/11/2020 03:33	T
Trichlorofluoromethane	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 03:33	T
Vinyl Acetate	**0.37**	**U**	**ug/L**	**1**	1.0	0.37	8/11/2020 03:33	T
Vinyl Chloride	**0.44**	**U**	**ug/L**	**1**	1.0	0.44	8/11/2020 03:33	T
Xylene (Total)	**1.3**	**U**	**ug/L**	**1**	2.0	1.3	8/11/2020 03:33	T
cis-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 03:33	T
cis-1,3-Dichloropropene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 03:33	T
n-Butylbenzene	**0.59**	**U**	**ug/L**	**1**	1.0	0.59	8/11/2020 03:33	T
n-propylbenzene	**0.34**	**U**	**ug/L**	**1**	1.0	0.34	8/11/2020 03:33	T
sec-butylbenzene	**0.41**	**U**	**ug/L**	**1**	1.0	0.41	8/11/2020 03:33	T
tert-butylbenzene	**0.38**	**U**	**ug/L**	**1**	1.0	0.38	8/11/2020 03:33	T
trans-1,2-Dichloroethylene	**0.39**	**U**	**ug/L**	**1**	1.0	0.39	8/11/2020 03:33	T
trans-1,3-Dichloropropylene	**0.26**	**U**	**ug/L**	**1**	1.0	0.26	8/11/2020 03:33	T
1,2-Dichloroethane-d4 (S)	**101**		**%**	**1**	70-128		8/11/2020 03:33	
Toluene-d8 (S)	**99**		**%**	**1**	77-119		8/11/2020 03:33	
Bromofluorobenzene (S)	**111**		**%**	**1**	86-123		8/11/2020 03:33	
WET CHEMISTRY								
Analysis Desc: IC,E300.0,Water	Analytical Method: EPA 300.0							
Chloride	**17**		**mg/L**	**2**	10	2.0	7/31/2020 12:26	T
Sulfate	**13**		**mg/L**	**2**	10	2.0	7/31/2020 12:26	T
Analysis Desc: Ammonia,E350.1,Water	Analytical Method: EPA 350.1							
Ammonia (N)	**0.015**	**U**	**mg/L**	**1**	0.030	0.015	8/17/2020 10:50	T
Analysis Desc: Tot Dissolved Solids,SM2540C	Analytical Method: SM 2540 C							
Total Dissolved Solids	**340**		**mg/L**	**1**	10	10	7/31/2020 11:55	T
Analysis Desc: Nitrate,Nitrite SM4500NO3F,Water	Analytical Method: SM 4500NO3-F							
Nitrate (as N)	**2.1**		**mg/L**	**1**	0.10	0.092	7/30/2020 15:32	T

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ANALYTICAL RESULTS QUALIFIERS

Workorder: T2013998 Taylor Road Landfill Superfund

PARAMETER QUALIFIERS

U	The compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
V	Method Blank Contamination

LAB QUALIFIERS

J	DOH Certification #E82574(AEL-JAX)(FL NELAC Certification)
T	DOH Certification #E84589(AEL-T)(FL NELAC Certification)
T^	Not Certified

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

QC Batch: WCAt/5399 Analysis Method: SM 4500NO3-F
QC Batch Method: SM 4500NO3-F Prepared:
Associated Lab Samples: T2013998002, T2013998003, T2013998004, T2013998005, T2013998006

METHOD BLANK: 3562319

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Nitrate (as N)	mg/L	0.092	0.092	U

LABORATORY CONTROL SAMPLE: 3562320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Nitrate (as N)	mg/L	1	1.1	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3562321 3562322 Original: T2013973001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Nitrate (as N)	mg/L	0.68	1.2	1.8	1.8	95	97	90-110	2	10	

QC Batch: WCAt/5407 Analysis Method: SM 2540 C
QC Batch Method: SM 2540 C Prepared:
Associated Lab Samples: T2013998002

METHOD BLANK: 3562626

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Total Dissolved Solids	mg/L	10	10	U

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

LABORATORY CONTROL SAMPLE: 3562627

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	660	640	98	85-115	

SAMPLE DUPLICATE: 3562628 Original: T2013853004

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	570	570	1	10	

QC Batch: WCAt/5424 Analysis Method: SM 4500NO3-F

QC Batch Method: SM 4500NO3-F Prepared:

Associated Lab Samples: T2013998008, T2013998009, T2013998010, T2013998011, T2013998012, T2013998013

METHOD BLANK: 3564100

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Nitrate (as N)	mg/L	0.092	0.092	U

LABORATORY CONTROL SAMPLE: 3564101

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Nitrate (as N)	mg/L	1	1.1	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564102 3564103 Original: T2013998008

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Nitrate (as N)	mg/L	4.4	1	5.4	5.3	97	91	90-110	1	10	

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

QC Batch: DGMj/1972 Analysis Method: SW-846 6020

QC Batch Method: SW-846 3010A Prepared: 07/31/2020 04:25

Associated Lab Samples: T2013998002, T2013998003, T2013998004, T2013998005, T2013998006, T2013998008, T2013998009,

METHOD BLANK: 3564419

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Vanadium	mg/L	0.00071	0.00071	U
Manganese	mg/L	0.00055	0.00055	U
Nickel	mg/L	0.00098	0.00098	U
Arsenic	mg/L	0.000077	0.000077	U

LABORATORY CONTROL SAMPLE: 3564420

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						
Vanadium	mg/L	0.05	0.049	98	80-120	
Manganese	mg/L	0.05	0.052	103	80-120	
Nickel	mg/L	0.05	0.051	101	80-120	
Arsenic	mg/L	0.05	0.055	110	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3564421 3564422 Original: J2010306001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Vanadium	mg/L	0.0033	0.05	0.053	0.050	99	94	75-125	4	20	
Manganese	mg/L	0.1	0.05	0.15	0.14	98	87	75-125	4	20	
Nickel	mg/L	0.0013	0.05	0.047	0.047	91	91	75-125	0	20	
Arsenic	mg/L	0.0062	0.05	0.059	0.058	105	103	75-125	2	20	

QC Batch: WCAt/5435 Analysis Method: SM 2540 C

QC Batch Method: SM 2540 C Prepared:

Associated Lab Samples: T2013998003, T2013998004, T2013998005, T2013998006, T2013998008, T2013998009, T2013998010, T2013998011,

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

METHOD BLANK: 3564537

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Total Dissolved Solids	mg/L	10	10	U

LABORATORY CONTROL SAMPLE: 3564538

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	660	740	112	85-115	

SAMPLE DUPLICATE: 3564539 Original: T2013998003

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	300	320	5	10	

QC Batch: DGMt/2052 Analysis Method: SW-846 7470A

QC Batch Method: SW-846 7470A Prepared: 07/30/2020 10:15

Associated Lab Samples: T2013998002, T2013998003, T2013998004, T2013998005, T2013998006, T2013998008, T2013998009,

METHOD BLANK: 3565344

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Mercury	mg/L	0.000050	0.000050	U

LABORATORY CONTROL SAMPLE: 3565345

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						
Mercury	mg/L	0.001	0.0010	105	80-120	

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3565346 3565347 Original: M2004035001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Mercury	mg/L	0	0.001	0.00090	0.00087	90	87	80-120	4	20	

QC Batch: WCAt/5443 Analysis Method: SM 4500NO3-F
QC Batch Method: SM 4500NO3-F Prepared:
Associated Lab Samples: T2013998015, T2013998016, T2013998017, T2013998018, T2013998019

METHOD BLANK: 3565372

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Nitrate (as N)	mg/L	0.092	0.092	U

LABORATORY CONTROL SAMPLE: 3565373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Nitrate (as N)	mg/L	1	1.1	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3565374 3565375 Original: T2013998015

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Nitrate (as N)	mg/L	1.6	1	2.6	2.6	106	106	90-110	0	10	

QC Batch: WCAt/5454 Analysis Method: SM 2540 C
QC Batch Method: SM 2540 C Prepared:
Associated Lab Samples: T2013998015, T2013998016, T2013998017, T2013998018, T2013998019

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

METHOD BLANK: 3565800

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Total Dissolved Solids	mg/L	10	10	U

LABORATORY CONTROL SAMPLE: 3565801

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	660	620	95	85-115	

SAMPLE DUPLICATE: 3565802 Original: T2013998015

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Qualifiers
WET CHEMISTRY						
Total Dissolved Solids	mg/L	280	300	6	10	

QC Batch: DGMt/2060 Analysis Method: SW-846 7470A

QC Batch Method: SW-846 7470A Prepared: 07/31/2020 10:15

Associated Lab Samples: T2013998015, T2013998016, T2013998017, T2013998018, T2013998019

METHOD BLANK: 3566527

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Mercury	mg/L	0.000050	0.000050	U

LABORATORY CONTROL SAMPLE: 3566528

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						
Mercury	mg/L	0.001	0.0011	108	80-120	

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3566529 3566530 Original: T2014306005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Mercury	mg/L	0	0.001	0.00098	0.00093	98	93	80-120	5	20	

QC Batch: WCAt/5492 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Prepared:
Associated Lab Samples: T2013998002, T2013998003, T2013998004, T2013998005, T2013998006

METHOD BLANK: 3567637

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Ammonia (N)	mg/L	0.015	0.015	U

LABORATORY CONTROL SAMPLE: 3567638

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Ammonia (N)	mg/L	0.5	0.49	98	90-110	

QC Batch: WCAt/5493 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Prepared:
Associated Lab Samples: T2013998008, T2013998009, T2013998010, T2013998011, T2013998012

METHOD BLANK: 3567644

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Ammonia (N)	mg/L	0.015	0.015	U

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

LABORATORY CONTROL SAMPLE: 3567645

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Ammonia (N)	mg/L	0.5	0.51	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3567646 3567647 Original: A2006468001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Ammonia (N)	mg/L	0.1	1	1.2	1.2	108	107	90-110	0	10	

QC Batch: DGMj/1999
QC Batch Method: SW-846 3010A
Associated Lab Samples: T2013998013
Analysis Method: SW-846 6020
Prepared: 08/05/2020 04:36

METHOD BLANK: 3569247

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Vanadium	mg/L	0.00071	0.00071	U
Nickel	mg/L	0.0012	0.00098	I
Arsenic	mg/L	0.000077	0.000077	U

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
METALS				
Manganese	mg/L	0.00055	0.00055	U

LABORATORY CONTROL SAMPLE: 3569248

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
METALS						
Vanadium	mg/L	0.05	0.057	114	80-120	
Manganese	mg/L	0.05	0.053	107	80-120	
Nickel	mg/L	0.05	0.052	104	80-120	
Arsenic	mg/L	0.05	0.057	114	80-120	

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3569249 3569250 Original: T2013998013

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
METALS											
Vanadium	mg/L	0.004	0.05	0.060	0.058	113	108	75-125	4	20	
Manganese	mg/L	0.0015	0.05	0.052	0.050	100	96	75-125	4	20	
Nickel	mg/L	0.0011	0.05	0.048	0.047	95	91	75-125	3	20	
Arsenic	mg/L	0.00014	0.05	0.056	0.053	111	106	75-125	4	20	

QC Batch: MSVt/2233 Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030B Prepared: 08/06/2020 10:50

Associated Lab Samples: T2013998001, T2013998002, T2013998003, T2013998004, T2013998005, T2013998006, T2013998007

METHOD BLANK: 3574065

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
VOLATILES				
Dichlorodifluoromethane	ug/L	0.53	0.53	U
Chloromethane	ug/L	0.39	0.39	U
Vinyl Chloride	ug/L	0.44	0.44	U
Bromomethane	ug/L	0.32	0.32	U
Chloroethane	ug/L	0.42	0.42	U
Trichlorofluoromethane	ug/L	0.26	0.26	U
Acrolein (Propenal)	ug/L	1.8	1.8	U
Acetone	ug/L	0.90	0.90	U
1,1-Dichloroethylene	ug/L	0.41	0.41	U
Iodomethane (Methyl Iodide)	ug/L	0.83	0.83	U
Acrylonitrile	ug/L	0.38	0.38	U
Methylene Chloride	ug/L	0.56	0.56	U
Carbon Disulfide	ug/L	0.42	0.42	U
trans-1,2-Dichloroethylene	ug/L	0.39	0.39	U
Methyl tert-butyl Ether (MTBE)	ug/L	0.71	0.71	U
1,1-Dichloroethane	ug/L	0.38	0.38	U
Vinyl Acetate	ug/L	0.37	0.37	U
2-Butanone (MEK)	ug/L	0.33	0.33	U
cis-1,2-Dichloroethylene	ug/L	0.39	0.39	U
Bromochloromethane	ug/L	0.33	0.33	U
Chloroform	ug/L	0.37	0.37	U
2,2-Dichloropropane	ug/L	0.45	0.45	U
1,2-Dichloroethane	ug/L	0.40	0.40	U

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

METHOD BLANK: 3574065

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,1,1-Trichloroethane	ug/L	0.39	0.39	U
1,1-Dichloropropene	ug/L	0.38	0.38	U
Carbon Tetrachloride	ug/L	0.41	0.41	U
Benzene	ug/L	0.28	0.28	U
Dibromomethane	ug/L	0.41	0.41	U
1,2-Dichloropropane	ug/L	0.18	0.18	U
Trichloroethene	ug/L	0.32	0.32	U
Bromodichloromethane	ug/L	0.39	0.39	U
2-Chloroethyl Vinyl Ether	ug/L	0.79	0.79	U
cis-1,3-Dichloropropene	ug/L	0.26	0.26	U
4-Methyl-2-pentanone (MIBK)	ug/L	0.40	0.40	U
trans-1,3-Dichloropropylene	ug/L	0.26	0.26	U
1,1,2-Trichloroethane	ug/L	0.40	0.40	U
Toluene	ug/L	0.66	0.66	U
1,3-Dichloropropane	ug/L	0.32	0.32	U
2-Hexanone	ug/L	0.42	0.42	U
Dibromochloromethane	ug/L	0.36	0.36	U
Ethylene Dibromide (EDB)	ug/L	0.29	0.29	U
Tetrachloroethylene (PCE)	ug/L	0.45	0.45	U
1,1,1,2-Tetrachloroethane	ug/L	0.47	0.47	U
Chlorobenzene	ug/L	0.38	0.38	U
Ethylbenzene	ug/L	0.56	0.56	U
Bromoform	ug/L	0.36	0.36	U
Styrene	ug/L	0.29	0.29	U
1,1,2,2-Tetrachloroethane	ug/L	0.20	0.20	U
1,2,3-Trichloropropane	ug/L	0.22	0.22	U
Isopropylbenzene	ug/L	0.42	0.42	U
Bromobenzene	ug/L	0.34	0.34	U
n-propylbenzene	ug/L	0.34	0.34	U
2-Chlorotoluene	ug/L	0.34	0.34	U
4-Chlorotoluene	ug/L	0.34	0.34	U
1,3,5-Trimethylbenzene	ug/L	0.39	0.39	U
tert-butylbenzene	ug/L	0.38	0.38	U
1,2,4-Trimethylbenzene	ug/L	0.41	0.41	U
sec-butylbenzene	ug/L	0.41	0.41	U
1,3-Dichlorobenzene	ug/L	0.40	0.40	U
1,4-Dichlorobenzene	ug/L	0.36	0.36	U
1,2-Dichlorobenzene	ug/L	0.44	0.44	U
n-Butylbenzene	ug/L	0.59	0.59	U
1,2-Dibromo-3-Chloropropane	ug/L	0.38	0.38	U
1,2,4-Trichlorobenzene	ug/L	0.52	0.52	U
Naphthalene	ug/L	0.93	0.93	U
Hexachlorobutadiene	ug/L	0.32	0.32	U
1,2,3-Trichlorobenzene	ug/L	0.36	0.36	U
Xylene (Total)	ug/L	1.3	1.3	U

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

METHOD BLANK: 3574065

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,2-Dichloroethane-d4 (S)	%	94	70-128	
Toluene-d8 (S)	%	96	77-119	
Bromofluorobenzene (S)	%	111	86-123	

LABORATORY CONTROL SAMPLE & LCSD: 3574066 3574067

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
VOLATILES										
Dichlorodifluoromethane	ug/L	20	20	22	100	112		12		
Chloromethane	ug/L	20	16	19	82	94		14		
Vinyl Chloride	ug/L	20	16	18	81	91	70-130	11	20	
Bromomethane	ug/L	20	7.4	12	37	60		46		
Chloroethane	ug/L	20	16	18	79	91		14		
Trichlorofluoromethane	ug/L	20	19	21	93	105		12		
Acrolein (Propenal)	ug/L	100	150	150	146	146		0		
Acetone	ug/L	20	17	18	83	91		10		
1,1-Dichloroethylene	ug/L	20	19	20	95	98	70-130	3	20	
Iodomethane (Methyl Iodide)	ug/L	20	9.7	12	48	61		23		
Acrylonitrile	ug/L	20	17	18	87	92		6		
Methylene Chloride	ug/L	20	16	17	82	85		4		
Carbon Disulfide	ug/L	20	19	20	96	98		2		
trans-1,2-Dichloroethylene	ug/L	20	19	19	94	96		2		
Methyl tert-butyl Ether (MTBE)	ug/L	20	19	19	94	97	70-130	3	20	
1,1-Dichloroethane	ug/L	20	19	19	94	95		1		
Vinyl Acetate	ug/L	20	18	18	91	91		0		
2-Butanone (MEK)	ug/L	20	18	18	88	89		2		
cis-1,2-Dichloroethylene	ug/L	20	18	19	92	96	70-130	4	20	
Bromochloromethane	ug/L	20	18	18	91	92		2		
Chloroform	ug/L	20	19	19	93	96	70-130	3	20	
2,2-Dichloropropane	ug/L	20	19	20	95	99		4		
1,2-Dichloroethane	ug/L	20	18	19	90	93		2		
1,1,1-Trichloroethane	ug/L	20	19	20	96	99		4		
1,1-Dichloropropene	ug/L	20	19	19	94	97		4		
Carbon Tetrachloride	ug/L	20	20	20	99	101		2		
Benzene	ug/L	20	19	19	93	95	70-130	2	20	
Dibromomethane	ug/L	20	19	19	95	97		2		
1,2-Dichloropropane	ug/L	20	18	18	92	92		0		
Trichloroethene	ug/L	20	19	19	94	96	70-130	2	20	
Bromodichloromethane	ug/L	20	19	19	93	96		2		
2-Chloroethyl Vinyl Ether	ug/L	20	15	16	76	78		2		

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

LABORATORY CONTROL SAMPLE & LCSD: 3574066 3574067

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
cis-1,3-Dichloropropene	ug/L	20	19	19	93	96		3		
4-Methyl-2-pentanone (MIBK)	ug/L	20	17	18	85	89		4		
trans-1,3-Dichloropropylene	ug/L	20	18	19	92	96		4		
1,1,2-Trichloroethane	ug/L	20	18	19	92	95		3		
Toluene	ug/L	20	19	19	95	96	70-130	1	20	
1,3-Dichloropropane	ug/L	20	18	18	92	90		2		
2-Hexanone	ug/L	20	17	18	87	88		1		
Dibromochloromethane	ug/L	20	19	20	96	98		1		
Ethylene Dibromide (EDB)	ug/L	20	19	19	95	94		1		
Tetrachloroethylene (PCE)	ug/L	20	18	18	90	89	70-130	1	20	
1,1,1,2-Tetrachloroethane	ug/L	20	21	20	104	101		2		
Chlorobenzene	ug/L	20	20	19	99	97	70-130	2	20	
Ethylbenzene	ug/L	20	20	20	99	98	70-130	1	20	
Bromoform	ug/L	20	17	17	86	83		4		
Styrene	ug/L	20	19	19	97	97		1		
1,1,2,2-Tetrachloroethane	ug/L	20	19	19	93	94		2		
1,2,3-Trichloropropane	ug/L	20	18	18	90	90		0		
Isopropylbenzene	ug/L	20	21	22	103	108		4		
Bromobenzene	ug/L	20	20	21	99	104		4		
n-propylbenzene	ug/L	20	21	21	104	106		2		
2-Chlorotoluene	ug/L	20	21	21	103	106		2		
4-Chlorotoluene	ug/L	20	20	21	102	105		3		
1,3,5-Trimethylbenzene	ug/L	20	21	22	105	108		3		
tert-butylbenzene	ug/L	20	21	23	106	113		6		
1,2,4-Trimethylbenzene	ug/L	20	21	21	104	107	70-130	3	20	
sec-butylbenzene	ug/L	20	21	22	104	108		4		
1,3-Dichlorobenzene	ug/L	20	20	21	100	106	70-130	6	20	
1,4-Dichlorobenzene	ug/L	20	20	21	100	104		4		
1,2-Dichlorobenzene	ug/L	20	20	20	99	102	70-130	3	20	
n-Butylbenzene	ug/L	20	21	21	103	107		4		
1,2-Dibromo-3-Chloropropane	ug/L	20	19	19	94	97		3		
1,2,4-Trichlorobenzene	ug/L	20	18	19	90	95		5		
Naphthalene	ug/L	20	21	23	104	114		10		
Hexachlorobutadiene	ug/L	20	18	20	92	102		10		
1,2,3-Trichlorobenzene	ug/L	20	17	20	86	100		16		
Xylene (Total)	ug/L	60	58	59	96	98	70-130	1	20	
1,2-Dichloroethane-d4 (S)	%				91	92	70-128	1		
Toluene-d8 (S)	%				97	97	77-119	0		
Bromofluorobenzene (S)	%				103	104	86-123	1		

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

MATRIX SPIKE SAMPLE: 3574068 Original: T2014848001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
VOLATILES							
Dichlorodifluoromethane	ug/L			23			
Chloromethane	ug/L			20			
Vinyl Chloride	ug/L			20			
Bromomethane	ug/L			13			
Chloroethane	ug/L			21			
Trichlorofluoromethane	ug/L			21			
Acrolein (Propenal)	ug/L			79			
Acetone	ug/L			35			
1,1-Dichloroethylene	ug/L			20			
Iodomethane (Methyl Iodide)	ug/L			15			
Acrylonitrile	ug/L			19			
Methylene Chloride	ug/L			38			
Carbon Disulfide	ug/L			20			
trans-1,2-Dichloroethylene	ug/L			19			
Methyl tert-butyl Ether (MTBE)	ug/L	0.18	20	20	99	70-130	
1,1-Dichloroethane	ug/L			19			
Vinyl Acetate	ug/L			20			
2-Butanone (MEK)	ug/L			19			
cis-1,2-Dichloroethylene	ug/L			20			
Bromochloromethane	ug/L			19			
Chloroform	ug/L			19			
2,2-Dichloropropane	ug/L			18			
1,2-Dichloroethane	ug/L			18			
1,1,1-Trichloroethane	ug/L			19			
1,1-Dichloropropene	ug/L			19			
Carbon Tetrachloride	ug/L			20			
Benzene	ug/L	0	20	20	99	70-130	
Dibromomethane	ug/L			19			
1,2-Dichloropropane	ug/L			19			
Trichloroethene	ug/L			21			
Bromodichloromethane	ug/L			19			
2-Chloroethyl Vinyl Ether	ug/L			17			
cis-1,3-Dichloropropene	ug/L			19			
4-Methyl-2-pentanone (MIBK)	ug/L			19			
trans-1,3-Dichloropropylene	ug/L			19			
1,1,2-Trichloroethane	ug/L			19			
Toluene	ug/L	0	20	20	98	70-130	
1,3-Dichloropropane	ug/L			19			
2-Hexanone	ug/L			20			
Dibromochloromethane	ug/L			19			
Ethylene Dibromide (EDB)	ug/L			20			

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

MATRIX SPIKE SAMPLE: 3574068 Original: T2014848001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Tetrachloroethylene (PCE)	ug/L			21			
1,1,1,2-Tetrachloroethane	ug/L			21			
Chlorobenzene	ug/L			20			
Ethylbenzene	ug/L	0	20	20	99	70-130	
Bromoform	ug/L			18			
Styrene	ug/L			20			
1,1,2,2-Tetrachloroethane	ug/L			20			
1,2,3-Trichloropropane	ug/L			19			
Isopropylbenzene	ug/L			21			
Bromobenzene	ug/L			20			
n-propylbenzene	ug/L			20			
2-Chlorotoluene	ug/L			20			
4-Chlorotoluene	ug/L			20			
1,3,5-Trimethylbenzene	ug/L			21			
tert-butylbenzene	ug/L			21			
1,2,4-Trimethylbenzene	ug/L			21			
sec-butylbenzene	ug/L			21			
1,3-Dichlorobenzene	ug/L			20			
1,4-Dichlorobenzene	ug/L			20			
1,2-Dichlorobenzene	ug/L			21			
n-Butylbenzene	ug/L			20			
1,2-Dibromo-3-Chloropropane	ug/L			20			
1,2,4-Trichlorobenzene	ug/L			18			
Naphthalene	ug/L	0	20	20	99		
Hexachlorobutadiene	ug/L			18			
1,2,3-Trichlorobenzene	ug/L			19			
Xylene (Total)	ug/L	0	60	59	99	70-130	
1,2-Dichloroethane-d4 (S)	%				92	70-128	
Toluene-d8 (S)	%				99	77-119	
Bromofluorobenzene (S)	%				101	86-123	

QC Batch: MSVt/2237 Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030B Prepared: 08/06/2020 22:33

Associated Lab Samples: T2013998008, T2013998009, T2013998010, T2013998011, T2013998012, T2013998013

METHOD BLANK: 3574086

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
VOLATILES				
Dichlorodifluoromethane	ug/L	0.53	0.53	U

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

METHOD BLANK: 3574086

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Chloromethane	ug/L	0.39	0.39	U
Vinyl Chloride	ug/L	0.44	0.44	U
Bromomethane	ug/L	0.32	0.32	U
Chloroethane	ug/L	0.42	0.42	U
Trichlorofluoromethane	ug/L	0.26	0.26	U
Acrolein (Propenal)	ug/L	1.8	1.8	U
Acetone	ug/L	0.90	0.90	U
1,1-Dichloroethylene	ug/L	0.41	0.41	U
Iodomethane (Methyl Iodide)	ug/L	0.83	0.83	U
Acrylonitrile	ug/L	0.38	0.38	U
Methylene Chloride	ug/L	0.56	0.56	U
Carbon Disulfide	ug/L	0.42	0.42	U
trans-1,2-Dichloroethylene	ug/L	0.39	0.39	U
Methyl tert-butyl Ether (MTBE)	ug/L	0.71	0.71	U
1,1-Dichloroethane	ug/L	0.38	0.38	U
Vinyl Acetate	ug/L	0.37	0.37	U
2-Butanone (MEK)	ug/L	0.33	0.33	U
cis-1,2-Dichloroethylene	ug/L	0.39	0.39	U
Bromochloromethane	ug/L	0.33	0.33	U
Chloroform	ug/L	0.37	0.37	U
2,2-Dichloropropane	ug/L	0.45	0.45	U
1,2-Dichloroethane	ug/L	0.40	0.40	U
1,1,1-Trichloroethane	ug/L	0.39	0.39	U
1,1-Dichloropropene	ug/L	0.38	0.38	U
Carbon Tetrachloride	ug/L	0.41	0.41	U
Benzene	ug/L	0.28	0.28	U
Dibromomethane	ug/L	0.41	0.41	U
1,2-Dichloropropane	ug/L	0.18	0.18	U
Trichloroethene	ug/L	0.32	0.32	U
Bromodichloromethane	ug/L	0.39	0.39	U
2-Chloroethyl Vinyl Ether	ug/L	0.79	0.79	U
cis-1,3-Dichloropropene	ug/L	0.26	0.26	U
4-Methyl-2-pentanone (MIBK)	ug/L	0.40	0.40	U
trans-1,3-Dichloropropylene	ug/L	0.26	0.26	U
1,1,2-Trichloroethane	ug/L	0.40	0.40	U
Toluene	ug/L	0.66	0.66	U
1,3-Dichloropropane	ug/L	0.32	0.32	U
2-Hexanone	ug/L	0.42	0.42	U
Dibromochloromethane	ug/L	0.36	0.36	U
Ethylene Dibromide (EDB)	ug/L	0.29	0.29	U
Tetrachloroethylene (PCE)	ug/L	0.45	0.45	U
1,1,1,2-Tetrachloroethane	ug/L	0.47	0.47	U
Chlorobenzene	ug/L	0.38	0.38	U
Ethylbenzene	ug/L	0.56	0.56	U

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

METHOD BLANK: 3574086

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Bromoform	ug/L	0.36	0.36	U
Styrene	ug/L	0.29	0.29	U
1,1,2,2-Tetrachloroethane	ug/L	0.20	0.20	U
1,2,3-Trichloropropane	ug/L	0.22	0.22	U
Isopropylbenzene	ug/L	0.42	0.42	U
Bromobenzene	ug/L	0.34	0.34	U
n-propylbenzene	ug/L	0.34	0.34	U
2-Chlorotoluene	ug/L	0.34	0.34	U
4-Chlorotoluene	ug/L	0.34	0.34	U
1,3,5-Trimethylbenzene	ug/L	0.39	0.39	U
tert-butylbenzene	ug/L	0.38	0.38	U
1,2,4-Trimethylbenzene	ug/L	0.41	0.41	U
sec-butylbenzene	ug/L	0.41	0.41	U
1,3-Dichlorobenzene	ug/L	0.40	0.40	U
1,4-Dichlorobenzene	ug/L	0.36	0.36	U
1,2-Dichlorobenzene	ug/L	0.44	0.44	U
n-Butylbenzene	ug/L	0.59	0.59	U
1,2-Dibromo-3-Chloropropane	ug/L	0.38	0.38	U
1,2,4-Trichlorobenzene	ug/L	0.52	0.52	U
Naphthalene	ug/L	0.93	0.93	U
Hexachlorobutadiene	ug/L	0.32	0.32	U
1,2,3-Trichlorobenzene	ug/L	0.36	0.36	U
Xylene (Total)	ug/L	1.3	1.3	U
1,2-Dichloroethane-d4 (S)	%	94	70-128	
Toluene-d8 (S)	%	99	77-119	
Bromofluorobenzene (S)	%	109	86-123	

LABORATORY CONTROL SAMPLE & LCSD: 3574087 3574088

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
VOLATILES										
Dichlorodifluoromethane	ug/L	20	20	22	102	111		9		
Chloromethane	ug/L	20	17	19	87	97		11		
Vinyl Chloride	ug/L	20	18	20	88	100	70-130	12	20	
Bromomethane	ug/L	20	12	15	58	77		28		
Chloroethane	ug/L	20	18	20	90	99		10		
Trichlorofluoromethane	ug/L	20	18	21	92	103		11		
Acrolein (Propenal)	ug/L	100	160	170	158	170		8		
Acetone	ug/L	20	16	18	80	89		10		
1,1-Dichloroethylene	ug/L	20	17	20	87	99	70-130	13	20	
Iodomethane (Methyl Iodide)	ug/L	20	10	13	52	65		23		

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

LABORATORY CONTROL SAMPLE & LCSD: 3574087 3574088

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Acrylonitrile	ug/L	20	16	18	81	89		9		
Methylene Chloride	ug/L	20	17	20	85	101		18		
Carbon Disulfide	ug/L	20	18	21	92	103		11		
trans-1,2-Dichloroethylene	ug/L	20	17	19	86	97		11		
Methyl tert-butyl Ether (MTBE)	ug/L	20	17	19	86	95	70-130	10	20	
1,1-Dichloroethane	ug/L	20	17	19	86	97		12		
Vinyl Acetate	ug/L	20	9.1	9.3	45	47		3		
2-Butanone (MEK)	ug/L	20	15	17	77	83		8		
cis-1,2-Dichloroethylene	ug/L	20	17	18	84	92	70-130	10	20	
Bromochloromethane	ug/L	20	17	19	87	97		12		
Chloroform	ug/L	20	17	19	86	97	70-130	13	20	
2,2-Dichloropropane	ug/L	20	15	17	77	85		10		
1,2-Dichloroethane	ug/L	20	17	18	83	92		11		
1,1,1-Trichloroethane	ug/L	20	17	19	86	97		12		
1,1-Dichloropropene	ug/L	20	18	19	88	96		9		
Carbon Tetrachloride	ug/L	20	18	20	88	98		11		
Benzene	ug/L	20	18	19	89	96	70-130	8	20	
Dibromomethane	ug/L	20	17	19	86	94		8		
1,2-Dichloropropane	ug/L	20	17	19	86	95		10		
Trichloroethene	ug/L	20	18	21	92	103	70-130	12	20	
Bromodichloromethane	ug/L	20	17	19	86	97		11		
2-Chloroethyl Vinyl Ether	ug/L	20	14	15	69	77		11		
cis-1,3-Dichloropropene	ug/L	20	17	19	84	95		12		
4-Methyl-2-pentanone (MIBK)	ug/L	20	15	17	75	84		11		
trans-1,3-Dichloropropylene	ug/L	20	17	19	84	93		11		
1,1,2-Trichloroethane	ug/L	20	17	19	85	94		10		
Toluene	ug/L	20	17	20	87	99	70-130	13	20	
1,3-Dichloropropane	ug/L	20	17	19	84	93		11		
2-Hexanone	ug/L	20	15	17	75	84		12		
Dibromochloromethane	ug/L	20	17	19	87	94		8		
Ethylene Dibromide (EDB)	ug/L	20	17	19	85	94		10		
Tetrachloroethylene (PCE)	ug/L	20	17	19	86	97	70-130	11	20	
1,1,1,2-Tetrachloroethane	ug/L	20	18	20	91	101		10		
Chlorobenzene	ug/L	20	18	20	90	100	70-130	10	20	
Ethylbenzene	ug/L	20	17	20	87	98	70-130	12	20	
Bromoform	ug/L	20	16	17	80	87		9		
Styrene	ug/L	20	18	20	88	99		11		
1,1,2,2-Tetrachloroethane	ug/L	20	15	17	76	83		9		
1,2,3-Trichloropropane	ug/L	20	16	18	79	89		12		
Isopropylbenzene	ug/L	20	19	21	95	105		10		
Bromobenzene	ug/L	20	18	21	91	103		12		
n-propylbenzene	ug/L	20	18	21	92	105		13		
2-Chlorotoluene	ug/L	20	18	21	92	105		14		

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

LABORATORY CONTROL SAMPLE & LCSD: 3574087 3574088

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
4-Chlorotoluene	ug/L	20	18	20	90	101		11		
1,3,5-Trimethylbenzene	ug/L	20	19	21	93	107		14		
tert-butylbenzene	ug/L	20	19	21	95	106		11		
1,2,4-Trimethylbenzene	ug/L	20	19	21	94	106	70-130	12	20	
sec-butylbenzene	ug/L	20	19	21	94	105		11		
1,3-Dichlorobenzene	ug/L	20	19	21	93	104	70-130	11	20	
1,4-Dichlorobenzene	ug/L	20	18	21	92	104		12		
1,2-Dichlorobenzene	ug/L	20	18	20	90	100	70-130	11	20	
n-Butylbenzene	ug/L	20	18	20	90	102		13		
1,2-Dibromo-3-Chloropropane	ug/L	20	16	19	81	93		14		
1,2,4-Trichlorobenzene	ug/L	20	16	19	80	94		16		
Naphthalene	ug/L	20	15	18	76	93		20		
Hexachlorobutadiene	ug/L	20	17	19	84	93		10		
1,2,3-Trichlorobenzene	ug/L	20	14	18	68	89		28		
Xylene (Total)	ug/L	60	53	58	88	98	70-130	10	20	
1,2-Dichloroethane-d4 (S)	%				91	91	70-128	1		
Toluene-d8 (S)	%				97	96	77-119	1		
Bromofluorobenzene (S)	%				102	102	86-123	0		

MATRIX SPIKE SAMPLE: 3574089 Original: T2014430004

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
VOLATILES							
Dichlorodifluoromethane	ug/L	0	20	23	115		
Chloromethane	ug/L	0.43	20	21	105		
Vinyl Chloride	ug/L	0.34	20	20	102	70-130	
Bromomethane	ug/L	0	20	15	75		
Chloroethane	ug/L	0	20	21	103		
Trichlorofluoromethane	ug/L	0	20	21	104		
Acrolein (Propenal)	ug/L			170			
Acetone	ug/L			55			
1,1-Dichloroethylene	ug/L	0	20	20	99	70-130	
Iodomethane (Methyl Iodide)	ug/L			12			
Acrylonitrile	ug/L			18			
Methylene Chloride	ug/L	0	20	18	92		
Carbon Disulfide	ug/L			20			
trans-1,2-Dichloroethylene	ug/L	11	20	31	95		
Methyl tert-butyl Ether (MTBE)	ug/L			19			
1,1-Dichloroethane	ug/L	0	20	20	98		

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

MATRIX SPIKE SAMPLE: 3574089 Original: T2014430004

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Vinyl Acetate	ug/L			17			
2-Butanone (MEK)	ug/L			16			
cis-1,2-Dichloroethylene	ug/L	71	20	92	105	70-130	
Bromochloromethane	ug/L			20			
Chloroform	ug/L	5.2	20	25	99	70-130	
2,2-Dichloropropane	ug/L			16			
1,2-Dichloroethane	ug/L	0	20	18	92		
1,1,1-Trichloroethane	ug/L	0	20	19	96		
1,1-Dichloropropene	ug/L			20			
Carbon Tetrachloride	ug/L	0	20	20	101		
Benzene	ug/L			20			
Dibromomethane	ug/L			20			
1,2-Dichloropropane	ug/L	0	20	19	95		
Trichloroethene	ug/L	47	20	68	103	70-130	
Bromodichloromethane	ug/L	2.7	20	23	101		
2-Chloroethyl Vinyl Ether	ug/L	0	20	0.79	0		
cis-1,3-Dichloropropene	ug/L	0	20	20	98		
4-Methyl-2-pentanone (MIBK)	ug/L			18			
trans-1,3-Dichloropropylene	ug/L	0	20	19	96		
1,1,2-Trichloroethane	ug/L	0	20	20	99		
Toluene	ug/L			19			
1,3-Dichloropropane	ug/L			19			
2-Hexanone	ug/L			17			
Dibromochloromethane	ug/L	1.5	20	21	98		
Ethylene Dibromide (EDB)	ug/L			19			
Tetrachloroethylene (PCE)	ug/L	10	20	28	87	70-130	
1,1,1,2-Tetrachloroethane	ug/L			20			
Chlorobenzene	ug/L	0	20	20	98	70-130	
Ethylbenzene	ug/L			19			
Bromoform	ug/L	0	20	18	90		
Styrene	ug/L			20			
1,1,2,2-Tetrachloroethane	ug/L	0	20	19	94		
1,2,3-Trichloropropane	ug/L			18			
Isopropylbenzene	ug/L			21			
Bromobenzene	ug/L			21			
n-propylbenzene	ug/L			20			
2-Chlorotoluene	ug/L			20			
4-Chlorotoluene	ug/L			20			
1,3,5-Trimethylbenzene	ug/L			21			
tert-butylbenzene	ug/L			21			
1,2,4-Trimethylbenzene	ug/L			21			
sec-butylbenzene	ug/L			21			
1,3-Dichlorobenzene	ug/L	0	20	21	107	70-130	

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

MATRIX SPIKE SAMPLE: 3574089 Original: T2014430004

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	0	20	20	102		
1,2-Dichlorobenzene	ug/L	0	20	21	103	70-130	
n-Butylbenzene	ug/L			20			
1,2-Dibromo-3-Chloropropane	ug/L			19			
1,2,4-Trichlorobenzene	ug/L			18			
Naphthalene	ug/L			18			
Hexachlorobutadiene	ug/L			18			
1,2,3-Trichlorobenzene	ug/L			17			
Xylene (Total)	ug/L			58			
1,2-Dichloroethane-d4 (S)	%	94			97	70-128	
Toluene-d8 (S)	%	99			98	77-119	
Bromofluorobenzene (S)	%	108			103	86-123	

QC Batch: WCAt/5665 Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1 Prepared:

Associated Lab Samples: T2013998013, T2013998015, T2013998016, T2013998017, T2013998018, T2013998019

METHOD BLANK: 3576998

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
WET CHEMISTRY				
Ammonia (N)	mg/L	0.015	0.015	U

LABORATORY CONTROL SAMPLE: 3576999

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
WET CHEMISTRY						
Ammonia (N)	mg/L	0.5	0.47	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3577000 3577001 Original: T2014775004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3577000 3577001 Original: T2014775004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Ammonia (N)	mg/L	4.4	1	5.5	5.5	109	108	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3577002 3577003 Original: T2014306002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
WET CHEMISTRY											
Ammonia (N)	mg/L	-0.03	1	1.0	1.0	101	104	90-110	3	10	

QC Batch: MSVt/2261 Analysis Method: SW-846 8260B

QC Batch Method: SW-846 5030B Prepared: 08/10/2020 02:25

Associated Lab Samples: T2013998014, T2013998015, T2013998016, T2013998017, T2013998018, T2013998019

METHOD BLANK: 3577152

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
VOLATILES				
Dichlorodifluoromethane	ug/L	0.53	0.53	U
Chloromethane	ug/L	0.39	0.39	U
Vinyl Chloride	ug/L	0.44	0.44	U
Bromomethane	ug/L	0.32	0.32	U
Chloroethane	ug/L	0.42	0.42	U
Trichlorofluoromethane	ug/L	0.26	0.26	U
Acrolein (Propenal)	ug/L	1.8	1.8	U
Acetone	ug/L	0.90	0.90	U
1,1-Dichloroethylene	ug/L	0.41	0.41	U
Iodomethane (Methyl Iodide)	ug/L	0.83	0.83	U
Acrylonitrile	ug/L	0.38	0.38	U
Methylene Chloride	ug/L	0.56	0.56	U
Carbon Disulfide	ug/L	0.42	0.42	U
trans-1,2-Dichloroethylene	ug/L	0.39	0.39	U
Methyl tert-butyl Ether (MTBE)	ug/L	0.71	0.71	U
1,1-Dichloroethane	ug/L	0.38	0.38	U
Vinyl Acetate	ug/L	0.37	0.37	U
2-Butanone (MEK)	ug/L	0.33	0.33	U
cis-1,2-Dichloroethylene	ug/L	0.39	0.39	U
Bromochloromethane	ug/L	0.33	0.33	U
Chloroform	ug/L	0.37	0.37	U
2,2-Dichloropropane	ug/L	0.45	0.45	U

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

METHOD BLANK: 3577152

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,2-Dichloroethane	ug/L	0.40	0.40	U
1,1,1-Trichloroethane	ug/L	0.39	0.39	U
1,1-Dichloropropene	ug/L	0.38	0.38	U
Carbon Tetrachloride	ug/L	0.41	0.41	U
Benzene	ug/L	0.28	0.28	U
Dibromomethane	ug/L	0.41	0.41	U
1,2-Dichloropropane	ug/L	0.18	0.18	U
Trichloroethene	ug/L	0.32	0.32	U
Bromodichloromethane	ug/L	0.39	0.39	U
2-Chloroethyl Vinyl Ether	ug/L	0.79	0.79	U
cis-1,3-Dichloropropene	ug/L	0.26	0.26	U
4-Methyl-2-pentanone (MIBK)	ug/L	0.40	0.40	U
trans-1,3-Dichloropropylene	ug/L	0.26	0.26	U
1,1,2-Trichloroethane	ug/L	0.40	0.40	U
Toluene	ug/L	0.66	0.66	U
1,3-Dichloropropane	ug/L	0.32	0.32	U
2-Hexanone	ug/L	0.42	0.42	U
Dibromochloromethane	ug/L	0.36	0.36	U
Ethylene Dibromide (EDB)	ug/L	0.29	0.29	U
Tetrachloroethylene (PCE)	ug/L	0.45	0.45	U
1,1,1,2-Tetrachloroethane	ug/L	0.47	0.47	U
Chlorobenzene	ug/L	0.38	0.38	U
Ethylbenzene	ug/L	0.56	0.56	U
Bromoform	ug/L	0.36	0.36	U
Styrene	ug/L	0.29	0.29	U
1,1,2,2-Tetrachloroethane	ug/L	0.20	0.20	U
1,2,3-Trichloropropane	ug/L	0.22	0.22	U
Isopropylbenzene	ug/L	0.42	0.42	U
Bromobenzene	ug/L	0.34	0.34	U
n-propylbenzene	ug/L	0.34	0.34	U
2-Chlorotoluene	ug/L	0.34	0.34	U
4-Chlorotoluene	ug/L	0.34	0.34	U
1,3,5-Trimethylbenzene	ug/L	0.39	0.39	U
tert-butylbenzene	ug/L	0.38	0.38	U
1,2,4-Trimethylbenzene	ug/L	0.41	0.41	U
sec-butylbenzene	ug/L	0.41	0.41	U
1,3-Dichlorobenzene	ug/L	0.40	0.40	U
1,4-Dichlorobenzene	ug/L	0.36	0.36	U
1,2-Dichlorobenzene	ug/L	0.44	0.44	U
n-Butylbenzene	ug/L	0.59	0.59	U
1,2-Dibromo-3-Chloropropane	ug/L	0.38	0.38	U
1,2,4-Trichlorobenzene	ug/L	0.52	0.52	U
Naphthalene	ug/L	0.93	0.93	U
Hexachlorobutadiene	ug/L	0.32	0.32	U
1,2,3-Trichlorobenzene	ug/L	0.36	0.36	U

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

METHOD BLANK: 3577152

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Xylene (Total)	ug/L	1.3	1.3	U
1,2-Dichloroethane-d4 (S)	%	97	70-128	
Toluene-d8 (S)	%	99	77-119	
Bromofluorobenzene (S)	%	111	86-123	

LABORATORY CONTROL SAMPLE & LCSD: 3577153 3577154

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
VOLATILES										
Dichlorodifluoromethane	ug/L	20	19	21	95	105		10		
Chloromethane	ug/L	20	19	21	93	105		12		
Vinyl Chloride	ug/L	20	19	22	97	110	70-130	12	20	
Bromomethane	ug/L	20	17	21	87	104		17		
Chloroethane	ug/L	20	20	23	101	114		12		
Trichlorofluoromethane	ug/L	20	19	22	97	109		12		
Acrolein (Propenal)	ug/L	100	94	100	94	100		6		
Acetone	ug/L	20	18	20	91	99		8		
1,1-Dichloroethylene	ug/L	20	18	20	91	102	70-130	12	20	
Iodomethane (Methyl Iodide)	ug/L	20	19	22	94	110		15		
Acrylonitrile	ug/L	20	17	19	84	93		10		
Methylene Chloride	ug/L	20	18	20	90	101		12		
Carbon Disulfide	ug/L	20	18	20	90	102		12		
trans-1,2-Dichloroethylene	ug/L	20	18	20	90	102		12		
Methyl tert-butyl Ether (MTBE)	ug/L	20	18	21	91	103	70-130	12	20	
1,1-Dichloroethane	ug/L	20	18	20	92	101		10		
Vinyl Acetate	ug/L	20	10	11	52	57		11		
2-Butanone (MEK)	ug/L	20	17	19	84	96		13		
cis-1,2-Dichloroethylene	ug/L	20	17	20	87	99	70-130	12	20	
Bromochloromethane	ug/L	20	18	21	92	103		11		
Chloroform	ug/L	20	18	20	92	102	70-130	10	20	
2,2-Dichloropropane	ug/L	20	17	19	83	93		11		
1,2-Dichloroethane	ug/L	20	18	20	91	100		10		
1,1,1-Trichloroethane	ug/L	20	18	20	91	101		11		
1,1-Dichloropropene	ug/L	20	18	20	90	101		12		
Carbon Tetrachloride	ug/L	20	18	21	91	103		12		
Benzene	ug/L	20	18	21	90	103	70-130	13	20	
Dibromomethane	ug/L	20	18	21	91	105		14		
1,2-Dichloropropane	ug/L	20	18	21	90	104		14		
Trichloroethene	ug/L	20	19	22	97	110	70-130	13	20	
Bromodichloromethane	ug/L	20	18	20	92	102		10		

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

LABORATORY CONTROL SAMPLE & LCSD: 3577153 3577154

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
2-Chloroethyl Vinyl Ether	ug/L	20	14	15	71	77		8		
cis-1,3-Dichloropropene	ug/L	20	18	20	88	100		13		
4-Methyl-2-pentanone (MIBK)	ug/L	20	16	19	82	94		14		
trans-1,3-Dichloropropylene	ug/L	20	18	20	88	98		11		
1,1,2-Trichloroethane	ug/L	20	18	20	89	99		11		
Toluene	ug/L	20	18	20	89	99	70-130	11	20	
1,3-Dichloropropane	ug/L	20	17	19	87	96		11		
2-Hexanone	ug/L	20	16	19	81	93		14		
Dibromochloromethane	ug/L	20	17	20	86	100		14		
Ethylene Dibromide (EDB)	ug/L	20	17	19	85	97		13		
Tetrachloroethylene (PCE)	ug/L	20	18	20	89	101	70-130	13	20	
1,1,1,2-Tetrachloroethane	ug/L	20	18	20	92	101		10		
Chlorobenzene	ug/L	20	18	20	88	98	70-130	11	20	
Ethylbenzene	ug/L	20	18	20	89	101	70-130	12	20	
Bromoform	ug/L	20	16	19	82	94		13		
Styrene	ug/L	20	18	20	89	100		11		
1,1,2,2-Tetrachloroethane	ug/L	20	15	18	77	88		13		
1,2,3-Trichloropropane	ug/L	20	17	19	83	94		12		
Isopropylbenzene	ug/L	20	19	21	97	104		7		
Bromobenzene	ug/L	20	19	21	94	103		9		
n-propylbenzene	ug/L	20	19	21	96	105		9		
2-Chlorotoluene	ug/L	20	19	21	96	104		8		
4-Chlorotoluene	ug/L	20	19	20	94	102		8		
1,3,5-Trimethylbenzene	ug/L	20	19	21	95	103		8		
tert-butylbenzene	ug/L	20	19	21	96	106		10		
1,2,4-Trimethylbenzene	ug/L	20	19	21	95	105	70-130	10	20	
sec-butylbenzene	ug/L	20	19	21	95	105		10		
1,3-Dichlorobenzene	ug/L	20	19	20	95	102	70-130	7	20	
1,4-Dichlorobenzene	ug/L	20	19	21	96	104		8		
1,2-Dichlorobenzene	ug/L	20	18	21	91	103	70-130	12	20	
n-Butylbenzene	ug/L	20	18	20	92	102		10		
1,2-Dibromo-3-Chloropropane	ug/L	20	16	19	79	95		18		
1,2,4-Trichlorobenzene	ug/L	20	17	19	86	94		10		
Naphthalene	ug/L	20	16	19	79	96		19		
Hexachlorobutadiene	ug/L	20	17	20	86	98		13		
1,2,3-Trichlorobenzene	ug/L	20	16	18	79	90		14		
Xylene (Total)	ug/L	60	53	60	89	100	70-130	12	20	
1,2-Dichloroethane-d4 (S)	%				100	98	70-128	2		
Toluene-d8 (S)	%				97	99	77-119	3		
Bromofluorobenzene (S)	%				106	104	86-123	2		

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

MATRIX SPIKE SAMPLE: 3577155 Original: T2014736001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
VOLATILES							
Dichlorodifluoromethane	ug/L			20			
Chloromethane	ug/L			20			
Vinyl Chloride	ug/L			21			
Bromomethane	ug/L			20			
Chloroethane	ug/L			22			
Trichlorofluoromethane	ug/L			21			
Acrolein (Propenal)	ug/L			72			
Acetone	ug/L			19			
1,1-Dichloroethylene	ug/L			20			
Iodomethane (Methyl Iodide)	ug/L			22			
Acrylonitrile	ug/L			18			
Methylene Chloride	ug/L			19			
Carbon Disulfide	ug/L			20			
trans-1,2-Dichloroethylene	ug/L			20			
Methyl tert-butyl Ether (MTBE)	ug/L	0	20	20	100	70-130	
1,1-Dichloroethane	ug/L			20			
Vinyl Acetate	ug/L			21			
2-Butanone (MEK)	ug/L			19			
cis-1,2-Dichloroethylene	ug/L			19			
Bromochloromethane	ug/L			20			
Chloroform	ug/L			20			
2,2-Dichloropropane	ug/L			18			
1,2-Dichloroethane	ug/L			19			
1,1,1-Trichloroethane	ug/L			20			
1,1-Dichloropropene	ug/L			20			
Carbon Tetrachloride	ug/L			20			
Benzene	ug/L	0.25	20	20	100	70-130	
Dibromomethane	ug/L			20			
1,2-Dichloropropane	ug/L			20			
Trichloroethene	ug/L			19			
Bromodichloromethane	ug/L			20			
2-Chloroethyl Vinyl Ether	ug/L			15			
cis-1,3-Dichloropropene	ug/L			20			
4-Methyl-2-pentanone (MIBK)	ug/L			18			
trans-1,3-Dichloropropylene	ug/L			19			
1,1,2-Trichloroethane	ug/L			20			
Toluene	ug/L	0	20	20	98	70-130	
1,3-Dichloropropane	ug/L			19			
2-Hexanone	ug/L			18			
Dibromochloromethane	ug/L			20			
Ethylene Dibromide (EDB)	ug/L			19			

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QUALITY CONTROL DATA

Workorder: T2013998 Taylor Road Landfill Superfund

MATRIX SPIKE SAMPLE: 3577155 Original: T2014736001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Tetrachloroethylene (PCE)	ug/L			20			
1,1,1,2-Tetrachloroethane	ug/L			20			
Chlorobenzene	ug/L			19			
Ethylbenzene	ug/L	0.54	20	20	99	70-130	
Bromoform	ug/L			19			
Styrene	ug/L			19			
1,1,2,2-Tetrachloroethane	ug/L			19			
1,2,3-Trichloropropane	ug/L			19			
Isopropylbenzene	ug/L			21			
Bromobenzene	ug/L			21			
n-propylbenzene	ug/L			21			
2-Chlorotoluene	ug/L			21			
4-Chlorotoluene	ug/L			21			
1,3,5-Trimethylbenzene	ug/L			21			
tert-butylbenzene	ug/L			21			
1,2,4-Trimethylbenzene	ug/L			21			
sec-butylbenzene	ug/L			21			
1,3-Dichlorobenzene	ug/L			21			
1,4-Dichlorobenzene	ug/L			20			
1,2-Dichlorobenzene	ug/L			21			
n-Butylbenzene	ug/L			20			
1,2-Dibromo-3-Chloropropane	ug/L			19			
1,2,4-Trichlorobenzene	ug/L			19			
Naphthalene	ug/L	0	20	19	94		
Hexachlorobutadiene	ug/L			21			
1,2,3-Trichlorobenzene	ug/L			21			
Xylene (Total)	ug/L	0	60	59	98	70-130	
1,2-Dichloroethane-d4 (S)	%	96			95	70-128	
Toluene-d8 (S)	%	98			98	77-119	
Bromofluorobenzene (S)	%	107			106	86-123	

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QUALITY CONTROL DATA QUALIFIERS

Workorder: T2013998 Taylor Road Landfill Superfund

QUALITY CONTROL PARAMETER QUALIFIERS

U	The compound was analyzed for but not detected.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
V	Method Blank Contamination

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T2013998002	Field Blank			SM 4500NO3-F	WCAt/5399
T2013998003	C-7			SM 4500NO3-F	WCAt/5399
T2013998004	F-3			SM 4500NO3-F	WCAt/5399
T2013998005	C-3			SM 4500NO3-F	WCAt/5399
T2013998006	C-4			SM 4500NO3-F	WCAt/5399
T2013998002	Field Blank			SM 2540 C	WCAt/5407
T2013998002	Field Blank			EPA 300.0	WCAt/5415
T2013998003	C-7			EPA 300.0	WCAt/5415
T2013998004	F-3			EPA 300.0	WCAt/5415
T2013998005	C-3			EPA 300.0	WCAt/5415
T2013998006	C-4			EPA 300.0	WCAt/5415
T2013998008	C-10			EPA 300.0	WCAt/5415
T2013998009	C-1R			EPA 300.0	WCAt/5415
T2013998010	Duplicate			EPA 300.0	WCAt/5415
T2013998011	C-9			EPA 300.0	WCAt/5415
T2013998012	F-12			EPA 300.0	WCAt/5415
T2013998013	TR-2D			EPA 300.0	WCAt/5415
T2013998008	C-10			SM 4500NO3-F	WCAt/5424
T2013998009	C-1R			SM 4500NO3-F	WCAt/5424
T2013998010	Duplicate			SM 4500NO3-F	WCAt/5424
T2013998011	C-9			SM 4500NO3-F	WCAt/5424
T2013998012	F-12			SM 4500NO3-F	WCAt/5424
T2013998013	TR-2D			SM 4500NO3-F	WCAt/5424
T2013998002	Field Blank	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347
T2013998003	C-7	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347
T2013998004	F-3	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347
T2013998005	C-3	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347
T2013998006	C-4	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347
T2013998008	C-10	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T2013998009	C-1R	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347
T2013998010	Duplicate	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347
T2013998011	C-9	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347
T2013998012	F-12	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347
T2013998015	32-D	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347
T2013998016	31-D	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347
T2013998017	30-D	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347
T2013998018	C-8	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347
T2013998019	F-15	SW-846 3010A	DGMj/1972	SW-846 6020	ICMj/1347
T2013998003	C-7			SM 2540 C	WCAt/5435
T2013998004	F-3			SM 2540 C	WCAt/5435
T2013998005	C-3			SM 2540 C	WCAt/5435
T2013998006	C-4			SM 2540 C	WCAt/5435
T2013998008	C-10			SM 2540 C	WCAt/5435
T2013998009	C-1R			SM 2540 C	WCAt/5435
T2013998010	Duplicate			SM 2540 C	WCAt/5435
T2013998011	C-9			SM 2540 C	WCAt/5435
T2013998012	F-12			SM 2540 C	WCAt/5435
T2013998013	TR-2D			SM 2540 C	WCAt/5435
T2013998002	Field Blank	SW-846 7470A	DGMt/2052	SW-846 7470A	CVAt/1303
T2013998003	C-7	SW-846 7470A	DGMt/2052	SW-846 7470A	CVAt/1303
T2013998004	F-3	SW-846 7470A	DGMt/2052	SW-846 7470A	CVAt/1303
T2013998005	C-3	SW-846 7470A	DGMt/2052	SW-846 7470A	CVAt/1303
T2013998006	C-4	SW-846 7470A	DGMt/2052	SW-846 7470A	CVAt/1303
T2013998008	C-10	SW-846 7470A	DGMt/2052	SW-846 7470A	CVAt/1303
T2013998009	C-1R	SW-846 7470A	DGMt/2052	SW-846 7470A	CVAt/1303
T2013998010	Duplicate	SW-846 7470A	DGMt/2052	SW-846 7470A	CVAt/1303
T2013998011	C-9	SW-846 7470A	DGMt/2052	SW-846 7470A	CVAt/1303
T2013998012	F-12	SW-846 7470A	DGMt/2052	SW-846 7470A	CVAt/1303
T2013998013	TR-2D	SW-846 7470A	DGMt/2052	SW-846 7470A	CVAt/1303
T2013998015	32-D			SM 4500NO3-F	WCAt/5443

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T2013998016	31-D			SM 4500NO3-F	WCAt/5443
T2013998017	30-D			SM 4500NO3-F	WCAt/5443
T2013998018	C-8			SM 4500NO3-F	WCAt/5443
T2013998019	F-15			SM 4500NO3-F	WCAt/5443
T2013998015	32-D			EPA 300.0	WCAt/5449
T2013998016	31-D			EPA 300.0	WCAt/5449
T2013998017	30-D			EPA 300.0	WCAt/5449
T2013998018	C-8			EPA 300.0	WCAt/5449
T2013998019	F-15			EPA 300.0	WCAt/5449
T2013998015	32-D			SM 2540 C	WCAt/5454
T2013998016	31-D			SM 2540 C	WCAt/5454
T2013998017	30-D			SM 2540 C	WCAt/5454
T2013998018	C-8			SM 2540 C	WCAt/5454
T2013998019	F-15			SM 2540 C	WCAt/5454
T2013998015	32-D	SW-846 7470A	DGMt/2060	SW-846 7470A	CVAt/1305
T2013998016	31-D	SW-846 7470A	DGMt/2060	SW-846 7470A	CVAt/1305
T2013998017	30-D	SW-846 7470A	DGMt/2060	SW-846 7470A	CVAt/1305
T2013998018	C-8	SW-846 7470A	DGMt/2060	SW-846 7470A	CVAt/1305
T2013998019	F-15	SW-846 7470A	DGMt/2060	SW-846 7470A	CVAt/1305
T2013998002	Field Blank			EPA 350.1	WCAt/5492
T2013998003	C-7			EPA 350.1	WCAt/5492
T2013998004	F-3			EPA 350.1	WCAt/5492
T2013998005	C-3			EPA 350.1	WCAt/5492
T2013998006	C-4			EPA 350.1	WCAt/5492
T2013998008	C-10			EPA 350.1	WCAt/5493
T2013998009	C-1R			EPA 350.1	WCAt/5493
T2013998010	Duplicate			EPA 350.1	WCAt/5493
T2013998011	C-9			EPA 350.1	WCAt/5493

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Fax: (813)630-4327

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T2013998012	F-12			EPA 350.1	WCAt/5493
T2013998013	TR-2D	SW-846 3010A	DGMj/1999	SW-846 6020	ICMj/1359
T2013998001	Trip Blank	SW-846 5030B	MSVt/2233	SW-846 8260B	MSVt/2234
T2013998002	Field Blank	SW-846 5030B	MSVt/2233	SW-846 8260B	MSVt/2234
T2013998003	C-7	SW-846 5030B	MSVt/2233	SW-846 8260B	MSVt/2234
T2013998004	F-3	SW-846 5030B	MSVt/2233	SW-846 8260B	MSVt/2234
T2013998005	C-3	SW-846 5030B	MSVt/2233	SW-846 8260B	MSVt/2234
T2013998006	C-4	SW-846 5030B	MSVt/2233	SW-846 8260B	MSVt/2234
T2013998007	Trip Blank	SW-846 5030B	MSVt/2233	SW-846 8260B	MSVt/2234
T2013998008	C-10	SW-846 5030B	MSVt/2237	SW-846 8260B	MSVt/2238
T2013998009	C-1R	SW-846 5030B	MSVt/2237	SW-846 8260B	MSVt/2238
T2013998010	Duplicate	SW-846 5030B	MSVt/2237	SW-846 8260B	MSVt/2238
T2013998011	C-9	SW-846 5030B	MSVt/2237	SW-846 8260B	MSVt/2238
T2013998012	F-12	SW-846 5030B	MSVt/2237	SW-846 8260B	MSVt/2238
T2013998013	TR-2D	SW-846 5030B	MSVt/2237	SW-846 8260B	MSVt/2238
T2013998013	TR-2D			EPA 350.1	WCAt/5665
T2013998015	32-D			EPA 350.1	WCAt/5665
T2013998016	31-D			EPA 350.1	WCAt/5665
T2013998017	30-D			EPA 350.1	WCAt/5665
T2013998018	C-8			EPA 350.1	WCAt/5665
T2013998019	F-15			EPA 350.1	WCAt/5665
T2013998014	Trip Blank	SW-846 5030B	MSVt/2261	SW-846 8260B	MSVt/2262
T2013998015	32-D	SW-846 5030B	MSVt/2261	SW-846 8260B	MSVt/2262
T2013998016	31-D	SW-846 5030B	MSVt/2261	SW-846 8260B	MSVt/2262
T2013998017	30-D	SW-846 5030B	MSVt/2261	SW-846 8260B	MSVt/2262
T2013998018	C-8	SW-846 5030B	MSVt/2261	SW-846 8260B	MSVt/2262
T2013998019	F-15	SW-846 5030B	MSVt/2261	SW-846 8260B	MSVt/2262

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Fax: (813)630-4327

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: T2013998 Taylor Road Landfill Superfund

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
T2013998003	C-7	Field Measurements	FLDt/	Field Measurements	FLDt/
T2013998004	F-3	Field Measurements	FLDt/	Field Measurements	FLDt/
T2013998005	C-3	Field Measurements	FLDt/	Field Measurements	FLDt/
T2013998006	C-4	Field Measurements	FLDt/	Field Measurements	FLDt/
T2013998008	C-10	Field Measurements	FLDt/	Field Measurements	FLDt/
T2013998009	C-1R	Field Measurements	FLDt/	Field Measurements	FLDt/
T2013998011	C-9	Field Measurements	FLDt/	Field Measurements	FLDt/
T2013998012	F-12	Field Measurements	FLDt/	Field Measurements	FLDt/
T2013998013	TR-2D	Field Measurements	FLDt/	Field Measurements	FLDt/
T2013998015	32-D	Field Measurements	FLDt/	Field Measurements	FLDt/
T2013998016	31-D	Field Measurements	FLDt/	Field Measurements	FLDt/
T2013998017	30-D	Field Measurements	FLDt/	Field Measurements	FLDt/
T2013998018	C-8	Field Measurements	FLDt/	Field Measurements	FLDt/
T2013998019	F-15	Field Measurements	FLDt/	Field Measurements	FLDt/

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☐ Fort Myers: 13100 Westlinks Terrace, Ste. 10, FL 33913 • 239.674.8100 • Lab ID: E84492
☐ Jacksonville: 6661 Southpoint Pkwy., FL 32216 • 904.363.9350 • Lab ID: E82574
☐ Tallahassee: 2639 North Monroe St., Suite D, FL 32303 • 850.219.6774 • Lab ID: E811095
☐ Gainesville: 4965 SW 41st Blvd., FL 32608 • 352.377.2349 • Lab ID: E82001
☐ Miramar: 10200 USA Today Way, Fl, 33025 • 954.889.2288 • Lab ID: E82639
☒ Tampa: 9610 Princess Palm Ave., FL 33619 • 813.630.9616 • Lab ID: E84589

T20139 98

Client Name:	Hils. Co. Public Utilities	Project Name:	Taylor Road Landill Superfund Sit
Address:	332 North Falkenburg Rd	Project Number:	N/A
	Tampa, Florida 33619	PO Number:	N/A
Phone:	(813) 663-3222	FDEP Facility No:	
FAX:	(813) 274-6801	FDEP Facility Addr:	
Contact:	Michael Townsel		
Sampled By:	Grayson Morales	Special Instructions:	
Turn Around Time:	(Standard) Rush		
AEL Profile #:		ADaPT EQuIS Other	

SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE	SAMPLING TIME	MATRIX	NO COUNT	BOTTLE SIZE & TYPE	EPA 8260	TDS	Chlorides	Sulfate	Nitrate	Ammonia-N	Fe, Mn, Hg, Na				LABORATORY I.D. NUMBER
							Preservation											
							Field-Filtered?											
	Trip Blank	-	7/27/20	-	-	1		X										001
	Field Blank	G	7/27/20	0907	DI	7		X	X	X	X	X	X	X				002
	C-7	G	7/27/20	0935	GW	7		X	X	X	X	X	X	X				003
	F-3	G	7/27/20	1059	GW	7		X	X	X	X	X	X	X				004
	C-3	G	7/27/20	1136	GW	7		X	X	X	X	X	X	X				005
	C-4	G	7/27/20	1233	GW	7		X	X	X	X	X	X	X				006

Matrix Code: **WW** = wastewater **SW** = surface water **GW** = ground water **DW** = drinking water **O** = oil **A** = air **SO** = soil **SL** = sludge

Preservation Code: I = ice H=(HCl) S = (H2SO4) N = (HNO3) T = (Sodium Thiosulfate)

Received on Ice: ☑ Yes ☐ No ☐ Temp taken from sample ☐ Temp from blank ☑ Where required, pH checked

Temp. when received (observed) 6 °C Temp. when received (corrected) _____ °C

DCN: AD-D051web Form last revised: 08/07/2019

Device used for measuring Temp by unique identifier (circle IR temp gun used) J: 9A G: LT-1 LT-2 T: 10A A: 3A M: 3A S: 1V F: 1A

	Relinquished by:	Date	Time	Received by:	Date	Time
1	M Morales	7/27/20	14:10	FM	7/27	1410
2						
3						
4						

FOR DRINKING WATER USE:

(When PWS Information not otherwise supplied) PWS ID: _____

Contact Person: _____

Supplier of Water: _____

Site-Address: _____

Monday, September 14, 2020 9:40:02 AM
Page 90 of 108

T2013996

Page 1 of 1

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- ☐ **Jacksonville:** 6561 Southpoint Pkwy, FL 32216 • 904.363.9350 • Lab ID: E82574
- ☐ **Tallahassee:** 2639 North Monroe St, Suite 152-C, FL 32303 • 850.219.6274 • Lab ID: E811095
- ☐ **Gainesville:** 4965 SW 41st Blvd, FL 32608 • 352.377.2349 • Lab ID: E82001
- ☐ **Miramar:** 10200 USA Today Way, FL 33025 • 954.889.2288 • Lab ID: E82535
- ☒ **Tampa:** 9610 Princess Palm Ave, FL 33619 • 813.630.9616 • Lab ID: E84589

Client Name:	Hills. Co. Public Utilities	Project Name:	Taylor Road Landill Superfund Sit
Address:	332 North Falkenburg Rd	Project Number:	N/A
	Tampa, Florida 33619	PO Number:	N/A
Phone:	(813) 663-3222	FDEP Facility No:	
FAX:	(813) 274-6801	FDEP Facility Addr:	
Contact:	Michael Townsel		
Sampled By:	M. Morales / J. Grayson	Special Instructions:	
Turn Around Time:	Standard Rush		
AEL Profile #:		ADaPT EQuIS Other	

SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. COUNT	BOTTLE SIZE & TYPE	ANALYSIS REQUIRED: EPA 8260 (1)	TDS (1)	Chlorides	Sulfate	Nitrate (1)	Ammonia-N (1)	Fe, Mn, Hg, Na (1)				LABORATORY I.D. NUMBER
	Trip Blank	–	7/28/20	–	–	1	Preservation	X										005
	C-10	G	7/28/20	08:24	GW	7	Field Filtered?	X	X	X	X	X	X	X				006
	C-1R	G	7/28/20	09:12	GW	7		X	X	X	X	X	X	X				007
	Duplicate	G	7/28/20	–	GW	7		X	X	X	X	X	X	X				010
	C-9	G	7/28/20	10:06	GW	7		X	X	X	X	X	X	X				011
	F-12	G	7/28/20	13:10	GW	7		X	X	X	X	X	X	X				012
	TR-2D	G	7/28/20	14:03	GW	7		X	X	X	X	X	X	X				013

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge

Preservation Code: I = ice H=(HCl) S = (H_2SO_4) N = (HNO_3) T = (Sodium Thiosulfate)

Received on Ice ☒ Yes ☐ No ☒ Temp taken from sample ☐ Temp from blank ☒ Where required: pH checked

Temp. when received (observed) 6 °C Temp. when received (corrected) 6 °C

DCN: AD-D051web Form last revised: 08/07/2019

Device used for measuring Temp by unique identifier (circle IR temp gun used) J: 9A G: LT-1 LT-2 T: 10A A: 3A M: 3A S: 1V F: 1A

	Relinquished by:	Date	Time	Received by:	Date	Time
1	M. Morales	7/28/20	14:37		7/28/20	1457
2						
3						
4						

FOR DRINKING WATER USE:

(When PWS Information not otherwise supplied) PWS ID: _____

Contact Person: _____

Supplier of Water: _____

Site-Address: _____

Monday, September 14, 2020 9:40:02 AM
Page 91 of 108

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Jacksonville: 6681 Southpoint Pkwy., FL 32216 • 904.363.9350 • Lab ID: E82574
Tallahassee: 2639 North Monroe St., Suite D, FL 32303 • 850.219.6274 • Lab ID: E811095
Gainesville: 4965 SW 41st Blvd., FL 32608 • 352.377.2349 • Lab ID: E82001
Miramar: 10200 USA Today Way, FL 33025 • 954.889.2288 • Lab ID: E82535
Tampa: 9610 Princess Palm Ave., FL 33619 • 813.630.9616 • Lab ID: E84589

12J3996

Page 1 of 1

Client Name:	Hils. Co. Public Utilities	Project Name:	Taylor Road Landill Superfund Sit
Address:	332 North Falkenburg Rd	Project Number:	N/A
	Tampa, Florida 33619	PO Number:	N/A
Phone:	(813) 663-3222	FDEP Facility No:	
FAX:	(813) 274-6801	FDEP Facility Addr:	
Contact:	Michael Townsel		
Sampled By:	M. Morales / S. Grayson	Special Instructions:	
Turn Around Time:	Standard Rush		
AEL Profile #:		ADaPT EQuIS Other	

SAMPLE ID	SAMPLE DESCRIPTION	Grab Comp	SAMPLING DATE	SAMPLING TIME	MATRIX	NO COUNT	BOTTLE SIZE & TYPE	ANALYSIS REQUIRED: EPA 8260	TDS	Chlorides	Sulfate	Nitrate	Ammonia-N	Fe, Mn, Hg, Na				LABORATORY I.D. NUMBER
							Preservation											
							Field-Filtered?											
	Trip Blank	/	07/25/20	/	/	1		X										014
	32-D	G	07/25/20	08:55	GW	7		X	X	X	X	X	X	X				015
	31-D	G	07/25/20	10:25	GW	7		X	X	X	X	X	X	X				016
	30-D	G	07/25/20	12:09	GW	7		X	X	X	X	X	X	X				017
	C-8	G	07/25/20	12:52	GW	7		X	X	X	X	X	X	X				018
	F-15	G	07/25/20	14:55	GW	7		X	X	X	X	X	X	X				019

Matrix Code: WW = wastewater SW = surface water GW = ground water DW = drinking water O = oil A = air SO = soil SL = sludge

Preservation Code: I = ice H=(HCl) S = (H_2SO_4) N = (HNO_3) T = (Sodium Thiosulfate)

Received on Ice: ☑ Yes ☐ No ☑ Temp taken from sample ☐ Temp from blank ☑ Where required, pH checked

Temp. when received (observed) 6 °C Temp. when received (corrected) 6 °C

Device used for measuring Temp by unique identifier (circle IR temp gun used) J 9A G LT-1 LT-2 T 10A A 3A M 3A S 1V F 1A

DCN AD-D051web Form last revised 08/07/2019

	Relinquished by:	Date	Time	Received by:	Date	Time
1	M Morales	7/25/20	14:36		7/25/20	1435
2						
3						
4						

FOR DRINKING WATER USE:

(When PWS Information not otherwise supplied) PWS ID:

Contact Person:

Supplier of Water:

Site-Address:

Monday, September 14, 2020 9:40:02 AM
Page 92 of 108

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	Taylor Road Landfill Superfund Site	SITE LOCATION	Seffner, FL
WELL NO	C-3	SAMPLE ID	C-3
DATE	7/27/2020		

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
2	1/2	74.5 ft to 94.50 ft	69.16	BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (94.50 feet − 69.16 feet) X 0.16 gallons/foot = 4.05 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING START TIME	ENDED AT	TOTAL VOLUME PURGED (gallons)
93.50	93.50	1119	1136	5.61

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1132	4.29	4.29	0.33	70.37	6.80	24.7	507	3.94	0.38	Clear	None
1134	0.66	4.95	0.33	70.37	6.79	24.6	505	4.02	0.23	Clear	None
1136	0.66	5.61	0.33	70.37	6.79	24.6	504	3.99	0.53	Clear	None

7/27/2020

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Grayson, Morales	M. Morales	1136	1139

PUMP OR TUBING DEPTH IN WELL (feet)	TUBING MATERIAL CODE	FIELD-FILTERED Y (N) Filtration Equipment Type	FILTER SIZE µm
93.50	T		

FIELD DECONTAMINATION: PUMP Y N (Dedicated) TUBING Y N (Dedicated) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

SEE COC FOR ANALYSIS ORP: 1132 (196.7) 1134 (196.6) 1136 (196.6)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212 SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	Taylor Road Landfill Superfund Site	SITE LOCATION	Seffner, FL
WELL NO.	F-3	SAMPLE ID	F-3
DATE	7/27/2020		

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
6	1/2	68.00 ft to 118.00 ft	77.57	BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)
= (118 feet − 77.57 feet) X 1.47 gallons/foot = 59.43 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
117	117	0955	1059	64.00

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1055	60.00	60.00	1	77.82	7.28	24.9	372.6	6.77	1.73	Clear	None
1057	2	62.00	1	77.82	7.28	25.0	372.5	6.83	1.59	Clear	None
1059	2	64.00	1	77.82	7.16	24.9	391.4	6.69	0.26	Clear	None

7/27/2020

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Grayson, Morales	M. Morales	1059	1102

PUMP OR TUBING DEPTH IN WELL (feet)	TUBING MATERIAL CODE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
117	T		

FIELD DECONTAMINATION: PUMP Y N (Dedicated) TUBING Y N (Dedicated) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

SEE COC FOR ANALYSIS ORP: 1055 (198.6) 1057 (199.7) 1059 (199.3)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Taylor Road Landfill Superfund Site | SITE LOCATION: Seffner, FL
WELL NO: C-7 | SAMPLE ID: C-7 | DATE: 7/27/2020

PURGING DATA

WELL DIAMETER (inches): 2 | TUBING DIAMETER (inches): 1/2 | WELL SCREEN INTERVAL DEPTH: 80.00 ft to 110.00 ft | STATIC DEPTH TO WATER (feet): 81.44 | PURGE PUMP TYPE OR BAILER: BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)
= (110 feet − 81.44 feet) X 0.16 gallons/foot = 4.57 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 109 | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 109 | PURGING INITIATED AT: 0841 | PURGING ENDED AT: 0935 | TOTAL VOLUME PURGED (gallons): 27.00

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
0851	5.00	5.00	0.50	81.46	7.02	25.7	426.8	4.08	373.6	Cloudy	None
0901	5.00	10.00	0.50	81.46	6.95	25.7	426.1	4.04	80.6	Cloudy	None
0911	5.00	15.00	0.50	81.46	6.94	25.7	426.3	4.07	42.6	Cloudy	None
0921	5.00	20.00	0.50	81.46	6.97	25.7	426.7	4.26	101.5	Cloudy	None
0931	5.00	25.00	0.50	81.46	6.93	25.7	427.4	4.10	21.1	Cloudy	None
0933	1	26.00	0.50	81.46	6.93	25.7	427.5	4.02	19.0	Cloudy	None
0935	1	27.00	0.50	81.46	6.92	25.7	427.7	3.96	18.1	Cloudy	None

7/27/2020

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Grayson, Morales | SAMPLER(S) SIGNATURE(S): M. Morales | SAMPLING INITIATED AT: 0935 | SAMPLING ENDED AT: 0938

PUMP OR TUBING DEPTH IN WELL (feet): 109 | TUBING MATERIAL CODE: T | FIELD-FILTERED: Y (N) Filtration Equipment Type: | FILTER SIZE: ____ µm

FIELD DECONTAMINATION: PUMP Y N (Dedicated) TUBING Y N (Dedicated) | DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
							ORP		
							0931 (199.6)		
							0933 (199.1)		
							0935 (198.6)		

SEE COC FOR ANALYSIS ORP: 0851 (211.4) 0901 (208.0) 0911 (204.4) 0921 (200.2)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2) optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Taylor Road Landfill Superfund Site	SITE LOCATION: Seffner, FL	
WELL NO: FIELD BLANK	SAMPLE ID: FIELD BLANK	DATE: 7/27/2020

PURGING DATA

WELL DIAMETER (inches): N/A	TUBING DIAMETER (inches): N/A	WELL SCREEN INTERVAL DEPTH: N/A ft to N/A ft	STATIC DEPTH TO WATER (feet): N/A	PURGE PUMP TYPE OR BAILER: N/A

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (N/A feet − N/A feet) X N/A gallons/foot = N/A gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): N/A	FINAL PUMP OR TUBING DEPTH IN WELL (feet): N/A	PURGING INITIATED AT: N/A	PURGING ENDED AT: N/A	TOTAL VOLUME PURGED (gallons): N/A

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) µmhos/cm or mS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)

7/27/2020

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Grayson, Morales	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 0907	SAMPLING ENDED AT: 0910

PUMP OR TUBING DEPTH IN WELL (feet): N/A	TUBING MATERIAL CODE: N/A	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N (Dedicated)	TUBING Y N (Dedicated)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

SEE COC FOR ANALYSIS **ORP: N/A**

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	Taylor Road Landfill Superfund Site	SITE LOCATION	Seffner, FL
WELL NO	C-4	SAMPLE ID	C-4
DATE	7/27/2020		

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
2	1/2	73.92 ft to 93.92 ft	65.96	BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)
= (93.92 feet − 65.96 feet) X 0.16 gallons/foot = 4.47 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
92.92	92.92	1209	1233	6.24

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) umhos/cm or mS/cm	DISSOLVED OXYGEN (circle units) mg/l or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1227	4.68	4.68	0.26	65.96	7.17	23.9	310.0	3.16	1.33	Clear	None
1229	0.52	5.20	0.26	65.96	7.17	23.9	310.5	2.95	1.26	Clear	None
1231	0.52	5.72	0.26	65.96	7.17	23.9	310.7	3.01	1.92	Clear	None
1233	0.52	6.24	0.26	65.96	7.17	23.9	310.8	2.98	1.74	Clear	None

7/27/2020

WELL CAPACITY (Gallons Per Foot) 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./FT.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
Grayson, Morales	M. Morales	1233	1236

PUMP OR TUBING DEPTH IN WELL (feet)	TUBING MATERIAL CODE	FIELD FILTERED Y (N) Filtration Equipment Type:	FILTER SIZE ____ µm
92.92	T		

FIELD DECONTAMINATION: PUMP Y N (Dedicated) TUBING Y N (Dedicated) DUPLICATE Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

SEE COC FOR ANALYSIS ORP: 1227 (176.3) 1229 (176.3) 1231 (176.3) 1233 (175.7)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2) optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Taylor Road Landfill Superfund Site	SITE LOCATION: Seffner, FL	
WELL NO: DUPLICATE	SAMPLE ID: DUPLICATE	DATE: 07/28/20

PURGING DATA

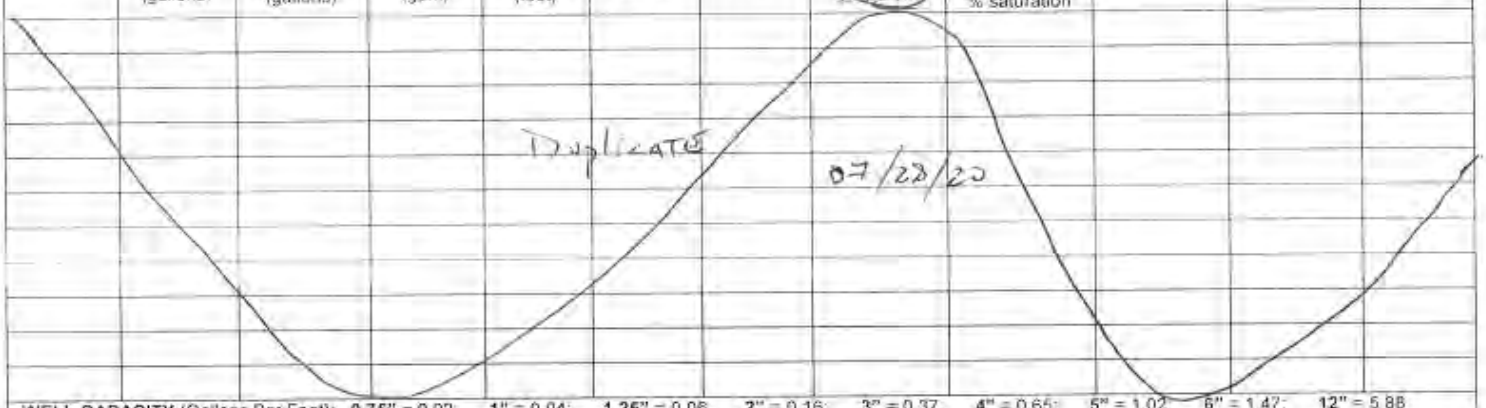
WELL DIAMETER (inches): N/A	TUBING DIAMETER (inches): N/A	WELL SCREEN INTERVAL DEPTH: N/A ft to N/A ft	STATIC DEPTH TO WATER (feet): N/A	PURGE PUMP TYPE OR BAILER: N/A

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (N/A feet − N/A feet) X N/A gallons/foot = N/A gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): N/A	FINAL PUMP OR TUBING DEPTH IN WELL (feet): N/A	PURGING INITIATED AT: N/A	PURGING ENDED AT: N/A	TOTAL VOLUME PURGED (gallons): N/A

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)



WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: M Morales / J Grayson	SAMPLER(S) SIGNATURE(S): M. Morales	SAMPLING INITIATED AT: N/A	SAMPLING ENDED AT: N/A
PUMP OR TUBING DEPTH IN WELL (feet): N/A	TUBING MATERIAL CODE: N/A	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N (Dedicated)	TUBING Y N (Dedicated)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

SEE COC FOR ANALYSIS **ORP: N/A**

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater). **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	Taylor Road Landfill Superfund Site	SITE LOCATION	Seffner, FL
WELL NO.	C-9	SAMPLE ID.	C-9
DATE	07/28/20		

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
2	1/2	82.46 ft to 102.46 ft	53.79	BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)

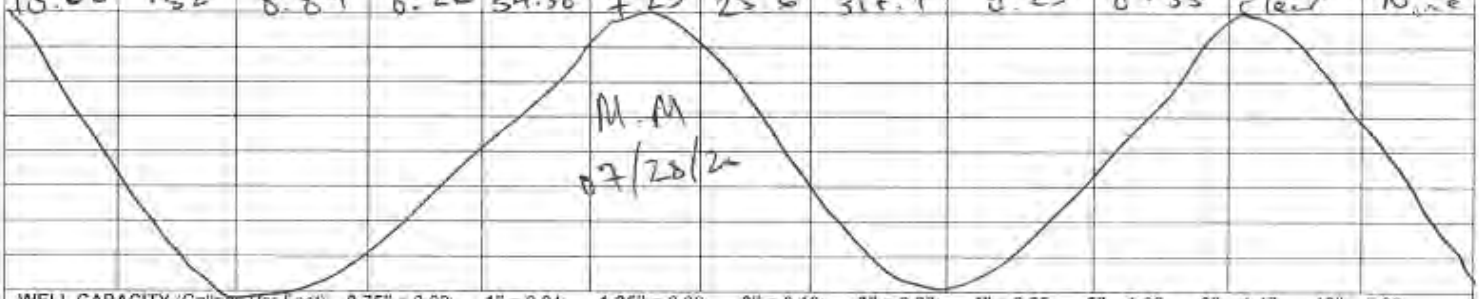
= (102.46 feet − 53.79 feet) X 0.16 gallons/foot = 7.79 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)

= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
101.46	101.46	09:32	1006	8.84

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) umhos/cm or (mS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % Saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
10:02	7.8	7.8	0.26	54.38	7.26	25.6	317.4	0.27	0.23	Clear	None
10:04	.52	8.32	0.26	54.38	7.24	25.6	317.7	0.23	0.77	Clear	None
10:06	.52	8.84	0.26	54.38	7.25	25.6	317.7	0.25	0.35	Clear	None



WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
M. Morales / J. Grayson	M. Morales	10:06	10:11

PUMP OR TUBING DEPTH IN WELL (feet)	TUBING MATERIAL CODE	FIELD-FILTERED: Y (N) Filtration Equipment Type	FILTER SIZE: ____ µm
101.46	T		

FIELD DECONTAMINATION: PUMP Y N (Dedicated) TUBING Y N (Dedicated) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

SEE COC FOR ANALYSIS ◄ **ORP:** 10:02 (-60.5) 10:04 (-61.2) 10:06 (-63.0)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2), optionally ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Taylor Road Landfill Superfund Site	Seffner, FL	
WELL NO F-12	SAMPLE ID F-12	DATE 07/28/20

PURGING DATA

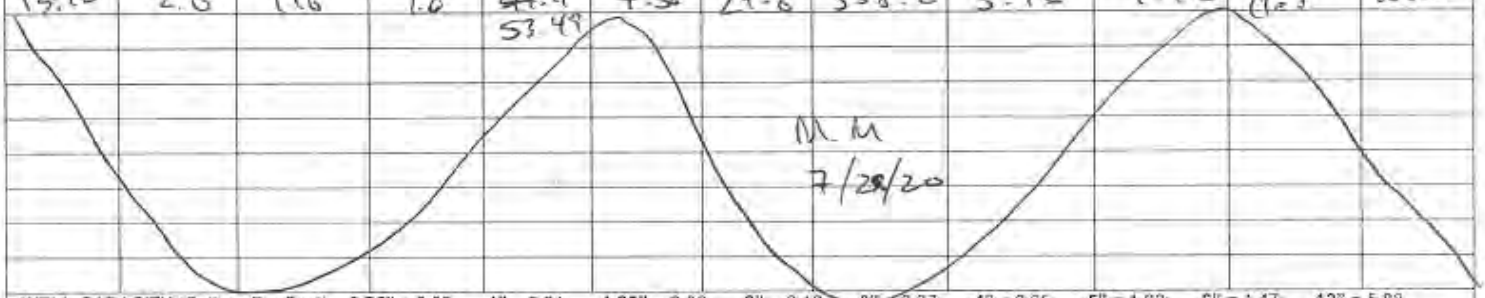
WELL DIAMETER (inches): 6	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 70.00 ft to 125.00 ft	STATIC DEPTH TO WATER (feet): 53.42	PURGE PUMP TYPE OR BAILER: BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (125 feet – 53.42 M.M 7/28/20 feet) X 1.47 gallons/foot = 105.22 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 124	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 124	PURGING INITIATED AT: 11:20	PURGING ENDED AT: 13:10	TOTAL VOLUME PURGED (gallons): 116

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) µmhos/cm or (mS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
13:06	106	106	1.0	53.49 M.M 7/28/20	7.49	24.8	357.2	5.98	1.56	Clear	None
13:08	2.0	108	1.0	53.49	7.50	24.8	357.2	5.96	1.29	Clear	None
13:10	2.0	116	1.0	53.51	7.50	24.8	358.8	5.96	1.46	Clear	None



WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT: 13:10	SAMPLING ENDED AT: 13:15
M. Morales / J. Grayson	M.Mal /		

PUMP OR TUBING DEPTH IN WELL (feet): 124	TUBING MATERIAL CODE: T	FIELD-FILTERED Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N (Dedicated)	TUBING Y N (Dedicated)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

SEE COC FOR ANALYSIS ORP: 13:06 (-12.9) 13:08 (-13.3) 13:10 (-11.8)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA. FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	Taylor Road Landfill Superfund Site	SITE LOCATION	Seffner, FL
WELL NO.	TR-2D	SAMPLE ID	TR-2D
DATE	7/28/20		

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
4	1/2	70.0 ft to 80.0 ft	67.69	BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (80 feet – 67.69 feet) X 0.65 gallons/foot = 7.83 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
79	79	13:39	14:33	9.6

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units) µmhos/cm or mS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
13:59	8.0	8.0	.40	67.73	7.67	25.5	302.1	8.06	1.09	Clear	None
14:01	.80	8.8	.40	67.73	7.71	25.4	304.5	8.05	0.70	Clear	None
14:03	.80	9.6	.40	67.73	7.73	25.5	302.6	8.05	0.74	Clear	None

M.M
7/28/20

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0005; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
M Morales/S. Grayson	M.Morales /	14:03	

PUMP OR TUBING DEPTH IN WELL (feet)	TUBING MATERIAL CODE	FIELD FILTERED	FILTER SIZE
79	T	Y (N) Filtration Equipment Type:	µm

FIELD DECONTAMINATION: PUMP Y N (Dedicated) TUBING Y N (Dedicated) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

SEE COC FOR ANALYSIS ORP: 13:59 (96.6) 14:01 (99.0) 14:03 (99.1)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2) optionally ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	Taylor Road Landfill Superfund Site	SITE LOCATION	Seffner, FL
WELL NO.	C-10	SAMPLE ID	C-10
DATE	07/28/20		

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
2	1/2	68.60 ft to 88.60 ft	49.49	BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)
= (88.6 feet − 49.49 feet) X 0.16 gallons/foot = 6.26 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
87.60	87.60	08:06	08:24	8.64

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
08:20	6.72	6.72	.48	49.53	7.11	24.0	405.3	1.76	1.15	Clear	None
08:22	.96	7.68	.48	49.57	7.10	24.0	405.1	1.66	1.47	Clear	None
08:24	.96	8.64	.48	49.53	7.09	23.9	405.3	1.76	2.25	Clear	None

M.M 07/28/20

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.) 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
M. Morales / J. Greyson	M. Morales	08:24	08:29

PUMP OR TUBING DEPTH IN WELL (feet)	TUBING MATERIAL CODE	FIELD-FILTERED: Y (N) Filtration Equipment Type	FILTER SIZE: ____ µm
87.60	T		

FIELD DECONTAMINATION: PUMP Y (N) (Dedicated) TUBING Y N (Dedicated) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			

SEE COC FOR ANALYSIS ORP: 8:20 (178.6) 08:22 (177.1) 8:24 (174.1)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Taylor Road Landfill Superfund Site	SITE LOCATION: Seffner, FL	
WELL NO: C-1R	SAMPLE ID: C-1R	DATE: 07/28/20

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 81.06 ft to 101.06 ft	STATIC DEPTH TO WATER (feet): 46.08	PURGE PUMP TYPE OR BAILER: BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (104.4 feet − 46.08 feet) X 0.16 gallons/foot = 9.33 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 100.00	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 100.00	PURGING INITIATED AT: 08:39	PURGING ENDED AT: 09:12	TOTAL VOLUME PURGED (gallons): 10.89

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
09:08	9.57	9.57	.33	46.67	6.91	24.5	462.6	0.16	1.0	Clear	None
09:10	.66	10.23	.33	46.67	6.92	24.5	462.5	0.14	0.77	Clear	None
09:12	.66	10.89	.33	46.67	6.92	24.5	460.3	0.14	0.89	Clear	None

M. M 07/28/20

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: M. Morales/J Grayson	SAMPLER(S) SIGNATURE(S): M. Morales	SAMPLING INITIATED AT: 09:12	SAMPLING ENDED AT: 09:17
PUMP OR TUBING DEPTH IN WELL (feet): 100.00	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N (Dedicated)	TUBING Y N (Dedicated)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

SEE COC FOR ANALYSIS ORP: 09:08 (147.2) 09:10 (144.9) 09:12 (143.6)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	Taylor Road Landfill Superfund Site	SITE LOCATION	Seffner, FL
WELL NO	32-D	SAMPLE ID	32-D
DATE	07/29/20		

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
4	1/2	88.00 ft to 98.00 ft	29.38	BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (98 feet − 29.38 feet) X 0.65 gallons/foot = 44.60 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
97	97	08:13	08:55	50.4

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
08:51	45.6	45.6	1.2	30.58	7.16	25.3	4275	0.85	12.9	Clear	None
08:53	2.4	48.0	1.2	30.58	7.09	25.3	435.2	0.95	11.2	Clear	None
08:55	2.4	50.4	1.2	30.58	7.07	25.3	433.0	1.04	11.0	Clear	None

M.M 7/29/20

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.86
TUBING INSIDE DIA. CAPACITY (Gal./FL): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
M. Morales / J. Grayson	M. Morales	08:55	0900

PUMP OR TUBING DEPTH IN WELL (feet)	TUBING MATERIAL CODE	FIELD-FILTERED Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
97	T		

FIELD DECONTAMINATION: PUMP Y N (Dedicated) TUBING Y N (Dedicated) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

SEE COC FOR ANALYSIS ORP: 0851 (129.4) 0853 (131.7) 08:55 (130.9)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Taylor Road Landfill Superfund Site	SITE LOCATION: Seffner, FL	
WELL NO: 31-D	SAMPLE ID: 31-D	DATE: 07/29/20

PURGING DATA

WELL DIAMETER (inches): 4	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 96.00 ft to 106.00 ft	STATIC DEPTH TO WATER (feet): 37.09	PURGE PUMP TYPE OR BAILER: BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (106 feet − 37.09 feet) X 0.65 gallons/foot = 44.79 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 105	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 105	PURGING INITIATED AT: 09:10	PURGING ENDED AT: 10:29	TOTAL VOLUME PURGED (gallons): 47.4

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
10:25	45.0	45.0	.60	37.14	6.87	25.0	467.5	1.72	0.93	Clear	None
10:27	1.2	46.2	.60	37.14	6.86	25.0	467.9	1.74	0.1	Clear	None
10:29	1.2	47.4	.60	37.14	6.87	25.0	467.4	1.91	0.15	Clear	None

M. M
07/29/20

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: M. Morales / J. Grayson	SAMPLER(S) SIGNATURE(S): M. Morales	SAMPLING INITIATED AT: 10:29	SAMPLING ENDED AT: 10:35
PUMP OR TUBING DEPTH IN WELL (feet): 105	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N (Dedicated)	TUBING Y N (Dedicated)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

SEE COC FOR ANALYSIS ORP: 10:25 (111.7) 10:27 (111.7) 10:29 (111.8)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2) optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	Taylor Road Landfill Superfund Site	SITE LOCATION	Seffner, FL
WELL NO.	30-D	SAMPLE ID	30-D
DATE	07/29/26		

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
4	1/2	92.00 ft to 102.00 ft	44.64	BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (102 feet − 44.64 feet) X 0.65 gallons/foot = 37.28 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
101	101	10:40	12:09	44.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
11:55	37.5	37.5	.5	44.66	6.95	24.5	437.4	1.78	0.45	Clear	None
11:57	1.0	38.5	.5	44.66	6.96	24.5	436.2	3.54	0.99	Clear	None
11:59	1.0	39.5	.5	44.66	6.96	24.5	436.7	4.01	0.22	Clear	None
12:01	1.0	40.5	.5	44.66	6.96	24.6	437.4	3.35	1.12	Clear	None
12:03	1.0	41.5	.5	44.66	6.96	24.6	437.2	2.31	0.92	Clear	None
12:05	1.0	42.5	.5	44.66	6.96	24.6	438.6	1.35	.22	Clear	None
12:07	1.0	43.5	.5	44.66	6.94	24.6	438.4	1.39	0.37	Clear	None
12:09	1.0	44.5	.5	44.66	6.96	24.6	438.4	1.35	1.38	Clear	None

M. M 07/29/26

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
M. Morales / J. Grayson	M. Morales	12:09	12:14

PUMP OR TUBING DEPTH IN WELL (feet)	TUBING MATERIAL CODE	FIELD-FILTERED: Y (N) Filtration Equipment Type	FILTER SIZE: ____ µm
101	T		

FIELD DECONTAMINATION: PUMP Y N (Dedicated) TUBING Y N (Dedicated) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
							12:01	(150.2)	
							12:03	(150.4)	
							12:05	(148.7)	
							12:07	(146.7)	
							12:09	(145.9)	

SEE COC FOR ANALYSIS ORP: 11:55 (144.7) 11:57 (145.4) 11:59 (148.4)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	
Taylor Road Landfill Superfund Site	Seffner, FL	
WELL NO: C-8	SAMPLE ID: C-8	DATE: 07/29/20

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/2	WELL SCREEN INTERVAL DEPTH: 93.50 ft to 113.50 ft	STATIC DEPTH TO WATER (feet): 63.07	PURGE PUMP TYPE OR BAILER: BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (113.50 feet − 63.07 (feet) X 0.16 gallons/foot = 8.07 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 112.50	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 112.50	PURGING INITIATED AT: 12:27	PURGING ENDED AT: 12:52	TOTAL VOLUME PURGED (gallons): 10.0

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L) or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
12:48	8.4	8.4	.4	63.11	7.19	24.1	288.4	2.98	1.27	Clear	None
12:50	.8	9.2	.4	63.11	7.20	24.1	289.0	2.94	1.26	Clear	None
12:52	.8	10.0	.4	63.11	7.20	24.1	288.9	2.93	0.97	Clear	None

M.M
07/29/20

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0025; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT: 12:52	ENDED AT: 12:57
M. Morales / J. Grayson	M.Morales		

PUMP OR TUBING DEPTH IN WELL (feet): 112.50	TUBING MATERIAL CODE: T	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y N (Dedicated)	TUBING Y N (Dedicated)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			

SEE COC FOR ANALYSIS ORP: 12:48 (154.6) 12:50 (152.8) 12:52 (152.4)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2) optionally ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

DEP-SOP-001/01
FS 2200 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	SITE LOCATION	DATE
Taylor Road Landfill Superfund Site	Seffner, FL	07/29/20
WELL NO: F-15	SAMPLE ID: F-15	

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
6	1/2	60.00 ft to 100.00 ft	65.49	BP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (100 feet − 65.49 feet) X 1.47 gallons/foot = 50.73 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= N/A gallons + (N/A gallons/foot X N/A feet) + N/A gallons = N/A gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
99	99	13:16	14:05	55

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) umhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/l or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
14:01	51	51	1.0	65.49	7.47	24.4	402.8	8.44	1.53	Clear	None
14:03	2.0	53	1.0	65.49	7.45	24.4	403.7	8.46	2.07	Clear	None
14:05	2.0	55	1.0	65.49	7.45	24.5	406.6	8.57	1.05	Clear	None

M. M. 07/29/20

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURE(S)	SAMPLING INITIATED AT	SAMPLING ENDED AT
M. Morales / S. Grayson	M. Morales	14:05	14:10
PUMP OR TUBING DEPTH IN WELL (feet): 99	TUBING MATERIAL CODE: T	FIELD-FILTERED Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION PUMP Y N (Dedicated)	TUBING Y N (Dedicated)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)

SEE COC FOR ANALYSIS ORP: 14:01 (166.3) 14:03 (166.1) 14:05 (166.7)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 2009

Advanced Environmental Laboratories, Inc.

6681 Southpoint Parkway
Jacksonville, Florida 32216
Office (904) 363-9350
Fax (904) 363-9354

Project No.: T2013998

Client Name: Hillsborough County Public Utilities

ProjectID: Taylor Road Landfill Superfund

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.

Analysis: All holding times were met.

III. Method

Analysis: SW-846 6020

Preparation: SW-846 3010A

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: All acceptance criteria were met.

B. Blanks: The Method Blank (MB) associated with T2013998013 contained low levels of Nickel above the Method Detection Limit (MDL). In accordance with AEL QA policy, all sample results less than ten times the level found in the MB are flagged with a V to indicate the data is an estimate.

C. Duplicates: All acceptance criteria were met.

D. Spikes: The spikes for T2013998013 are calculated correctly, however do to sample reruns the parent is not displayed

E. Serial Diluion: All acceptance criteria were met.

F. Samples: Sample analyses proceeded normally.

G. Other:

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Jacksonville, Florida 32216
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Project No.: T2013998

Client Name: Hillsborough County Public Utilities

ProjectID: Taylor Road Landfill Superfund

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.

Analysis: All holding times were met.

III. Method

Analysis: SW-846 8260B

Preparation: SW-846 5030B

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: All acceptance criteria were met.

B. Blanks: All acceptance criteria were met.

C. Surrogates: All acceptance criteria were met.

D. Spikes: The Method required MS was met for T2014848001. The blanks in the QC is due to differing analyte lists requested in the parent/spiked QC sample

E. Internal Standard: All acceptance criteria were met.

F. Samples: Sample analyses proceeded normally.

G. Other:

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Project No.: T2013998

Client Name: Hillsborough County Public Utilities

ProjectID: Taylor Road Landfill Superfund

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.

Analysis: All holding times were met.

III. Method

Analysis: SW-846 8260B

Preparation: SW-846 5030B

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: All acceptance criteria were met.

B. Blanks: All acceptance criteria were met.

C. Surrogates: All acceptance criteria were met.

D. Spikes: The Method required MS was met for T2014430004. The blanks in the QC is due to differing analyte lists requested in the parent/spiked QC sample

E. Internal Standard: All acceptance criteria were met.

F. Samples: Sample analyses proceeded normally.

G. Other:

Advanced Environmental Laboratories, Inc.

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Jacksonville, Florida 32216
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Fax (904) 363-9354

Project No.: T2013998

Client Name: Hillsborough County Public Utilities

ProjectID: Taylor Road Landfill Superfund

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.

Analysis: All holding times were met.

III. Method

Analysis: SW-846 8260B

Preparation: SW-846 5030B

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: All acceptance criteria were met.

B. Blanks: All acceptance criteria were met.

C. Surrogates: All acceptance criteria were met.

D. Spikes: The Method required MS/MSD was met for T2014736001. The blanks in the QC is due to differing analyte lists requested in the parent/spiked QC sample

E. Internal Standard: All acceptance criteria were met.

F. Samples: Sample analyses proceeded normally.

G. Other:

Advanced Environmental Laboratories, Inc.

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Jacksonville, Florida 32216
Office (904) 363-9350
Fax (904) 363-9354

Project No.: T2013998

Client Name: Hillsborough County Public Utilities

ProjectID: Taylor Road Landfill Superfund

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.

Analysis: All holding times were met.

III. Method

Analysis: EPA 300.0

Preparation: None

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: All acceptance criteria were met.

B. Blanks: All acceptance criteria were met.

C. Duplicates: All acceptance criteria were met.

D. Spikes: The matrix spike recoveries of Sulfate for T2013625002 were outside control criteria. Recoveries in the Laboratory Control Sample (LCS), and %RPD were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential high bias in this matrix. No further corrective action was required.

E. Serial Diluion: All acceptance criteria were met.

F. Samples: Sample analyses proceeded normally.

G. Other:

Advanced Environmental Laboratories, Inc.

6681 Southpoint Parkway
Jacksonville, Florida 32216
Office (904) 363-9350
Fax (904) 363-9354

Project No.: T2013998

Client Name: Hillsborough County Public Utilities

ProjectID: Taylor Road Landfill Superfund

I. Receipt

No Exceptions were encountered.

II. Holding Times

Preparation: All holding times were met.

Analysis: All holding times were met.

III. Method

Analysis: EPA 300.0

Preparation: None

IV. Preparation

Sample preparation proceeded normally.

V. Analysis

A. Calibration: All acceptance criteria were met.

B. Blanks: All acceptance criteria were met.

C. Duplicates: All acceptance criteria were met.

D. Spikes: The matrix spike recoveries of Fluoride and Chloride for T2014274001 were outside control criteria. Recoveries in the Laboratory Control Sample (LCS), and %RPD were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential high bias in this matrix. No further corrective action was required.

The matrix spike recovery of Sulfate for T2014274001 was outside control criteria. Recoveries in the Laboratory Control Sample (LCS), Matrix Spike Duplicate (MSD) and %RPD were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix. No further corrective action was required.

The matrix spike recoveries of Chloride for T2014273001 were outside control criteria. Recoveries in the Laboratory Control Sample (LCS), and %RPD were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix. No further corrective action was required.

E. Serial Diluion: All acceptance criteria were met.

F. Samples: Sample analyses proceeded normally.

G. Other: