

Geosyntec[®]

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9 February 2012

Mr. Thomas Lubozynski, P.E.
Waste Program Administrator
Florida Department of Environmental Protection
Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

RECEIVED
FEB 10 2012
DEP Central Dist

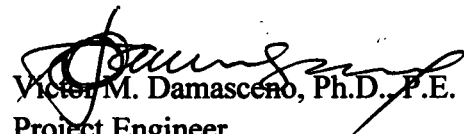
**Subject: First Request for Additional Information
Renewal Permit Application to Operate
Phases 1 through 4 at the
J.E.D. Solid Waste Management Facility (WACS #89544)
Osceola County, Florida
Permit Application No. SO49-0199726-022**

Dear Mr. Lubozynski:

Transmitted herewith are four copies of the response to the first request for additional information (RAI) associated with the Renewal Permit Application to Operate Phases 1 through 4 of the J.E.D. Solid Waste Management Facility, located in St. Cloud, Florida. The responses have been prepared and/or compiled by Geosyntec Consultants (Geosyntec) on behalf of Omni Waste of Osceola County, LLC (Omni), a wholly owned subsidiary of Waste Services, Inc. (WSI).

If you or your staff have any questions or need additional information, please feel free to contact the undersigned.

Sincerely,


Victor M. Damasceno, Ph.D., P.E.
Project Engineer
Florida P.E. No. 72966

Copies to: Michael Kaiser, Waste Services Inc. (WSI)
Transmittal_JED 2011 Permit Renewal_RAI01.doc

Prepared for:



Omni Waste of Osceola County, LLC
1501 Omni Way
St. Cloud, Florida 34773

RESPONSE TO FIRST REQUEST FOR ADDITIONAL INFORMATION

**RENEWAL PERMIT APPLICATION TO OPERATE
PHASES 1 THROUGH 4 OF THE J.E.D. SOLID WASTE
MANAGEMENT FACILITY**

Prepared by:

Geosyntec 

consultants

13101 Telecom Drive, Suite 120
Temple Terrace, Florida 33637

Project Number FL1962

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DEP Central Dist.

February 2012

8 February 2012

Mr. F. Thomas Lubozynski, P.E.
Waste Program Administrator
Florida Department of Environmental Protection
Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

RECEIVED
FEB 10 2012
DEP Central Dist.

Subject: Response to First Request for Additional Information dated 7 December 2011
J.E.D. Solid Waste Management Facility (WACS #89544)
Class I – Operations Permit Renewal
Osceola County, Florida
(Permit Application No. SC49-0199726-022)

Dear Mr. Lubozynski:

On behalf of Omni Waste of Osceola County, LLC (Omni), Geosyntec Consultants (Geosyntec) has prepared this letter to respond to the Florida Department of Environmental Protection's (FDEP's) first request for additional information (RAI) regarding the Renewal Permit Application to Operate Phases 1 through 4 of the J.E.D. Solid Waste Management Facility (facility), located in St. Cloud, Florida. The permit renewal application was received by FDEP on 10 November 2011 and is referred to in this letter as "Report." The RAI was addressed to Mr. Mike Kaiser of Omni in a letter dated 7 December 2011 and subsequent RAI letter dated 29 December 2011. This RAI response addresses FDEP's comments 1 through 16.

Each FDEP comment has been provided below in italic font followed by the corresponding response in normal font. In this response, deletions to the original document have been shown with a strikethrough and additions have been shown with an underline.

RESPONSE TO FDEP COMMENTS

FDEP Comment #1

1. *Based on the review of the Report, the Department interprets the operations permit renewal to encompass the following:*
 - a. *Operation of the Class I Landfill, Phases 1-4 (Cells 1-13) with a total acreage of approximately 173 acres. The operation of the Class I landfill includes a leachate collection and storage system and an active gas management system.*
 - b. *The partial closure of upper side slopes and top of Phase 1, cells 1-4 as detailed in permit modification SO49-0199726-018.*

- c. The operation of the auto shredder residual recycling.*
- d. The operation of the waste solidification process.*
- e. The operation of the waste tire storage and processing facility.*

Is DEP's understanding of the operations permit renewal correct?

Response # 1:

FDEP's understanding of the application, as stated above, is correct.

FDEP Comment #2

- 2. *Rule 62-701.500(8)(h), F.A.C., states "...Existing leachate collection systems shall be water pressure cleaned or inspected by video recording at the time of permit renewal. Results of the collection system cleanings or inspections shall be available to the Department upon request." As part of this permit renewal, the Department requests a summary report of the results of the leachate collection system cleanings or inspections completed within the past year for Cells 1-7. (Cell 8 is under construction and its leachate collection system shall be water pressured cleaned or video inspected after construction but prior to initial placement of waste per Rule 62-701.500(8)(h), F.A.C.)*

Response # 2:

On 6 December 2011, Florida Jetclean completed the leachate collection system (LCS) pipe cleaning for Cells 1 through 6 at the facility. High pressure water jet pipe cleaning and explosion-proof video inspection were performed in July 2010 for the Cell 7 LCS after construction completion. The pipe cleaning reports for Cells 1 through 7 are provided as part of **Attachment 1**. The Cell 8 LCS will be water pressured cleaned and/or video inspected after construction, but prior to initial placement of waste, per Rule 62-701.500(8)(h), F.A.C.

FDEP Comment #3

- 3. *On page 9 of the Engineering Report, it states "no special waste (lead-acid batteries, used oil, yard trash, white goods, or whole tires) will be accepted for disposal in the landfill, however, yard trash, white goods, and whole tires will be accepted for processing, reuse, or recycling".*
 - a. Does this application include a request for a permit for yard trash processing/recycling?*
 - b. Does the facility dispose of yard trash in the Class I landfill?*

- c. Whether yard trash is processed, recycled, disposed, or turned away from the facility, incorporate a section in the Operations Plan which discusses the receipt of a load of yard trash.*

Response # 3:

- a. This permit renewal application does not include a request for a permit for yard trash processing/recycling.
- b. The facility does not dispose of yard trash in the Class I landfill.
- c. **Attachment 2** contains the revised replacement pages to the Operation Plan in which Section 2.2.2 has been revised to include yard trash as an unauthorized waste.

FDEP Comment #4

- 4. Operation Plan (Appendix C of the Report), Appendix C – Emergency Response Telephone Numbers and again on page 3-1 of Appendix D, the old FDEP phone numbers are listed. The phone numbers were recently changed. Revise the numbers as follows:*

FDEP Central District 407-897-4100

FDEP Central District Solid Waste Section 407-897-4304

Response # 4:

The Operation Plan (Appendix C of the Report), Appendix C – Emergency Response Telephone Numbers as well as page 3-1 of Appendix D have been revised and updated. The revised replacement pages to the Operation Plan is provided in **Attachment 2**.

FDEP Comment #5

- 5. Operation Plan (Appendix C of the Report), Appendix D – Operation and Maintenance Plan for Leachate Recirculation: The following are questions regarding the leachate recirculation process.*
- a. Are the horizontal leachate injection pipelines still in use at the facility? Are future horizontal leachate injection pipeline planned?*
 - b. Is leachate recirculation in trenches performed at the facility?*
 - c. It is the Department's understanding that the current leachate recirculation process is surface leachate spraying via the water truck. What is the procedure for rinsing the water truck between application of leachate in the disposal area and the spraying of water on the roads for dust control to ensure that leachate*

residual is not being sprayed outside of the landfill footprint? Incorporate this rinsing procedure into the Operations Plan.

Response # 5:

- a. Horizontal leachate injection pipelines have not been installed at the facility to date. The current method of leachate recirculation is Surface Leachate Application as described in the Operation and Maintenance Plan for Leachate Recirculation. The installation of horizontal leachate injection pipelines is not planned at this time. Omni may install horizontal injection pipelines in the future depending on leachate generation rates and areas open for active disposal operations (areas not closed).
- b. Leachate recirculation in trenches is not being performed at the facility. See Response 5(a) above regarding the current method of leachate recirculation.
- c. The leachate recirculation process in use at the facility is surface leachate spraying via a water truck. The procedure for rinsing the water truck between application of leachate in the disposal area and the spraying of clean water for dust control purposes on roads exterior of the disposal boundary has been incorporated into Section 4.1.1 of the revised Operation Plan. The replacement pages are provided in **Attachment 2**.

FDEP Comment #6

6. *According to Drawing 22 – Leachate Storage Facility Plan, the facility is proposing two options for the storage of leachate: Option A – Storage Tank and Option B – Flexible Storage Container. The Department acknowledges that this was the initial design provided with the construction drawings in the facility's initial permit application. Please provide the Department with either a reference (document name, date and page #) or a response which describes the two options. Include a description of each option, what deciding factors will be used to determine which option will be utilized, when the decision will be made, and a comparison of the storage capacities of each option.*

Response # 6:

Please refer to the solid waste permit application entitled "Application for a Permit to Construct and Operate a Class I Landfill" prepared by Geosyntec, dated 24 May 2002 (2002 Solid Waste Permit Application), specifically Section 4.2.4 (Leachate Storage and Transfer) of the Engineering Report. As presented in the 2002 Solid Waste Permit Application, four storage containers were used to allow inspection, maintenance, and/or repair of individual containers without any interruption of service. The storage containers were initially designed to provide a combined volume of approximately 1,000,000 gallons.

Note that *Option B – Flexible Storage Container* has been in use since the initial construction of the facility. Drawing 22 of the Permit Drawings, included as Appendix B of the Report, has been revised to remove *Option A – Storage Tank* and present the proposed final leachate storage facility layout. Drawing 23 of the Permit Drawings has also been revised to incorporate relevant updated details for the leachate storage area. The revised Drawing sheets are provided in **Attachment 3** of this response letter. Note that the proposed final leachate storage facility layout, presented in **Attachment 3**, is derived from that presented in the 2002 Solid Waste Permit Application. However, the storage facility size has been modified to provide a combined volume of approximately 2,000,000 gallons – 100% more storage than that previously designed and permitted. The layout and location shown on the Drawings in Attachment 3 is consistent with the Drawings approved under the Permit to Construct #SC49-0199726-017 issued for the lateral expansion of the facility.

FDEP Comment #7

7. *According to Drawing 26 – Phase 3 Construction Sequencing, the construction of Cell 9 will require the relocation of the leachate storage area. Provide a plan, including timing, for the relocation of the leachate storage area which will ensure the continual uninterrupted operations of the leachate collection and storage system.*

Response # 7:

The new leachate storage facility – including new force main – shown on the revised Drawing 26 (**Attachment 3**) will need to be constructed and approved for operation by the FDEP prior to construction of the Cell 9 disposal area. Construction of the new leachate storage facility is expected to begin in mid-2012 and Cell 9 in early 2013. The following sequence of construction will be followed to allow for operation of the new leachate storage facility and construction of Cell 9.

1. Notify FDEP of construction start-up of new leachate storage facility.
2. Complete construction of the new leachate storage facility – including the new force main. Final connection of the new force main to the existing force main at Cell 6 shall not be made until operation approval of the new leachate storage facility has been granted by the FDEP.
3. Submit the Construction Quality Assurance Report to the FDEP and request approval to operate the new leachate storage facility.
4. Complete connection of the new leachate force main to the existing force main upon receiving approval to operate the new leachate storage facility.

5. Demolish and remove existing leachate storage facility. Waste materials (liner, fencing, concrete, pipe, and other) will be recycled or disposed in the active landfill area. Soils used to construct the existing leachate storage facility will be hauled to the active disposal area and used for daily cover.
6. Construct Cell 9.

A note has been incorporated to Drawing 26 addressing estimated timing for and relocation of the leachate storage area as to ensure continual uninterrupted operations of the leachate collection and storage system. Revised Drawing 26 is provided in **Attachment 3** of this response letter.

FDEP Comment #8

8. *Operation Plan (Appendix C of the Report), Appendix G - Waste Tire Storage and Processing Plan: The following are questions regarding the waste tire processing operations.*
 - a. *Operation Plan (Appendix C of the Report), page 3 of Appendix G – Waste Tire Storage and Processing Plan: Section 5.3 states, “A fire safety survey will be conducted at least annually and the survey report will be included with the next quarterly report submitted to the FDEP.” Has the annual fire safety survey been completed for 2011? If so, please provide the Department with a copy of the report.*
 - b. *According to Drawing 27 – Phase 4 Construction Sequencing, the waste tire storage area will be incorporated into landfill Phase 4 upon the construction of Cells 12 and 13. What is the plan and timing for the relocation of the waste tire processing area?*

Response # 8:

- a. The annual fire safety survey was completed on 18 January 2012 by Mr. Sean Glowa, District Safety Manager, Waste Services Inc. A copy of the report is provided as **Attachment 4**.
- b. The existing waste tire storage and processing area will be relocated to a new interim location west of the existing maintenance shop as shown on Drawing 10 (**Attachment 3**). The timing of relocation is dependent on future waste volumes and the need to construct Cell 12. Relocation must occur prior to construction start-up of Cell 12, however, Omni will notify the FDEP if they wish to relocate the operations at an earlier date to allow for more efficient operation of the facility and adjacent waste fill operations.

FDEP Comment #9

9. *The Landfill Gas Remediation Plan will be incorporated into the permit as a Specific Condition.*

Response # 9:

FDEP Comment #9 is duly noted

FDEP Comment #10

10. *The following is a list of the current approved financial assurance documents:*

- a. *Cells 1-6: A detailed cost estimate was received and approved for Cells 1-6 on 1/5/2010.*
- b. *Cell 7: A detailed cost estimate was received and approved for Cell 7 on 11/1/2010.*
- c. *Cell 8: A detailed cost estimate was received and approved for Cell 8 on 10/31/11.*
- d. *Cells 9-23: A detailed cost estimate was received and approved for the deferral of Cells 9-23 on 5/19/2011.*
- e. *2011 Adjustment: No inflation adjustment or detailed cost estimate was required for 2011 per DEP email dated 2/1/2011.*

Per Rule 62-701.630(4)(b), F.A.C., an updated detailed cost estimate is required for Cells 1-7. (A detailed cost estimate for Cell 8 was submitted in permit application SO49-0199726-021.)

Response # 10:

Pursuant to Rule 62-701.630(4)(b), F.A.C., an updated detailed cost estimate for Cells 1 through 8 has been prepared and is provided as **Attachment 5**. The cost estimates include details of purchasing and transportation of off-site soils from a 3rd party source as noted in the subsequent RAI letter received from FDEP on 29 December 2011.

WATER QUALITY RELATED ITEMS

Biennial

Geo-Services and Consulting, LLC submitted on your behalf, "Fourth Biennial Technical Report on Water Quality." It was dated November 9, 2011 and received November 14, 2011. The Department has the following questions and comments:

FDEP Comment #11

11. To the Department, the most recent semi-annual data (May 2011) indicates there are three main areas of ground water interest:

- a. Ammonia concentrations were above 2.8 mg/L in eleven of the fourteen shallow "A" wells. The highest concentration adjacent to the landfill at MW-9A was 10.2 mg/L. The Report states:

"It is suspected that a primary source of ammonia reported in groundwater is related to previous activity at the site and or land use in the adjacent area."

The report mentions a sod farm and cattle grazing as possible sources of the ammonia. The Department does not agree. Also, ammonia in the leachate from the waste was not discussed.

- The January 2005 sampling only had 5 wells with ammonia above 2.8 mg/L and the highest was 5.6 mg/L.) The Department data shows that past sod farms and cattle grazing produce nitrate not ammonia. What changes in the sod farm operations and cattle grazing would account for the rise in ammonia concentrations?*
- Also, the current leachate sampling (November 2010) shows ammonia well over 200 times the 2.8 mg/L level:*

<i>Leachate Sump</i>	<i>AMMONIA</i>	<i>Units</i>
<i>L-1</i>	<i>1,090</i>	<i>MG/L</i>
<i>L-2</i>	<i>816</i>	<i>MG/L</i>
<i>L-3</i>	<i>798</i>	<i>MG/L</i>
<i>L-6</i>	<i>904</i>	<i>MG/L</i>
<i>L-5</i>	<i>696</i>	<i>MG/L</i>
<i>L-4</i>	<i>1,150</i>	<i>MG/L</i>

The Department considers the leachate a more reasonable explanation for the ammonia found in the monitoring wells. In all future semi-annual and biennial reports, the current levels of ammonia in the leachate shall be included in the discussion.

Please provide additional information about why you do not believe the landfill leachate is the source of ammonia found in the monitoring wells.

- b. Benzene was above the ground water quality standard in 5 wells. The report indicates that the Benzene exceedances "... may be attributable to landfill gas migration" and notes several investigations.*
- c. Mercury in the filtered sample from MW-19A (12 ug/L with an "I" qualifier.)*

In the May 2011 sampling event, the Mercury in the filtered sample from MW-19A (12 ug/L I) was potentially the highest exceedance of concern. This was not discussed in the Semi-annual Report or in the Biennial. Please discuss this result. Include in the discussion why it is higher than the unfiltered sample and why neither was discussed in the reports.

Response # 11:

A response to Comment #11(a) and (b) has been prepared by HDR Engineering, Inc. (HDR), while Geo-Services and Consulting, LLC (GS&C) prepared the response to Comment #11(c). The responses are provided in **Attachment 6**.

Department's Planned Modifications to the MPIS

FDEP Comment #12

- 12. The Department would consider a proposal to sample the covered leachate basin annually instead of the 6 current plus 4 proposed leachate sumps.*

Response # 12:

Omni agrees and proposes to allow for annual sampling of leachate at the covered leachate storage area.

FDEP Comment #13

- 13. Based on historic sampling, the Department accepts as background 4.5 STU for pH at the site.*

Response # 13:

FDEP Comment #13 is duly noted

FDEP Comment #14

- 14. Based on the radial direction of ground water flow and the analysis showing that the background wells are statistically similar to the detection wells, the background wells on the west side shall be reclassified as detection wells.*

Response # 14:

FDEP Comment #14 is duly noted

FDEP Comment #15

15. *The following table shows examples of the reported values for select phenols in the leachate in the November 2010 annual sample:*

<i>Leachate Sump</i>	<i>Parameter</i>	<i>Reported Value ug/L</i>	<i>Criteria ug/L</i>	<i>Type Criteria</i>
L-2	PENTACHLOROPHENOL (PCP)	30	1	Primary
L-4	PHENOL (C ₆ H ₅ OH)-SINGLE COMPOUND	1,000	10	GCTL
L-4	CRESOL, P-- (4-METHYLPHENOL)	1,800	3.5	GCTL

Total Phenols shall be added to the parameter lists for the monitoring wells and the surface water site.

Response # 15:

FDEP Comment #15 is duly noted

FDEP Comment #16

16. *Section 3.2.1 of the Biennial states, "As stated in the Permit, surface water samples are collected only when there is flow in Bull Creek." The Department cannot find this reference in the Permit or the MPIS. Please identify the location so the Department can revise the permit/MPIS language to better fit a creek that is frequently dry.*

Response # 16:

General references to surface water monitoring locations and requirements are listed in Specific Condition 14 of the facility's Operating Permit #SO49-0199726-005. Additional details regarding sampling requirements when Bull Creek is flowing or dry is included in Section 5.2 of the Water Quality Monitoring Plan presented in the initial site Hydrogeological Investigation Report by Kubal-Furr & Associates (KFA). The Hydrogeological Investigation Report by KFA, was submitted as part of the *Application for a Permit to Construct and Operate a Class I Landfill*, dated May 2002. A copy of the Water Quality Monitoring Plan is provided as **Attachment 7**.

Mr. F. Thomas Lubozynski, P.E.
8 February 2012
Page 11

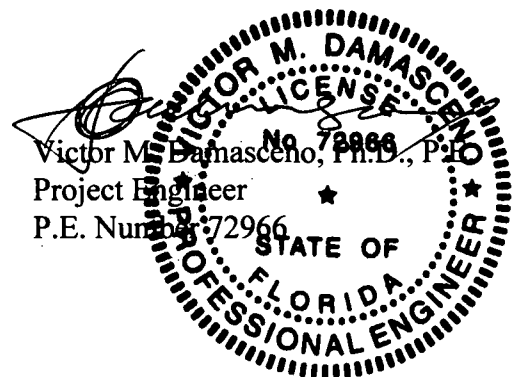
CLOSURE

If you have any questions or require additional information, please do not hesitate to contact Mr. Mike Kaiser of Waste Services, Inc. at (904) 673-0446, mkaiser@wsii.us, or the undersigned at (813) 558-0990.

Sincerely,



John A. Banks, P.E.
Associate



Attachments

Copies to: Michael Kaiser, WSI

ATTACHMENT 1

Leachate Collection System Cleaning Reports

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
VIDEO PIPELINE INSPECTION
NO DIG POINT REPAIRS
WWW.FLORIDAJETCLEAN.COM

19019 FERN MEADOW LOOP
LUTZ, FL 33558
TEL: 800-226-8013 FAX: 813-926-4616
FLORIDAJETCLEAN@YAHOO.COM

Waste Services JED Oak Hammock Landfill LCS Pipe Jetcleaning

Work Performed December 2011

Conducted By:
Florida Jetclean
800-226-8013

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
VIDEO PIPELINE INSPECTION
NO DIG POINT REPAIRS
WWW.FLORIDAJETCLEAN.COM

19019 FERN MEADOW LOOP
LUTZ, FL 33558
TEL: 800-226-8013 FAX: 813-926-4816
FLORIDAJETCLEAN@YAHOO.COM

DATE : 12/7/2011
TO : Mike Kaiser – Waste Services
FROM : Ralph Calistri (floridajetclean@yahoo.com)
SUBJECT : 2011 JED Oak Hammock Landfill LCS Jetcleaning Project

Florida Jetclean completed the leachate collection pipe jetcleaning at the above landfill on 12/6/2011. Distances achieved with the jetting nozzle are documented below.

PIPE SEGMENTS:

Cell 6	Cleanout 1	850'	4" HDPE Secondary LCS
Cell 6	Cleanout 2	600'	4" HDPE Secondary LCS
Cell 6	Cleanout 3	850'	6" HDPE LCS
Cell 6	Cleanout 4	600'	6" HDPE LCS
Cell 1A	Cleanout 3 to Cleanout 1	600'	6" HDPE LCS
Cell 1A / 1B	Cleanout 2 to Cleanout 4	600'	6" HDPE LCS
Cell 1B	Cleanout 5 to Cleanout 4	300'	6" HDPE LCS
Cell 2	Cleanout 2 to Cleanout 4	600'	6" HDPE LCS
Cell 2	Cleanout 3 to Cleanout 1	860'	6" HDPE LCS
Cell 3	Cleanout 1	1,180'	6" HDPE LCS
Cell 3	Cleanout 2	700'	6" HDPE LCS
Cell 3	Cleanout 3	700'	6" HDPE LCS
Cell 4	Cleanout 1	550'	6" HDPE LCS
Cell 4	Cleanout 2	550'	6" HDPE LCS
Cell 5	Cleanout 1	700'	6" HDPE LCS
Cell 5	Cleanout 2 to Cleanout 4	625'	6" HDPE LCS
Cell 5	Cleanout 3	750'	6" HDPE LCS

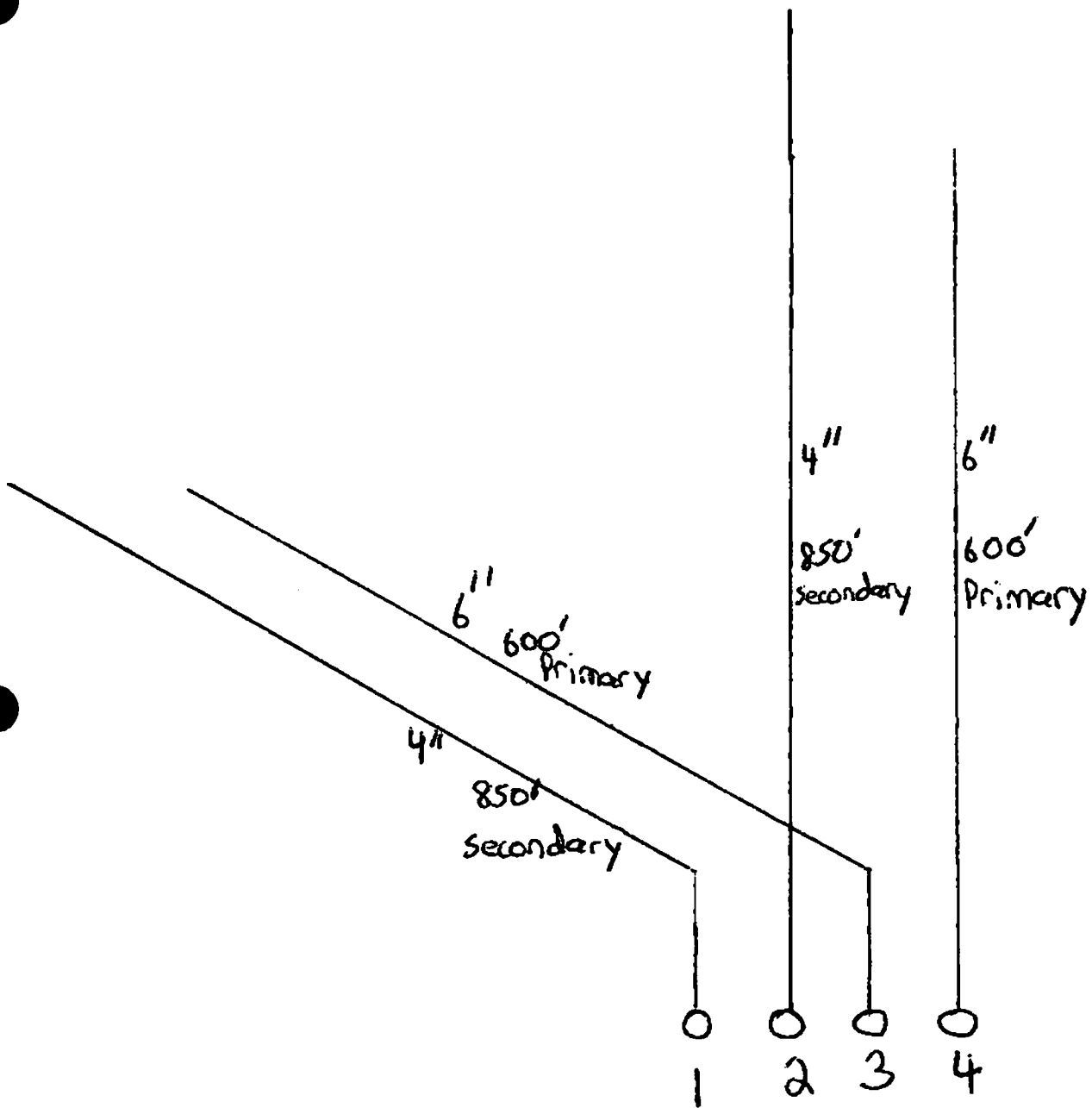
All pipe segments were jetcleaned easily and without resistance, indicating that flow capacity exists to enable proper drainage of the leachate collection system.

Please call us with questions or concerns.

Regards,

Ralph Calistri - Florida Jetclean - 800-226-8013

JED Cell #6

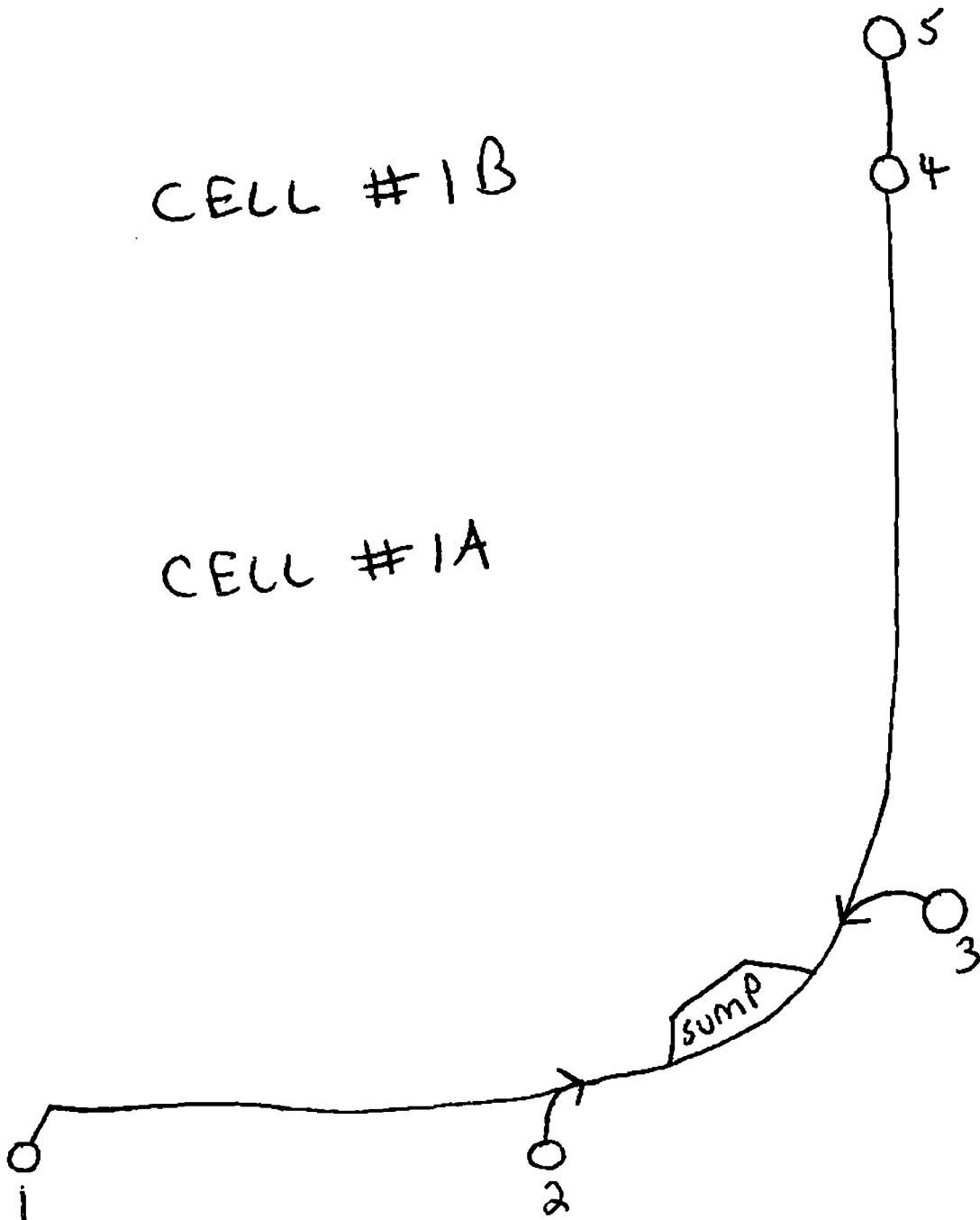


Florida Jetclean, Inc.
19019 Fern Meadow Loop
Lutz, FL 33558
(800) 226-8013

JED Cells 1A+1B

CELL #1B

CELL #1A



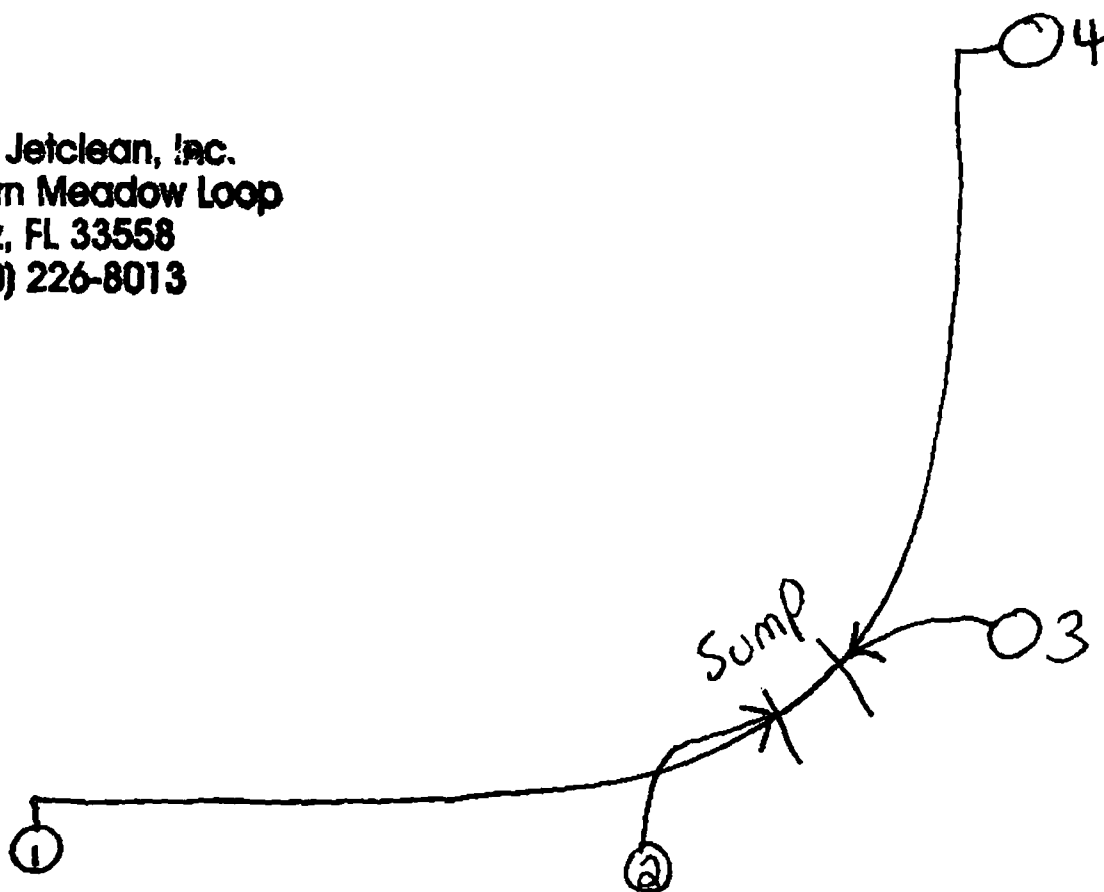
$$\begin{aligned} CO2 - CO4 &= 600' \\ CO3 - CO1 &= 600' \\ CO5 - CO4 &= 300' \end{aligned}$$

Florida Jetclean, Inc.
19019 Fern Meadow Loop
Lutz, FL 33558
(800) 226-8013

Scale 1" = 100'

JEO Cell #2

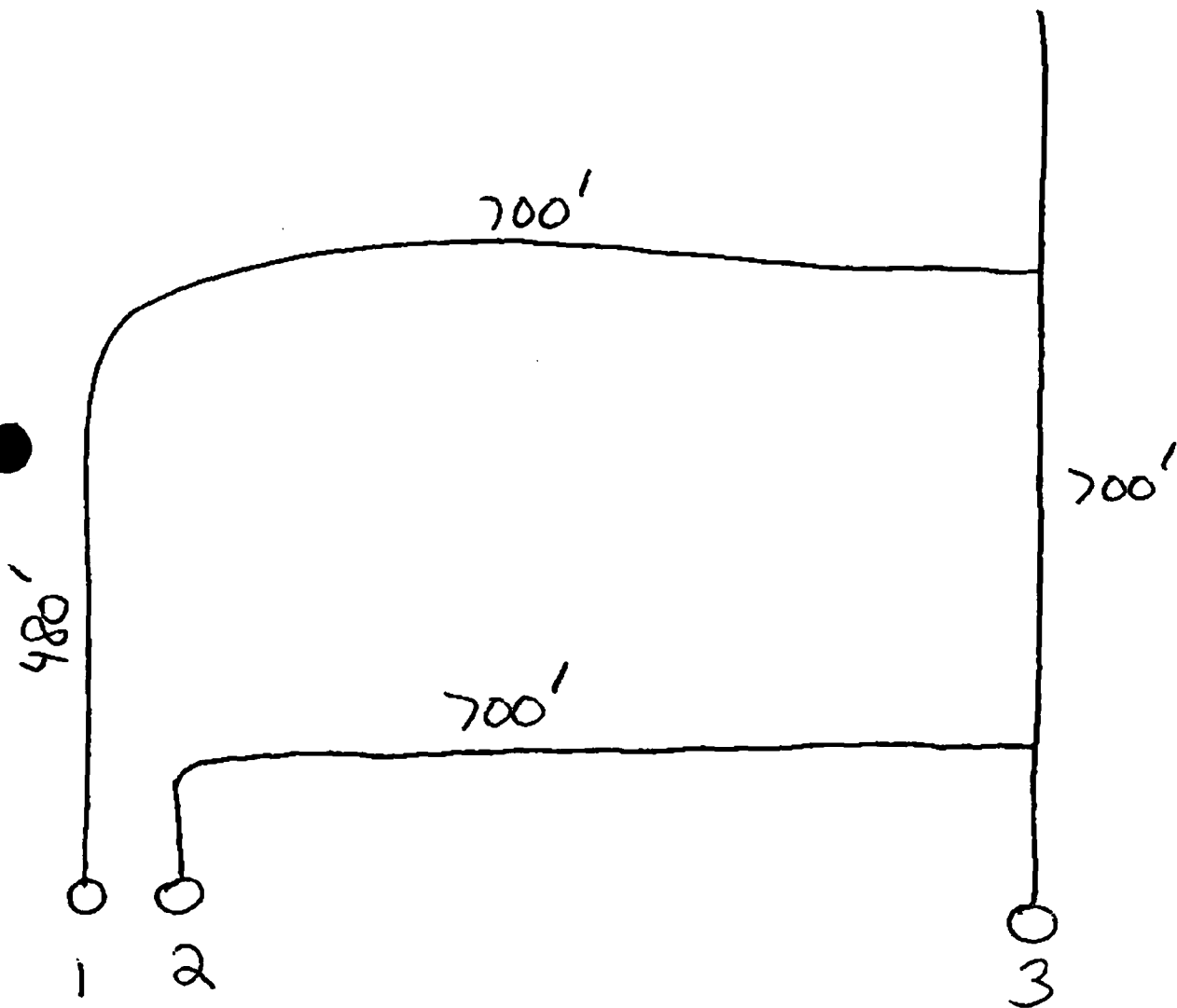
Florida Jetclean, Inc.
19019 Fern Meadow Loop
Lutz, FL 33558
(800) 226-8013



CO3 to CO1 = 860'
CO2 to CO4 = 600'

* Not to Scale

JEO Cell #3

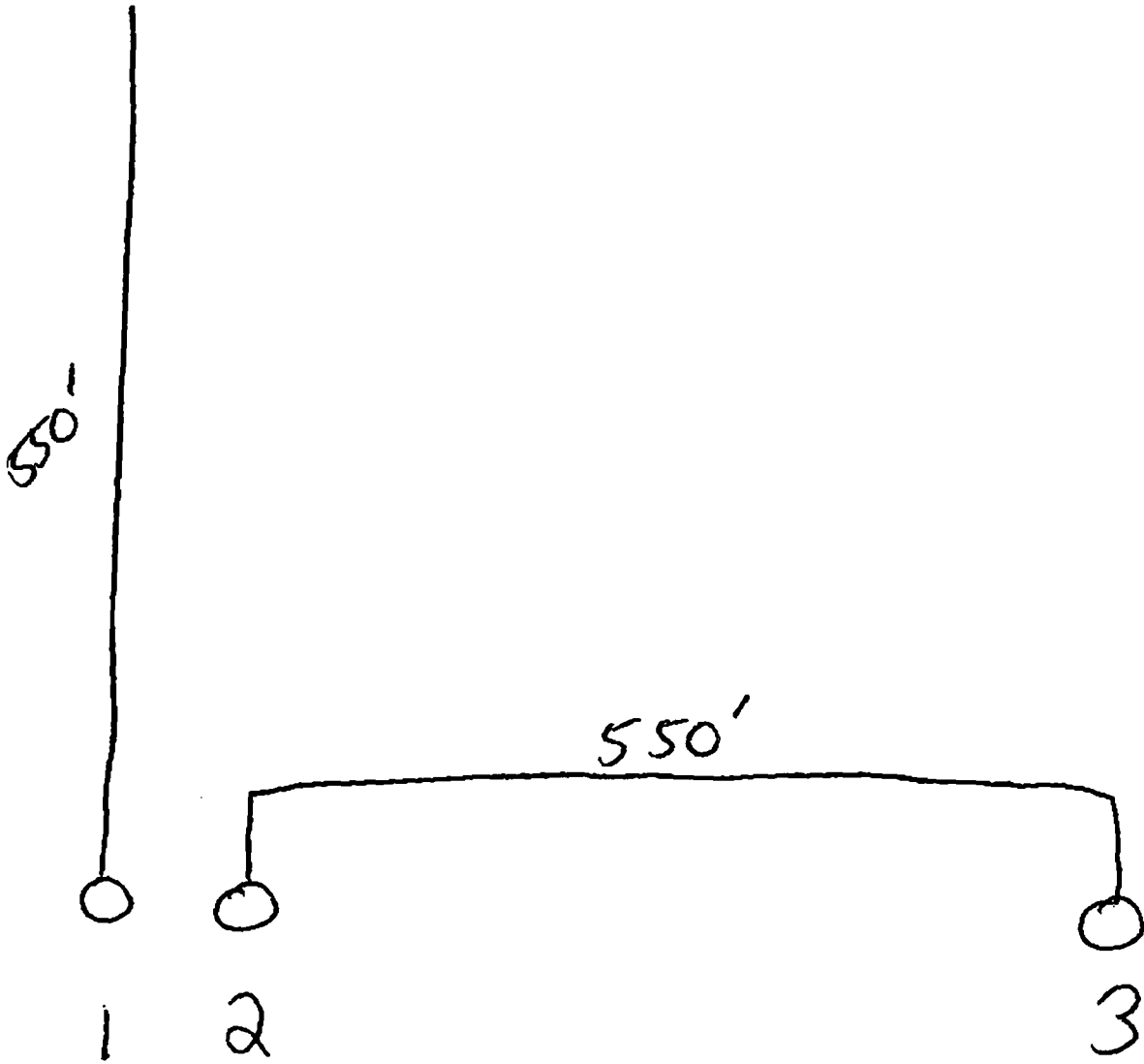


CO1 = 1,180'
CO2 = 700'
CO3 = 700'

Florida Jetclean, Inc.
19019 Fern Meadow Loop
Lutz, FL 33558
(800) 226-8013

*Not to Scale

JED Cell #4

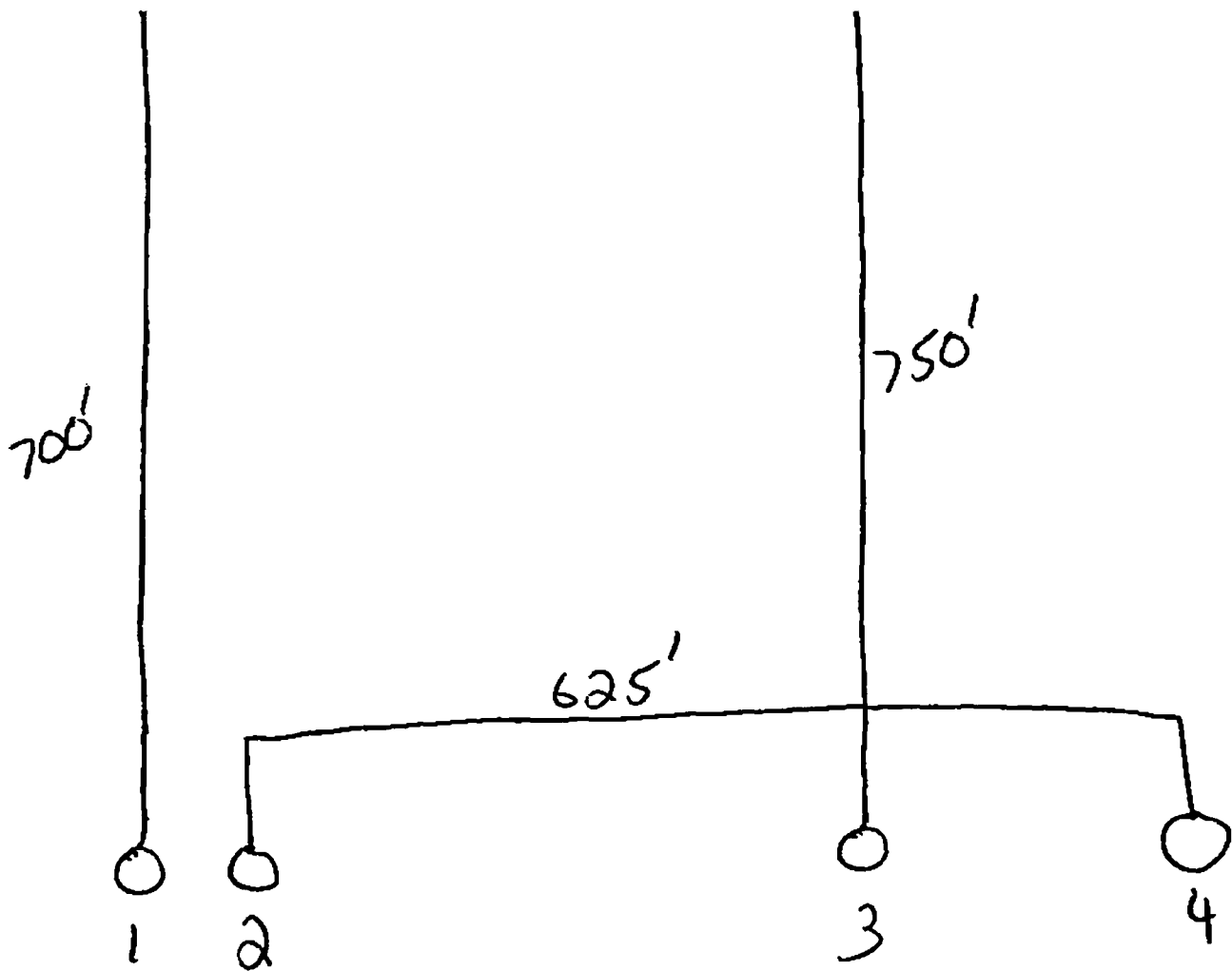


$$CO1 = 550'$$

$$CO2 \neq CO3 = 550'$$

* Not in Code

JED Cell #5



*Not to Scale

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TEL: 800-226-8013 FAX: 813-926-4616
FLORIDAJETCLEAN@TAMPABAY.RR.COM

ERC Waste Services - JED Landfill Cell 7 Expansion

Work Performed July 2010

Conducted By:
Florida Jetclean
800-226-8013

Poor Quality-Original

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
VIDEO PIPELINE INSPECTION
POUGHKEEPSA POINT REPAIRS
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19019 FERN MEADOW LOOP
LUTZ, FL 33558
TEL: 800-226-8013 FAX: 813-926-4616
FLORIDAJETCLEAN@TAMPABAY.RR.COM

DATE : 7/16/2010
TO : Jerry Pinder, Vaden Pollard – ERC
FROM : Ralph Calistri (floridajetclean@tampabay.rr.com)
SUBJECT : JED Landfill Cell 7 Expansion

Florida Jetclean completed the high-pressure water-jetting and explosion-proof video-inspection of the new Cell 7 leachate piping on 7/6/2010.

High-pressure Water-jetting:

As the below jetting log indicates, the new Cell 7 leachate piping was cleaned in its entirety via high-pressure water-jetting nozzle and were blockage free upon completion.

**JED LANDFILL – CELL 7 EXPANSION
LEACHATE SYSTEM JETTING LOG
JETTING PERFORMED BY FLORIDA JETCLEAN
JULY 2010**

<u>LOCATION</u>	<u>ACHIEVED DISTANCE (ft)</u>	<u>COMMENTS</u>
Cell 7 Collection	887'	Entire pipe cleaned.
Cell 7 Detection	887'	Entire pipe cleaned.

Explosion-proof Video-inspection:

After jetcleaning was completed the Cell 7 leachate collection piping was video-inspected using explosion-proof video-inspection equipment. All areas of the pipe viewed with the camera were in good condition with no defects noted. In any areas where the camera's lens was submerged under liquid, evidenced by orange video picture and obscured visibility, the ability of both the high-pressure water-jetting nozzle and the larger video-inspection camera to pass through those areas without resistance offers good evidence that those areas of the system are also in good working condition.

Please call us with questions or concerns.

Regards,

Ralph Calistri - Florida Jetclean

CCTV Surveys List for ERC

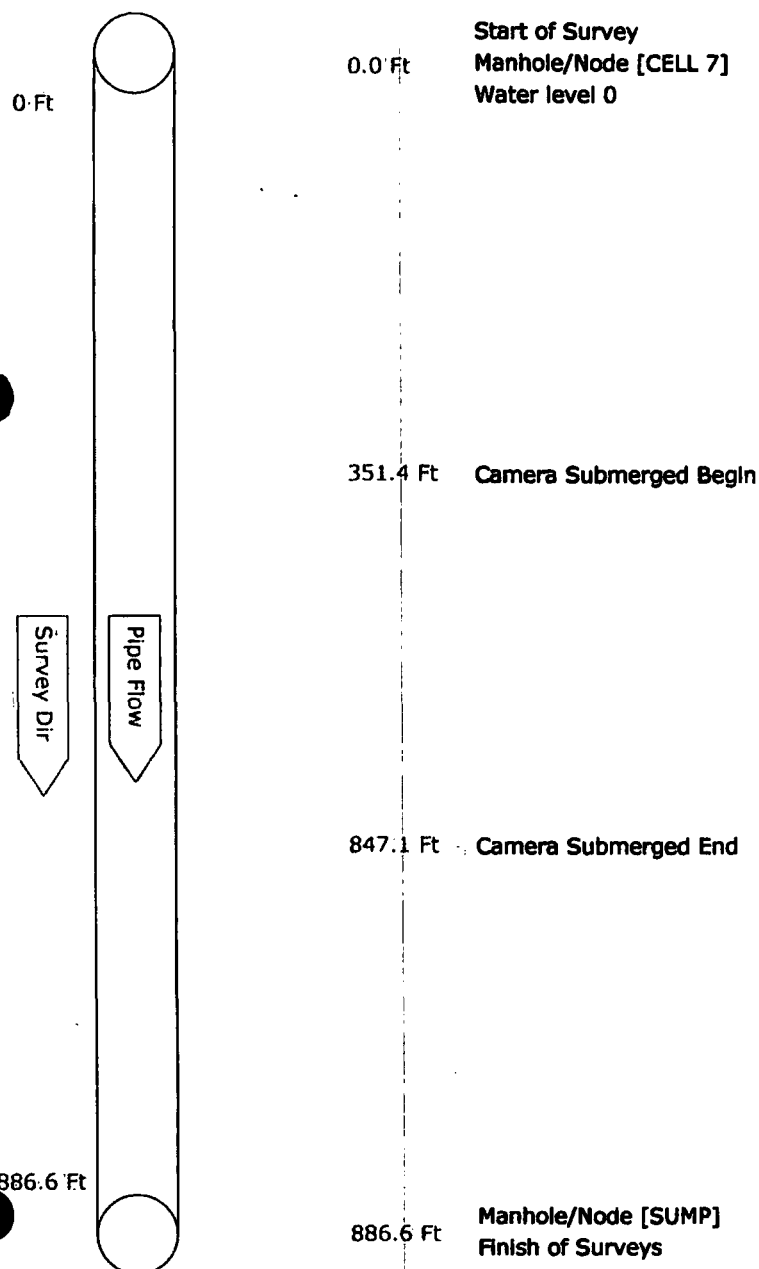
Number of surveys in this list is 1 as of Tuesday, July 06, 2010

Unit of measure: ft

Setup	Date	Street	Start MH	Finish MH	Dir	Size inch	Pre Clean	Vid Cassette	Scheduled Length	Surveyed Length
1	7/6/2010	CELL 7	CELL 7	SUMP	D	6	Y	1	886.6	886.6
Total Scheduled Length									886.6	
Total Length Surveyed										886.6

Pipe Graphic Report of PLR CELL 7 A for ERC

Work Order	Contract	Video 1	Setup 1
Facility	Operator BMN	Van Ref 2	Surveyed On 07/08/2010
Street Name CELL 7	City JED		
Location type Berm			
Surface			
Survey purpose Other (state in comments)	Weather Dry		
Pipe Use Other (state in comments)	Schedule length 886.6 Ft	From CELL 7	Depth Ft
Shape Circular	Size 6 by ins	To SUMP	Depth Ft
Material Other (state in comments)	Joint spacing Ft	Direction Downstream	
Lining	Year laid	Pre-clean Y	Last cleaned 7/8/2010
General note HDPE LEACHATE COLLECTION			
Location note JETTING=867'			



ATTACHMENT 2

Revised Operations Plan Replacement Pages

Thanksgiving

Christmas

New Year's Day

2.2.2 Processing Customers

Upon entering the site, all landfill users entering the disposal area will be required to stop at the weigh station. The scale master will record the weight and type of waste for each waste load brought to the landfill. All waste loads will be visually inspected for hazardous or other unauthorized wastes in accordance with the waste inspection plan, which is presented in Appendix B. Unauthorized waste includes yard trash which cannot be disposed in a Class I facility. Customers will be directed to the City of St. Cloud, Osceola County, or other registered/permitted yard trash processing facility. A load-checking program will be used at the landfill to detect and discourage attempts to dispose of unauthorized wastes at the landfill. The load checking program consists of the following:

- The Landfill Site Manager is to examine at least three random loads each week. The selected waste hauling vehicles are to be directed to discharge their loads at a designated location within the landfill for a detailed inspection of the discharged material for any hazardous waste.
- If any regulated hazardous wastes are identified by the random load inspection or otherwise discovered to be improperly deposited at the landfill, the Landfill Site Manager will promptly notify FDEP, and if known the person responsible for shipping the wastes to the landfill, and the generator of the wastes. The area where the hazardous wastes are found will be immediately cordoned off from public access and properly removed from the designated location/work face. If the generator or hauler cannot be identified, the landfill operator will assure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility.
- A record of information and observations gathered during each random waste load inspection will be maintained. This documentation will include: the date and time of inspection; load weight; names of the hauling firm and driver of the vehicle; vehicle license plate number; source of waste as indicated by the driver; and observations made by the inspector during the detailed inspection. The responsible inspector will sign each waste inspection record. The random waste load inspection documentation will be maintained at the landfill for a period of at least three years.

Vehicles will be directed to the appropriate disposal area by signs or other means. Verbal instructions will be given by facility personnel when necessary. The appropriate area depends on whether the waste is typical municipal solid waste, ~~yard waste~~, white goods, used tires, or waste that should be placed in a particular location for special handling.

4 ENVIRONMENTAL CONTROLS

This section presents the basic components of the environmental controls at the JED Class I landfill. The major components of this section are the Facility Inspection Plan, Facility Maintenance Plan, and the Facility Monitoring Plan. In this section, a discussion of each of these components is presented, including a discussion of groundwater and surface-water protection controls, leachate collection system (LCS), and surface water controls, where appropriate. The discussion also includes general facility controls, including initial, intermediate and final cover, and access roads.

4.1 Environmental Control Systems

The purpose and function of each of the major environmental control systems are described below. Specific construction and design details are presented in the construction documents, the closure plan, post-closure plan, and the design report with attached plans.

4.1.1 Leachate Containment and Control

The Class I landfill is equipped with a double-composite liner system, which directs any liquid entering the landfill that may have contacted refuse to an LCS. The LCS drains liquid collected on the primary liner into a sump. Leachate in the sump is pumped into an on-site storage ponds and trucked to the City of St. Cloud wastewater treatment plant (WWTP) for disposal or recirculated back into the lined landfill area in accordance with the procedures described in the Operation and Maintenance Plan for Leachate Recirculation provided in Appendix D. The onsite water truck will be used to recirculate leachate under the Surface Leachate Application method described in Appendix D. After each use of the water truck for leachate recirculation, one load of clean fresh water will be sprayed within the lined disposal boundary prior to using the water truck for dust control purposes outside of the disposal boundary limits. Quantities of leachate collected by the LCS will be recorded in gallons per day and maintained as part of the landfill operating record.

A recording rain gauge will be installed, operated, and maintained to record precipitation at the landfill. Precipitation records will be maintained as part of the landfill operating record and used to compare with leachate generation rates.

4.1.2 Surface Water Controls

The surface-water management system for the JED facility consists of a system of drainage swales to move storm water to either permanent dry retention basins or interim dry retention basin, depending on the stage of landfill construction. All dry retention basins are surrounded by an earth berm designed to contain all runoff from a 100-year storm

event. Where runoff must pass through a roadway, appropriately sized culverts will be installed.

4.2 Facility Inspection Plan

4.2.1 Leachate Collection System (LCS)

The LCS will be water pressure cleaned or inspected using a video camera after construction but prior to placement of any waste. The pump(s) will be tested in the sump to assure that the system operates properly. Deficiencies will be repaired prior to initial deposition of waste.

The LCS includes manholes, pumps, a leachate wet well and a force main. The LCS pumps will be removed and inspected every 2 years. This 2-year inspection will consist of pressure testing of the pump. Pumps located in active areas, or areas without final cover, will be inspected on a monthly basis to confirm normal operation. Additional inspection, preventative maintenance, and checking of the electrical components will be performed in a manner and frequency in accordance with manufacturer's recommendations. The leachate transmission manholes will be inspected weekly for accumulation of leachate in the manhole and to verify integrity of the force main.

4.2.2 Leachate Storage Facility

The exposed exterior of the polyethylene leachate storage ponds will be inspected weekly for leaks, deterioration, and maintenance deficiencies. The leachate level and overfill control equipment will also be inspected weekly to ensure it is in good working order. The leachate levels in the ponds are inspected and recorded on a daily basis.

If inspection reveals a storage container or equipment deficiency, leak, or any other deficiency that could result in failure of the storage system to contain the leachate, remedial measures will be taken immediately to eliminate the leak or correct the deficiency. Inspection reports will be maintained and made available to FDEP upon request for the lifetime of the leachate storage facility.

4.2.3 Surface Water Control System

Surface-water culverts may contain landfill gas. Prior to accessing piping, protective measures will be taken to avoid explosion(s), fire(s), and asphyxiation(s).

Drainage swales, inlets, structures, and the surface-water management areas will be visually inspected monthly or following storm events. The frequency of dry inspections may be modified as appropriate based on progressive experience with the landfill drainage system, however, in no case will inspections be less frequent than quarterly. Regardless of

the inspection frequency, the system will be inspected following each twenty-five year storm event (i.e., 9 inches of rain in 24 hour period) or greater storm event.

Drainage swales, inlets, and structures will be cleared of obstructing debris as soon as practical after a problem is identified. If channels become filled with an accumulation of debris or soil, cleaning may be required to restore original flow capacity.

Erosion control measures will be employed to correct any erosion that exposes waste or causes malfunction of the storm water management system. The control measures to repair erosion will be implemented within three days of occurrence. If the erosion cannot be corrected within seven days of the occurrence, a proposed correction schedule will be provided to FDEP.

4.2.4 Landfill Cover System

Areas that have received intermediate or final cover will be visually inspected periodically for signs of erosion, cracks and depressions due to settlement, and leachate seeps. Areas where waste or geosynthetics have been exposed by erosion will be filled and regraded to minimize any subsequent erosion. Significant depressions (1 ft or more) will be filled with soil, compacted, and regraded to promote positive drainage. If leachate seeps appear in the uncapped area of the landfill, the seep area will be excavated and backfilled with highly permeable material to promote seepage through the landfill. The intermediate cover will be reworked to seal the area.

4.2.5 Facility Inspection Schedule

Daily	Levels in leachate storage ponds
Weekly	Exterior of HDPE leachate storage containers and overfill control equipment
Monthly (Visual)	Leachate collection pumps Surface-water management system Cover in completed areas Leachate force main
Quarterly	Surface-water control system (or after a 25 year storm event)
Annually	Surface-water control system pipes and structures Topographic survey of landfill
Bi-Annually (every 2 years)	LCS pumps and pipelines Leachate collection and detection flow meters, valves, and risers

4.3 Facility Maintenance Plan

In conjunction with the inspection plan, a regular schedule of maintenance will be prepared and implemented. This section refers specifically to the maintenance of the environmental controls installed at the landfill. It does not include the regularly scheduled maintenance of landfill roads or equipment such as vehicles, scales, or buildings. Maintenance requirements in this section refer primarily to the mechanical equipment associated with environmental controls. In addition, each piece of equipment will be inspected and maintained in accordance with all manufacturers recommendations.

4.3.1 Leachate Collection System

The electrical controls, pumps, flow meters, valves, and couplings will be maintained on at least a bi-annual basis (i.e., every two years). In addition, parts that tend to wear out on a regular basis, including bearings on pumps, seals, and gaskets, will be replaced during regular maintenance. After replacing maintained parts, the equipment will be tested to assure proper performance.

4.3.2 Surface-Water Control System

The surface-water control system does not include mechanical systems that require regular maintenance, however, the system is to be inspected on a monthly basis or following storm events. The swales, drainage structures, inlets, and pipelines will be repaired and maintained as soon as practical following identification of any damage or deficiencies. This includes repair of lined and unlined ditches in the active landfilling areas, on intermediate and final cover and diversion ditches around the landfill.

4.3.3 Final Cover Maintenance

Maintenance of the final cover includes all the components of the cap, i.e., the geomembrane, drainage geocomposite, protective soil layer and vegetation. The periodic inspections will help in assessing the final cover condition to verify the integrity of the cap (e.g., check for cracking of protective cover layer due to differential settlement or erosion and exposure of cover geomembrane/geocomposite), and the condition of the vegetation.

Areas of ponding or substantial differential settlement (1ft or more) will be checked to determine the cause. If a significant problem with the cover, vegetation, perimeter berms, erosion, or drainage structures is identified, work orders will be issued to correct the problems. Repair work shall be initiated as quickly as possible.

The timing of the repairs will be dependent on the nature of the repair. Minor filling to eliminate ponding, and the reseeding and fertilizing disturbed or problem areas will be accomplished with little delay. Major repairs, such as extreme erosion, significant local

instability of slopes, or substantial settlement, might require geotechnical evaluation and design prior to implementing final repairs. In some cases, the need for analysis and design of the severely damaged areas will delay repair activities.

If repairs are necessary to the cover system swales, inlets, or downdrains to correct the runoff containment system deficiencies, the repairs will be undertaken prior to start of the wet weather season.

Repair of damages to the cover system resulting from erosion and differential settlement may include locally removing geosynthetics and backfilling depressions beneath the geomembrane, repairing geosynthetics, backfilling soil layers, and revegetating disturbed areas. Additional drainage facilities may be provided to prevent future erosion.

4.4 Water Quality Monitoring Plan

The groundwater and surface water quality monitoring plan for the JED facility is presented in Appendix E of the 2011 Solid Waste Renewal Permit Application. The leachate monitoring plan for the JED facility is presented in Appendix N of the 2006 Solid Waste Renewal Permit Application.

4.5 Landfill Gas Monitoring Plan

The landfill gas monitoring plan proposed for the JED facility will allow early detection of the lateral migration of landfill gas and verification of the landfill gas management system performance in accordance with the requirements of Section 62-701.530(1) FAC. The following types of landfill gas monitoring will be performed at the site: (i) monitoring for landfill gas in on-site buildings; (ii) monitoring for landfill gas migration along the perimeter berm; and (iii) monitoring at the property boundary for objectionable odors. The following subsections provide a description of the gas monitoring that will be performed at the facility.

4.5.1 Monitoring of On-Site Buildings

The on-site buildings will be located in the entrance area of the landfill. All buildings located within 500 feet of the waste limits on the property will be routinely monitored for methane. Continuous monitoring devices used within on-site buildings will be located in work areas, near any penetrations or cracks in building foundation, or at points where methane might enter the building.

If methane is detected at a concentration greater than 25 percent of the lower explosive limit (LEL) in any on-site building, Omni will perform the activities described in Section 4.5.4.

4.5.2 Monitoring for Landfill Gas Along Property Boundary

Gas monitoring probes along the property boundary (or the storm water berm where property boundary is far away from the waste limits) will be used to detect lateral migration of landfill gases. The gas monitoring probes located around the perimeter of the site will be monitored quarterly for methane. Should the results of the quarterly monitoring indicate lateral migration of landfill gases, Omni will install additional gas monitoring probes, as needed, in the area(s) of concern and/or perform additional monitoring. If methane is detected at a concentration greater than the LEL in the gas monitoring probes at the property boundary, Omni will perform the activities described in Section 4.5.4 below.

4.5.3 Monitoring for Objectionable Odors at the Property Boundary

Omni's on-site personnel will operate the facility to control objectionable odors and will perform monitoring for objectionable odors at the property boundary on a regular basis. It should be noted that no off-site occupied structures currently exist near the property boundary. Upon notification from the FDEP that objectionable odors have been confirmed beyond the property boundary, Omni will:

- Immediately take steps to reduce the objectionable odors. Such steps may include applying or increasing initial cover, reducing the size of the working face, and ceasing operations in the areas where odors have been detected;
- Submit to the Department for approval an odor remediation plan for the gas or odor releases. The plan shall describe the nature and extent of the problem and the proposed long-term remedy. The remedy shall be initiated within 30 days of approval;
- Implement a routine odor monitoring program to determine the timing and extent of any off-site odors, and to evaluate the effectiveness of the odor remediation plan.

4.5.4 Detecting Exceedances of the Regulations

Should the results of the gas monitoring indicate that the requirements of Section 62-70.530(1) have been exceeded at the facility, Omni will:

- immediately take all necessary steps to ensure protection of human health and notify the FDEP;
- within 7 days of an observed exceedance, Omni will submit to the FDEP for approval, a plan to remediate the landfill gas migration; and

- within 60 days of an observed exceedance, Omni will complete the remediation, unless otherwise directed by FDEP.

4.6 Landfill Active Area Controls

4.6.1 Litter Control

Maintaining proper litter control is essential to the operation of a landfill. When working in areas below natural grade, litter is less likely to escape than when working above natural grade. Litter control procedures for the landfill are discussed below.

4.6.1.1 Prevention of Litter on the Working Face

Litter will be minimized as follows:

- Following proper techniques at the working face may prevent a considerable amount of potential litter by reducing the amount of refuse exposed to the wind. Where possible, the exposed face of the cell will be oriented into the wind. This will cause the wind to blow any loose litter back into the working face and helps keep waste away from the undercarriages of unloading vehicles, which may track the waste along the public roadway as they exit the facility. The compacted waste already on the face helps trap litter.
- When top discharging, refuse will be placed as usual and spread downward. When possible, the exposed face of the fill will be oriented away from the wind for the same reasons bottom discharging is oriented into the wind.
- Compacted waste will be covered as soon as practical to minimize blowing litter.

4.6.1.2 Control of Litter with Litter Fences

Litter that escapes from the working face of the fill area may be controlled by litter fences. Movable/permanent fences may be positioned near the working face as wind and fill operations change. Permanent litter fences may also be placed around the perimeter of the fill areas for additional litter control.

4.6.2 Buffer Maintenance

Litter may occur even with proper litter controls. The following clean-up and maintenance procedures will be followed on a routine basis to maintain the buffer areas:

- Litter clean-up from along fences and buffer vegetation: Litter will be removed from and along litter fences and vegetation as necessary. Litter will not be allowed to accumulate in buffer vegetation.

- Clean-up along on-site roads and buffer areas: Litter occurring along on-site roads and in buffers will not be allowed to accumulate. This litter will be cleaned up as necessary.
- Clean-up at entrance area and entrance road: The site entrance and the road leading to the entrance (¼ mile each direction) will be inspected daily. These locations will be cleared of litter as necessary.
- Vegetation will be maintained and supplemented as necessary in order to provide an adequate visual screen.

4.6.3 Dust Control

Dust control will be practiced during operation of the landfill by the application of water sprays from a water tank truck. The frequency of application of water for dust control will depend on site conditions and specific operation being performed. When necessary, water will be sprinkled on all heavily used roads. The main access road will be regularly sprayed to control dust when required.

4.6.4 Vector Control

Vectors, animals, or insects will be minimized. Maintaining the working face as narrow as possible, providing initial cover on exposed areas, and eliminating water ponding are the primary safeguards against vector problems. Well-compacted wastes and cover material effectively prevent vectors emerging from or burrowing into wastes. Inspections of the waste tire storage area will be performed as necessary to monitor the area for the presence of rodents and mosquitoes.

If problems with rodents or insects occur, monitoring and surveys for vectors will be conducted to verify the effectiveness or identify and implement improved vector control practices, including the use of traps and insecticides.

4.6.5 Noise Control

All equipment powered by internal combustion engines will have mufflers installed and maintained in good repair. Screening berms will also be used, when possible, to deflect sound upward.

4.6.6 Recordkeeping

An operating record will be maintained at the site including all records, reports, analytical results, demonstrations and notifications; any construction, operation, and closure permits, including all modifications to those permits, issued by the FDEP, along with the engineering drawings and supporting information; as well as training verifications. This

record will be kept with the operation plan at or near the landfill facility, or in an alternate location designated in the operating permit which is readily accessible to landfill operators. The operating record will be available for inspection at reasonable times by the FDEP and maintained for the design period of the landfill.

As part of the operating record, waste records will be maintained. These waste records will indicate the amount of each type of solid waste received each day, and the reporting and record keeping procedures outlined in the Auto Shredder Residual Recycling Plan (Appendix F) and Waste Tire Storage and Processing Plan (Appendix G). Waste reports, summarizing the waste records will be compiled monthly and copies will be provided to FDEP annually. The waste records will be kept with the operation plan at the landfill and will be available for inspection at reasonable times by the FDEP. Weight receipt records will be kept for a minimum of five years.

The operating record will also include the information and observations resulting from each random inspection of a waste load conducted as part of the load checking program as described previously in Section 2.2.2.

The operating record will also include:

- the quantities of leachate collected by the primary leachate collection and removal system, and the secondary leachate detection and removal system, in gallons per day; and
- a record of the daily precipitation at the landfill based on the rain gauge installed, operated and maintained at the landfill.

This data will be used to calculate the monthly leachate generation rates expressed as a percentage of the monthly precipitation.

In addition, the operating record will also include the following:

- records of all information used to develop or support the permit applications and any supplemental information required;
- records of all monthly information, including calibration and maintenance records, and water quality records; and
- an annual estimate of the remaining life and capacity in cubic yards of the existing, constructed landfill and remaining life and capacity of other permitted areas not yet constructed. This estimate will be reported annually to FDEP.

The operating records will be maintained at the landfill throughout the design life of the landfill. Records that are more than five years old which are required to be retained may

be archived, provided that the landfill operator can retrieve them for inspection within seven days.

EMERGENCY RESPONSE TELEPHONE NUMBERS

Fire Department 911
(407) 343 – 7000 Non-Emergency

Sheriff's Office 911
(407) 348 – 2222 Non-Emergency

Rescue Squad 911
(407) 343 – 7000 Non-Emergency

Hospital (Florida Hospital) (407) 846 – 4343

County Manager (407) 343 – 2380

Florida "Hot Line" (904) 488-1320

Florida Department of Environmental Protection Business Hours (407) ~~894-3328~~897-4100

Central District

Central District Solid Waste Section

After Hours (407) ~~894-7555~~897-4304

Gloria Depradine

e-mail: Gloria.depradine@floridadep.net

OPERATION AND MAINTENANCE PLAN FOR LEACHATE RECIRCULATION AT THE JED SOLID WASTE MANAGEMENT FACILITY

3. CONTINGENCY

Contingency plans with regards to leachate recirculation include operational procedures to be followed during severe weather events, fire or explosions, and power outages.

3.1 SEVERE WEATHER CONDITIONS

If severe weather conditions, such as hurricanes, are imminent, the operator shall cease leachate recirculation operations.

Following the severe weather event, the operator shall perform the following procedures:

- Inspect the leachate recirculation system and complete the inspection form.
- Upon confirming that the system is in operable condition, proceed with leachate recirculation operations by opening the valves to allow flow to the injection pipelines and for surface applications proceed with leachate spraying. For leachate injection pipelines, the system is deemed to be in operable condition if a visual inspection of the system does not reveal any broken or damaged pumps, piping, valves, or fittings. Once the system is restarted, the system should be visually inspected again to ensure that there is no leakage due to unseen damage.
- If the inspection of the leachate recirculation system indicates damage that could impact proper leachate recirculation operation, the leachate shall be trucked to an alternative facility, as necessary, until repairs can be completed.

3.2 FIRE OR EXPLOSION

In the event of a fire or explosion at the landfill, the leachate recirculation operations shall be shut down until the fire has been successfully extinguished or it has been verified that there is no further danger of explosion.

3.3 EMERGENCY CONTACTS

In the event of an emergency, the list of contacts includes the following:

Emergencies:	911
Fire Services	(407) 348-2222
Rescue Squad	(407) 343-7000
Hospital	(407) 846-4343
JED Solid Waste Management Facility Site Manager:	(407) 891-3720
Florida "Hot Line"	(904) 488-1320
Florida Department Environmental Protection (FDEP)	(407) 894-7555 (407) 897-4100
FDEP Solid Waste Division	(407) 893-3328 (407) 897-4304

ATTACHMENT 3

Revised Sheets of Lateral Expansion Permit Drawings

Sealed Large Format

Drawings

Inserted Separately

ATTACHMENT 4

Annual Fire Safety Survey

J.E.D. SOLID WASTE MANGEMENT FACILITY WASTE TIRE STORAGE FIRE SAFETY SURVEY

OMNI WASTE OF OSCEOLA COUNTY, LLC.

501 OMNI WAY

ST. CLOUD

DATE of INSPECTION: January 18th 2012

In accordance with Rule 62-711.540(1) (d) ... a fire safety survey will be conducted at least annually and will be included with the next quarterly report submitted to the FEDEP.

Volume maximum storage per operation plan appendix G:

- ✓ One storage pile 50' W X 100' L X 10' H of whole waste tires
- ✓ One storage pile 50' W X 100' L X 10' H of processed tires
- ✓ One 40-cy roll-off of residuals
- ✓ Minimum 50' W fire lane maintained around each outdoor waste pile
- ✓ The area is kept free of grass, underbrush, and other potentially flammable vegetation at all times

Fire Prevention equipment located at the site pile:

- ✓ One 2A; 10BC fire extinguisher
- ✓ One 2.5 gallon (10L) water extinguisher
- ✓ One 10 ft. long pike pole
- ✓ One rigid rake
- ✓ One round point shovel
- ✓ One square point shovel

Each point checked is in accordance with rule 62-711.540(1) (d). Any point not checked will be noted below with action plan.

NOTES: Whole waste tire pile exceeds current rule by approx. 10' X 100' X 5'. Equipment failure has caused a backup of the storage pile with the current action plan being the movement of another machine from TAFT to begin processing immediately.

Inspected by:


Sean Glowa

District Safety Manager

321-202-8907

ATTACHMENT 5

Revised Cost Estimate for Cells 1 through 8



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form # 62-701.900(28), F.A.C.

Form Title: Closure Cost Estimating Form
For Solid Waste Facilities

Effective Date: January 6, 2010

Incorporated in Rule 62-701.630(3), F.A.C.

CLOSURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES

Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: J.E.D. Solid Waste Management Facility WACS ID: 89544
 Permit Application or Consent Order No.: SC49 & SO49-199726-017 & 005 Expiration Date: 8/16/2016 - 1/11/2012
 Facility Address: 1501 Omni Way, Saint Cloud, Florida 34773
 Permittee or Owner/Operator: Omni Waste of Osceola County, LLC (a wholly owned subsidiary of WSI, Inc.)
 Mailing Address: 1501 Omni Way, Saint Cloud, Florida 34773

Latitude: 28° 03' 32" Longitude: 81° 05' 46"
 Coordinate Method: DGPS Datum: WGS84
 Collected by: Johnston's Surveying Company/Affiliation: Johnston's Surveying

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Active Life of Unit From Date of Initial Receipt of Waste	If active: Remaining life of unit	If closed: Date last waste received	If closed: Official date of closing
Phase 1/Cells 1-4	27.9	Jan 2004	4 to 8 years	1 to 2 years		
Phase 2/Cells 5-7	35.7	Mar 2009	3 to 6 years	1 to 2 years		
Phase 3/Cell 8	11.3	N/A	1 to 2 years	1 to 2 years		

Total disposal unit acreage included in this estimate: Closure: 74.9 Long-Term Care: 100

Note: The disposal unit acreage of 11.9 acres represents the two-dimensional area. The three-dimensional area - used in the calculations - is equal to 12.3 acres.

Facility type: ☒ Class I ☐ Class III ☐ C&D Debris Disposal
 (Check all that apply) ☐ Other: _____

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check type)

- ☐ Letter of Credit* ☒ Insurance Certificate ☐ Escrow Account
☐ Performance Bond* ☐ Financial Test ☐ Form 29 (FA Deferral)
☐ Guarantee Bond* ☐ Trust Fund Agreement

* - Indicates mechanisms that require the use of a Standby Trust Fund Agreement

Northwest District
160 Government Center
Pensacola, FL 32502-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-807-3300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
13051 N. Telecom Pky.
Tempe Terrace, FL 33637
813-632-7600

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
239-332-6975

Southeast District
400 N. Congress Ave., Ste. 200
West Palm Beach, FL 33401
561-681-6800

III. ESTIMATE ADJUSTMENT

40 CFR Part 264 Subpart H as adopted by reference in Rule 62-701.630, Florida Administrative Code, (F.A.C.) sets forth the method of a cost estimate adjustment. Cost estimates may be adjusted by using an inflation factor or by recalculating the maximum costs of closure in current dollars. Select one of the methods of cost estimate adjustment below.

☐ (a) Inflation Factor Adjustment

☒ (b) Recalculated or New Cost Estimates

Inflation adjustment using an inflation factor may only be made when a Department approved closure cost estimate exists and no changes have occurred in the facility operation which would necessitate modification to the closure plan. The inflation factor is derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year. The inflation factor may also be obtained from the Solid Waste website www.dep.state.fl.us/waste/categories/swfr or call the Financial Coordinator at (850) 245-8706.

This adjustment is based on the Department approved closing cost estimate dated: _____

Latest Department Approved
Closing Cost Estimate:

Current Year Inflation
Factor, *e.g.* 1.02

Inflation Adjusted Closing
Cost Estimate:

×

=

This adjustment is based on the Department approved long-term care cost estimate dated: _____

Latest Department Approved
Annual Long-Term Care
Cost Estimate:

Current Year Inflation
Factor, *e.g.* 1.02

Inflation Adjusted Annual
Long-Term Care Cost
Estimate:

×

=

Number of Years of Long Term Care Remaining:

×

Inflation Adjusted Long-Term Care Cost Estimate:

=

Signature by: ☐ Owner/Operator

☒ Engineer

(check what applies)

Signature

Address

Name & Title

City, State, Zip Code

Date

E-Mail Address

Telephone Number

IV. ESTIMATED CLOSING COST (check what applies)

Recalculated Cost Estimate

☐ **New Facility Cost Estimate**

Notes: 1. Cost estimates for the time period when the extent and manner of landfill operation makes closing most exp

2. Cost estimate must be certified by a professional engineer.

3. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.

4. In some cases, a price quote in support of individual item estimates may be required.

Description	Unit	Number of Units	Cost / Unit	Total Cost
1. Proposed Monitoring Wells (Do not include wells already in existence.)				
	EA			
			Subtotal Proposed Monitoring Wells:	
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	CY			
Placement and Spreading	CY	126,243	\$4.51	\$569,355.93
Compaction	CY			
Off-Site Material	CY			
Delivery	CY			
			Subtotal Slope and Fill:	\$569,355.93
3. Cover Material (Barrier Layer):				
Off-Site Clay	CY			
Synthetics - 40 mil	SY	378,730	\$3.51	\$1,329,342.30
Synthetics - GCL	SY			
Synthetics - Geonet	SY			
Synthetics - Other (explain)	SY	333,476	\$3.87	\$1,290,552.12
Geocomposite Drainage Layer			Subtotal Cover Material:	\$2,619,894.42
4. Top Soil Cover:				
Off-Site Material	CY			
Delivery	CY			
Spread	CY	189,365	\$4.54	\$859,717.10
			Subtotal Top Soil Cover:	\$859,717.10
5. Vegetative Layer				
Sodding	SY	378,730	\$1.23	\$465,837.90
Hydroseeding	AC			
Fertilizer	AC	78.25	\$1,562.00	\$122,226.50
Mulch	AC			
Other (explain)	SY	63,121.7	\$4.54	\$286,572.52
Vegetative soil cover (6-in thick layer)			Subtotal Vegetative Layer:	\$874,636.92
6. Stormwater Control System:				
Earthwork	CY	23,884	\$4.54	\$108,433.36
Grading	SY			
Piping	LF	37,250	\$10.83	\$403,417.50
Ditches	LF			
Berms	LF			
Control Structures	EA			
Other (explain) "Wye" connection	EA	72	\$2,246.56	\$161,752.32
inlet structures			Subtotal Stormwater Control System:	\$673,603.18

Description	Unit	Number of Units	Cost / Unit	Total Cost
7. Passive Gas Control:				
Wells	EA	41	\$8,775.19	\$359,782.79
Pipe and Fittings	LF	14,507	\$48.57	\$704,604.99
Monitoring Probes	EA			
NSPS/Title V requirements	LS	1		
Subtotal Passive Gas Control:				\$1,064,387.78
8. Active Gas Extraction Control:				
Traps	EA	2	\$6,700.00	\$13,400.00
Sumps	EA			
Flare Assembly	EA			
Flame Arrestor	EA			
Mist Eliminator	EA			
Flow Meter	EA			
Blowers	EA			
Collection System	LF			
Other (explain) gas flare station	EA	1	\$318,970.79	\$318,970.79
Subtotal Active Gas Extraction Control:				\$332,370.79
9. Security System:				
Fencing	LF			
Gate(s)	EA			
Sign(s)	EA			
Subtotal Security System:				
10. Engineering:				
Closure Plan Report	LS	1	\$15,000.00	\$15,000.00
Certified Engineering Drawings	LS	1		
NSPS/Title V Air Permit	LS	1		
Final Survey	LS	1	\$136,937.50	\$136,937.50
Certification of Closure	LS	1	\$10,000.00	\$10,000.00
Other (explain)				
Subtotal Engineering:				\$161,937.50

Description	Hours	Cost / Hour	Hours	Cost / Hour	Total Cost
11. Professional Services					
	<u>Contract Management</u>		<u>Quality Assurance</u>		
P.E. Supervisor					
On-Site Engineer					
Office Engineer					
On-Site Technician					
Other (explain)	1	\$214,677	1	\$500,913	\$715,590.00

Description	Unit	Number of Units	Cost / Unit	Total Cost
Quality Assurance Testing	LS	1	\$50,091.30	\$50,091.30
Subtotal Professional Services:				\$765,681.30

Subtotal of 1-11 Above: \$7,921,584.92

12. Contingency 5 % of Subtotal of 1-11 Above \$396,079.25

Subtotal Contingency: \$396,079.25

Estimated Closing Cost Subtotal: \$8,317,664.16

Description	Total Cost
13. Site Specific Costs	
Mobilization	<u> </u>
Waste Tire Facility	<u> </u>
Materials Recovery Facility	<u> </u>
Special Wastes	<u> </u>
Leachate Management System Modification	<u> </u>
Other (explain) <u>see financial assurance</u>	<u>\$748,735.13</u>
<u>notes</u>	
Subtotal Site Specific Costs:	<u>\$748,735.13</u>

TOTAL ESTIMATED CLOSING COSTS (\$): \$9,066,399.29

V. ANNUAL COST FOR LONG-TERM CARE

See 62-701.600(1)a.1., 62-701.620(1), 62-701.630(3)a. and 62-701.730(11)b. F.A.C. for required term length. For landfills certified closed and Department accepted, enter the remaining long-term care length as "Other" and provide years remaining.

(Check Term Length) ☐ 5 Years ☐ 20 Years ☒ 30 Years ☐ Other, ___ Years

Notes: 1. Cost estimates must be certified by a professional engineer.

2. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.

3. In some cases, a price quote in support of individual item estimates may be required.

All items must be addressed. Attach a detailed explanation for all entries left blank.

Description	Sampling Frequency (Events / Year)	Number of Wells	(Cost / Well) / Event	Annual Cost
1. Groundwater Monitoring [62-701.510(6), and (8)(a)]				
Monthly	12			
Quarterly	4			
Semi-Annually	2	33	\$772.73	\$51,000.18
Annually	1			
Subtotal Groundwater Monitoring:				\$51,000.18
2. Surface Water Monitoring [62-701.510(4), and (8)(b)]				
Monthly	12			
Quarterly	4			
Semi-Annually	2	2	\$325.00	\$1,300.00
Annually	1			
Subtotal Surface Water Monitoring:				\$1,300.00
3. Gas Monitoring [62-701.400(10)]				
Monthly	12			
Quarterly	4	1	\$670.00	\$2,680.00
Semi-Annually	2	1	\$7,500.00	\$15,000.00
Annually	1	1	\$12,700.00	\$12,700.00
Subtotal Gas Monitoring:				\$30,380.00
4. Leachate Monitoring [62-701.510(5), (6)(b) and 62-701.510(8)c]				
Monthly	12			
Quarterly	4			
Semi-Annually	2			
Annually	1	8	\$926.00	\$7,408.00
Other (explain) <u>Leachate</u>	1	1	\$1,050.00	\$1,050.00
Subtotal Leachate Monitoring:				\$8,458.00

ponds

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. Leachate Collection/Treatment Systems Maintenance				
<u>Maintenance</u>				
Collection Pipes	LF			
Sumps, Traps	EA	8	\$858.63	\$6,869.04
Lift Stations	EA			
Cleaning	LS	1	\$926.66	\$926.66
Tanks	EA			

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. (continued)				
<u>Impoundments</u>				
Liner Repair	SY	371	\$3.54	\$1,313.34
Sludge Removal	CY			
<u>Aeration Systems</u>				
Floating Aerators	EA	1	\$250.00	\$250.00
Spray Aerators	EA			
<u>Disposal</u>				
Off-site (Includes transportation and disposal)	1000 gallon	4	\$40.00	\$160.00
Subtotal Leachate Collection / Treatment Systems Maintenance:				\$9,519.04
6. Groundwater Monitoring Well Maintenance				
Monitoring Wells	LF			
Replacement	EA	3	\$130.94	\$392.82
Abandonment	EA	3	\$29.11	\$87.33
Subtotal Groundwater Monitoring Well Maintenance:				\$480.15
7. Gas System Maintenance				
Piping, Vents	LF	50	\$50.00	\$2,500.00
Blowers	EA	1	\$2,500.00	\$2,500.00
Flaring Units	EA			
Meters, Valves	EA			
Compressors	EA			
Flame Arrestors	EA			
Operation	LS	1	\$5,800.00	\$5,800.00
Subtotal Gas System Maintenance:				\$10,800.00
8. Landscape Maintenance				
Mowing	AC	100	\$240.00	\$24,000.00
Fertilizer	AC			
Subtotal Landscape Maintenance:				\$24,000.00
9. Erosion Control and Cover Maintenance				
Sodding	SY	1,210	\$1.23	\$1,488.30
Regrading	AC			
Liner Repair	SY	1	\$2,500.00	\$2,500.00
Clay	CY			
Subtotal Erosion Control and Cover Maintenance:				\$3,988.30
10. Storm Water Management System Maintenance				
Conveyance Maintenance	LS	1	\$2,500.00	\$2,500.00
Subtotal Storm Water Management System Maintenance:				\$2,500.00
11. Security System Maintenance				
Fences	LS	1	\$350.00	\$350.00
Gate(s)	EA	1	\$250.00	\$250.00
Sign(s)	EA	1	\$20.00	\$20.00
Subtotal Security System Maintenance:				\$620.00

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
12. Utilities	LS	1	\$77,105.96	\$77,105.96
Subtotal Utilities:				\$77,105.96

13. Leachate Collection/Treatment Systems Operation

Operation

P.E. Supervisor	HR			
On-Site Engineer	HR			
Office Engineer	HR			
OnSite Technician	HR	156	\$60.00	\$9,360.00
Materials	LS	1	\$500.00	\$500.00
Subtotal Leachate Collection/Treatment Systems Operation:				\$9,860.00

14. Administrative

P.E. Supervisor	HR	8	\$150.00	\$1,200.00
On-Site Engineer	HR	8	\$120.00	\$960.00
Office Engineer	HR			
OnSite Technician	HR	8	\$65.00	\$520.00
Other Administrative/overhead	LS	1	\$9,600.00	\$9,600.00
Subtotal Administrative:				\$12,280.00

Subtotal of 1-14 Above: \$242,291.63

15. Contingency	5	% of Subtotal of 1-14 Above		\$12,114.58
Subtotal Contingency:				\$12,114.58

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
16. Site Specific Costs				
Subtotal Site Specific Costs:				

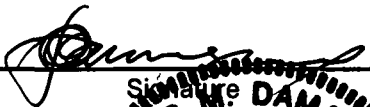
ANNUAL LONG-TERM CARE COST (\$ / YEAR): \$254,406.21

Number of Years of Long-Term Care: 30

TOTAL LONG-TERM CARE COST (\$): \$7,632,186.34

VI. CERTIFICATION BY ENGINEER

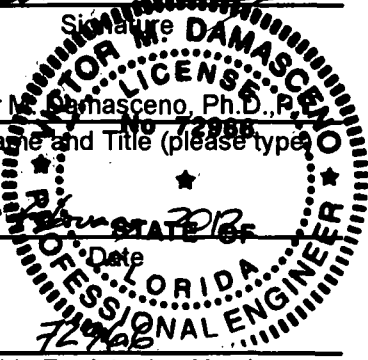
This is to certify that the Cost Estimates pertaining to the engineering features of this solid waste management facility have been examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, the Cost Estimates are a true, correct and complete representation of the financial liabilities for closing and/or long-term care of the facility and comply with the requirements of Rule 62-701.630 F.A.C. and all other Department of Environmental Protection rules, and statutes of the State of Florida. It is understood that the Cost Estimates shall be submitted to the Department annually, revised or adjusted as required by Rule 62-701.630(4), F.A.C.



Victor M. Damasceno, Ph.D., P.E.
Name and Title (please type)

8/2/08
Date

72986
Florida Registration Number
(please affix seal)



13101 Telecom Drive, Suite 120

Mailing Address

Temple Terrace, Florida 33637

City, State, Zip Code

VDamasceno@Geosyntec.com

E-Mail address (if available)

813-558-0990

Telephone Number

VII. SIGNATURE BY OWNER/OPERATOR



Signature of Applicant

Mike Kaiser, Regional Engineer

Name and Title (please type)

MKaiser@Wasteservicesinc.com

E-Mail address (if available)

1501 Omni Way

Mailing Address

Saint Cloud, Florida 34773

City, State, Zip Code

(904)673-0446

Telephone Number



2893 Executive Park Drive, Suite 305, Weston, Florida 33331

January 24, 2011

RE: Omni Waste of Osceola County, LLC

To Whom It May Concern:

This is to confirm that Michael Kaiser is an authorized signatory of Omni Waste of Osceola County, LLC (the "Corporation"), with authority to execute and deliver all documents and instruments required in connection with environmental matters for the Corporation, including without limitation, permit applications, modifications and financial assurances for permits issued to the Corporation.

Omni Waste of Osceola County, LLC

A handwritten signature in black ink, appearing to read "William P. Hulligan", is written over a horizontal line.

William P. Hulligan
Manager

Waste Services, Inc.

A handwritten signature in black ink, appearing to read "William P. Hulligan", is written over a horizontal line.

William P. Hulligan
Executive Vice President, U.S. Operations

**FINANCIAL ASSURANCE COST ESTIMATE FOR
CLOSURE OF CELLS 1-8:
NOTES AND CALCULATIONS
J.E.D. SOLID WASTE MANAGEMENT FACILITY**

The information provided below presents the methods and assumptions used to estimate the cost for the items listed on the Florida Department of Environmental Protection (FDEP) Form 62-701.900(28), F.A.C., "Closure Cost Estimating Form for Solid Waste Facilities" (January 6, 2010). The section numbers noted below correspond to the item numbers on FDEP Form 62-701.900(28), F.A.C. The original and closed two-dimensional areas for each Cell are as follows:

Cell	Original Area	Area Closed	Remaining Area to be Closed
Cell 1	18	10.2	7.8
Cell 2	12	7.2	4.8
Cell 3	12	3.7	8.3
Cell 4	11	4.0	7.0
Cell 5	11.2	0	11.2
Cell 6	12.5	0	12.5
Cell 7	12	0	12
Cell 8	11.3	0	11.3
Totals	100	25.1	74.9

I. GENERAL INFORMATION

The financial assurance cost estimate presented on the FDEP Form 62-701.900(28) provides the closure and long-term care costs for Cells 1-8 at the J.E.D. Solid Waste Management facility in Osceola County, Florida. The closure and long-term care costs were estimated using unit cost rates from 3rd party contractors that have recently, or are presently, performing work at the facility and/or previous FDEP approved unit cost rates with inflation adjustments issued by the FDEP for years 2010, 2011 and 2012. Provided in Appendix A-1 are 3rd party bid/contract documents from contractors and suppliers who submitted bid quotes for the partial closure project that is planned to start mid February 2012. These parties included RCS Excavation (RCS) - earthworks, Comanco Construction Corporation - geosynthetics installation, Agru America – geomembrane supply, and Skaps Industries – geocomposite supply.

The unit cost rates for placement of intermediate, protective cover and vegetative soils shown on the earthworks bidsheet by RCS were based on excavation and hauling of soils RCS from the offsite 3rd party Bronson borrow area located directly west of the permitted disposal area. Omni has executed an agreement with the Bronson borrow area owners (Bronsons) for purchase of the soils from the offsite borrow area. Environmental Resource and Water Use

Permits were issued to the Bronsons by the South Florida Water Management District for operation of the borrow area.

Based on the e-mail correspondence provided in Appendix A-1 from Kimley-Horn and Associates dated April 7, 2011, approximately 6,277,128 cubic yards of soil was available at the borrow area as of April 2011. This remaining volume is sufficient to complete the closure construction described herein. As provided in the agreement between Omni and the Bronsons, Omni is required to make future remaining payments for the soils totaling \$1,700,000 through 2016. Thus the unit cost rate for purchase of soil to complete closure construction is included in the estimates at \$0.27/cubic yard ($\$1,700,000/6,277,128 \text{ yd}^3$). The agreement between Omni and the Bronsons is available at the JED facility for FDEP review.

IV. ESTIMATED CLOSING COST

1. Proposed Monitoring Wells

The groundwater monitoring well system for Phases 1 through 3 (Cells 1 through 10) has already been completed. Therefore, no costs have been included as part of this financial assurance revision.

2. Slope and Fill (Bedding layer/Intermediate Cover)

Soils purchased and transported from the offsite Bronson borrow area will be used for intermediate cover. The total estimated volume is 126,243 cubic yards (yd^3) for the 1-ft thick intermediate cover layer over the waste surface. The cost per yd^3 includes purchase, excavation, hauling, placement, spreading, grading, and compaction. The estimated cost for slope and fill material is as follows:

As presented in Figure 1, the two-dimensional top deck area for Cells 1 through 8 covers approximately 9.35 acres and the 3:1 side slope area is equal to 90.65 acres resulting in a total area of approximately 100 acres. However, 25.1 acres along the side slopes of Phases 1 and 2 have been closed, as such, the total side slope area to be closed is equal to approximately 65.6 acres. To account for the additional area attributed to the 3:1 side slopes the plan areas are multiplied by 1.05. Therefore, the 3:1 side slope area is $65.6 \text{ acres} \times 1.05 = 68.9 \text{ acres}$ plus the 9.35 acre top deck area equals a total corrected area of approximately **78.25 acres**.

- $(78.25 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 1 \text{ ft cover thickness}) \div 27 \text{ ft}^3/\text{yd}^3 = 126,243 \text{ yd}^3$
- $126,243 \text{ yd}^3 @ (\$4.24/\text{yd}^3 + \$0.27/\text{yd}^3) = \mathbf{\$569,355.93}$

3. Cover Material (Barrier Layer)

The final cover system for the JED facility is comprised of (from bottom to top):

- 12 inch intermediate cover soil layer (Item No.2 above)
- 40-mil PE geomembrane
- geocomposite drainage layer (on 3:1 side slopes only)
- 18-inch cover protective soil layer (Item No. 4 below)

- 6-inch vegetative soil layer (Item No. 5 below)

Cost for geosynthetics includes material and installation costs. The estimated quantities are:

40-mil geomembrane (textured sideslopes and smooth top-deck):

Textured on Sideslopes (Purchase \$2.25/yd² & Install \$1.29/yd²):

- $68.90 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \div 9 \text{ ft}^2/\text{yd}^2 = 333,476 \text{ yd}^2$
- $333,476 \text{ yd}^2 \text{ 40-mil textured geomembrane @ } \$3.54/\text{yd}^2 = \$1,180,505.04$

Smooth on Top Deck (Purchase \$1.98/yd² & Install \$1.29/yd²)

- $9.35 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \div 9 \text{ ft}^2/\text{yd}^2 = 45,254 \text{ yd}^2$
- $45,254 \text{ yd}^2 \text{ 40-mil smooth geomembrane @ } \$3.27/\text{yd}^2 = \$147,980.58$

To calculate the average cost for 40-mil geomembrane for the FDEP form, the total cost to purchase and install was divided by the total area installed:

- $(\$1,180,505.04 + \$147,980.58) \div (333,476 \text{ yd}^2 + 45,254 \text{ yd}^2) = \$3.51/\text{yd}^2$
- Total average cost 40-mil geomembrane = $\$3.51/\text{yd}^2 \times 378,730 \text{ yd}^2 = \mathbf{\$1,329,342.30}$

Geocomposite Drainage Layer (on 3:1 side slopes only):

Geocomposite (Purchase \$3.15/yd² & \$0.72/yd²):

- $78.25 \text{ acres} - 9.35 \text{ acres (top deck)} = 68.9 \text{ acres}$
- $68.9 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \div 9 \text{ ft}^2/\text{yd}^2 = 333,476 \text{ yd}^2$
- $333,476 \text{ yd}^2 \text{ geocomposite drainage layer @ } \$3.87/\text{yd}^2 = \mathbf{\$1,290,552.12}$

The total cost for final cover materials (excluding the intermediate and vegetative soil layers) is **\$2,619,894.42**.

4. Top Soil Cover (Protective Cover Layer)

Soils purchased and transported from the offsite Bronson borrow area will be used for the protective cover. Cost for the 18-inch cover protective soil layer includes purchase, excavation, hauling, placement, spreading, grading, and compaction.

- $(78.25 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 1.5 \text{ ft cover thickness}) \div 27 \text{ ft}^3/\text{yd}^3 = 189,365 \text{ yd}^3$
- $189,365 \text{ yd}^3 \text{ cover soils @ } (\$4.27/\text{yd}^3 + \$0.27/\text{yd}^3) = \mathbf{\$859,717.10}$

5. Vegetative Layer

The vegetative soil layer consists of a 6 inch layer over the protective cover layer. The estimated volume is 63,121.7 yd³. Soils purchased and transported from the offsite Bronson borrow area will be used for the vegetative layer. The cost per cubic yard includes hauling, placing, spreading, and grading.

The final cover area will be sodded. Sodding costs include all labor and materials.

- $78.25 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \div 9 \text{ ft}^2/\text{yd}^2 = 378,730 \text{ yd}^2$
- $378,730 \text{ yd}^2 \text{ Bahia sod @ } \$1.23/\text{yd}^2 = \mathbf{\$465,837.90}$

Fertilizer (Amendments) for the vegetative soil layer is \$1,040.50 per acre.

- $78.25 \text{ acres} \times \$1,562.00/\text{acre} = \mathbf{\$122,226.50}$

The estimated cost for the vegetative soil layer is as follows:

- $(78.25 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 0.5 \text{ ft cover thickness}) \div 27 \text{ ft}^3/\text{yd}^3 = 63,121.7 \text{ yd}^3$
- $63,121.7 \text{ yd}^3 @ (\$4.27/\text{yd}^3 + \$0.27/\text{yd}^3) = \mathbf{\$286,572.52}$

The total cost for the vegetative layer (vegetative soil cover and sod) is **\$874,636.92**

6. Storm Water Control System

Storm water control components that will be installed during closure consist of side slope drainage swales, inlet structures on the side slope bench swales, seepage header piping, and HDPE corrugated down chute pipes. The earthwork estimate includes excavation, hauling, placement, spreading, grading, and compaction of the additional soils required on the drainage benches for sloping and cover over the down chute piping.

Using the adjusted unit rates on the Worksheet – Earthworks provided in Appendix A-1, the total cost for the storm water control system is estimated to be **\$673,603.18** as indicated below.

- Earthwork: Additional soil to construct drainage swales is calculated based on the typical cross-section detail for the drainage swale from the ERP Lateral Expansion Permit Drawings and using the average depth of the swale = 20.6 ft² per linear foot of swale and placement cost for protective cover soils:
 - $23,884 \text{ yd}^3 @ (\$4.27/\text{yd}^3 + \$0.27/\text{yd}^3) = \mathbf{\$108,433.36}$
- Piping (material and installation):
 - 31,900 ft of 4-inch HDPE corrugated pipe @ \$7.77/ft = \$247,863.00 (the cost of the 4-inch drainage pipe includes the cost of the pipe and installation (RCS @ \$6.77/ft), 3-ft wide strip of geomembrane used to wrap the pipe (Agru @ \$1.00/ft material and cost to cut estimated).
 - 4,600 ft of 18-inch HDPE corrugated pipe @ \$28.27/ft = \$130,042.00
 - 750 ft of 24-inch HDPE corrugated pipe @ \$34.16/ft = \$25,620.00

Additional material cost for 24-inch pipe is \$6.89/ft. See ADS invoices in Appendix A-1 showing cost difference (no increase in labor and equipment cost to install). Lengths of 18 and 24-inch pipe represent plan dimensions with 10% slope and bench correction applied. All concrete drainage inlets and outfall piping at the perimeter road are installed during Cell construction. See Figure 1 provided in Appendix A-1.

To calculate an average cost per foot of pipe for the FDEP form, the total pipe cost above has been divided by the total length of pipe to be installed:

- $(\$247,863.00 + \$130,042.00 + \$25,620.00) \div (31,900 \text{ ft} + 4,600 \text{ ft} + 750 \text{ ft}) = \mathbf{\$10.83/\text{ft}}$

- A concrete pad and grate will be installed with each “wye” connection – which joins the bench swale pipes to the main side slope downchute – to hold the piping in place and reduce erosion. Seventy-two (72) concrete pads remain to be installed in Cells 1-8 as shown on Figure 1 provided in Appendix A-1. Each concrete pad will be 6-inches thick with dimensions of approximately 7.5-ft x 7.5-ft and fitted with a galvanized grate. The cost to install all fittings, concrete and grates is: $72 \text{ structures} \times \$2,246.56 = \mathbf{\$161,752.32}$

7. Passive Gas Control

The JED facility has an active gas collection and control system (GCCS) within the Phase 1 and 2 development areas (i.e., Cells 1-7), which will be expanded with the closure and development of subsequent cells. The costs associated with the installation of the passive gas control elements were calculated utilizing the proposed GCCS design as provided in the Lateral Expansion Solid Waste Permit Drawings (Sheet 29 of 40). Costs include materials and installation. Presently, with the exception of gas extraction well GW-31, all header and lateral piping and gas extraction wells have been installed in Cells 1-4. Additional header and lateral piping and gas extraction wells have been installed in Cells 5 and 6 and the lower tier (2 total) horizontal gas collectors in Cell 7. Shown on Figure 2 in Appendix A-2 is an outline of the area depicting the remaining GCCS that would require installation under current closer of Cells 1-8. In addition to the GCCS shown on Figure 2, two (2) additional horizontal collectors will be required in Cell 7 and four (4) total in Cell 8. The gas extraction wells have been categorized as Shallow (<50 ft), Intermediate (50-100 ft), and Deep (100-150 ft). For estimating purposes the well depths have been assumed as 50, 100 and 150 ft of which 15 ft is solid well casing and the remainder is perforated zone casing.

Provided in Appendix A-2 are bid quotes from Shaw Environmental for recent vertical and horizontal gas collector well installation work completed in December 2011 and installation of the landfill gas flare in the fall of 2008. The unit rates shown in the bid quotes have been used in the calculations below. A 2012 inflation adjustment was not added to the 2011 unit rates from Shaw Environmental since this work was just recently completed.

Gas Wells [drilling, perforated pipe section (including gravel), solid pipe section (including soil backfill), and well head]: Drilling @ \$28.00/ft, perforated pipe section @ \$57.00/ft, solid pipe section @ \$42.50/ft, and well heads @ \$700.00 each.

- 16-Shallow depth gas wells @ \$4,732.50/gas well = **\$75,720.00**
- 11-Intermediate depth gas wells @ \$8,982.50/gas well = **\$98,807.50**
- 14-Deep gas wells @ \$13,232.50/gas well = **\$185,255.00**

To calculate an average cost per gas well for the FDEP form, the total well costs above have been divided by the proposed number of gas wells:

- $(\$75,720.00 + \$98,807.50 + \$185,255.00) \div 41 \text{ wells} = \mathbf{\$8,775.19 \text{ per well}}$

Lateral piping (6-inch SDR-17 HDPE Pipe):

The total plan dimension length for 6-inch lateral pipe has been increased by 10% to allow for a 3:1 slope correction factor and additional length required for vertical risers to connect to the adjacent extraction well.

- $6,350 \text{ ft} \times 1.10 = 6,985 \text{ ft} @ \$20.00/\text{ft} = \mathbf{\$139,700.00}$

Header piping (12-inch SDR-17 HDPE Pipe):

The total plan dimension length of 12-inch header pipe has been increased by 10% to allow for varying bury depths to meet the required minimum 5% slope (sideslope areas) and a 3:1 slope correction for the cross over header.

- $2,320 \text{ ft} \times 1.10 = 2,552 \text{ ft} @ \$42.00/\text{ft} = \mathbf{\$107,184.00}$

Horizontal Collectors Cell 7 & 8 (10-inch SDR-17 HDPE Pipe with Stone Backfill):

- $4,970 @ \$68.72/\text{ft} + 6 \text{ well heads} @ \$700.00 = \mathbf{\$345,738.40}$

Other Remaining Installation Costs:

Other remaining costs listed on the Shaw Environmental bid quote provided in Appendix A-2 = **\$78,500.00**

To calculate the cost per foot of gas system piping, the total pipe cost has been divided by the total estimated length of pipe:

- $(\$139,700.00 + \$107,184.00 + \$345,738.40 + \$78,500.00) \div (6,985 + 2,552 + 4,970) \text{ ft} = \mathbf{\$46.26/\text{ft}}$

It is assumed that an additional 5% of the pipe cost is needed for fittings.

- $(\$46.26 \times 1.05) = \mathbf{\$48.57/\text{ft}}$

The total cost for the lateral and header piping and fittings is:

- $\$48.57/\text{ft} \times 14,507 \text{ ft} = \mathbf{\$704,604.99}$

Perimeter gas monitoring probes have already been installed for Phases 1 through 3 (i.e., Cells 1-10). NSPS Title V requirements have been met.

The total cost for passive gas controls is **\$1,064,387.78**

8. Active Gas Control

Based on the proposed GCCS design, two gas flare stations will be installed as part of the GCCS for Phases 1 through 3. One gas flare station was already installed as part of the Phase 1, Sequence 1 and 2 GCCS installation (for Cells 1 through 6). Purchase and installation costs are provided in Appendix A-2. The estimated cost of the second gas flare is equal to $\$229,035.00 + \$89,935.79 = \mathbf{\$318,970.79}$.

Two additional condensate J-traps will be installed as part of the GCCS system within the footprint of Cell 7 and 8. The cost per condensate trap is $\$6,700 \times 2 = \mathbf{\$13,400.00}$

The total cost for active gas extraction control is **\$332,370.79**.

9. Security System

The perimeter fencing and gates were installed as part of the Phase 1 construction and therefore have not been included as part of this closure cost estimate.

10. Engineering

Closure Plan Report – The closure plan is included as part of the permit renewal application. Geosyntec has estimated **\$15,000** to update this plan.

Final Survey – bid quote survey costs by RCS for the partial closure of Phase 1 Event 2 are $\$35,000 \div 20 \text{ acres} = \$1,750/\text{acre}$. The costs associated with the final survey are $\$1,750/\text{acre} \times 78.25 \text{ acres} = \mathbf{\$136,937.50}$.

Certification of Closure – Geosyntec has estimated **\$10,000** to prepare the closure certification report.

11. Professional Services

These costs are based on Geosyntec estimates and labor rates. It is estimated that approximately 3 percent of construction cost will be needed for contract/construction management, which equates to $0.03 \times \$7,155,903.62 = \mathbf{\$214,677}$.

It is estimated that approximately 7 percent of construction cost will be needed for construction quality assurance (CQA), which equates to:

- $0.07 \times \$7,155,903.62 = \mathbf{\$500,913}$.

Quality assurance testing is estimated to be 10 percent of the CQA cost estimate and is based on the requirements of the CQA Plan, estimated quantities, and Geosyntec's experience. This equates to:

- $0.10 \times \$500,913.25 = \mathbf{\$50,091.30}$.

12. Contingency

A contingency factor for closure costs of 5 percent is estimated based on the current unit rate cost pricing used for this estimate.

13. Site Specific Costs

The following additional costs represent additional work required by the Earthworks Contractor in completing the closure project that have not included in the above costs estimates for liner and stormwater piping (See RCS Bid Quote Items 1,2,4,5,6,7,9,13,14,&18).

Other site specific costs include:

- Mobilization and Demobilization

- Development, offloading and staging geosynthetics liner materials
- Borrow area development and management
- Site fencing at borrow area
- NOI, SWPPP, sediment and erosion controls
- Expose existing cap liner at anchor trench
- Excavation and backfilling of anchor trenches
- Remove existing upslope stormwater piping and rip-rap
- Flushing of existing stormwater control structures and outfall piping
- Waste/closure limit markers

The total unit rate cost for the above listed items is equal to \$9,568.50/acre. The total Site Specific Costs for Cells 1-8 is $\$9,568.50 \times 78.25 \text{ acres} = \$748,735.13$.

V. ANNUAL COST FOR LONG TERM CARE

The unit costs for calculation of the long-term care costs provided below are based on current 3rd party costs or previously approved unit costs with FDEP inflation adjustments applied.

1. Ground Water Monitoring

The groundwater monitoring well network for Phases 1 through 3 (Cells 1-10) has already been installed. The long-term care cost for monitoring of groundwater wells was calculated based on the e-mail cost quote provided by Geo-Services and Consulting, Inc.(GSC), dated December 22, 2011. A copy is provided in Appendix A-3. The total cost for each semi-annual event (less leachate sampling and analysis) equals \$25,500.00. The cost per well is shown below:

- $\$25,500.00/\text{Event} \div 33 \text{ Wells} = \$772.73/\text{Well}/\text{Event}$

2. Surface Water Monitoring

Labor costs for collecting surface water samples in accordance with the facility's permits is included in the above estimates for ground water monitoring as noted in the cost quote by GSC. Typically the sampling locations are dry and labor costs are minimal to perform the services. If in the event a sample is collected, laboratory costs of **\$325.00/sample** are quoted by GSC in Appendix A-3. It is assumed that two samples will be collected for each Semi-annual event on the FDEP form.

3. Landfill Gas Monitoring

The landfill gas monitoring probes will be monitored quarterly for concentrations of combustible gases. The long-term care cost associated with the landfill gas monitoring shown below are based on an hourly rate for a technician consultant (\$65.00/hour) and current time required to perform the monitoring at the 16 gas probe locations by in-house staff (4 hours).

The cost to perform the monitoring includes field and travel time.

- $(4 \text{ hrs field} + 2 \text{ hrs travel}) \times \$65.00/\text{hr} = \$390.00$
- Monitoring equipment rental and travel costs - \$150.00/event

- Time to prepare report - 2 hrs @ \$65.00/hr = \$130.00

Total cost per monitoring event equals $\$390.00 + \$150.00 + \$130.00 = \mathbf{\$670.00}$

Other gas and air monitoring costs required by the facility permits are provided in the January 30, 2012 cost proposal by Golder Associates provided in Appendix A-3. The additional costs are listed below and shown as an annual cost in Section 3 of the FDEP form.

- NSPS Reporting - \$7,500.00 (Semi-Annual)
- Title V Permit Reporting (AOR) - \$5,600.00 (Annual)
- Visible Emissions and Sulfur Testing at Flare - \$2,900.00 (Annual)
- Greenhouse Gas Reporting - \$4,200.00 (Annual)

4. Leachate Monitoring

A leachate sample will be collected annually from Cells 1 through 8. Additionally, one sample is collected at the leachate aeration pond to meet the requirements of the City of St. Cloud for disposal of leachate at their WWTP. The leachate sampling costs include all labor, equipment, and laboratory analyses as provided in the cost quote by GSC provided in Appendix A-3.

- Leachate monitoring unit rate cost at cell sumps equals **\$926.00/sump/year**
- Leachate monitoring unit rate cost at leachate pond equals **\$1,050.00/pond/year**

Total annual leachate monitoring cost equals $(8 \text{ sumps} \times \$926.00/\text{sump/year}) + (1 \text{ pond} \times \$1,050.00/\text{pond/year}) = \mathbf{\$8,458.00/year}$

5. Leachate Collection/Treatment System Maintenance

For the long term care cost estimate, the following maintenance activities have been assumed:

Leachate pumps: Assumed that pumps require annual maintenance and Cells 1 through 8 will require one primary and one secondary replacement pump once during the 30-year monitoring period:

- Annual maintenance = \$500.00/year
- Leachate pump replacement cost = $(\$6,354.00 + \$4,405.00) \div 30 \text{ years} = \$358.63/\text{year}$
A leachate pump cost quote by EPG Companies is provided in Appendix A-3
- Total estimated annual cost for pumps per cell = **\$858.63/year**

Cleaning: Assumed that one system cleaning/jetting every 10 years within the 30-year monitoring period will be required (total of 3 cleanings). Provided in Appendix A-3 is a cost quote from Florida JetClean to perform the system flushing required for Cells 1-6 for the recent 5-yr permit renewal application.

- $(\$9,266.64 \times 3) \div 30 \text{ years} = \mathbf{\$926.66/year}$.

Leachate storage containers: Long term care for the leachate storage ponds assumes that each of the four bladder liners will require replacement over the 30-year monitoring period. Replacement cost has been assumed to be \$9,850.00 per flexible bladder as estimated below.

Approximately 22,500 ft² or 2,500 yd² of geomembrane required for each bladder (150 ft by 150 ft unit). As noted in Section 3 of the Closure Cost Estimates, installation and purchase cost for 40-mil textured geomembrane equals \$3.54/yd². Assume \$1,000/bladder to clean and remove existing bladder. The unit cost for each bladder replacement equals 2,500 yd² × \$3.54/yd² + \$1,000.00 = \$9,850.00/bladder

Total long-term care cost for the four bladder replacements based on a square yard and cost per year for the FDEP form is as follows:

- 4 bladders × \$9,850.00/bladder = \$39,400.00 ÷ 30 = \$1,313.34/year ÷ \$3.54/yd² = **371.0 yd²/year**

Leachate Aeration: Assume **\$250.00/year** to maintain the leachate aeration system piping, pumps and electrical controls. Cost for electricity is included Section 12.

Leachate disposal: Leachate generation rate after closure was assumed to be 20 percent of the annual average leachate generation rate for maximum waste height that was obtained from the HELP model Analysis (see Case 4 analyzed for maximum waste thickness of 220 ft in the calculation package entitled *Leachate Management System*).

- 24.63 ft³/ac/year or 184.3 gal/ac/year × 100 acres × 20 percent = 3,684.90 gal/year → use minimum unit of 1,000 gallons as shown on FDEP form 4,000 gallons/year × \$0.04/gallon for transportation and disposal = **\$160.00/year**.

Leachate haul rates for Stafford Transport and disposal costs for the City of St. Cloud are provided in Appendix A-3.

Therefore, total long-term care cost for leachate system maintenance = **\$9,519.04/year**.

6. Groundwater Monitoring Well Maintenance

The long-term care cost for maintenance of groundwater monitoring wells was calculated based on the assumption that one monitoring well per phase would need to be replaced, thus, one monitoring well per phase would need abandonment. Unit rate costs to replace and abandon the monitoring wells were based on the recent cost proposal by GCS to abandon and install wells GW-22 for the Cell 8 project. The cost quote by GCS is provided in Appendix A-3.

- Average cost per well to replace/30 years = \$3928.33 ÷ 30 = **\$130.94**
- Average cost per well to abandon/30 years = \$873.33 ÷ 30 = **\$29.11**

7. Gas System Maintenance

Approximately one hundred and sixteen (116) gas wells will eventually be installed within the footprint of Cells 1 through 8. It is estimated that an additional \$50 per well/year will be needed for maintenance (\$50 × 116 wells = **\$5,800**). It is assumed that **\$2,500/year** will be required for general maintenance of both skid mounted flare station (includes blowers, meters, valves and flame arrestors). It is assumed 50 ft of lateral or header piping will require replacement or repair at an average cost of **\$50.00/ft**.

8. Landscape

The long-term care cost estimate assumes a 100-acre area will require mowing four times per year (closure cap 78.25 acres and other perimeter stormwater retention areas). Provided in Appendix A-3 is a current quote for mowing services at the facility.

- $4 \text{ times/year} \times \$60.00/\text{acre} = \text{\$240.00/acre/year}$

9. Erosion Control and Cover Maintenance

The long-term care cost for erosion control and cover maintenance assumes that a 0.25-acre (1,210 yd²) area will require maintenance (i.e., sodding) per year, as such, 1,210 yd² @ \$1.23/yd² = \$1,488.30/year. The lump sum cost for material and equipment mobilization costs to perform maintenance and general grading of the protective liner for resodding is estimated @ \$2,500/year. The total cost associated with the erosion control and cover maintenance, per year, is equal to **\$3,988.30**.

10. Storm Water Management System Maintenance

Maintenance is estimated to occur on an annual basis. For the long-term care cost, a lump-sum cost of \$2,500 has been assumed to mobilize a rubber tire mounted excavator and operator to clean and clear storm water ditches.

11. Security System Maintenance

Approximately 200 ft of barbed wire fencing is assumed to require repairs or replacement @ \$1.75/ft (includes material and labor). See attached quote for new fencing provided in Appendix A-3. More so, an estimated \$250.00 will be required for gate maintenance. The cost to replace the front gate sign is equal to \$100.00. This financial assurance assumes that the front gate sign will be replaced once every 5 years, resulting in a yearly cost of \$20/year. The total cost associated with security system maintenance, per year, is equal to **\$620.00**.

12. Utilities

The long-term care cost estimate for Phases 1 through 3 assumes that the power requirements for site equipment (i.e., pumps, lights, blowers, etc.) will cost \$4,018.30 per month. Provided in Appendix A-3 are electrical service statements from Progress Energy that shows the December 2011 billings for Cells 1-7, administration office, gas flare, and leachate holding ponds. The average monthly bill for Cells 1-7 is \$54.72. Below are the corresponding estimated annual electrical billings. A water well and septic system is provided for the administration office. It is assumed maintenance of the well and septic system will cost \$500.00/year.

- Electric costs Cells 1-8 equals $\$54.72/\text{month} \times 12 \text{ months/year} = \text{\$5,253.12/year}$
- Electric costs administration office $\$631.34/\text{month} \times 12 \text{ months/year} = \text{\$7,576.08/year}$
- Electric costs gas flare $\$1,982.49 \times 12 \text{ months/year} \times 2 \text{ flares} = \text{\$47,579.76/year}$
- Electric costs leachate holding ponds $\$1,349.75 \times 12 \text{ months/year} = \text{\$16,197.00/year}$
- Maintenance of water well and septic system for administration office = **\$500.00/year**

Total annual utilities costs = **\$77,105.96/year**

13. Leachate Collection/Treatment Systems Operation

Leachate collection/treatment system operation cost estimates are based on weekly monitoring by a technician for total of 3 hours/week × 52 weeks/year @ \$60/hour = **\$9,360/year**. Additional material maintenance costs for the pumps and aeration system at the storage holding ponds is assumed as **\$500.00/year**.

14. Administrative

The administrative long-term cost estimates that 20 hours per month will be expended towards administrative/overhead activities @ \$40.00/hour (i.e., \$9,600). More so, one 3rd party engineer (@\$120.00/hr) and one technician (@\$65.00/hr) are expected to perform a yearly site inspection under oversight of a P.E. Supervisor (@150.00/hr). The yearly site inspection is estimated to require 8 hours from each on-site personnel and supervisor. The total yearly administrative cost for the facility is equal to **\$12,280.00**.

15. Contingency

A contingency factor for long-term care costs of 5 percent is estimated based on the current unit rate cost pricing and level of detail provided for this estimate.

16. Site Specific Costs

No additional site specific costs are estimated.

FIGURES



SIDE SLOPE
AREA
90.65 ACRES

TOP DECK
AREA
9.35 ACRES

Geosyntec[®]
consultants

J.E.D. SOLID WASTE MANAGEMENT FACILITY

FINAL COVER SYSTEM GRADING PLAN

DATE: DEC. 2011

PROJECT NO. FL1962

FIGURE NO.

1

Poor Quality-Original

APPENDIX A-1

Earthwork and Liner Support Documents for Closure Estimates

2.0 **BID FORM AND PRICE LIST**

2.1 **BID FORM**

**PARTIAL LANDFILL CLOSURE CONSTRUCTION - EVENT 2 - PHASE 1
DISPOSAL AREA
JED SOLID WASTE MANAGEMENT FACILITY**

Submitted by: RCS Excavation, Inc (Amon J. Smith)

Bidder: RCS Excavation, Inc

Date: 1/31/12

Bid Contact(s):

Address: 851 Lake Juniper Rd

City: Lake Placid State: FL Zip:

PHONE: 863-441-1240 FAX: 863-582-9292

EMAIL: amanda@rcsexcavation.com

STATE CONTRACTOR'S LICENSE TYPE NUMBER: CUC1223965

A Corporation of the State of FL

CORPORATE Officers: (President) Amon J. Smith
SEAL

(Secretary) Amanda Smith

(Treasurer)

Designated by "X" Officers authorized to sign Contracts.

ATTEST BY: Amanda Smith TITLE:

Secretary
851 Lake Juniper Rd
Lake Placid, FL 33852

WITNESS: Nikolas TITLE:

CONTRACT FORM

The work shall be performed under a formal agreement to be entered into between the OWNER and the CONTRACTOR using the OWNER's Contract form. The Contract and all other Contract Documents referred to herein above form the Total Agreement.

2.1 BID FORM (Continued)

Substantial completion of Work by _____ (date).

email electronic copy of bid to: **Mr. Mike Kaiser, mkaiser@wsii.us**

mail sealed copies of bids to: **Mr. Mike Kaiser
Waste Services, Inc.
1099 Miller Drive
Altamonte Springs, FL, 32701**

I have received and examined the Bid Package provided by Omni Waste of Osceola County, LLC for the referenced work. I have reviewed in detail the contents of the Bid Package, including the Scope of Work, Plans and Specifications. I submit the following bid with the understanding that:

1. All bids shall remain firm for a minimum of sixty calendar (90) days from due date of submittal.
2. I will enter into and execute an Agreement Between OWNER and CONTRACTOR, in accordance with the sample contract and its attachments provided in the Bid Package.
3. I may be requested by Omni Waste of Osceola County, LLC. to prepare evidence of financial ability to perform the terms of this bid.
4. I acknowledge the receipt of the following addenda:
 - a) _____ dated 11/26/12
 - b) _____ dated _____
 - c) _____ dated _____

Name of Bidder (Company Name)

ACS Excavation Inc

Signature/Date

DA Smith, 11/31/12

Title

President

(Printed Name)

A.J. Smith

2.4 BID WORKSHEET:

RCS Excavation

JED Solid Waste Management Facility (JED Landfill) Partial Closure Construction - Event 2 - Phase 1 Disposal Area

January 9, 2012

Item	Description	Unit	Quantity	Unit Price	Sub-Total
1	Mobilization and Demobilization (not to exceed 5% of total bid) (See Note 1)	LS	1	\$59,000.00	\$59,000
2	Development, Offloading and Staging Geosynthetic Liner Materials (See Note 2)	LS	1	\$14,730.00	\$14,730
3	Surveying & As-builts (See Note 3)	LS	1	\$35,000.00	\$35,000
4	Borrow Area Development and Management (See Note 4)	LS	1	\$62,091.00	\$62,091
5	Silt Fencing at Borrow Area	LF	5,000	\$0.83	\$4,150
6	NOI, SWPPP, Sediment and Erosion Controls (BMP's)	LS	1	\$3,000.00	\$3,000
7	Expose Existing Geosynthetic Cap Liner at Cell 1-4 Anchor Trench Tie-in	LF	2,900	\$5.32	\$15,428
8	Placement and Grading of 12" Intermediate Cover Layer (See Note 6)	CY	35,750	\$4.24	\$151,580
9	Excavation and Backfilling of Anchor Trenches	LF	990	\$5.32	\$5,267
10	Placement and Grading of 24" Protective/Vegetation Layer (See Note 6)	CY	92,800	\$4.27	\$396,256
11	18" Diameter Stormwater Piping (See Note 7)	LF	1,612	\$28.27	\$45,571
12	18" Diameter Stormwater Inlet Structures at Benches (See Note 8)	EA	22	\$2,246.56	\$49,424
13	Remove Existing Upslope Stormwater Piping, Rip-Rap and Inlet Grates for Cell 1-4 Tie-in	LS	1	\$5,174.40	\$5,174
14	Flushing of Existing Stormwater Control Structures and Outfall Piping (See Note 9)	LS	1	\$19,530.00	\$19,530
15	4-inch Diameter Seepage Header Pipe (solid and perforated)	LF	5,100	\$6.77	\$34,527
16	Vegetation Layer Soil Amendments	AC	20.2	\$1,562.00	\$31,552
17	Sodding	SY	97,500	\$1.23	\$119,925
18	Waste/Closure Limit Markers	EA	5	\$600.00	\$3,000
				Total Bid	\$1,055,206

See Notes Below and Scope of Work - Section I of Contract Agreement:

Note 1 - One half of total cost will be paid upon mobilization and one half upon demobilization.

Note 2 - Contractor shall haul, place and grade six inches (6") of clean soils to provide smooth flat location to store liner materials. Location will be at the top deck area immediately south of the closure limits. Location and dimensions are shown on Figure 1 of the bid documents.

Note 3 - Six (6) signed and sealed hard copies and one each (pdf and CAD file) of all as-built drawings must be provided to Owner at completion of project.

Note 4 - Borrow Area Development and Management (Item 4) shall be in accordance with SFWMD ERP and WUP, and Kimley-Horn and Associates drawings dated March 2011. This item also includes any necessary survey, clearing, grubbing, dewatering, grading and restoration activities for the borrow area and haul road. Vegetation cleared at the borrow area shall be stockpiled in the active Cell 7 area in a location designated by the Owner.

Note 5 - Includes haul and placement of clean fill soil to achieve waste grade elevations (account for existing waste underfill). Regrading of overfill soils/wastes shall be included in the unit rate. Assumed 12" depth required. Final quantity will be determined based on pre-construction survey.

Note 6 - Unit rate and payment will be based on in-place compacted volumes based on design grades. No additional payment will be made for overfilling, tolerance allowance, settlement and/or erosion. 10% risk allowance made by Owner for settlement. Payment will be based on quantity shown. Contractor to assume all other quantity risk due to settlement and erosion. Contractor shall provide full time employee to be stationed at the main access and haul road intersection to direct cross traffic during site operating hours.

Note 7 - Unit rate shall include miscellaneous fittings (elbows, bends, bands and ties, gaskets etc.) required to complete the stormwater piping. Pay item does not include Y-fittings at the bench locations.

Note 8 - Includes all costs for Y-fittings, pipe extensions, inlet grates and concrete to complete the stormwater inlet structures at the bench locations.

Note 9 - Includes flushing of all new and existing stormwater piping in closed areas, and stormwater structures and piping at the landfill perimeter road area.

Note 10 - Provide unit rate cost savings if soils are hauled from the borrow area during non operational hours (5:00 p.m. to 5:00 a.m.). Contractor shall provide all lighting and all necessary safety measures to ensure hauling can be done in a safe manner. Contractor shall propose quantity.

Note 11 - Full time security guard shall be stationed at the facility access gate if Contractor operates outside of weekday operating hours (5:00 p.m. to 5:00 a.m.) and on Saturdays or Sundays.

→ Items 1, 2, 4, 5, 6, 7, 9, 13, 14 & 18 not included in Liner or Stormwater estimates.

Sum = \$191,370.00 ⇒ Cost/acre = \$191,370.00 / 20 = 9,568.50

2.4 BID WORKSHEET: Comanco Construction - Geosynthetics Installation
JED Solid Waste Management Facility (JED Landfill) - Partial Closure Construction - Event 2 - Phase 1 Disposal Area

M/P Item	Description	Unit	Bid Estimate Install Quantity	Install Unit Price	Install Sub-Total	Bid Estimate Material Supply Quantity	Material Unit Price	Material Sub-Total	Total
1	Mobilization and Demobilization	LS	1	\$5,000	\$5,000	NA			\$5,000
2	Tie-In to Existing 40-mil Liner at Existing Closure	LF	2,900	\$4.00	\$11,600	NA			\$11,600
3	40-mil Textured Geomembrane	SF	880,000	\$0.100	\$88,000	1,013,350	NA	NA	\$88,000
4	Geocomposite	SF	610,000	\$0.080	\$48,800	711,525	NA	NA	\$48,800
5	8" Diameter Gas Well Boots	EA	30	\$350.000	\$10,500	NA	NA	NA	\$10,500
6	6" Diameter Lateral Boots	EA	30	\$350.000	\$10,500	NA	NA	NA	\$10,500
					\$174,400			\$0	\$174,400

WSI Notes:

1. Install and material supply quantities are provided for bid estimate purposes. Install pay quantities will be based on actual square footage verified by 3rd party survey (including anchor trench). Material supply quantities shall be based on installers take-off estimate, approved by Owner. Supply quantities shall include waste, slope, anchor trench, overlap, and any other adjustment factors necessary to supply all material to complete the work.
2. Earthwork Contractor will offload and stage geosynthetics materials delivered to the site. Material Supplier will furnish strappings on the rolls for offloading.
3. Installation quotes will be evaluated on cost and time to complete the work - both are important. Please indicate how many crews can be placed on the project and estimated time.
4. Material Supply Unit Price INCLUDES FREIGHT and is a DELIVERED TO FACILITY price. The JED Facility is exempt from sales tax.
5. Material specifications are attached. Material Unit Price includes all MQC testing as required by the specifications.
6. Earthwork Contractor will supply and place the seepage header pipe. Geomembrane installer shall cut, wrap and sew the geocomposite around the pipe.

Bidder Notes:

COMANCO estimates that the installation work will take approximately thirty-eight (38) good weather work days for one crew to complete. Our crew will work six (6) ten (10) hour work days per week.

Seepage Header Pipe Wrap item includes pipe placement, wrapping and sewing of composite, geomembrane flap, approximately 5,100 lf of welding for geomembrane flap, and twenty (20) 4" pipe boots for seepage header pipe solid outlets.

COMANCO assumes that all weld rod for the liner installation will be provided by the Owner. We estimate that the project will require approximately 88 boxes of weld rod.

$$\begin{aligned}
 - \text{Total Items 1, 2, 6 \& 7} &= \$5,000 + \$11,600 + \$10,500 + \$10,500 \\
 &= \$37,500 \text{ (Add to install cost for 40 mil)}
 \end{aligned}$$

$$\begin{aligned}
 - \text{Average add-on to install unit rate cost for Items 1, 2, 6 \& 7} \\
 &= \$37,500 / 880,000 \text{ sf} = \$0.043 / \text{sf} = \$0.387 / \text{sy}
 \end{aligned}$$

$$\begin{aligned}
 - \text{Total 40-mil installation unit cost rate} &= (\$0.10 / \text{sf}) (9 \text{ sf/sy}) \\
 &+ \$0.387 / \text{sy} = \$1.29 / \text{sy}
 \end{aligned}$$

$$\begin{aligned}
 - \text{Unit cost rate for geocomposite} &= (\$0.08 / \text{sf}) (9 \text{ sf/sy}) \\
 &= \$0.72 / \text{sy}
 \end{aligned}$$



QUOTATION - Revised 1/17/12

Mr. M. Kaiser
Waste Services, Inc.
Email: mkaiser@wsii.us

Project Number: 120117125
Project Name: JED Partial Closure
Location: St. Cloud, FL
Application: Landfill
Bid Date: January 17, 2012
Terms: Net 30 days

11 rolls / truck for LLDPE - 6 trucks

Product	Quantity	Roll Size	F.O.B.	Unit Price	Total Price	Warranty
40 mil LLDPE Microspike®	718,520 SF 44 Rolls	23' x 710'	Georgetown, SC	\$.2346/sf	\$ 168,564.79	Agru Standard
40 mil LLDPE Smooth®	288,075 SF 15 Rolls	23' x 835'	Georgetown, SC	\$.2081/sf	\$ 59,948.41	Agru Standard
8-250-8 Composite	677,730 SF 246 Rolls	14.5' x 190'	Georgetown, SC	\$.3974/sf	\$ 269,329.90	Agru Standard
5mm HDPE Weld Rod	440 LBS 20 Spools	22 lb spools	Georgetown, SC	\$4.25/lb	\$ 1,870.00	
Cutting Fees	5 Cuts			\$250.00	\$ 1,250.00	
Estimated Freight	6 Trucks		St. Cloud, FL	\$1,600.00	\$ 22,400.00 9,600.00	

Note: Prices are valid for 30 days from date of quotation. Freight prices are estimates only. Customers will be charged actual freight costs at time of shipping.

Exceptions/Clarifications and Special Requirements: Clarifications will be sent to you upon specification review.
Agru Standard 1 Year Warranty will apply.

Comments:

- Unless otherwise specified, Agru America standard material specification values and testing will apply for this quotation and the Customer agrees that Agru America standard values will be acceptable according to this quote.
- Agru America Standard Warranty shall apply.
- Agru America General Terms and Conditions will apply.
- If the material quantity changes from the above square footage, a revised quotation must be issued.
- Agru America reserves the right to pass along any verifiable resin increases from the resin supplier up to time of material shipment.
- Shipping dates are estimates only and Agru America will not be held liable for any delays due to shipping.
- Any costs associated with third party testing will be the responsibility of the customer.
- Interest will accrue on unpaid balances at 1 1/2% per month and Purchaser is responsible for collection costs and attorney fees.

Customer Acknowledgment

P. O. No.: _____
Date: _____

Signature: _____
Title: _____

Please return to:

Paul W. Barker

Fax: 843-527-2738

Your material supplier - not your competition!

ADDED COST For Shipping: Weld Rod = (\$1870.00 + \$9,600) / 1,006,595 sf

40 mil LLDPE Textured = \$0.25/sf = \$2.25/sy
--- 100 --- \$1.90 /---

Manufactured from Silane Ind.

PROGRESSIVE WASTE SOLUTIONS PURCHASE ORDER FORM

P.O. Number

Geosynthetics Material Supplier's Project Number

Project Title: JED Partial Closure Phase 1

Owner: WSI / Progressive Waste Solutions

Address: 1099 Miller Drive

Altamonte Springs FL 32701

Phone/Fax: 904-873-0446

Attention: Mike Kaiser

Site Name: JED Landfill

Address: 1501 Omni Way

St Cloud 34773

Phone/Fax: /

Attention:

Third Party Conformance Testing? Y ☐ N ☐

CQA firm or Lab

Phone/Fax:

Attention:

Date: 18-Jan-12

Material Supplier Skaps Industries

335 Athena Drive

Athens GA 30601

Phone/Fax: 770-564-1857 / 770-564-1818

Attention:

Estimated Ship Date

Required Delivery Date

Payment Terms (Days) 30

Routing Flatbed

F.O.B. Plant

MATERIAL SUPPLY

Item #	Item Description	Number of Rolls	Roll Width	Roll Length	Total Full Roll Quantity	Unit	Unit Price	Extended Price Total
1	Transnet 270-2-8	241	14.0	200	674,800		\$ 0.3300	\$ 222,684.00
2	Freight Estimate				9		\$ 1,400.0000	\$ 12,600.00
3					-			\$ -
4					-			\$ -
5					-			\$ -
6					-			\$ -
7					-			\$ -
8					-			\$ -
9					-			\$ -
10					-			\$ -
11					-			\$ -
Total Amount								\$ 235,284.00

TERMS AND CONDITIONS

- All manufacturing, conformance testing, material properties, and delivery of material shall be in accordance with the site specific CQA plan and project requirements.

APPROVALS

Engineer:

Date:

ACKNOWLEDGMENT

Geosynthetic Material Supplier

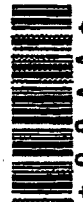
Date:

$$\begin{aligned} & \text{Unit Rate Including Shipping} \\ & \$ 235,284 / 674,800 \text{ sf} \\ & = \$ 0.35 / \text{sf} = \$ 3.15 / \text{sf} \end{aligned}$$

ADS
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www.ads-pipe.com
51-0105665

PAGE 1

INVOICE DATE OCT 24, 2011
INVOICE NO. 15404188



PMT. DUE DATE NOV 23, 2011 CUST NO. 34871
PMT. DUE \$3,524.69 BILL TO CUST NO. 34871
SHIP DATE OCT 24, 2011

CREDIT/DEBIT NO.
ORDER NO. 10695677 / 1306639
CUST P.O. NO. J.E.D. LANDFILL
SALES REP NAME Deleghy, Christopher
WAREHOUSE P67
SHIP TO

BILL TO

Attn: Accounts Payable
ERC GENERAL CONTRACTING
890 CARTER ROAD SUITE 170
WINTER GARDEN FL 34787

ERC GENERAL CONTRACTING
IS J.E.D. LANDFILL
1501 OMNI WAY
SAINT CLOUD FL 34773

Nestor

TERMS NET 30
BOL. NO. 1179747
TRACKING NUMBER 0

QTY ORDERED	QTY SHIPPED	U/M	PRODUCT NUMBER	DESCRIPTION	UNIT PRICE	AMOUNT
20	20	FT	306500201B	30" DWALL HWY. WTB. SOLID 20'	20.330	406.60
140	140	FT	246500201B	24" DWALL HWY. WTB. SOLID 20'	14.670	2,053.80
400	400	FT	066500201B	6" DWALL HWY. WTB. SOLID 20'	1.950	780.00
3	3	EA	02021.0	2# CAN BLUE LUBRICANT	.000	0.00
1	1	EA	DELIVERY FREIGHT	FREIGHT CHARGE ONLY	50.000	50.00
			CHARGE			
				FUEL SURCHARGE		24.30
				IB DISCOUNT		-15.73
SUB-TOTAL						3,298.97
TOTAL TAX						225.72

24" ADS Cast/UF

INVOICE TOTAL \$3,524.69 USD

CSP IPOL ENTERED BY IPOL

Freight and Special Order Disclaimer:

1. Quotes must be accepted within 30 days from above quotation date. Orders must be shipped within 30 days of order placement.
2. Freight/Drum charges will apply per the following parameters (order values listed below are not inclusion of Nyloplast, Baysever or Inserts Tee or non stock special order products which will incur actual freight charges or flat surcharge as appropriate).
a. All orders \$3,500 or greater will be delivered freight prepaid.
b. All orders less than \$3,500 where ADS has ample time to reach up the remainder of truck will incur a \$50 (minimum) drop charge.
c. All orders less than \$3,500 where ADS does not have ample time to reach up the remainder of truck will incur the actual common carrier LTL rate.
d. Chase drop charges are separate and in addition to any applicable fuel surcharges.
3. ADS reserves the right to re-note when the quantities change by more than 10%. Prices quoted do not include state, local or use taxes. Prices quoted are based on the total project. Specific products such as Nyloplast Drain and Catch Basins, Custom pipe or Specialty fabricated products will be offered only as an engineered system with ADS pipe. All returns are subject to a 25% restocking fee. Fittings, Nyloplast, non-standard geometries and specialty ordered items cannot be returned. The quantities listed are estimated based on our interpretation of the project description. The bidder is responsible for confirming quantities. ADS does not imply that the material will be accepted on any jobsite for any specific project unless stated otherwise. Technical consultation is available upon request.

IF YOU HAVE QUESTIONS RELATED TO THIS INVOICE, PLEASE CALL 888-367-7471. INQUIRIES MUST BE SUBMITTED WITHIN 30 DAYS FROM DATE OF INVOICE.

A 1.00% PER MONTH (A RATE OF 12.00% PER ANNUM) SERVICE CHARGE WILL BE BILLED ON PAST DUE AMOUNT. BUYER ACCEPTS ALL TERMS AND CONDITIONS ON BOTH SIDES HERE OF THIS FORM, NONE OF WHICH MAY BE CHANGED BY BUYER. ACCEPTANCE OF ANY SHIPMENT BY BUYER IS AN ACCEPTANCE OF THE TERMS OF THIS DOCUMENT, NOT WITHSTANDING ANY TERMS OR CONDITIONS CONTAINED IN ANY ACKNOWLEDGMENT OR OTHER FORM OF BUYER. SUBJECT TO TERMS AND CONDITIONS PRINTED ON REVERSE SIDE.



TO PAY BY CREDIT CARD CALL 888-524-7373

CONTINUED

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PAGE 1



INVOICE DATE SEP 02, 2011
INVOICE NO. 15339628

PMT. DUE DATE OCT 02, 2011
PMT. DUE \$ 613.68
CUST NO. 34871
BILL TO CUST NO. 34871
SHIP DATE SEP 02, 2011

CREDIT/DEBIT NO.
ORDER NO. 10656152 / 1226569
CUST P.O. NO. 1788
SALES REP NAME Hush, Allan R
WAREHOUSE P67
SHIP TO

BILL TO

Attn: Accounts Payable
ERC GENERAL CONTRACTING
890 CARTER ROAD SUITE 170
WINTER GARDEN FL 34787

ERC GENERAL CONTRACTING
JS JED LANDFILL
1501 OMNI WAY
SAINT CLOUD FL 34773

TERMS NET 30
BOL. NO. 1106116
TRACKING NUMBER 0

QTY ORDERED	QTY SHIPPED	U/M	PRODUCT NUMBER	DESCRIPTION	UNIT PRICE	AMOUNT
60	60	FT	13650020HB	18" DWALL HWY.WTIB.SOLID.20'	8.780	526.80
1	1	EA	DELIVERY FREIGHT CHARGE	FREIGHT CHARGE ONLY	50.000	50.00
				FUEL SURCHARGE		3.95
				18 DISCOUNT		-3.69

SUB-TOTAL 577.06

TOTAL TAX 36.62

INVOICE TOTAL \$ 613.68 USD

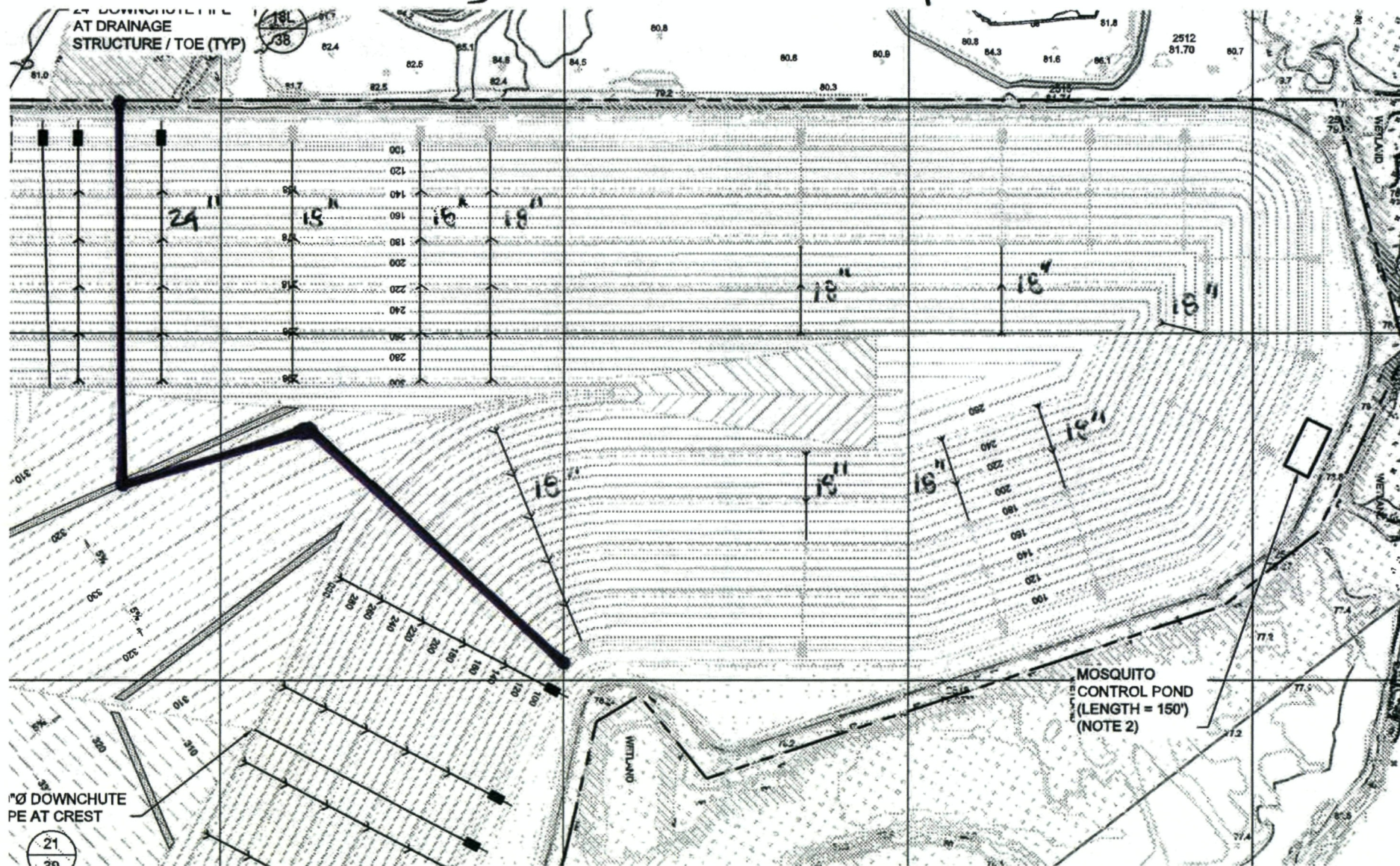
CSR TSHROPSHIRE ENTERED BY TSHROPSHIRE

18" ADS Cost / LF

Freight and Special Order Disclaimer

1. Quotes must be accepted within 30 days from above quotation date. Orders must be shipped within 30 days of order placement.
2. Freight/Drop charges will apply per the following parameters (order values listed below are not inclusive of 2nd/3rd/4th/5th/6th/7th/8th/9th/10th/11th/12th/13th/14th/15th/16th/17th/18th/19th/20th/21st/22nd/23rd/24th/25th/26th/27th/28th/29th/30th/31st/32nd/33rd/34th/35th/36th/37th/38th/39th/40th/41st/42nd/43rd/44th/45th/46th/47th/48th/49th/50th/51st/52nd/53rd/54th/55th/56th/57th/58th/59th/60th/61st/62nd/63rd/64th/65th/66th/67th/68th/69th/70th/71st/72nd/73rd/74th/75th/76th/77th/78th/79th/80th/81st/82nd/83rd/84th/85th/86th/87th/88th/89th/90th/91st/92nd/93rd/94th/95th/96th/97th/98th/99th/100th/101st/102nd/103rd/104th/105th/106th/107th/108th/109th/110th/111th/112th/113th/114th/115th/116th/117th/118th/119th/120th/121st/122nd/123rd/124th/125th/126th/127th/128th/129th/130th/131st/132nd/133rd/134th/135th/136th/137th/138th/139th/140th/141st/142nd/143rd/144th/145th/146th/147th/148th/149th/150th/151st/152nd/153rd/154th/155th/156th/157th/158th/159th/160th/161st/162nd/163rd/164th/165th/166th/167th/168th/169th/170th/171st/172nd/173rd/174th/175th/176th/177th/178th/179th/180th/181st/182nd/183rd/184th/185th/186th/187th/188th/189th/190th/191st/192nd/193rd/194th/195th/196th/197th/198th/199th/200th/201st/202nd/203rd/204th/205th/206th/207th/208th/209th/210th/211st/212nd/213rd/214th/215th/216th/217th/218th/219th/220th/221st/222nd/223rd/224th/225th/226th/227th/228th/229th/230th/231st/232nd/233rd/234th/235th/236th/237th/238th/239th/240th/241st/242nd/243rd/244th/245th/246th/247th/248th/249th/250th/251st/252nd/253rd/254th/255th/256th/257th/258th/259th/260th/261st/262nd/263rd/264th/265th/266th/267th/268th/269th/270th/271st/272nd/273rd/274th/275th/276th/277th/278th/279th/280th/281st/282nd/283rd/284th/285th/286th/287th/288th/289th/290th/291st/292nd/293rd/294th/295th/296th/297th/298th/299th/300th/301st/302nd/303rd/304th/305th/306th/307th/308th/309th/310th/311st/312nd/313rd/314th/315th/316th/317th/318th/319th/320th/321st/322nd/323rd/324th/325th/326th/327th/328th/329th/330th/331st/332nd/333rd/334th/335th/336th/337th/338th/339th/340th/341st/342nd/343rd/344th/345th/346th/347th/348th/349th/350th/351st/352nd/353rd/354th/355th/356th/357th/358th/359th/360th/361st/362nd/363rd/364th/365th/366th/367th/368th/369th/370th/371st/372nd/373rd/374th/375th/376th/377th/378th/379th/380th/381st/382nd/383rd/384th/385th/386th/387th/388th/389th/390th/391st/392nd/393rd/394th/395th/396th/397th/398th/399th/400th/401st/402nd/403rd/404th/405th/406th/407th/408th/409th/410th/411st/412nd/413rd/414th/415th/416th/417th/418th/419th/420th/421st/422nd/423rd/424th/425th/426th/427th/428th/429th/430th/431st/432nd/433rd/434th/435th/436th/437th/438th/439th/440th/441st/442nd/443rd/444th/445th/446th/447th/448th/449th/450th/451st/452nd/453rd/454th/455th/456th/457th/458th/459th/460th/461st/462nd/463rd/464th/465th/466th/467th/468th/469th/470th/471st/472nd/473rd/474th/475th/476th/477th/478th/479th/480th/481st/482nd/483rd/484th/485th/486th/487th/488th/489th/490th/491st/492nd/493rd/494th/495th/496th/497th/498th/499th/500th/501st/502nd/503rd/504th/505th/506th/507th/508th/509th/510th/511st/512nd/513rd/514th/515th/516th/517th/518th/519th/520th/521st/522nd/523rd/524th/525th/526th/527th/528th/529th/530th/531st/532nd/533rd/534th/535th/536th/537th/538th/539th/540th/541st/542nd/543rd/544th/545th/546th/547th/548th/549th/550th/551st/552nd/553rd/554th/555th/556th/557th/558th/559th/560th/561st/562nd/563rd/564th/565th/566th/567th/568th/569th/570th/571st/572nd/573rd/574th/575th/576th/577th/578th/579th/580th/581st/582nd/583rd/584th/585th/586th/587th/588th/589th/590th/591st/592nd/593rd/594th/595th/596th/597th/598th/599th/600th/601st/602nd/603rd/604th/605th/606th/607th/608th/609th/610th/611st/612nd/613rd/614th/615th/616th/617th/618th/619th/620th/621st/622nd/623rd/624th/625th/626th/627th/628th/629th/630th/631st/632nd/633rd/634th/635th/636th/637th/638th/639th/640th/641st/642nd/643rd/644th/645th/646th/647th/648th/649th/650th/651st/652nd/653rd/654th/655th/656th/657th/658th/659th/660th/661st/662nd/663rd/664th/665th/666th/667th/668th/669th/670th/671st/672nd/673rd/674th/675th/676th/677th/678th/679th/680th/681st/682nd/683rd/684th/685th/686th/687th/688th/689th/690th/691st/692nd/693rd/694th/695th/696th/697th/698th/699th/700th/701st/702nd/703rd/704th/705th/706th/707th/708th/709th/710th/711st/712nd/713rd/714th/715th/716th/717th/718th/719th/720th/721st/722nd/723rd/724th/725th/726th/727th/728th/729th/730th/731st/732nd/733rd/734th/735th/736th/737th/738th/739th/740th/741st/742nd/743rd/744th/745th/746th/747th/748th/749th/750th/751st/752nd/753rd/754th/755th/756th/757th/758th/759th/760th/761st/762nd/763rd/764th/765th/766th/767th/768th/769th/770th/771st/772nd/773rd/774th/775th/776th/777th/778th/779th/780th/781st/782nd/783rd/784th/785th/786th/787th/788th/789th/790th/791st/792nd/793rd/794th/795th/796th/797th/798th/799th/800th/801st/802nd/803rd/804th/805th/806th/807th/808th/809th/810th/811st/812nd/813rd/814th/815th/816th/817th/818th/819th/820th/821st/822nd/823rd/824th/825th/826th/827th/828th/829th/830th/831st/832nd/833rd/834th/835th/836th/837th/838th/839th/840th/841st/842nd/843rd/844th/845th/846th/847th/848th/849th/850th/851st/852nd/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Remaining Stormwater Piping Cells 1-8



Sheet 37 of 40, Lateral
Expansion, Major ERP Modification
JED Solid Waste Management Facility

Cells 1-8 Financial Assurance
Cost Estimate

Figure 1

From: Conerly, Bo
Sent: Thursday, April 07, 2011 6:31 PM
To: 'Michael Kaiser'
Subject: FW: JED Volumes

Hey Mike

I just checked the website again and it still has the same information (WUP complete, ERP under review). I'll give Jose a call tomorrow if it hasn't been updated in the morning.

The excavation volumes are presented below. The North (1,413,599.82 cy) is from 60' to 45'. The South (3,292,291.71 cy) is from is the excavation in the 4 phases going down to 45' but leaving the berms. The Berm volume (1,571,237.30 cy) is obviously the volume in the berms for both the south and north areas. Total volume is 6,277,128.83 cy.

Let me know if you have any questions.

Robert "Bo" Conerly, P.E.
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Fax: 941-379-4352
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Remaining Soil Volume in Branson Barron Area.

APPENDIX A-2

Gas Collection and Control System Support Documents for Closure Estimates

Cell 1-8 Financial Assurance Cost Estimate

Shaw Bid Quote

BID WORKSHEET JED Solid Waste Management Facility Phase 2 Cells 3-6 Gas Collection and Control System Expansion rev. 9/19/2011b

Item/Description	Unit	Quantity	Unit Cost	Subtotal Cost
General				
Mobilization/Demobilization	LS	1	max 5% of Total	\$ 13,400.00
Track Truck Mobe/Demobe (if needed)	LS	1	\$ 1,820.00	\$ 1,820.00
Tracked Haul Truck (if needed)	WK	1	\$ 4,500.00	\$ 4,500.00
HDPE Header and Lateral Piping				
Excavation and Connection to Existing Lateral Stubouts	EA	11	\$ 1,800.00	\$ 19,800.00
6" SDR-17 Lateral Pipe	LF	3120	\$ 20.00	\$ 62,400.00
12" SDR-17 Header Pipe	LF	400	\$ 42.00	\$ 16,800.00
Valves and Other Components				
12" ASAHI Ty57 Nitrile Seal Butterfly Valve /w Ext.	EA	3	\$ 3,650.00	\$ 10,950.00
6" Header Access Riser (Detail 10A/B-11)	EA	4	\$ 750.00	\$ 3,000.00
Fittings	LS	1	\$ 3,580.00	\$ 3,580.00
Gas Extraction Wells				
Gas Well Head Assembly	EA	13	\$ 700.00	\$ 9,100.00
Benching for Wells	EA	13	\$ 400.00	\$ 5,200.00
8" Sch 80 PVC Perforated Gas Extraction Well Section	LF	1360	\$ 57.00	\$ 77,520.00
8" Sch 80 PVC Solid Gas Extraction Well Section	LF	235	\$ 42.50	\$ 9,987.50
Vertical Well Drilling (36-inch diameter)	LF	1600	\$ 28.00	\$ 44,800.00
TOTAL CONSTRUCTION COSTS				\$ 282,857.50

Notes:

1. Mobilization and demobilization shall not exceed 5% of total.
2. Quantities shall be used and bid as provided.
3. Lateral pipe quantities include 6% slope correction and 15' allowance at well locations for vertical connections and stubouts.
4. Unit rate for perforated gas extraction well section shall include gravel pack.
5. Unit rate for solid gas extraction well section shall include bentonite plugs, isolation rings, and soil backfill.
6. Fittings shall include all elbows, tees, flange adapters, blind flanges, gaskets, bolts etc. to complete the lateral connections to the wells and existing laterals. Butterfly Valve and Header Access Riser items include fittings specific to those items.

Fitting cost as % of pipe cost

Remaining Other Installation Costs

\$ 76,850.00 - \$

$$\left[\frac{3580}{(62,400 + 16,800)} \right] \times 100 = 4.86\%$$

use 5%

● Mob/Demob - 13,400.00

2. Track Haul Truck - 18,000 - (4 weeks)

3. 6 Connections to Existing Laterals - 10,800 - (not header)

4. 5-12" Valves - 18,250 -

(14,000.00)

Cell 7 GCS Horizontal Collectors



ENVIRONMENTAL CORPORATION

COMANCO Environmental Corporation
4301 Sterling Commerce Dr
Plant City, FL 33566-7372
Ph: (813) 988-8829 Fx: (813) 988-8953

Prepared By:
Scotty Martone Estimator
Quote Date: December 1, 2011
Quote Expiration: December 15, 2011

Mr. Mike Kaiser

Waste Services, Inc.
1099 Miller Drive
Altamonte Springs, Florida 32701
Cell: 904/673-0446
Fax: 407/831-7506
E-mail: mkaiser@wasteservicesinc.com

Project Information:

JED Cell 7 Horizontal Collector
JED Solid Waste Facility, St. Cloud, Florida
Proposal Number: 03115182

COMANCO Environmental Corporation (CEC) is pleased to provide you with the following proposal for the supply and installation of the items and appurtenances as indicated below:

* 6872/4F

CEC Provided Equipment					
Item	Item Description	Quantity	Unit	Unit Price	Total
1	Mobilization/Demobilization	1	EA	\$ 3,000.00	\$ 3,000.00
2	Supply & Install Horizontal Collector with Stone	1,750	LF	\$ 67.00	\$ 117,250.00
Stone Option Total (Mob/Demob Included)					\$ 120,250.00
3	Supply & Install Horizontal Collector with Tire Chips	1,750	LF	\$ 45.00	\$ 78,750.00
Tire Chip Option Total (Mob/Demob Included)					\$ 81,750.00

WSI Provided Equipment					
Item	Item Description	Quantity	Unit	Unit Price	Total
4	Mobilization/Demobilization	1	EA	\$ 1,500.00	\$ 1,500.00
5	Supply & Install Horizontal Collector with Stone	1,750	LF	\$ 63.00	\$ 110,250.00
Stone Option Total (Mob/Demob Included)					\$ 111,750.00
6	Supply & Install Horizontal Collector with Tire Chips	1,750	LF	\$ 41.00	\$ 71,750.00
Tire Chip Option Total (Mob/Demob Included)					\$ 73,250.00

- 1.) Mobilization / Demobilization:** This proposal includes one (1) mobilization/demobilization. Any and each additional mobilizations/demobilizations, if necessary, shall be billed at the rate listed in this proposal.
- 2.) Labor:** Our proposal is based on a five (5) day work week, ten (10) hours each day, utilizing non-union, non-prevailing wage labor.
- 3.) Performance / Payment Bond:** The cost of the performance/payment bond (if applicable) will be 2.0% of the total estimated cost shown above.
- 4.) Taxes:** Any applicable material and/or freight sales taxes are included in this proposal.

Gas Flare Purchase 2008



Shaw® LFG Specialties, LLC.

Corporate Headquarters:
LFG Specialties LLC
16406 US Route 224 E
Findlay, OH 45840-9761
Main: (419)424-4999
Fax: (419)424-4991

**UTILITY FLARE SYSTEM
MODEL PCFT1444I12**

LFG SPECIALTIES SALES AGREEMENT NO. 030802R1

Date: April 7, 2008

PRESENTED TO:

**Mr. Mike Kaiser
Waste Services Inc.
1501 Omni Way
St. Cloud, FL 34773
(904)673-0446**

PREPARED BY:

**Lee Zink, Senior Application Engineer
16406 US Route 224 E
Findlay, OH 45840
(419) 425-6190**

PRESENTED BY:

**Robert Johnston, National Sales Manager
11560 Great Oaks Way, Suite 500
Alpharetta, GA 30022
(770)667-7789**

PROJECT REFERENCE:

**J.E.D. Solid Waste Management Facility
Omni Waste of Osceola County, LLC
St. Cloud, FL**

SALES AGREEMENT

This sale agreement "Agreement" which includes the Equipment Specification and Terms and Conditions of Sale below is entered into on the undersigned date, by and between the seller, LFG Specialties, L.L.C. "LFG Specialties", a Louisiana corporation, and purchaser, _____ (hereinafter "Purchaser").

- A. LFG Specialties is the manufacturer of certain flare "Equipment" more fully described in paragraph 1. below, "Equipment Quote".
- B. Purchaser wishes to purchase from LFG Specialties such Equipment on the terms and conditions set forth herein.

Therefore, in consideration of the covenants contained herein and for other good and valuable consideration, the legal sufficiency of which is acknowledged, the parties wishing to be legally bound agree as follows:

I. EQUIPMENT SPECIFICATION

Purchaser hereby agrees to purchase from LFG Specialties such Equipment and Services as described in this Agreement per the following and subject to the standard "Terms and Conditions of Sales" herein:

A. Equipment Scope:

LFG Specialties' scope of equipment supply and brief description of the system is listed below. For a more detailed system description please see Section G.

1. One LFG Specialties fully assembled skid mounted landfill gas candlestick flare including:
 - One flare Model CFT1444112 with peripheral equipment (capacity 360-3600 SCFM of landfill gas at 30-50% methane content)
 - **Designed and constructed to operate as a complete unit to minimize installation and start-up time completely fabricated, assembled, pre-wired and tested prior to shipment.**
 - **Stack to be delivered completely wired from the stack junction box to the thermocouples, UV eye and igniter. Also from the stack junction box to the main control and power panels.**
 - One 12 in. Shand & Jurs Model 94307 flame arrester
 - One propane pilot assembly with automatic igniter system
 - One 200 lb. propane tank (propane to be supplied by others)
 - Two Houston Service Industries Model 12602 or equal multistage centrifugal landfill gas blowers with direct drive, blower bearing RTDs and 75 HP, 460 VAC, three phase, explosion proof motors (each blower is rated for 1350 – 3600 SCFM @ 55 in. w.c. inlet vacuum and 15 in. w.c. discharge pressure, 100 deg. F, 100 ft. asl.)
 - Associated instrumentation including vacuum, pressure and temperature gauges
 - Two sets of associated Flex Couplings, manual isolation valves, and check valves
 - One 14 in. fail safe automatic pneumatic header valve (Note: LFG Specialties takes exception to the electric valve)
 - One 48 in. condensate knock out pot with 20 micron demister/filter, 14 in. inlet and 14 in. outlet, sight glass, level switch, and drain port
 - Condensate drain piping and automatic drip traps
 - One control rack with:
 - ◆ Flame-Trol III automatic flare controller with touch-screen interface with blower amp and blower hours displays
 - ◆ Main power disconnect and step down transformer
 - ◆ Structural roof for heat and weather protection
 - Two 75 HP Variable Frequency Drives and vacuum transmitter

Utility Flare Model PCFT1444112
Date: April 7, 2008

Sales Agreement No. 030802R1

- One each thermal dispersion Flow Meter with totalizer and Yokogawa six channel paperless chart recorder to record flame temperature and landfill gas flow
- One eight channel Raco Verbatim Autodialer
- 10 ft. wide by 40 ft. long structural steel skid
- All skid components interconnecting piping and wiring
- Three copies of O & M Manual, cut sheets, and drawings

2010, 2011 & 2012
inflation adjustments

Notes:

1. System is designed to meet or exceed the requirements in specification section 11910.
2. All installation by others
3. Landfill gas supply system must be properly engineered to provide a stable gas supply for the flare system to function properly.
4. A properly designed condensate removal system must be in place within 50 ft. upstream of the flare system for reliable operation.
5. The flare system must be supplied power from a stable energy source with a voltage deviation of no more than 7%.

B. Price Schedule: $\$220,120 \times 1.02 \times 1.01 \times 1.01 = \$229,035.00$

Price for the LFG Specialties Model PCFT1444112 Utility Flare System as described in Section A, item 1 FOB Findlay, OH, excluding tax, is

\$ 205,930.00

Three days of start-up assistance and training (travel and living expenses are included)

\$ 4,690.00

*NOTE: Should the system not be commissioned by LFG Specialties, the warranty will be void.

Estimated shipping and handling from LFG Specialties shop to site (shipping to be charged at actual cost plus 15% handling fee)

\$ 9,500.00

ALL PRICING IS FOB — FINDLAY, OHIO

Options:

1. One day of Semi-Annual or Annual Preventative Maintenance (travel and living expenses are included). Price is per visit. Additional information available upon request.

PRICE ADDER: \$ 3,764.00

C. Shipment Terms:

Shipment terms are F.O.B. LFG Specialties' facilities, Findlay, Ohio. LFG Specialties Sales Agreement calls for the Purchaser to pay all installation costs, freight from our facility to the project site, and all applicable taxes and necessary freight insurance.

D. Shipment Schedule:

LFG Specialties makes every effort to meet our Customers delivery requests and special requirements. Delivery for the flare system outlined in this Agreement is:

Submittal Drawings: 4 weeks after receipt of order for submittal drawings
Equipment Shipment: 12 to 16 weeks from receipt of approval for submittal drawings
(Actual delivery to be determined at time of submittal approval)

BID WORKSHEET
J.E.D. Solid Waste Management Facility
Phase 1 - Gas Collection and Control System
Revised May 9, 2008 - Mike Kaiser

Item/Description	Unit	Quantity	Unit Cost	Subtotal Cost
General:				
Mobilization/Demobilization	LS	1	5% of Total	\$ 19,800.00
Erosion and Sediment Control	LS	1	\$ 7,760.00	\$ 7,760.00
Survey	LS	1	\$ 11,300.00	\$ 11,300.00
HDPE Header and Lateral Piping				
6" SDR-17 Lateral Pipe	LF	2800	\$ 18.00	\$ 50,400.00
8" SDR-17 Lateral Pipe	LF	200	\$ 24.00	\$ 4,800.00
12" SDR-17 Pipe, Header	LF	350	\$ 34.00	\$ 11,900.00
14" SDR-17 Pipe, Header	LF	310	\$ 41.00	\$ 12,710.00
18" SDR-17 Pipe, Header	LF	1650	\$ 59.00	\$ 97,350.00
20" SDR-17 Pipe, Header	LF	310	\$ 79.00	\$ 24,490.00
24" SDR-17 Pipe, Header	LF	100	\$ 160.00	\$ 16,000.00
Valves and Other Components				
Fittings	LS	1	\$ 15,000.00	\$ 15,000.00
Header Access Riser (Header High Points)	EA	1	\$ 1,000.00	\$ 1,000.00
14" Isolation Butterfly Valve	EA	1	\$ 8,200.00	\$ 8,200.00
18" Isolation Butterfly Valve	EA	1	\$ 16,000.00	\$ 16,000.00
20" Isolation Butterfly Valve	EA	1	\$ 19,000.00	\$ 19,000.00
Gas Extraction Wells				
Gas Well Head Assembly	EA	29	\$ 1,200.00	\$ 34,800.00
8" Sch 80 PVC Perforated Gas Extraction Well Section	LF	1410	\$ 51.50	\$ 72,815.00
8" Sch 80 PVC Solid Gas Extraction Well Section	LF	587	\$ 34.00	\$ 19,958.00
Vertical Well Drilling (36-inch diameter)	LF	1910	\$ 27.00	\$ 51,570.00
Condensate Collection & Management				
Condensate Drains at Leachate Cleanouts	EA	3	\$ 6,500.00	\$ 19,500.00
HDPE 36" Dia. Knockout Pot at Flare Station	EA	1	\$ 15,000.00	\$ 15,000.00
Condensate Management System at Flare Station	LS	1	\$ 18,000.00	\$ 18,000.00
Gas Flare Station				
Flare Station Pad (Excavation, Fill and Grading)	LS	1	\$ 13,000.00	\$ 13,000.00
Gas Flare Station Receiving & Installation	LS	1	\$ 10,900.00	\$ 10,900.00
Electrical	LS	1	\$ 23,000.00	\$ 23,000.00
8' Tall Chain Link Fencing	LF	160	\$ 29.00	\$ 4,640.00
4' Wide Man Gate	EA	1	\$ 520.00	\$ 520.00
Sodding	SF	1000	\$ 2.00	\$ 2,000.00
12" Thick 3/4" Gravel with Geofabric	SF	1250	\$ 3.50	\$ 4,375.00
Retaining Wall and Footing (8' H x 8" W)	LF	80	\$ 350.00	\$ 28,000.00
Start-up Support	LS	1	\$ 4,690.00	\$ 4,690.00
TOTAL CONSTRUCTION COSTS				\$ 637,978.00

Notes:

1. Mobilization and demobilization shall not exceed 5% of total.

In flare purchase

Flare Installation 2008

\$ 86,435.00

ADD 2010, 2011 ; 2012 Inflation

Adjustments

\$ 86,435.00 x 1.02 x 1.01 x 1.01 = \$ 89,935.79

APPENDIX A-3

Support Documents for Long-term Care Cost Estimates

Groundwater, Leachate & Surface Water Sampling Costs

December 22, 2011

Mike,

Below is the scope of work and budget estimate for water quality monitoring at the J.E.D. Solid Waste Management (JED) facility for 2012. The work will be performed in accordance with the current Florida Department of Environmental Protection (FDEP) Solid Waste Management Facility Permit and relevant revisions to Chapter 62-701 F.A.C. (January 6, 2010).

In general, for each semi-annual event:

- Geo-Services and Consulting, LLC (GS&C) will notify FDEP a minimum of fourteen (14) calendar days prior to commencement of sampling activities.
- Groundwater samples will be collected from the thirty-three (33) monitoring wells identified in the current MPIS for sampling. The wells will be purged and sampled in accordance with the current applicable FDEP SOPs;
- Quality control (QC) samples will be collected and analyzed in accordance with the applicable FDEP SOPs;
- Surface water samples will be collected during each semi-annual event at locations SW-3 and SW-4 if flow in Bull Creek is observed. If a sample is collected the laboratory cost is \$325.00; ←
- Leachate samples will be collected from each active disposal cell in November 2012. It is anticipated that leachate samples will be collected from cells 1 through 8;
- Static water levels will be measured in all site monitoring wells and piezometers prior to purging for preparation of a groundwater contour map;
- Samples will be preserved, handled and shipped in accordance with the applicable FDEP SOPs (EPS proposes to utilize Columbia Analytical Services (CAS) for the laboratory analyses);
- Purge water will not be containerized and will be discharged to the ground surface, except for the monitoring wells with a history of exceeding the groundwater cleanup target levels (GCTL). The purge water from these wells will be discharged within an active disposal cell;
- GS&C will notify you of any damage to any of the existing monitoring wells;
- GS&C will prepare semi-annual water quality reports for submittal to FDEP. The WQ reports will be prepared in accordance with the electronic reporting requirements and will be signed and sealed by a State of Florida registered Professional Geologist. GS&C will provide FDEP with two (2) CDs containing the WQ reports. One hard copy (with an electronic copy included on the inside front cover) will be provided to you for the JED facility's site files and I will upload a pdf copy of the report onto the files anywhere website so you can download for your files. The reports will be submitted in accordance with the permit requirements.

As with semi-annual water quality monitoring previously performed at the JED facility, GS&C proposes to perform this work on a lump sum basis for each semi-annual event. The lump sum cost for the May 2012 semi-annual event would be \$25,500. The lump sum cost for the November 2012 semi-annual event would be \$30,800. The total cost for the two water quality monitoring events would be \$56,844. This total reflects a \$1,844 increase over the cost for the work performed in 2011 (\$55,000). The increase in cost is attributable to the addition of a leachate sample (Cells 7 & 8) and a slight increase in the laboratory analytical costs. The cost for re-sampling of a monitoring well (if necessary) would be \$760.

Includes leachate. See next page for breakout costs.

The cost for leachate sampling for compliance with Specific Condition 7 (of the agreement with the City of St. Cloud) would be \$1,050 per sample (lab cost & sampling). Since you collected pre and post aeration samples concurrently this year, you can just collect a post aeration sample in 2012 and use one of the leachate samples collected at Cells 1-8 for the second sample. The per unit breakout cost for the leachate samples at the cells is (labor [\$250] laboratory [\$676]) and the total equal to approximately \$926.00. We would just have to add a few analyses to one of these samples to match the parameters listed in the agreement.

If this cost estimate is acceptable, you can reply directly to this email. Please let me know if you have any questions.

Thanks again for the opportunity
Bob

Robert Thompson, P.G.

Senior Geologist

Geo-Services and Consulting, LLC

23110 State Road 54 No. 159

Lutz, Florida 33549

Phone: (813) 418-2007

thompsonrw@hotmail.com

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Other Gas/Air Monitoring Reg's.

January 30, 2012

P83-82734Q

Mr. Mike Kaiser
Waste Services, Incorporated
1501 Omni Way
St. Cloud, FL 34773

**RE: PROPOSAL FOR ENGINEERING SERVICES
2012 TITLE V PERMIT AND LANDFILL GAS SERVICES
J.E.D. SOLID WASTE MANAGEMENT FACILITY
OSCEOLA COUNTY, FLORIDA**

Dear Mr. Kaiser:

Per your request, this letter outlines Golder Associates Inc.'s (Golder's) proposed scope of work and associated costs for the above-referenced project. Golder understands that Waste Services, Inc. (WSI) requests Golder to provide assistance in various 2011 Title V Permit compliance items at the J.E.D. Solid Waste Management Facility (JED Facility).

PROJECT UNDERSTANDING, SCOPE AND COST

WSI is required to complete various reports, testing, and monitoring requirements at the JED Facility. Golder is prepared to assist WSI and our scope of work is discussed below in detail on a per task basis.

Task 1 – Semi-Annual Reports

In accordance with 40 CFR 60.757(f), an affected facility must submit semi-annual reports to the FDEP. Under this task, Golder will prepare the semi-annual reports that will include the following items:

- Value and length of time for exceedance of applicable parameters monitored under §60.756(a), (b), (c), and (d).
- Description and duration of all periods when the gas stream was diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756.
- Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating.
- All periods when the collection system was not operating in excess of 5 days.
- The location of each exceedance of the 500 parts per million methane concentration as provided in §60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month.
- The date of installation and the location of each well or collection system expansion added pursuant to paragraphs (a)(3), (b), and (c)(4) of §60.755.

In addition to the above mentioned report requirements, FDEP has requested that wellfield monitoring logs be included with the report. Golder will coordinate with WSI to include these logs.

Included with the NSPS semi-annual report will be the semi-annual Startup, Shutdown, and Malfunction (SSM) Report. This report will be prepared by Golder and submitted with the NSPS Semi-Annual Report. This report will include the number of SSM events and whether or not the SSM Plan procedures were followed during the SSM event. As requested by FDEP, copies of the SSM forms should be included with this report as well. Golder will coordinate with WSI to include these forms.

Golder Associates Inc.
9428 Baymeadows Road, Suite 400
Jacksonville, FL 32256 USA
Tel: (904) 363-3430 Fax: (904) 363-3445 www.golder.com

Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America



In the event an applicable emission limit was exceeded and SSM Plan procedures were not followed, the SSM Plan will need to be revised to address this issue. Revisions to the SSM Plan (if required) will be covered under a separate cost proposal. Golder will perform this task for the lump sum cost of \$3,750 per report (total of \$7,500 for the two reports). The reports are due to FDEP by January 30, 2012 and July 30, 2012 for the previous six month monitoring period. Golder understands that WSI may internalize this report in the future.

Task 2 – Title V Permit Annual Reporting Support

This task includes support services for the annual Title V Permit Reporting including:

- Annual Operating Report
- Annual Emissions Fee Form
- Annual Statement of Compliance

Annual Report

Golder will prepare the Annual Operating Report (AOR) for the calendar year 2010 (due April 1, 2012). Golder will complete and submit the 2011 AOR using the EAOR FDEP electronic submittal process. Golder will perform the necessary calculations, based on data collected from the facility, to complete the AOR. This task will require the electronic signature of the responsible official (RO) to be submitted to follow-up the electronic submittal.

Annual Emissions Fee Forms

This task includes support with the preparation of the Title V Annual Emissions Fee Form for the calendar year 2011, required to be submitted by March 1, 2012. The Title V Annual Emissions Fee Form includes calculations with supporting information that determine the amount of the fee that is required to be paid annually to the FDEP for the emissions of regulated pollutants at the facility. Golder will evaluate if current conditions, as established in new permits, have affected this status and prepare the appropriate documentation. The Fee Form document will require the signature of the RO and a check from WSI to cover the cost of the emissions fee.

Annual Statement of Compliance

This task includes support with the preparation of the Title V Statement of Compliance for the calendar year 2011, required to be submitted by March 1, 2012. The Statement of Compliance documents the facility's compliance status during the previous calendar year. The Statement of Compliance requires explanations of each identified and reported noncompliance item. The Statement of Compliance must be submitted to both the FDEP and Environmental Protection Agency (EPA) and requires the signature of the RO.

Golder will provide assistance in completing the above mentioned reports and compliance submittals in this Task for the estimated cost of \$5,600. As done in previous years, Golder will assist WSI only as needed and directed by WSI.

Task 3 – Visible Emissions and Sulfur Testing

This task includes the visible emission testing of the facility's flare in accordance with the facility's Revised Title V Permit. USEPA Method 22 of 40 CFR 60 Appendix A requires a two hour observation period for visible emissions. Golder will provide an observer who meets the requirements as listed in the Revised Title V Permit and will perform the testing during the first calendar quarter of 2012. US EPA Method 22 will be followed during the visible emissions testing. Included within this task is the fifteen day notification of the testing to FDEP.

Additionally, Golder will obtain a landfill gas sample from the positive side of the blower and send it for laboratory analysis to determine the sulfur content within the landfill gas. The sample will be analyzed using ASTM D-3246-81 as done previously by Golder for WSI.

Golder will prepare a report summarizing the results from the USEPA Method 22 visible emissions observations and include the required reporting forms, as well as the results from the sulfur sampling analysis. This report must be signed by the facility's RO. Golder will coordinate with WSI to and submit the report to FDEP within 45 days of the testing/sampling date.

Golder's estimated costs to perform the visible emissions and sulfur testing is \$2,900.

Task 4 – Greenhouse Gas (GHG) Reporting Support

Under this task, Golder will prepare and submit the report associated with the calendar year 2011 GHG monitoring. USEPA requires the reporting to be completely electronic, via the Electronic Greenhouse Gas Reporting Tool (e-GGRT) website. This report includes the GHG monitoring results from 2011. As performed last year, Golder anticipates to use the Excel based tables to estimate the facility's GHG emissions. Golder will prepare and submit the report, and coordinate any required certifications. This report will be due by March 31, 2011.

Golder's will perform this service associated with GHG Reporting for the lump sum fee of \$4,200.

Table 1 below presents a summary of the costs as described above on a per task basis.

Tasks	Budget
Task 1 – Semi-Annual Reports	\$7,500 (\$3,750 each, lump sum)
Task 2 – Title V Permit Annual Reporting	\$5,600
Task 3 – Visible Emissions and Sulfur Testing	\$2,900
Task 4 – GHG Reporting Support	\$4,200 (lump sum)
TOTAL	\$20,200

AUTHORIZATION TO PROCEED

Golder will perform the Services identified in this proposal in accordance with the previously agreed to Professional Services Agreement between WSI (Omni Waste of Osceola County, LLC) and Golder (dated October 20, 2008).

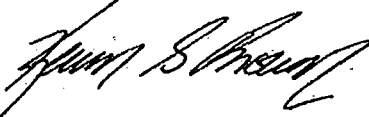
If you find this proposal acceptable, please sign the proposal acceptance form provided below and return one executed original to us indicating authorization to proceed with performance of the Services.

Golder sincerely appreciates the opportunity to provide our services to WSI at the JSWMF. If you have any questions, please feel free to give us a call.

Sincerely,

GOLDER ASSOCIATES INC.


Don E. Grigg, PE
Senior Project Engineer


Kevin S. Brown, PE
Senior Consultant and Principal

Attachments

DEG/veh

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**GOLDER ASSOCIATES INC.
PROPOSAL ACCEPTANCE FORM**

PROPOSAL NUMBER: P83-82734Q

DATE: January 30, 2012

RE: **PROPOSAL FOR ENGINEERING SERVICES
2012 TITLE V PERMIT AND LANDFILL GAS SERVICES
J.E.D. SOLID WASTE MANAGEMENT FACILITY
OSCEOLA COUNTY, FLORIDA**

Accepted by:

WASTE SERVICES, INCORPORATED

Authorized Representative

Name

Title

Date



EPG Companies Inc.

19900 County Road 81
Maple Grove, MN 55311

Phone: 763-424-2613
800-443-7426
Fax: 763-493-4812
www.epgco.com

Quote Number: 13448 Rev Num 4

Page 1 of 5

TO:

Mike Kaiser
J.E.D. Solid Waste Facility / Waste Services
Omni Waste of Osceola Cty
1501 Omni Way
St Cloud FL 34773
USA

Date: 9/20/2011
Expires: 10/20/2011
Reference: Cell 8
Site: St. Cloud, FL
SalesPerson: Jim Bailey

<u>Qty</u>	<u>Part Number / Description</u>	<u>Unit Cost</u>	<u>Your Cost</u>
PRIMARY SUMP PUMPS			
2	WSDPT 17-3 EPG SurePump, patented, stainless steel Wheeled Sump Drainer, size 6, with 5 HP, 460 V, 3PH motor, 100' of jacketed 12-4 CP motor lead, 0-11' level sensor with built-in lightning arrestor and 100' of Hytrel lead, and 100' of 3/16" stainless steel suspension cable and clamps.	\$6,354.00 EA	\$12,708.00
		Primary pump cost.	
2	NW3SS EPG Discharge Adapter, 3" stainless steel disconnect.	\$1,300.00 EA	\$2,600.00
1	BJBP525 EPG Breakout Box, NEMA 4X non-metallic enclosure for 2 ea. motor leads, includes connection terminals.	\$165.00 EA	\$165.00
1	BJBL625B EPG Breakout Box, NEMA 4X non-metallic enclosure, junction box for 2 ea. level sensors. Includes desiccant dryer, bellows, and connection terminals.	\$350.00 EA	\$350.00
SECONDARY SUMP PUMP			
1	WSDPT 8-5 EPG SurePump, patented, stainless steel Wheeled Sump Drainer, size 4, with 1.5 HP, 460 V, 3PH motor, 100' of jacketed 14-4 CP motor lead, 0-11' level sensor with built-in lightning arrestor and 100' of Hytrel lead, and 100' of 1/8" stainless steel suspension cable and clamps. Includes 2" stainless steel discharge adapter.	\$4,405.00 EA	\$4,405.00
		Secondary pump cost	
1	NW2SS EPG Discharge Adapter, 2", cast 316 stainless steel disconnect.	\$728.00 EA	\$728.00
1	BJBP500 EPG Breakout Box, NEMA 4X non-metallic enclosure for 1 ea. motor lead, includes connection terminals.	\$155.00 EA	\$155.00

EPG Companies Inc.

19900 County Road 81
Maple Grove, MN 55311

Phone: 763-424-2613
800-443-7426
Fax: 763-493-4812
www.epgco.com

Quote Number: 13448 Rev Num 4

Page 2 of 5

1	BJBL600B	\$195.00 EA	\$195.00
	EPG Breakout Box, NEMA 4X non-metallic enclosure, junction box for 1 ea. level sensor. Includes desiccant dryer, bellows, and connection terminals.		

CONTROL PANEL

1	L960PT	\$17,765.00 EA	\$17,765.00
	EPG PumpMaster Control Panel, UL listed, 460 V, 3PH, NEMA 4X white powder coated stainless steel, to operate 2 ea. 5 HP primary sump pumps in lead-lag/alternating mode with LevelMaster level control meter and simulator, primary level sensor selector switch, Pump 1 or Pump 1 & 2 selector switch, 1.5 HP secondary sump pump with LevelMaster level control meter and simulator, power monitors, pump lightning arrestors, elapsed time meters, cycle counters, level sensor lightning protectors, 30A molded case circuit breaker to TVSS, red top mounted high sump level or pump fault light, 115 V power to terminals for 3 ea. 3 ea. flow meters, terminals for 4-20 mA outputs from flow meters (future monitoring & control use), and pump run output contacts. Includes external mount ~1.5KVA stainless steel encapsulated transformer.		

Total amount quoted \$ 39,071.00

LCS Cleaning - JED 5-yr Permit
Renewal. Cells 1-6.

FLORIDA JETCLEAN

**HIGH PRESSURE WATER JETTING – EXPLOSION PROOF INSPECTION
PIPE LOCATING – NO DIG REPAIRS – VACUUM TRUCK SERVICES**

19019 Fern Meadow Loop
Lutz, FL 33558
www.floridajetclean.com

TEL : 800-226-8013
FAX : 813-926-4616

PROPOSAL

DATE : 2/7/2012
TO : Michael Kaiser- OMNI Waste Services
FROM : Ralph Calistri (floridajetclean@yahoo.com)
SUBJECT : Proposal LCS Pipe Jetcleaning at JED Oak Hammock Landfill

Thank you for your inquiry. We confirm our capability and interest in carrying out this work for OMNI Waste Services at the Oak Hammock Landfill.

FLORIDA JETCLEAN specializes in leachate collection system maintenance and inspection, and has developed a considerable amount of specific expertise in this field over the last 20+ years. Our company has worked at an extensive number of landfills in Florida, Georgia, the Carolinas, Delaware, and westward to Arkansas. We have worked with most engineering companies active in this field, and have also fostered excellent working relationships with the regulatory authorities. We use modified jetting equipment designed to achieve extended pipe distances found in landfill environments and **our explosion proof camera equipment complies with all OSHA and regulatory mandates for methane piping.** Substantial references are available on request.

Based on our telephone conversation we propose as follows:

High-pressure water-jetting (4,000 PSI) of roughly 10,900' of 4" / 6" HDPE leachate collection piping at the above location (including FDEP report) \$ 6,950.00

Subject to:

- An adequate, no charge, water supply for jetcleaning via hydrant or water truck.
- 2 wheel drive vehicle access within 10'-15' of each cleanout
- Continuity of access allowing work to be carried out on a single mobilization
- Exposed and opened cleanouts at ground level
- Payment : Net 30 days

Regards,

Ralph Calistri - Florida Jetclean - 800-226-8013

Average cost Cells 1-6 = \$ 6,950.00 / 6 = \$ 1,158.33/cell
Total Cost Cells 1-8 = \$ 1,158.33 (8) = \$ 9,266.64

November 7, 2011

Mr. Mike Kaiser
WSI
A Progressive Waste Solutions Company
1099 Miller Drive
Altamonte Springs, Florida 32701

GW-22 Abandonment ;
Replacement

Re: MW-22 (A-C) Abandonment/Replacement
Omni Waste of Osceola County, LLC
1501 Omni Way
St. Cloud, Florida 34773

Dear Mr. Kaiser:

Geo-Services and Consulting, LLC (GS&C) in accordance with your request has prepared the attached cost estimate for proper abandonment and subsequent replacement of monitoring well cluster MW-22 at the referenced facility. Monitoring well cluster MW-22 is currently located within the boundaries of a future disposal cell and needs to be abandoned in accordance with Florida Department of Environmental Protection (FDEP) rules. GS&C has tentatively scheduled the abandonment work for **Thursday November 10** (first available day for the driller). Scheduling of the drilling activities for replacement of the monitoring well cluster is pending completion of current construction work. The drilling activities will be performed by a Florida licensed driller and will acquire the required permits in advance of mobilizing to the site.

GS&C understands that Omni Waste in accordance with Rule 62.701.501(3)(d)6 F.A.C. will provide the proper notifications to the FDEP in advance of performance of this work.

Monitoring Well Abandonment

Monitoring well cluster MW-22 consists of three 2-inch diameter wells, A, B and C Zone (15, 35 and 65 feet below land surface [bls]). The shallowest of the monitoring wells (A Zone) will be removed from the subsurface and the location will be abandoned using Portland Type I grout from the point of collapse to land surface.

Because of concerns relative to the potential for puncture of future landfill liner, the remaining monitoring wells (B and C Zone) will be abandoned using the following procedure;

- The remaining wells will be abandoned using Portland Type 1 grout placed from the bottom up through tremie pipe to approximately ten feet bls, then
- Over-drill using hollow stem augers to approximately ten feet bls thereby removing remaining PVC well material, finally

- Prior to removal of the hollow stem augers, Portland Type I grout will be poured, filling the augers to land surface.

Monitoring Well Installation

Subsequent to completion of the current construction work, monitoring well cluster MW-22 will be replaced. The monitoring well cluster will be re-located to the western landfill perimeter berm adjacent to the southwest corner of Cell 8. Because of the placement of fill material which will increase the current elevation by approximately 10 feet, the monitoring wells will be installed approximately ten feet deeper (25, 45 and 75 feet bls).

The monitoring wells will be installed using hollow stem augers. Prior to installation of the C Zone monitoring well, split spoon samples will be collected on five foot centers to total depth (4 to 6, 9 to 11, 14 to 16 feet bls, etc.) to document lithologic characteristics. The replacement wells will be constructed using materials and methods consistent with other site wells. Monitoring wells will be constructed with 10 feet of 0.06 inch machine slotted PVC well screen threaded to the required length of Schedule 40 PVC riser. The filter pack will consist of the recommended 30/45 grade silica sand which will be placed from total depth of the respective monitoring wells to approximately two feet above the screen sections. The well seals will consist of approximately one foot of bentonite and the remaining annulus will be filled with Portland Type 1 grout to land surface.

The monitoring wells will be left as stick ups which will then be retro-fitted (by WSI personnel) with blue anodized aluminum casings with lockable cast aluminum lids (provided by GS&C). Any materials (locks, well caps) which are in proper working order will be re-used. Subsequent to installation, the replacement monitoring wells will need to be surveyed by a State of Florida license surveyor. GS&C has assumed that WSI will coordinate this activity with the construction contractor.

Report Preparation and Submittal

Subsequent to completion of the monitoring well installation, GS&C will prepare one report documenting the abandonment and installation activities. A draft will be submitted to WSI for review prior to final submittal approximately ten days after completion of the drilling program and will include a photographic log, FDEP well completion form and copies of applicable permits and notifications.

Mr. Mike Kaiser
Cost Estimate-MW Abandonment/Replacement
Omni Waste
November 7, 2011
Page 3 of 3

Closure

The drilling sub-contractor (NET Inc.) has a master services agreement in place and will forward their invoice directly to WSI. GS&C will forward invoices upon completion of the individual Tasks as shown on the attached cost estimate. If there are questions or comments regarding the attached please call Mr. Robert Thompson at (813) 418-2007.

Sincerely,



Robert Thompson
Senior Geologist
Florida P.G. #2560

Attachments

COST ESTIMATE
GS&C and NET, Inc.

Michael Kaiser

From: Matt Orr
Sent: Tuesday, February 07, 2012 10:44 AM
To: Michael Kaiser
Subject: FW: Scan from FL-St Cloud HPLJM4345
Attachments: [Untitled].pdf

Mike,

Attached is the quote. For the mowing of the side slopes we assumed 30 acres, for all of the closed area and storm water areas as well. It works out to be \$60.00 per acre.

Thanks,

-----Original Message-----

From: Email From Scanner [<mailto:scan@wasteservicesin.com>]
Sent: Tuesday, February 07, 2012 10:41 AM
To: Matt Orr
Subject: Scan from FL-St Cloud HPLJM4345

This email was send to you from the HP LaserJet M3035 MFP network printer located in FL-St Cloud.

In order to view the attached PDF document you need to use the Adobe Acrobat Reader.

Cost Estimate
MW-22 (A-C) Abandonment/Replacement
Omni Waste of Osceola County, LLC
1501 Omni Way
St. Cloud, FL

Task 1 Monitoring Well Abandonment Oversight

Labor (including travel)	\$1,200.00
Vehicle & Expenses	\$150.00
Direct Bill Sub Fee	\$1,270.00

Average Cost / well
 $= \$2,620.00 / 3$
 $= \$873.33$

Task 1 Subtotal	\$1,350.00
Task 1 Direct Bill Subtotal	<u>\$1,270.00</u>

Total Task 1 Cost	\$2,620.00
-------------------	------------

Task 2 Monitoring Well Installation Oversight/Well Development

Labor	\$3,000.00
Vehicle & Expenses	\$450.00
Anodized Aluminum Casings	\$555.00
Direct Bill Sub Fee	\$5,835.00

Task 2 Subtotal	\$3,450.00
Task 2 Direct Bill Subtotal	<u>\$5,835.00</u>

Total Task 2 Cost	<u>\$9,285.00</u>
-------------------	-------------------

(not including aluminum casings)

Task 3 Letter Report Prep and Submittal

Labor	\$2,500.00
-------	------------

Task Subtotal	<u>\$2,500.00</u>
---------------	-------------------

GS&C Total	\$7,300.00
Direct Bill Total	\$7,105.00
Project Total	\$14,960.00

Average Cost / well
 $= \$11,785.00 / 3$
 $= \$3,928.33$

Quality Turf of Okeechobee, Inc. Estimate

Quality Turf of Okeechobee, Inc.
8731 N.E. 48th St.
Okeechobee, FL 34972

(863)634-7140
qualityturf@ymail.com

Date	Estimate #
07/05/2011	2734
Exp. Date	

Address
Florida WSI 1501 Omni Way St. Cloud, FL 34773

Date	Activity	Quantity	Rate	Amount
07/05/2011	Mow (Bush Hog) from entrance road to landfill	1	540.00	540.00
07/05/2011	Mow (Bush Hog) closed side slopes of landfill and perimeter berms	1	1,800.00	1,800.00
07/05/2011	Weed-eating and additional mowing by the hour	40	25.00	1,000.00
07/05/2011	Transport of equipment each way	1	250.00	250.00
07/05/2011	****any extra mowing will be charged by the hour @ \$70.00 per hour****			0.00
<p>See e-mail Attached - Matt Orr</p> <p>Average cost/acre = \$60.00</p>				
Total				\$3,590.00

Thank you for the opportunity. We look forward to doing business with you soon!

Accepted By: _____

Accepted Date: _____

Quality Turf of Okeechobee, Inc. _____

Accepted By _____

Progress Energy

STATEMENT OF ELECTRIC SERVICE

ACCOUNT NUMBER

99882 87420

DECEMBER 2011

Cell 1

**FOR CUSTOMER SERVICE OR
PAYMENT LOCATIONS CALL:
1-877-372-8477**

WEB SITE: www.progress-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS
1501 OMNI WAY PUMP 1
ST CLOUD FL 34773

DUE DATE	TOTAL AMOUNT DUE
DEC 30 2011	48.72

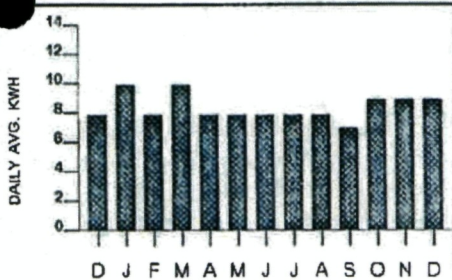
NEXT READ DATE ON OR ABOUT	DEPOSIT AMOUNT ON ACCOUNT
JAN 11 2012	100.00

PIN: 625482228

METER READINGS

METER NO.	002652009
PRESENT (ACTUAL)	002561
PREVIOUS (ACTUAL)	002286
DIFFERENCE	000275
TOTAL KWH	275
PRESENT KW (ACTUAL)	0010.15
BASE KW	10
LOAD FACTOR	3.7%

RECEIVED
DEC 12 2011
BY: *[Signature]*



ENERGY USE	
DAILY AVG. USE -	9 KWH/DAY
USE ONE YEAR AGO -	8 KWH/DAY
*DAILY AVG. ELECTRIC COST -	\$1.35

PAYMENTS RECEIVED AS OF NOV 30 2011

49.74 THANK YOU

GS-1 060 GENERAL SERVICE - NON DEMAND SEC

BILLING PERIOD..11-07-11 TO 12-08-11 31 DAYS

CUSTOMER CHARGE		11.59
ENERGY CHARGE	275 KWH @ 6.17300¢	16.98
FUEL CHARGE	275 KWH @ 4.77600¢	13.13

*TOTAL ELECTRIC COST

GROSS RECEIPTS TAX

COUNTY UTILITY TAX

SALES TAX ON ELECTRICITY

TOTAL CURRENT BILL

TOTAL DUE THIS STATEMENT

Having your phone number helps us identify your service location during power outages. Our records show your phone number is 407-831-1539. To update, please call TOLL FREE 1-866-231-6450.

Payment of your bill prior to the above due date will avoid a late payment charge of \$5.00 or 1.5%, whichever is greater. Progress Energy will be closed on December 23 and 26, 2011 and January 2, 2012. You may visit progress-energy.com for self-service options. To report an outage, please call our outage line at 1-800-228-8485.

Average Monthly Cells 1-7 = $\$383.07/7$
= $\$54.72/\text{cell}$

DETACH AND RETURN THIS SECTION

MM 0005439

BILL # 12 OF 12 GRP 1366

Make checks payable to: Progress Energy Florida, Inc.

ACCOUNT NUMBER - 99882 87420

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773 - 9177

DUE DATE

DEC 30 2011

TOTAL DUE

48.72

PLEASE ENTER
AMOUNT PAID

99882874202000000048728000000000000000000004872801000000000009



ACCOUNT NUMBER

75594 97574

STATEMENT OF ELECTRIC SERVICE

DECEMBER 2011

**FOR CUSTOMER SERVICE OR
PAYMENT LOCATIONS CALL:
1-877-372-8477**

WEB SITE: www.progress-energy.com

**TO REPORT A POWER OUTAGE:
1-800-228-8485**

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS

1501 OMNI WAY,
CELL 3/PUMP AREA

DUE DATE	TOTAL AMOUNT DUE
DEC 30 2011	31.96

NEXT READ	DEPOSIT AMOUNT
DATE ON OR	ON ACCOUNT

JAN 11 2012	200.00
-------------	--------

PIN: 625482228

METER READINGS

METER NO.	002663582
PRESENT (ACTUAL)	017020
PREVIOUS (ACTUAL)	016877
DIFFERENCE	000143
TOTAL KWH	143
PRESENT KW (ACTUAL)	0003.65
BASE KW	4
LOAD FACTOR	4.8%



ENERGY USE

DAILY AVG. USE -	5 KWH/DAY
USE ONE YEAR AGO -	5 KWH/DAY
*DAILY AVG. ELECTRIC COST -	\$.88

PAYMENTS RECEIVED AS OF NOV 30 2011

38.18 THANK YOU

GS-1 060 GENERAL SERVICE - NON DEMAND SEC
BILLING PERIOD..11-07-11 TO 12-08-11 31 DAYS

CUSTOMER CHARGE		11.59
ENERGY CHARGE	143 KWH @ 6.17300¢	8.83
FUEL CHARGE	143 KWH @ 4.77600¢	6.83

*TOTAL ELECTRIC COST
GROSS RECEIPTS TAX
COUNTY UTILITY TAX
SALES TAX ON ELECTRIC

TOTAL CURRENT BILL

TOTAL DUE THIS STATEMENT ¹LEND
$$\begin{array}{r} 27.25 \\ .70 \\ 1.77 \\ 2.24 \\ \hline 31.96 \end{array}$$

\$31.96

Having your phone number helps us identify your service location during power outages. Our records show your phone number is 407-908-2110. To update, please call TOLL FREE 1-866-231-6450.

Payment of your bill prior to the above due date will avoid a late payment charge of \$5.00 or 1.5%, whichever is greater. Progress Energy will be closed on December 23 and 26, 2011 and January 2, 2012. You may visit progress-energy.com for self-service options. To report an outage, please call our outage line at 1-800-228-8485.

DETACH AND RETURN THIS SECTION

MM 0005435

BILL # 8 OF 12 GRP 1366

Make checks payable to: Progress Energy Florida, Inc.

ACCOUNT NUMBER - 75594 97574

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773 - 9177

P.O. BOX 33199
ST. PETERSBURG,
FL 33733-8199

DUE DATE

DEC 30 2011

TOTAL DUE

31.96

PLEASE ENTER
AMOUNT PAID

7559497574400000003196300000000000000000000003196301000000000009

DECEMBER 2011

**FOR CUSTOMER SERVICE OR
PAYMENT LOCATIONS CALL:
1-877-372-8477**

WEB SITE: www.progress-energy.com

**TO REPORT A POWER OUTAGE:
1-800-228-8485**

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS
1501 OMNI WAY,
GAS FLARE STATION

DUE DATE
DEC 30 2011

TOTAL AMOUNT DUE
1,982.49

**NEXT READ
DATE ON OR
ABOUT**

DEPOSIT AMOUNT
ON ACCOUNT

JAN 11 2012

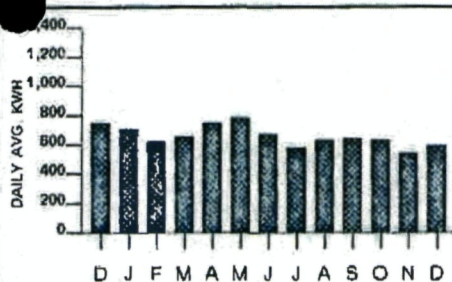
4,155.00

PIN: 625482228

METER READINGS

METER NO.	002665644
PRESENT (ACTUAL)	029848
PREVIOUS (ACTUAL)	011209
DIFFERENCE	018639
TOTAL KWH	18639
PRESENT KW (ACTUAL)	0036.72
BASE KW	37
LOAD FACTOR	67.7%

RECEIVED
DEC 12 2011
BY: *[Signature]*



ENERGY USE

DAILY AVG. USE - 601 KWH/DAY
USE ONE YEAR AGO - 753 KWH/DAY
*DAILY AVG. ELECTRIC COST - \$54.65

GSD-1 070 GENERAL SERVICE - DEMAND SEC
BILLING PERIOD..11-07-11 TO 12-08-11 31 DAYS

CUSTOMER CHARGE			11.59
ENERGY CHARGE	18639 KWH @	3.26900¢	609.31
FUEL CHARGE	18639 KWH @	4.77600¢	890.20
DEMAND CHARGE	37 KW @	\$4.95000	183.15

*TOTAL ELECTRIC COST	1,694.25
GROSS RECEIPTS TAX	43.44
COUNTY UTILITY TAX	78.22
SALES TAX ON ELECTRIC	139.02
LATE PAYMENT CHARGE FOR PREVIOUS BILL	27.56

TOTAL CURRENT BILL

TOTAL DUE THIS STATEMENT	\$1,982.49
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Having your phone number helps us identify your service location during power outages. Our records show your phone number is 407-908-2110. To update, please call TOLL FREE 1-866-231-6450.

Payment of your bill prior to the above due date will avoid a late payment charge of \$5.00 or 1.5%, whichever is greater. Progress Energy will be closed on December 23 and 26, 2011 and January 2, 2012. You may visit progress-energy.com for self-service options. To report an outage, please call our outage line at 1-800-228-8485.

DETACH AND RETURN THIS SECTION

MM 000542B

BILL # 1 OF 12 GRP 1368

Make checks payable to: Progress Energy Florida, Inc.

ACCOUNT NUMBER - 07346 56092

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773 - 9177

DUE DATE

DEC 30 2011

TOTAL DUE

1.982.49

PLEASE ENTER
AMOUNT PAID

07346560921000001982495000000000000000000198249501000000000009



ACCOUNT NUMBER

90698 00530

DECEMBER 2011

**FOR CUSTOMER SERVICE OR
PAYMENT LOCATIONS CALL:
1-877-372-8477**

WEB SITE: www.progress-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS

1501 OMNI WAY,
ADMIN/MAINT OFC

DUE DATE	TOTAL AMOUNT DUE
DEC 30 2011	631.34

NEXT READ DATE ON OR ABOUT	DEPOSIT AMOUNT ON ACCOUNT
JAN 11 2012	900.00

PIN: 625482228

METER READINGS

METER NO.	002637255
PRESENT (ACTUAL)	008048
PREVIOUS (ACTUAL)	004121
DIFFERENCE	003927
TOTAL KWH	3927
PRESENT KW (ACTUAL)	0028.32
BASE KW	28
LOAD FACTOR	18.9%

RECEIVED
SEC 32 AUD
BY: *[Signature]*



ENERGY USE

DAILY AVG. USE - 147 KWH/DAY
USE ONE YEAR AGO - 180 KWH/DAY
*DAILY AVG. ELECTRIC COST - \$17.63

PAYMENTS RECEIVED AS OF NOV 30 2011	633.12	THANK YOU
-------------------------------------	--------	-----------

GSD-1 070 GENERAL SERVICE - DEMAND SEC

BILLING PERIOD..11-07-11 TO 12-08-11 31 DAYS

CUSTOMER CHARGE		11.59
ENERGY CHARGE	3927 KWH @ 3.26900¢	128.37
FUEL CHARGE	3927 KWH @ 4.77600¢	187.55
DEMAND CHARGE	28 KW @ \$4.95000	138.60

LS-1 017 LIGHTING SER COMPANY OWNED/MAINTAINED

BILLING PERIOD..11-07-11 TO 12-08-11 31 DAYS

CUSTOMER CHARGE			1.19
ENERGY CHARGE	624 KWH @	2.56100¢	15.98
FUEL CHARGE	624 KWH @	4.48600¢	27.99

*TOTAL ELECTRIC COST	511.27
EQUIPMENT RENTAL FOR:	
6 SV RW 27500	
FIXTURE TOTAL	24.96
MAINTENANCE TOTAL	10.32
GROSS RECEIPTS TAX	13.11
COUNTY UTILITY TAX	27.26
SALES TAX ON ELECTRIC	41.95
SALES TAX ON EQUIPMENT RENTAL	2.47

TOTAL CURRENT BILL

TOTAL DUE THIS STATEMENT

Having your phone number helps us identify your service location during power outages. Our records show your phone number is 407-891-3720. To update, please call TOLL FREE 1-866-231-6450. Payment of your bill prior to the above due date will avoid a late payment charge of \$5.00 or 1.5%, whichever is greater. Progress Energy will be closed on December 23 and 26, 2011 and January 2, 2012. You may visit progress-energy.com for self-service options. To report an outage, please call our outage line at 1-800-228-8485.

DETACH AND RETURN THIS SECTION

MM 0005437

BILL # 10 OF 12 GRP 1385

Make checks payable to: Progress Energy Florida, Inc.

ACCOUNT NUMBER - 90698 00530

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773 - 9177

P.O. BOX 33199
ST. PETERSBURG,
FL 33733-8199

DUE DATE

DEC 30 2011

TOTAL DUE

631.34

PLEASE ENTER
AMOUNT PAID

9069800530100000063134100000000000000000006313410100000000009

CHAPCO FENCE, LLC

4417 13TH STREET #513

ST. CLOUD, FL 34769

Chapcofence@aol.com

Ph:407-892-6447

Fax:407-892-9765

WSI
1099 Miller Drive
Altamonte Springs, Fl 32701

Mike,

Below you will find the quote you requested for the installation of fence for the JED Landfill.

*Supply and install 3,700 lf of field fence buried 12" in the ground to the existing barb wire fence.

*Supply and install 5200 lf of new 3 strand barbwire and field fence buried 12" in the ground.

TOTAL - \$22,500

3 strand bwire – \$1.75 lf

Field Fence – \$2.65 lf

We plan on installing the field fence upside down to have the smaller holes above ground level since the holes gradually go from small too big. If you have any questions or comments please do not hesitate to give us a call.

Thanks



Jason Junnila
Chapco Fence

Leachate Disposal Costs City of St. Cloud

Michael Kaiser

From: Todd Swingle [tswingle@stcloud.org]
Sent: Thursday, March 12, 2009 6:15 PM
To: Michael Kaiser
Cc: Bob MacKichan; Mark Spafford; dfm14@dbksmn.com; Linda Jaworski
Subject: RE: JED Landfill Draft Leachate Disposal Agreement

<http://www.stcloud.org/index.asp?NID=618>

Above is a web link to the rates.

For a 2" meter as stated for the initial agreement period, the base rate is \$105.86 and the consumption charge is \$5/1,000 gallons.

For 40,000 gallons per day every day for a month, this would be 1.2 Million Gallons and the total bill would be \$6,105.86. *Cost = \$.005 / gal*

If you delivered 40,000 gallons a day 3 days a week for a month, the total would be about 520,000 gallons and the bill would be \$2,705.86. *Cost = .0052 / gal*

While we are unsure, in discussions we estimated your annual average load to be more like 6,000 gpd or 180,000 gallons per month which is \$1,005.86.

To calculate any other volumes, take the total gallons for a month, divide by 1,000, multiply by \$5 and add \$105.86.

Please let me know if you have any additional questions.

Todd

*use .01 \$ / gal
for FA Estimate*

From: Michael Kaiser [mailto:mkaiser@wasteservicesinc.com]
Sent: Thursday, March 12, 2009 5:55 PM
To: Todd Swingle
Cc: Bob MacKichan; Mark Spafford; dfm14@dbksmn.com
Subject: RE: JED Landfill Draft Leachate Disposal Agreement

Todd,

Could you please tell me what the all-in rate per gallon would be based on your rate structure if we disposed 40,000 gallons tomorrow. You have a better understanding of your rate structure than I do.

Thanks,

Mike Kaiser

Vice President, Environmental Management & Engineering, U.S.
Waste Services, Inc.
JED Solid Waste Management Facility
1501 Omni Way
St. Cloud, Florida 34773
(904) 673-0446 [Cell]
mkaiser@wsji.us

6/23/2009

Leachate Haul Rates by Stafford Trucking.

January 1, 2012

Waste Services of Florida, Inc. Fuel Clause as of January 1, 2012

CPI = 3.00%

	BASE RATES	CPI = 3.00%	NEW BASE RATES	% INCREASE	PER TON or LD INCREASE	NEW LOAD RATE
JED Leachate	\$156.75	1.03	\$161.45 per LD	13.52	\$21.83	\$183.28 per LD
Groveland TS	\$11.40	1.03	\$11.74 per Ton	22.14	\$2.60	\$14.34 per Ton
Pasco-Dade TS	\$13.78	1.03	\$14.19 per Ton	26.64	\$3.78	\$17.97 per Ton
Sanford TS	\$11.88	1.03	\$12.24 per Ton	22.14	\$2.71	\$14.95 per Ton
Sumter TS	\$13.30	1.03	\$13.70 per Ton	22.14	\$3.03	\$16.73 per Ton
Taft TS	\$8.79	1.03	\$9.05 per Ton	15.81	\$1.43	\$10.48 per Ton
Taft Compactor	\$208.13	1.03	\$214.37 per Load	15.81	\$33.89	\$248.26 per LD

PADD Rate \$3.752/gal for Lower Atlantic, refer to Contract Exhibit B for fuel matrix

$$\begin{aligned} & \$183.28 / 6000 \text{ galls} \\ & = \underline{\underline{\$.03 / \text{gallon}}} \end{aligned}$$

Waste Services

Orlando

ATTACHMENT 6

Response to FDEP Comment #11

January 23, 2012

Mike Kaiser, P.E.
Waste Services Inc.
1099 Miller Drive
Altamonte Springs, Florida 32701

**Re: JED Solid Waste Management Facility
Class I Operations Permit Renewal RAI 11a, 11b
Permit # SO49-0199726-022/WACS # 89544**

Dear Mr. Kaiser:

As requested, we have prepared a response to the Florida Department of Environmental Protection's (FDEP) December 7, 2011 Request for Additional Information (RAI) items 11a and b. These issues were also briefly discussed in a meeting with the Department on December 7, 2011. The numbered FDEP comments are indicated in bold followed by a response below.

FDEP Comment 11 (a) Please provide additional information about why you do not believe the landfill leachate is the source of ammonia found in the monitoring wells.

In regards to FDEP's comments regarding the 4th Biennial Technical Report on Water Quality, dated November 9, 2011 prepared by Geo-Services and Consulting, LLC and contained in the December 7, 2011 Request for Additional Information from the FDEP for the JED Solid Waste Management Facility 5-year Operation Permit Renewal, HDR Engineering has prepared the following response.

A variety of potential sources of ammonia in groundwater exist. As indicated in the Biennial Report, potential sources include past land practices (including sod farming, use of fertilizers, and cattle operations) and landfill gas. Other potential sources include leachate as well as naturally occurring sources of nitrogen containing compounds present in the organic rich soils. Under the right biogeochemical conditions, these nitrogen containing compounds can be converted to ammonia under reducing geochemical conditions. Under this scenario nitrate (fertilizers, manure, or naturally occurring nitrate in soils) may be converted to ammonia.

During natural decomposition in an anaerobic landfill, nitrogen rich proteins are converted to ammonia. The form that ammonia exists is dependant in part upon the pH, as it will be either a cation (ammonium) or a dissolved gas (NH₃). The same process can also occur outside the landfill. At pH's typical of groundwater most of the ammonia will occur as ammonium.

Although leachate is a potential source of ammonia detected in groundwater, an alternate more probable source exists involving reductive dissolution reactions releasing ammonium bound to redox sensitive minerals (such as iron oxides and iron oxyhydroxides). Under this scenario ammonia in groundwater is not due to a direct liquid release from the landfill, although the presence of the landfill may have contributed to the formation of reducing conditions which in turn promoted the mobilization of the ammonia. Reducing conditions can be formed by a variety of mechanisms including: shadow effect due to reduction of oxygen rich precipitation infiltration over a large area; landfill gas displacing oxygen

immediately above the water table; and a release of organic matter (e.g. leachate, yard waste, mulch, stockpiled muck, etc) which promotes the growth of indigenous microorganisms which consume oxygen.

Reductive dissolution is a plausible explanation of the detection of ammonia at the facility. Researchers have recently found good correlation with arsenic and ammonia with iron which supports the concept of reductive dissolution of iron hydroxide as a dominant reaction mobilizing these compounds in groundwater. The reductive dissolution of iron and the associated mobilization of iron in groundwater are well documented in literature. More recently research demonstrates this same mechanism can explain the release of arsenic at landfills. The mechanisms of iron and arsenic chemistry are well established; however, the presence of ammonia in groundwater at landfills has only recently been evaluated.

Researchers have reported that ammonium will co-precipitate with iron. Conversely as a result of reductive dissolution ammonium would be mobilized in the groundwater if no other adsorption sites are readily available for the ammonium cation. As a cation, ammonium may be bound to soil particles through ion exchange. If high concentrations of Fe^{+2} were released (such as those that occur during reductive dissolution), an increase in ammonium ion concentrations in groundwater would be expected.

University of Florida researchers (Townsend et al. 2008, 2009 and 2010) have recently conducted an investigation at Sarasota County's Central County Solid Waste Disposal Complex Landfill to assess whether the natural soil at a landfill could serve as a source of the ammonia concentrations detected in groundwater at a landfill. The results indicated that ammonium is naturally present in soils and ammonium bound to iron oxide minerals are released into solution when these minerals dissolve during the reductive dissolution process. It was concluded that this process is the probable source of elevated ammonia levels in groundwater. It was also noted that the organic matter associated with the iron minerals is sufficient and that that an external source of organic matter (such as leachate) is not required for reductive dissolution to occur. This process can explain the elevated ammonia concentrations in groundwater at the JED facility without a direct release of leachate. Due to electronic file size, reference studies have been sent to Ms. Marjorie Heidorn of the FDEP under separate cover.

As described below site data does not provide definitive evidence that the source of the ammonia detected in groundwater is from a leachate discharge.

The JED facility is a double geosynthetically lined landfill with a witness zone (secondary liner) located between the primary HDPE liner and the underlying secondary HDPE liner. If a significant leak in the primary HDPE geomembrane liner existed, excess liquid accumulation in the witness zone between the two HDPE liners would be expected. However, the witness zone does not indicate excess fluid accumulation. Additionally, a geosynthetic clay liner was installed beneath the primary geomembrane of the entire floor and sump area of Cells 1-5 and the sump area of Cells 6 & 7. This primary GCL is in addition to the GCL installed beneath the secondary geomembrane and exceeded regulatory requirements. The addition of the GCL liner beneath the primary liner further reduces the probability for leachate to reach the secondary liner system and breaching that liner system to groundwater.

The impact from a leachate release at a dual geosynthetically lined landfill would be expected to be areally small relative to the entire landfill footprint. However, most wells at the site, including background wells yield elevated ammonia concentrations. Baseline testing prior to waste placement in several instances (MW-5A and MW-19A) did detect ammonia at comparable levels now detected at most wells. Since the onset of waste placement ammonia concentrations in groundwater have increased at both background and downgradient wells.

A large scale leachate release would produce pronounced concentration increases in groundwater, but the increases in ammonia seem to occur at the onset of construction without correlation to the filling sequence.

Neither the constituents nor the concentrations detected in groundwater appear to correlate well with leachate. As discussed in the recent Biennial Report, if detections in groundwater were due to a direct leachate release, the concentrations of various indicator constituents (such as chloride, sodium etc.) found in groundwater should be relatively proportional to those found in leachate samples, particularly given the close proximity of the groundwater wells to the leachate sumps, however this is not the case. The VOC's (and concentrations) detected in leachate are markedly different than the VOC fingerprint at individual wells (which further supports landfill gas as the source of the benzene in groundwater). A direct release of leachate should also indicate proportional levels of other indicator compounds such as sodium, chloride, metals concurrent with ammonia.

Although ammonia is considered a common leachate indicator, no definitive evidence of a leachate discharge exists. The preponderance of evidence does support the concept that the source of ammonia is from reductive dissolution reactions mobilizing ammonia present in site soils. Shallow groundwater at the site is strongly reducing favoring the process of reductive dissolution. Ongoing research by the Univ. of Florida and FAU support the concept that reductive dissolution is a plausible mechanism for the release of ammonia in the absence of a direct landfill discharge.

As discussed in the December 7, 2011 meeting with FDEP staff, additional groundwater and leachate geochemical data collection is planned as part of the upcoming remediation pilot test to provide further confirmation in source determination. As requested, future semiannual and biennial water quality reports will also include a discussion of ammonia concentrations in leachate.

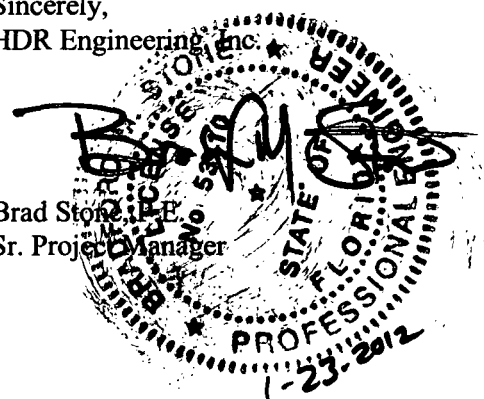
(b). Benzene was above the ground water quality standard in 5 wells. The report indicates that the Benzene exceedances " ... may be attributable to landfill gas migration" and notes several investigations.

Further discussed in the meeting on December 7, the source of benzene in groundwater is attributed to landfill gas. To address this issue the facility will be submitting a work plan to the FDEP to implement a pilot test remediation system to remediate landfill gas migration and benzene concentrations in groundwater.

Should you have any questions or require additional information, please contact me at (904) 598 8953.

Sincerely,
HDR Engineering, Inc.

Brad Stone, P.E.
Sr. Project Manager





Geo-Services and Consulting, LLC
23110 State Road 54, Number 159
Lutz, Florida 33549
813-418-2077

December 30, 2011

Mr. F. Thomas Lubozynski, P.E.
Florida Department of Environmental Protection, Central District
3319 Maguire Boulevard, Suite 232
Orlando, FL 32803-3767

Re: Response to Request for Additional Information (December 7, 2011)
Class I – Operations Permit Renewal
J.E.D. Solid Waste Management Facility
Permit Application No. SO49-0199726-022
WACS Facility ID No. 89544

Dear Mr. Lubozynski:

Geo-Services and Consulting, LLC (GS&C) on behalf of Omni Waste of Osceola County, LLC (Omni), has prepared this letter to respond to the Florida Department of Environmental Protection's (FDEP) first request for additional information (RAI #1) regarding the Permit Renewal Application dated November 10, 2011, prepared by Geosyntec Consultants, Inc. (Geosyntec) to continue operation of the referenced facility. Specifically water quality results for the groundwater sample collected on May 23, 2011 from monitoring well MW-19A as part of the semi-annual water quality monitoring event.

The specific FDEP comment has been provided below in italic font followed by GS&C's response.

FDEP Comment

11. To the Department, the most recent semi-annual data (May 2011) indicates there are three main areas of groundwater interest: (GS&C's response pertains to one)

- c. Mercury in the filtered sample from MW-19A (12 µg/L with an "I" qualifier).*

In the May 2011 sampling event, the Mercury in the filtered sample from MW-19A (12 µg/L I) was potentially the highest exceedance of concern. This was not discussed in the Semi-Annual Report or in the Biennial. Please discuss this result. Include in the discussion why it is higher than the unfiltered sample and why neither was discussed in the reports.

Response

Subsequent to review of the original laboratory report, it was determined that an incorrect dilution factor was used to calculate the dissolved mercury result. The corrected dissolved (filtered) mercury concentration for the sample collected from MW-19A was revised to 0.12 I µg/L (see page 40 of attached revised laboratory report). This dissolved mercury value is less than the total (unfiltered) mercury value of 0.28 µg/L. The dissolved and total mercury results obtained for MW-19A are both below the applicable groundwater cleanup target level (GCTL) for mercury of 2 µg/L.

The revised report was issued by the laboratory on July 28, 2011; GS&C mistakenly used the original report when preparing the water quality documents. The revised report is attached for reference.

Closure

Should you have any questions regarding the information presented in this report, please contact Robert Thompson at (813) 418-2007.

Sincerely,



Robert Thompson
Florida P.G. #2560

Attachment

Copy: Mike Kaiser, WSI
Joe Terry, WSI
Kirk Wills, WSI

ATTACHMENT
Revised Laboratory Report

June 06, 2011

Service Request No: J1102280

Kirk Wills
Environmental Planning Specialists
1936 Bruce B Downs Blvd
#328
Wesley Chapel, FL 33543

Laboratory Results for: JED SWDF

Dear Kirk:

Enclosed are the results of the sample(s) submitted to our laboratory on May 24, 2011. For your reference, these analyses have been assigned our service request number **J1102280**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. This report shall not be reproduced except in full without written approval of the laboratory, as all results are intended to be considered in their entirety, and Columbia Analytical Services, Inc.

(CAS) cannot be held responsible for use of the less than the complete report.

Results apply only to the items submitted to the laboratory for analysis and individual items (samples)

Please contact me if you have any questions. My extension is 4409. You may also contact me via email at CMyers@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.



Craig Myers
Project Manager

Page 1 of 73

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request No.: J1102280
Date Received: 5/24/11

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. When appropriate to the procedure, method blank results have been reported with each analytical test. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Parameters that are included in the NELAC Fields of Testing but are not included in the lab's NELAC accreditation are identified in the discussion of each analytical procedure.

Sample Receipt

Eight water samples and one trip blank were received for analysis at Columbia Analytical Services on 5/24/11. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at $\leq 6^{\circ}\text{C}$ upon receipt at the lab except for aqueous samples designated for metals analyses, which were stored at room temperature.

Volatile Organic Compounds by GC-MS

The samples were analyzed for Volatile Organics using EPA Method 8260. The following observations were made regarding this delivery group.

Laboratory Control Sample Recovery Notes and Discussion:

The spike recovery of Vinyl Chloride for Laboratory Control Sample (LCS) JQ1102991-02 was outside the upper control criterion. The analyte in question was not detected in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Elevated Method Reporting Limits:

Samples MW-23A and MW-19A required dilution due to the foaming nature of the matrix. The reporting limits are adjusted to reflect the dilution.

EDB and DBCP by GC-ECD

The samples were analyzed for EDB and DBCP using EPA Method 8011. The following observations were made regarding this delivery group.

Surrogate Exceptions

The control criteria were exceeded for the following surrogate in samples MW-19A and MW-23A due to suspected matrix interferences: 1,1,1,2-Tetrachloroethane. A small emulsion was generated during the extraction of this sample which may have contributed to its poor surrogate recovery. No further corrective action was appropriate.

Approved by _____



Date _____

6/6/11

Metals by ICP-MS/ICP-OES/CVAA

The samples were analyzed for Total and Dissolved Metals using EPA Methods 6020/6010B/7470A. The following observations were made regarding this delivery group.

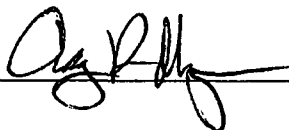
Matrix Spike Recovery Exceptions

The low matrix spike recovery of Selenium for sample MW-23A appears to be a function of the digestion procedure for this matrix. The post-spike recovery of 98 % indicates the relative lack of matrix interference in the digestate, while the matrix spike recovery of 73 % indicates the majority of the loss occurred during the digestion procedure itself and is not related to the instrument's ability to measure Selenium in this matrix. The other analytes of interest spiked in this sample all recovered within acceptable range, indicating that this loss was limited to Selenium and not due to any larger problem related to the spiking or preparation as a whole. Therefore, the reported results for Selenium in this sample may be biased low.

General Chemistry Parameters

The samples were analyzed for Inorganic Parameters using various EPA and Standard Methods. No problems were observed.

Approved by _____



Date _____

6/6/11

Florida DEP Data Qualifiers

- B Results based upon colony counts outside the acceptable range.
- D Measurement was made in the field.
- H Value based on field kit determination; results may not be accurate.
- i The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J Estimated value (one of the following reasons is discussed in the project case narrative).
1. The result may be inaccurate because the surrogate recovery limits have been exceeded.
 2. No known quality control criteria exists for the component.
 3. The reported value failed to meet the established quality control criteria for either precision or accuracy.
 4. The sample matrix interfered with the ability to make any accurate determination (e.g., primary and confirmation results show greater than 40% RPD).
 5. The data is questionable because of improper laboratory or field protocols (e.g., GC/MS Tune did not meet method criteria).
- K Off scale low. The value is less than the lowest calibration standard but greater than the method reporting limit (MRL).
- L Off scale high. The analyte is above the upper limit of the linear calibration range.
- M The MDL/MRL has been elevated because the analyte could not be accurately quantified due to matrix interference.
- N Presumptive evidence of the analyte. Confirmation was not performed.
- Q Sample held beyond the accepted holding time.
- T Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only.
- U Indicates that the compound was analyzed for but not detected.
- V Indicates that the analyte was detected in both the sample and the associated method blank.
- Y The laboratory analysis was from an improperly preserved sample.
- Z Too many colonies were present (TNTC). The numeric value represents the filtration volume.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: Environmental Planning Specialists
Project: JED SWDF

Service Request: J1102280

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
J1102280-001	MW-23A	5/23/11	10:30
J1102280-002	MW-23B	5/23/11	08:55
J1102280-003	MW-19A	5/23/11	11:50
J1102280-004	MW-19B	5/23/11	11:25
J1102280-005	MW-16A	5/23/11	14:15
J1102280-006	MW-16B	5/23/11	14:45
J1102280-007	MW-16C	5/23/11	13:45
J1102280-008	EB-2	5/23/11	15:25
J1102280-009	Trip Blank	5/23/11	00:00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-23A
 Lab Code: J1102280-001

Service Request: J1102280
 Date Collected: 5/23/11 1030
 Date Received: 5/24/11
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND U	2.00	0.380	2	NA	5/31/11 18:26		248104	
1,1,1-Trichloroethane (TCA)	ND U	2.00	0.340	2	NA	5/31/11 18:26		248104	
1,1,2,2-Tetrachloroethane	ND U	2.00	0.580	2	NA	5/31/11 18:26		248104	
1,1,2-Trichloroethane	ND U	2.00	0.800	2	NA	5/31/11 18:26		248104	
1,1-Dichloroethane (1,1-DCA)	ND U	2.00	0.600	2	NA	5/31/11 18:26		248104	
1,1-Dichloroethene (1,1-DCE)	ND U	2.00	0.320	2	NA	5/31/11 18:26		248104	
1,2,3-Trichloropropane	ND U	4.00	0.840	2	NA	5/31/11 18:26		248104	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	10.0	4.60	2	NA	5/31/11 18:26		248104	
1,2-Dibromoethane (EDB)	ND U	2.00	0.920	2	NA	5/31/11 18:26		248104	
1,2-Dichlorobenzene	ND U	2.00	0.956	2	NA	5/31/11 18:26		248104	
1,2-Dichloroethane	ND U	2.00	0.440	2	NA	5/31/11 18:26		248104	
1,2-Dichloropropane	ND U	2.00	0.380	2	NA	5/31/11 18:26		248104	
1,2-Dichlorobenzene	ND U	2.00	0.320	2	NA	5/31/11 18:26		248104	
2-Butanone (MEK)	ND U	20.0	7.60	2	NA	5/31/11 18:26		248104	
2-Hexanone	ND U	50.0	4.40	2	NA	5/31/11 18:26		248104	
4-Methyl-2-pentanone (MIBK)	ND U	50.0	2.20	2	NA	5/31/11 18:26		248104	
Acetone	ND U	100	11.2	2	NA	5/31/11 18:26		248104	
Acrylonitrile	ND U	20.0	3.00	2	NA	5/31/11 18:26		248104	
Benzene	0.560 I	2.00	0.420	2	NA	5/31/11 18:26		248104	
Bromochloromethane	ND U	10.0	0.540	2	NA	5/31/11 18:26		248104	
Bromodichloromethane	ND U	2.00	0.440	2	NA	5/31/11 18:26		248104	
Bromoform	ND U	4.00	0.840	2	NA	5/31/11 18:26		248104	
Bromomethane	ND U	2.00	0.460	2	NA	5/31/11 18:26		248104	
Carbon Disulfide	ND U	20.0	4.72	2	NA	5/31/11 18:26		248104	
Carbon Tetrachloride	ND U	2.00	0.680	2	NA	5/31/11 18:26		248104	
Chlorobenzene	ND U	2.00	0.320	2	NA	5/31/11 18:26		248104	
Chloroethane	ND U	10.0	1.04	2	NA	5/31/11 18:26		248104	
Chloroform	ND U	2.00	0.700	2	NA	5/31/11 18:26		248104	
Chloromethane	ND U	2.00	0.720	2	NA	5/31/11 18:26		248104	
cis-1,2-Dichloroethene	ND U	2.00	0.720	2	NA	5/31/11 18:26		248104	
cis-1,3-Dichloropropene	ND U	2.00	0.400	2	NA	5/31/11 18:26		248104	
Dibromochloromethane	ND U	2.00	0.420	2	NA	5/31/11 18:26		248104	
Dibromomethane	ND U	10.0	0.720	2	NA	5/31/11 18:26		248104	
Ethylbenzene	ND U	2.00	0.420	2	NA	5/31/11 18:26		248104	
Iodomethane	ND U	10.0	5.36	2	NA	5/31/11 18:26		248104	
m,p-Xylenes	ND U	4.00	0.620	2	NA	5/31/11 18:26		248104	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-23A
 Lab Code: J1102280-001

Service Request: J1102280
 Date Collected: 5/23/11 1030
 Date Received: 5/24/11
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	ND	U	10.0	0.420	2	NA	5/31/11 18:26		248104	
o-Xylene	ND	U	2.00	0.280	2	NA	5/31/11 18:26		248104	
Styrene	ND	U	2.00	0.580	2	NA	5/31/11 18:26		248104	
Tetrachloroethene (PCE)	ND	U	2.00	0.440	2	NA	5/31/11 18:26		248104	
Toluene	ND	U	2.00	0.380	2	NA	5/31/11 18:26		248104	
trans-1,2-Dichloroethene	ND	U	2.00	0.380	2	NA	5/31/11 18:26		248104	
trans-1,3-Dichloropropene	ND	U	2.00	0.460	2	NA	5/31/11 18:26		248104	
trans-1,4-Dichloro-2-butene	ND	U	40.0	4.40	2	NA	5/31/11 18:26		248104	
Trichloroethene (TCE)	ND	U	2.00	0.720	2	NA	5/31/11 18:26		248104	
Trichlorofluoromethane	ND	U	40.0	0.480	2	NA	5/31/11 18:26		248104	
Vinyl Acetate	ND	U	20.0	3.80	2	NA	5/31/11 18:26		248104	
Vinyl Chloride	ND	U	2.00	0.720	2	NA	5/31/11 18:26		248104	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	92	68-118	5/31/11 18:26	
4-Bromofluorobenzene	95	78-129	5/31/11 18:26	
Dibromofluoromethane	99	80-114	5/31/11 18:26	
Toluene-d8	101	87-118	5/31/11 18:26	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-23B
 Lab Code: J1102280-002

Service Request: J1102280
 Date Collected: 5/23/11 0855
 Date Received: 5/24/11

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND	U	1.00	0.190	1	NA	5/31/11 18:48		248104	
1,1,1-Trichloroethane (TCA)	ND	U	1.00	0.170	1	NA	5/31/11 18:48		248104	
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.290	1	NA	5/31/11 18:48		248104	
1,1,2-Trichloroethane	ND	U	1.00	0.400	1	NA	5/31/11 18:48		248104	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.00	0.300	1	NA	5/31/11 18:48		248104	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.160	1	NA	5/31/11 18:48		248104	
1,2,3-Trichloropropane	ND	U	2.00	0.420	1	NA	5/31/11 18:48		248104	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.00	2.30	1	NA	5/31/11 18:48		248104	
1,2-Dibromoethane (EDB)	ND	U	1.00	0.460	1	NA	5/31/11 18:48		248104	
1,2-Dichlorobenzene	ND	U	1.00	0.478	1	NA	5/31/11 18:48		248104	
1,2-Dichloroethane	ND	U	1.00	0.220	1	NA	5/31/11 18:48		248104	
1,2-Dichloropropane	ND	U	1.00	0.190	1	NA	5/31/11 18:48		248104	
1,2-Dichlorobenzene	ND	U	1.00	0.160	1	NA	5/31/11 18:48		248104	
2-Butanone (MEK)	ND	U	10.0	3.80	1	NA	5/31/11 18:48		248104	
2-Hexanone	ND	U	25.0	2.20	1	NA	5/31/11 18:48		248104	
4-Methyl-2-pentanone (MIBK)	ND	U	25.0	1.10	1	NA	5/31/11 18:48		248104	
Acetone	ND	U	50.0	5.60	1	NA	5/31/11 18:48		248104	
Acrylonitrile	ND	U	10.0	1.50	1	NA	5/31/11 18:48		248104	
Benzene	ND	U	1.00	0.210	1	NA	5/31/11 18:48		248104	
Bromochloromethane	ND	U	5.00	0.270	1	NA	5/31/11 18:48		248104	
Bromodichloromethane	ND	U	1.00	0.220	1	NA	5/31/11 18:48		248104	
Bromoform	ND	U	2.00	0.420	1	NA	5/31/11 18:48		248104	
Bromomethane	ND	U	1.00	0.230	1	NA	5/31/11 18:48		248104	
Carbon Disulfide	ND	U	10.0	2.36	1	NA	5/31/11 18:48		248104	
Carbon Tetrachloride	ND	U	1.00	0.340	1	NA	5/31/11 18:48		248104	
Chlorobenzene	ND	U	1.00	0.160	1	NA	5/31/11 18:48		248104	
Chloroethane	ND	U	5.00	0.520	1	NA	5/31/11 18:48		248104	
Chloroform	ND	U	1.00	0.350	1	NA	5/31/11 18:48		248104	
Chloromethane	ND	U	1.00	0.360	1	NA	5/31/11 18:48		248104	
cis-1,2-Dichloroethene	ND	U	1.00	0.360	1	NA	5/31/11 18:48		248104	
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	NA	5/31/11 18:48		248104	
Dibromochloromethane	ND	U	1.00	0.210	1	NA	5/31/11 18:48		248104	
Dibromomethane	ND	U	5.00	0.360	1	NA	5/31/11 18:48		248104	
Ethylbenzene	ND	U	1.00	0.210	1	NA	5/31/11 18:48		248104	
Iodomethane	ND	U	5.00	2.68	1	NA	5/31/11 18:48		248104	
m,p-Xylenes	ND	U	2.00	0.310	1	NA	5/31/11 18:48		248104	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-23B
 Lab Code: J1102280-002

Service Request: J1102280
 Date Collected: 5/23/11 0855
 Date Received: 5/24/11
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	ND U	5.00	0.210	1	NA	5/31/11 18:48		248104	
o-Xylene	ND U	1.00	0.140	1	NA	5/31/11 18:48		248104	
Styrene	ND U	1.00	0.290	1	NA	5/31/11 18:48		248104	
Tetrachloroethene (PCE)	ND U	1.00	0.220	1	NA	5/31/11 18:48		248104	
Toluene	ND U	1.00	0.190	1	NA	5/31/11 18:48		248104	
trans-1,2-Dichloroethene	ND U	1.00	0.190	1	NA	5/31/11 18:48		248104	
trans-1,3-Dichloropropene	ND U	1.00	0.230	1	NA	5/31/11 18:48		248104	
trans-1,4-Dichloro-2-butene	ND U	20.0	2.20	1	NA	5/31/11 18:48		248104	
Trichloroethene (TCE)	ND U	1.00	0.360	1	NA	5/31/11 18:48		248104	
Trichlorofluoromethane	ND U	20.0	0.240	1	NA	5/31/11 18:48		248104	
Vinyl Acetate	ND U	10.0	1.90	1	NA	5/31/11 18:48		248104	
Vinyl Chloride	ND U	1.00	0.360	1	NA	5/31/11 18:48		248104	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	89	68-118	5/31/11 18:48	
4-Bromofluorobenzene	92	78-129	5/31/11 18:48	
Dibromofluoromethane	97	80-114	5/31/11 18:48	
Toluene-d8	106	87-118	5/31/11 18:48	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-19A
 Lab Code: J1102280-003

Service Request: J1102280
 Date Collected: 5/23/11 1150
 Date Received: 5/24/11

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND	U	5.00	0.950	5	NA	5/31/11 19:10		248104	
1,1,1-Trichloroethane (TCA)	ND	U	5.00	0.851	5	NA	5/31/11 19:10		248104	
1,1,2,2-Tetrachloroethane	ND	U	5.00	1.45	5	NA	5/31/11 19:10		248104	
1,1,2-Trichloroethane	ND	U	5.00	2.00	5	NA	5/31/11 19:10		248104	
1,1-Dichloroethane (1,1-DCA)	ND	U	5.00	1.50	5	NA	5/31/11 19:10		248104	
1,1-Dichloroethene (1,1-DCE)	ND	U	5.00	0.800	5	NA	5/31/11 19:10		248104	
1,2,3-Trichloropropane	ND	U	10.0	2.10	5	NA	5/31/11 19:10		248104	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	25.0	11.5	5	NA	5/31/11 19:10		248104	
1,2-Dibromoethane (EDB)	ND	U	5.00	2.31	5	NA	5/31/11 19:10		248104	
1,2-Dichlorobenzene	ND	U	5.00	2.39	5	NA	5/31/11 19:10		248104	
1,2-Dichloroethane	ND	U	5.00	1.10	5	NA	5/31/11 19:10		248104	
1,2-Dichloropropane	ND	U	5.00	0.950	5	NA	5/31/11 19:10		248104	
1,2-Dichlorobenzene	ND	U	5.00	0.800	5	NA	5/31/11 19:10		248104	
2-Butanone (MEK)	ND	U	50.0	19.0	5	NA	5/31/11 19:10		248104	
2-Hexanone	ND	U	125	11.0	5	NA	5/31/11 19:10		248104	
4-Methyl-2-pentanone (MIBK)	ND	U	125	5.50	5	NA	5/31/11 19:10		248104	
Acetone	ND	U	250	28.0	5	NA	5/31/11 19:10		248104	
Acrylonitrile	ND	U	50.0	7.50	5	NA	5/31/11 19:10		248104	
Benzene	ND	U	5.00	1.05	5	NA	5/31/11 19:10		248104	
Bromochloromethane	ND	U	25.0	1.35	5	NA	5/31/11 19:10		248104	
Bromodichloromethane	ND	U	5.00	1.10	5	NA	5/31/11 19:10		248104	
Bromoform	ND	U	10.0	2.10	5	NA	5/31/11 19:10		248104	
Bromomethane	ND	U	5.00	1.16	5	NA	5/31/11 19:10		248104	
Carbon Disulfide	ND	U	50.0	11.8	5	NA	5/31/11 19:10		248104	
Carbon Tetrachloride	ND	U	5.00	1.71	5	NA	5/31/11 19:10		248104	
Chlorobenzene	ND	U	5.00	0.800	5	NA	5/31/11 19:10		248104	
Chloroethane	ND	U	25.0	2.60	5	NA	5/31/11 19:10		248104	
Chloroform	ND	U	5.00	1.75	5	NA	5/31/11 19:10		248104	
Chloromethane	ND	U	5.00	1.80	5	NA	5/31/11 19:10		248104	
cis-1,2-Dichloroethene	ND	U	5.00	1.80	5	NA	5/31/11 19:10		248104	
cis-1,3-Dichloropropene	ND	U	5.00	1.00	5	NA	5/31/11 19:10		248104	
Dibromochloromethane	ND	U	5.00	1.05	5	NA	5/31/11 19:10		248104	
Dibromomethane	ND	U	25.0	1.80	5	NA	5/31/11 19:10		248104	
Ethylbenzene	ND	U	5.00	1.05	5	NA	5/31/11 19:10		248104	
Iodomethane	ND	U	25.0	13.4	5	NA	5/31/11 19:10		248104	
m,p-Xylenes	ND	U	10.0	1.55	5	NA	5/31/11 19:10		248104	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-19A
 Lab Code: J1102280-003

Service Request: J1102280
 Date Collected: 5/23/11 11:50
 Date Received: 5/24/11

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	ND	U	25.0	1.05	5	NA	5/31/11 19:10		248104	
o-Xylene	ND	U	5.00	0.701	5	NA	5/31/11 19:10		248104	
Styrene	ND	U	5.00	1.45	5	NA	5/31/11 19:10		248104	
Tetrachloroethene (PCE)	ND	U	5.00	1.10	5	NA	5/31/11 19:10		248104	
Toluene	ND	U	5.00	0.950	5	NA	5/31/11 19:10		248104	
trans-1,2-Dichloroethene	ND	U	5.00	0.950	5	NA	5/31/11 19:10		248104	
trans-1,3-Dichloropropene	ND	U	5.00	1.16	5	NA	5/31/11 19:10		248104	
trans-1,4-Dichloro-2-butene	ND	U	100	11.0	5	NA	5/31/11 19:10		248104	
Trichloroethene (TCE)	ND	U	5.00	1.80	5	NA	5/31/11 19:10		248104	
Trichlorofluoromethane	ND	U	100	1.20	5	NA	5/31/11 19:10		248104	
Vinyl Acetate	ND	U	50.0	9.50	5	NA	5/31/11 19:10		248104	
Vinyl Chloride	ND	U	5.00	1.80	5	NA	5/31/11 19:10		248104	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	88	68-118	5/31/11 19:10	
4-Bromofluorobenzene	85	78-129	5/31/11 19:10	
Dibromofluoromethane	94	80-114	5/31/11 19:10	
Toluene-d8	101	87-118	5/31/11 19:10	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-19B
 Lab Code: J1102280-004

Service Request: J1102280
 Date Collected: 5/23/11 1125
 Date Received: 5/24/11

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND	U	1.00	0.190	1	NA	5/31/11 19:32		248104	
1,1,1-Trichloroethane (TCA)	ND	U	1.00	0.170	1	NA	5/31/11 19:32		248104	
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.290	1	NA	5/31/11 19:32		248104	
1,1,2-Trichloroethane	ND	U	1.00	0.400	1	NA	5/31/11 19:32		248104	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.00	0.300	1	NA	5/31/11 19:32		248104	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.160	1	NA	5/31/11 19:32		248104	
1,2,3-Trichloropropane	ND	U	2.00	0.420	1	NA	5/31/11 19:32		248104	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.00	2.30	1	NA	5/31/11 19:32		248104	
1,2-Dibromoethane (EDB)	ND	U	1.00	0.460	1	NA	5/31/11 19:32		248104	
1,2-Dichlorobenzene	ND	U	1.00	0.478	1	NA	5/31/11 19:32		248104	
1,2-Dichloroethane	ND	U	1.00	0.220	1	NA	5/31/11 19:32		248104	
1,2-Dichloropropane	ND	U	1.00	0.190	1	NA	5/31/11 19:32		248104	
1,2-Dichlorobenzene	ND	U	1.00	0.160	1	NA	5/31/11 19:32		248104	
2-Butanone (MEK)	ND	U	10.0	3.80	1	NA	5/31/11 19:32		248104	
2-Hexanone	ND	U	25.0	2.20	1	NA	5/31/11 19:32		248104	
4-Methyl-2-pentanone (MIBK)	ND	U	25.0	1.10	1	NA	5/31/11 19:32		248104	
Acetone	ND	U	50.0	5.60	1	NA	5/31/11 19:32		248104	
Acrylonitrile	ND	U	10.0	1.50	1	NA	5/31/11 19:32		248104	
Benzene	ND	U	1.00	0.210	1	NA	5/31/11 19:32		248104	
Bromochloromethane	ND	U	5.00	0.270	1	NA	5/31/11 19:32		248104	
Bromodichloromethane	ND	U	1.00	0.220	1	NA	5/31/11 19:32		248104	
Bromoform	ND	U	2.00	0.420	1	NA	5/31/11 19:32		248104	
Bromomethane	ND	U	1.00	0.230	1	NA	5/31/11 19:32		248104	
Carbon Disulfide	ND	U	10.0	2.36	1	NA	5/31/11 19:32		248104	
Carbon Tetrachloride	ND	U	1.00	0.340	1	NA	5/31/11 19:32		248104	
Chlorobenzene	ND	U	1.00	0.160	1	NA	5/31/11 19:32		248104	
Chloroethane	ND	U	5.00	0.520	1	NA	5/31/11 19:32		248104	
Chloroform	ND	U	1.00	0.350	1	NA	5/31/11 19:32		248104	
Chloromethane	ND	U	1.00	0.360	1	NA	5/31/11 19:32		248104	
cis-1,2-Dichloroethene	ND	U	1.00	0.360	1	NA	5/31/11 19:32		248104	
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	NA	5/31/11 19:32		248104	
Dibromochloromethane	ND	U	1.00	0.210	1	NA	5/31/11 19:32		248104	
Dibromomethane	ND	U	5.00	0.360	1	NA	5/31/11 19:32		248104	
Ethylbenzene	1.27		1.00	0.210	1	NA	5/31/11 19:32		248104	
Iodomethane	ND	U	5.00	2.68	1	NA	5/31/11 19:32		248104	
m,p-Xylenes	ND	U	2.00	0.310	1	NA	5/31/11 19:32		248104	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-19B
 Lab Code: J1102280-004

Service Request: J1102280
 Date Collected: 5/23/11 11:25
 Date Received: 5/24/11

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	ND	U	5.00	0.210	1	NA	5/31/11 19:32		248104	
o-Xylene	ND	U	1.00	0.140	1	NA	5/31/11 19:32		248104	
Styrene	ND	U	1.00	0.290	1	NA	5/31/11 19:32		248104	
Tetrachloroethene (PCE)	ND	U	1.00	0.220	1	NA	5/31/11 19:32		248104	
Toluene	ND	U	1.00	0.190	1	NA	5/31/11 19:32		248104	
trans-1,2-Dichloroethene	ND	U	1.00	0.190	1	NA	5/31/11 19:32		248104	
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	NA	5/31/11 19:32		248104	
trans-1,4-Dichloro-2-butene	ND	U	20.0	2.20	1	NA	5/31/11 19:32		248104	
Trichloroethene (TCE)	ND	U	1.00	0.360	1	NA	5/31/11 19:32		248104	
Trichlorofluoromethane	ND	U	20.0	0.240	1	NA	5/31/11 19:32		248104	
Vinyl Acetate	ND	U	10.0	1.90	1	NA	5/31/11 19:32		248104	
Vinyl Chloride	ND	U	1.00	0.360	1	NA	5/31/11 19:32		248104	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	92	68-118	5/31/11 19:32	
4-Bromofluorobenzene	92	78-129	5/31/11 19:32	
Dibromofluoromethane	97	80-114	5/31/11 19:32	
Toluene-d8	101	87-118	5/31/11 19:32	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-16A
 Lab Code: J1102280-005

Service Request: J1102280
 Date Collected: 5/23/11 1415
 Date Received: 5/24/11

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND	U	1.00	0.190	1	NA	5/31/11 19:54		248104	
1,1,1-Trichloroethane (TCA)	ND	U	1.00	0.170	1	NA	5/31/11 19:54		248104	
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.290	1	NA	5/31/11 19:54		248104	
1,1,2-Trichloroethane	ND	U	1.00	0.400	1	NA	5/31/11 19:54		248104	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.00	0.300	1	NA	5/31/11 19:54		248104	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.160	1	NA	5/31/11 19:54		248104	
1,2,3-Trichloropropane	ND	U	2.00	0.420	1	NA	5/31/11 19:54		248104	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.00	2.30	1	NA	5/31/11 19:54		248104	
1,2-Dibromoethane (EDB)	ND	U	1.00	0.460	1	NA	5/31/11 19:54		248104	
1,2-Dichlorobenzene	ND	U	1.00	0.478	1	NA	5/31/11 19:54		248104	
1,2-Dichloroethane	ND	U	1.00	0.220	1	NA	5/31/11 19:54		248104	
1,2-Dichloropropane	ND	U	1.00	0.190	1	NA	5/31/11 19:54		248104	
1,2-Dichlorobenzene	ND	U	1.00	0.160	1	NA	5/31/11 19:54		248104	
2-Butanone (MEK)	ND	U	10.0	3.80	1	NA	5/31/11 19:54		248104	
2-Hexanone	ND	U	25.0	2.20	1	NA	5/31/11 19:54		248104	
4-Methyl-2-pentanone (MIBK)	ND	U	25.0	1.10	1	NA	5/31/11 19:54		248104	
Acetone	ND	U	50.0	5.60	1	NA	5/31/11 19:54		248104	
Acrylonitrile	ND	U	10.0	1.50	1	NA	5/31/11 19:54		248104	
Benzene	ND	U	1.00	0.210	1	NA	5/31/11 19:54		248104	
Bromochloromethane	ND	U	5.00	0.270	1	NA	5/31/11 19:54		248104	
Bromodichloromethane	ND	U	1.00	0.220	1	NA	5/31/11 19:54		248104	
Bromoform	ND	U	2.00	0.420	1	NA	5/31/11 19:54		248104	
Bromomethane	ND	U	1.00	0.230	1	NA	5/31/11 19:54		248104	
Carbon Disulfide	ND	U	10.0	2.36	1	NA	5/31/11 19:54		248104	
Carbon Tetrachloride	ND	U	1.00	0.340	1	NA	5/31/11 19:54		248104	
Chlorobenzene	ND	U	1.00	0.160	1	NA	5/31/11 19:54		248104	
Chloroethane	ND	U	5.00	0.520	1	NA	5/31/11 19:54		248104	
Chloroform	ND	U	1.00	0.350	1	NA	5/31/11 19:54		248104	
Chloromethane	ND	U	1.00	0.360	1	NA	5/31/11 19:54		248104	
cis-1,2-Dichloroethene	ND	U	1.00	0.360	1	NA	5/31/11 19:54		248104	
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	NA	5/31/11 19:54		248104	
Dibromochloromethane	ND	U	1.00	0.210	1	NA	5/31/11 19:54		248104	
Dibromomethane	ND	U	5.00	0.360	1	NA	5/31/11 19:54		248104	
Ethylbenzene	ND	U	1.00	0.210	1	NA	5/31/11 19:54		248104	
Iodomethane	ND	U	5.00	2.68	1	NA	5/31/11 19:54		248104	
m,p-Xylenes	ND	U	2.00	0.310	1	NA	5/31/11 19:54		248104	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-16A
 Lab Code: J1102280-005

Service Request: J1102280
 Date Collected: 5/23/11 1415
 Date Received: 5/24/11
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	ND	U	5.00	0.210	1	NA	5/31/11 19:54		248104	
o-Xylene	ND	U	1.00	0.140	1	NA	5/31/11 19:54		248104	
Styrene	ND	U	1.00	0.290	1	NA	5/31/11 19:54		248104	
Tetrachloroethene (PCE)	ND	U	1.00	0.220	1	NA	5/31/11 19:54		248104	
Toluene	ND	U	1.00	0.190	1	NA	5/31/11 19:54		248104	
trans-1,2-Dichloroethene	ND	U	1.00	0.190	1	NA	5/31/11 19:54		248104	
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	NA	5/31/11 19:54		248104	
trans-1,4-Dichloro-2-butene	ND	U	20.0	2.20	1	NA	5/31/11 19:54		248104	
Trichloroethene (TCE)	ND	U	1.00	0.360	1	NA	5/31/11 19:54		248104	
Trichlorofluoromethane	ND	U	20.0	0.240	1	NA	5/31/11 19:54		248104	
Vinyl Acetate	ND	U	10.0	1.90	1	NA	5/31/11 19:54		248104	
Vinyl Chloride	ND	U	1.00	0.360	1	NA	5/31/11 19:54		248104	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	94	68-118	5/31/11 19:54	
4-Bromofluorobenzene	87	78-129	5/31/11 19:54	
Dibromofluoromethane	98	80-114	5/31/11 19:54	
Toluene-d8	104	87-118	5/31/11 19:54	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-16B
 Lab Code: J1102280-006

Service Request: J1102280
 Date Collected: 5/23/11 1445
 Date Received: 5/24/11

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND	U	1.00	0.190	1	NA	5/31/11 20:16		248104	
1,1,1-Trichloroethane (TCA)	ND	U	1.00	0.170	1	NA	5/31/11 20:16		248104	
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.290	1	NA	5/31/11 20:16		248104	
1,1,2-Trichloroethane	ND	U	1.00	0.400	1	NA	5/31/11 20:16		248104	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.00	0.300	1	NA	5/31/11 20:16		248104	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.160	1	NA	5/31/11 20:16		248104	
1,2,3-Trichloropropane	ND	U	2.00	0.420	1	NA	5/31/11 20:16		248104	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.00	2.30	1	NA	5/31/11 20:16		248104	
1,2-Dibromoethane (EDB)	ND	U	1.00	0.460	1	NA	5/31/11 20:16		248104	
1,2-Dichlorobenzene	ND	U	1.00	0.478	1	NA	5/31/11 20:16		248104	
1,2-Dichloroethane	ND	U	1.00	0.220	1	NA	5/31/11 20:16		248104	
1,2-Dichloropropane	ND	U	1.00	0.190	1	NA	5/31/11 20:16		248104	
1,2-Dichlorobenzene	ND	U	1.00	0.160	1	NA	5/31/11 20:16		248104	
2-Butanone (MEK)	ND	U	10.0	3.80	1	NA	5/31/11 20:16		248104	
2-Hexanone	ND	U	25.0	2.20	1	NA	5/31/11 20:16		248104	
4-Methyl-2-pentanone (MIBK)	ND	U	25.0	1.10	1	NA	5/31/11 20:16		248104	
Acetone	ND	U	50.0	5.60	1	NA	5/31/11 20:16		248104	
Acrylonitrile	ND	U	10.0	1.50	1	NA	5/31/11 20:16		248104	
Benzene	ND	U	1.00	0.210	1	NA	5/31/11 20:16		248104	
Bromochloromethane	ND	U	5.00	0.270	1	NA	5/31/11 20:16		248104	
Bromodichloromethane	ND	U	1.00	0.220	1	NA	5/31/11 20:16		248104	
Bromoform	ND	U	2.00	0.420	1	NA	5/31/11 20:16		248104	
Bromomethane	ND	U	1.00	0.230	1	NA	5/31/11 20:16		248104	
Carbon Disulfide	ND	U	10.0	2.36	1	NA	5/31/11 20:16		248104	
Carbon Tetrachloride	ND	U	1.00	0.340	1	NA	5/31/11 20:16		248104	
Chlorobenzene	ND	U	1.00	0.160	1	NA	5/31/11 20:16		248104	
Chloroethane	ND	U	5.00	0.520	1	NA	5/31/11 20:16		248104	
Chloroform	ND	U	1.00	0.350	1	NA	5/31/11 20:16		248104	
Chloromethane	ND	U	1.00	0.360	1	NA	5/31/11 20:16		248104	
cis-1,2-Dichloroethene	ND	U	1.00	0.360	1	NA	5/31/11 20:16		248104	
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	NA	5/31/11 20:16		248104	
Dibromochloromethane	ND	U	1.00	0.210	1	NA	5/31/11 20:16		248104	
Dibromomethane	ND	U	5.00	0.360	1	NA	5/31/11 20:16		248104	
Ethylbenzene	ND	U	1.00	0.210	1	NA	5/31/11 20:16		248104	
Iodomethane	ND	U	5.00	2.68	1	NA	5/31/11 20:16		248104	
m,p-Xylenes	ND	U	2.00	0.310	1	NA	5/31/11 20:16		248104	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-16B
 Lab Code: J1102280-006

Service Request: J1102280
 Date Collected: 5/23/11 1445
 Date Received: 5/24/11

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	ND	U	5.00	0.210	1	NA	5/31/11 20:16		248104	
o-Xylene	ND	U	1.00	0.140	1	NA	5/31/11 20:16		248104	
Styrene	ND	U	1.00	0.290	1	NA	5/31/11 20:16		248104	
Tetrachloroethene (PCE)	ND	U	1.00	0.220	1	NA	5/31/11 20:16		248104	
Toluene	ND	U	1.00	0.190	1	NA	5/31/11 20:16		248104	
trans-1,2-Dichloroethene	ND	U	1.00	0.190	1	NA	5/31/11 20:16		248104	
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	NA	5/31/11 20:16		248104	
trans-1,4-Dichloro-2-butene	ND	U	20.0	2.20	1	NA	5/31/11 20:16		248104	
Trichloroethene (TCE)	ND	U	1.00	0.360	1	NA	5/31/11 20:16		248104	
Trichlorofluoromethane	ND	U	20.0	0.240	1	NA	5/31/11 20:16		248104	
Vinyl Acetate	ND	U	10.0	1.90	1	NA	5/31/11 20:16		248104	
Vinyl Chloride	ND	U	1.00	0.360	1	NA	5/31/11 20:16		248104	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	91	68-118	5/31/11 20:16	
4-Bromofluorobenzene	86	78-129	5/31/11 20:16	
Dibromofluoromethane	98	80-114	5/31/11 20:16	
Toluene-d8	105	87-118	5/31/11 20:16	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-16C
 Lab Code: J1102280-007

Service Request: J1102280
 Date Collected: 5/23/11 1345
 Date Received: 5/24/11

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND	U	1.00	0.190	1	NA	5/31/11 20:38		248104	
1,1,1-Trichloroethane (TCA)	ND	U	1.00	0.170	1	NA	5/31/11 20:38		248104	
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.290	1	NA	5/31/11 20:38		248104	
1,1,2-Trichloroethane	ND	U	1.00	0.400	1	NA	5/31/11 20:38		248104	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.00	0.300	1	NA	5/31/11 20:38		248104	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.160	1	NA	5/31/11 20:38		248104	
1,2,3-Trichloropropane	ND	U	2.00	0.420	1	NA	5/31/11 20:38		248104	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.00	2.30	1	NA	5/31/11 20:38		248104	
1,2-Dibromoethane (EDB)	ND	U	1.00	0.460	1	NA	5/31/11 20:38		248104	
1,2-Dichlorobenzene	ND	U	1.00	0.478	1	NA	5/31/11 20:38		248104	
1,2-Dichloroethane	ND	U	1.00	0.220	1	NA	5/31/11 20:38		248104	
1,2-Dichloropropane	ND	U	1.00	0.190	1	NA	5/31/11 20:38		248104	
1,2-Dichlorobenzene	ND	U	1.00	0.160	1	NA	5/31/11 20:38		248104	
2-Butanone (MEK)	ND	U	10.0	3.80	1	NA	5/31/11 20:38		248104	
2-Hexanone	ND	U	25.0	2.20	1	NA	5/31/11 20:38		248104	
4-Methyl-2-pentanone (MIBK)	ND	U	25.0	1.10	1	NA	5/31/11 20:38		248104	
Acetone	ND	U	50.0	5.60	1	NA	5/31/11 20:38		248104	
Acrylonitrile	ND	U	10.0	1.50	1	NA	5/31/11 20:38		248104	
Benzene	ND	U	1.00	0.210	1	NA	5/31/11 20:38		248104	
Bromochloromethane	ND	U	5.00	0.270	1	NA	5/31/11 20:38		248104	
Bromodichloromethane	ND	U	1.00	0.220	1	NA	5/31/11 20:38		248104	
Bromoform	ND	U	2.00	0.420	1	NA	5/31/11 20:38		248104	
Bromomethane	ND	U	1.00	0.230	1	NA	5/31/11 20:38		248104	
Carbon Disulfide	ND	U	10.0	2.36	1	NA	5/31/11 20:38		248104	
Carbon Tetrachloride	ND	U	1.00	0.340	1	NA	5/31/11 20:38		248104	
Chlorobenzene	ND	U	1.00	0.160	1	NA	5/31/11 20:38		248104	
Chloroethane	ND	U	5.00	0.520	1	NA	5/31/11 20:38		248104	
Chloroform	ND	U	1.00	0.350	1	NA	5/31/11 20:38		248104	
Chloromethane	ND	U	1.00	0.360	1	NA	5/31/11 20:38		248104	
cis-1,2-Dichloroethene	ND	U	1.00	0.360	1	NA	5/31/11 20:38		248104	
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	NA	5/31/11 20:38		248104	
Dibromochloromethane	ND	U	1.00	0.210	1	NA	5/31/11 20:38		248104	
Dibromomethane	ND	U	5.00	0.360	1	NA	5/31/11 20:38		248104	
Ethylbenzene	1.02		1.00	0.210	1	NA	5/31/11 20:38		248104	
Iodomethane	ND	U	5.00	2.68	1	NA	5/31/11 20:38		248104	
m,p-Xylenes	ND	U	2.00	0.310	1	NA	5/31/11 20:38		248104	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-16C
 Lab Code: J1102280-007

Service Request: J1102280
 Date Collected: 5/23/11 1345
 Date Received: 5/24/11

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	ND	U	5.00	0.210	1	NA	5/31/11 20:38		248104	
o-Xylene	ND	U	1.00	0.140	1	NA	5/31/11 20:38		248104	
Styrene	ND	U	1.00	0.290	1	NA	5/31/11 20:38		248104	
Tetrachloroethene (PCE)	ND	U	1.00	0.220	1	NA	5/31/11 20:38		248104	
Toluene	0.370	I	1.00	0.190	1	NA	5/31/11 20:38		248104	
trans-1,2-Dichloroethene	ND	U	1.00	0.190	1	NA	5/31/11 20:38		248104	
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	NA	5/31/11 20:38		248104	
trans-1,4-Dichloro-2-butene	ND	U	20.0	2.20	1	NA	5/31/11 20:38		248104	
Trichloroethene (TCE)	ND	U	1.00	0.360	1	NA	5/31/11 20:38		248104	
Trichlorofluoromethane	ND	U	20.0	0.240	1	NA	5/31/11 20:38		248104	
Vinyl Acetate	ND	U	10.0	1.90	1	NA	5/31/11 20:38		248104	
Vinyl Chloride	ND	U	1.00	0.360	1	NA	5/31/11 20:38		248104	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	89	68-118	5/31/11 20:38	
4-Bromofluorobenzene	88	78-129	5/31/11 20:38	
Dibromofluoromethane	96	80-114	5/31/11 20:38	
Toluene-d8	103	87-118	5/31/11 20:38	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: EB-2
 Lab Code: J1102280-008

Service Request: J1102280
 Date Collected: 5/23/11 1525
 Date Received: 5/24/11
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248513

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND	U	1.00	0.190	1	NA	6/2/11 14:54		248513	
1,1,1-Trichloroethane (TCA)	ND	U	1.00	0.170	1	NA	6/2/11 14:54		248513	
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.290	1	NA	6/2/11 14:54		248513	
1,1,2-Trichloroethane	ND	U	1.00	0.400	1	NA	6/2/11 14:54		248513	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.00	0.300	1	NA	6/2/11 14:54		248513	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.160	1	NA	6/2/11 14:54		248513	
1,2,3-Trichloropropane	ND	U	2.00	0.420	1	NA	6/2/11 14:54		248513	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.00	2.30	1	NA	6/2/11 14:54		248513	
1,2-Dibromoethane (EDB)	ND	U	1.00	0.460	1	NA	6/2/11 14:54		248513	
1,2-Dichlorobenzene	ND	U	1.00	0.478	1	NA	6/2/11 14:54		248513	
1,2-Dichloroethane	ND	U	1.00	0.220	1	NA	6/2/11 14:54		248513	
1,2-Dichloropropane	ND	U	1.00	0.190	1	NA	6/2/11 14:54		248513	
1,2-Dichlorobenzene	ND	U	1.00	0.160	1	NA	6/2/11 14:54		248513	
2-Butanone (MEK)	ND	U	10.0	3.80	1	NA	6/2/11 14:54		248513	
2-Hexanone	ND	U	25.0	2.20	1	NA	6/2/11 14:54		248513	
4-Methyl-2-pentanone (MIBK)	ND	U	25.0	1.10	1	NA	6/2/11 14:54		248513	
Acetone	ND	U	50.0	5.60	1	NA	6/2/11 14:54		248513	
Acrylonitrile	ND	U	10.0	1.50	1	NA	6/2/11 14:54		248513	
Benzene	ND	U	1.00	0.210	1	NA	6/2/11 14:54		248513	
Bromochloromethane	ND	U	5.00	0.270	1	NA	6/2/11 14:54		248513	
Bromodichloromethane	ND	U	1.00	0.220	1	NA	6/2/11 14:54		248513	
Bromoform	ND	U	2.00	0.420	1	NA	6/2/11 14:54		248513	
Bromomethane	ND	U	1.00	0.230	1	NA	6/2/11 14:54		248513	
Carbon Disulfide	ND	U	10.0	2.36	1	NA	6/2/11 14:54		248513	
Carbon Tetrachloride	ND	U	1.00	0.340	1	NA	6/2/11 14:54		248513	
Chlorobenzene	ND	U	1.00	0.160	1	NA	6/2/11 14:54		248513	
Chloroethane	ND	U	5.00	0.520	1	NA	6/2/11 14:54		248513	
Chloroform	ND	U	1.00	0.350	1	NA	6/2/11 14:54		248513	
Chloromethane	ND	U	1.00	0.360	1	NA	6/2/11 14:54		248513	
cis-1,2-Dichloroethene	ND	U	1.00	0.360	1	NA	6/2/11 14:54		248513	
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	NA	6/2/11 14:54		248513	
Dibromochloromethane	ND	U	1.00	0.210	1	NA	6/2/11 14:54		248513	
Dibromomethane	ND	U	5.00	0.360	1	NA	6/2/11 14:54		248513	
Ethylbenzene	ND	U	1.00	0.210	1	NA	6/2/11 14:54		248513	
Iodomethane	ND	U	5.00	2.68	1	NA	6/2/11 14:54		248513	
m,p-Xylenes	ND	U	2.00	0.310	1	NA	6/2/11 14:54		248513	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: EB-2
 Lab Code: J1102280-008

Service Request: J1102280
 Date Collected: 5/23/11 1525
 Date Received: 5/24/11
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248513

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	2.12	I	5.00	0.210	1	NA	6/2/11 14:54		248513	
o-Xylene	ND	U	1.00	0.140	1	NA	6/2/11 14:54		248513	
Styrene	ND	U	1.00	0.290	1	NA	6/2/11 14:54		248513	
Tetrachloroethene (PCE)	ND	U	1.00	0.220	1	NA	6/2/11 14:54		248513	
Toluene	ND	U	1.00	0.190	1	NA	6/2/11 14:54		248513	
trans-1,2-Dichloroethene	ND	U	1.00	0.190	1	NA	6/2/11 14:54		248513	
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	NA	6/2/11 14:54		248513	
trans-1,4-Dichloro-2-butene	ND	U	20.0	2.20	1	NA	6/2/11 14:54		248513	
Trichloroethene (TCE)	ND	U	1.00	0.360	1	NA	6/2/11 14:54		248513	
Trichlorofluoromethane	ND	U	20.0	0.240	1	NA	6/2/11 14:54		248513	
Vinyl Acetate	ND	U	10.0	1.90	1	NA	6/2/11 14:54		248513	
Vinyl Chloride	ND	U	1.00	0.360	1	NA	6/2/11 14:54		248513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	88	68-118	6/2/11 14:54	
4-Bromofluorobenzene	94	78-129	6/2/11 14:54	
Dibromofluoromethane	93	80-114	6/2/11 14:54	
Toluene-d8	111	87-118	6/2/11 14:54	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: Trip Blank
 Lab Code: J1102280-009

Service Request: J1102280
 Date Collected: 5/23/11 0000
 Date Received: 5/24/11

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248513

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND	U	1.00	0.190	1	NA	6/2/11 15:24		248513	
1,1,1-Trichloroethane (TCA)	ND	U	1.00	0.170	1	NA	6/2/11 15:24		248513	
1,1,2,2-Tetrachloroethane	ND	U	1.00	0.290	1	NA	6/2/11 15:24		248513	
1,1,2-Trichloroethane	ND	U	1.00	0.400	1	NA	6/2/11 15:24		248513	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.00	0.300	1	NA	6/2/11 15:24		248513	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.00	0.160	1	NA	6/2/11 15:24		248513	
1,2,3-Trichloropropane	ND	U	2.00	0.420	1	NA	6/2/11 15:24		248513	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	5.00	2.30	1	NA	6/2/11 15:24		248513	
1,2-Dibromoethane (EDB)	ND	U	1.00	0.460	1	NA	6/2/11 15:24		248513	
1,2-Dichlorobenzene	ND	U	1.00	0.478	1	NA	6/2/11 15:24		248513	
1,2-Dichloroethane	ND	U	1.00	0.220	1	NA	6/2/11 15:24		248513	
1,2-Dichloropropane	ND	U	1.00	0.190	1	NA	6/2/11 15:24		248513	
1,2-Dichlorobenzene	ND	U	1.00	0.160	1	NA	6/2/11 15:24		248513	
2-Butanone (MEK)	ND	U	10.0	3.80	1	NA	6/2/11 15:24		248513	
2-Hexanone	ND	U	25.0	2.20	1	NA	6/2/11 15:24		248513	
4-Methyl-2-pentanone (MIBK)	ND	U	25.0	1.10	1	NA	6/2/11 15:24		248513	
Acetone	ND	U	50.0	5.60	1	NA	6/2/11 15:24		248513	
Acrylonitrile	ND	U	10.0	1.50	1	NA	6/2/11 15:24		248513	
Benzene	ND	U	1.00	0.210	1	NA	6/2/11 15:24		248513	
Bromochloromethane	ND	U	5.00	0.270	1	NA	6/2/11 15:24		248513	
Bromodichloromethane	ND	U	1.00	0.220	1	NA	6/2/11 15:24		248513	
Bromoform	ND	U	2.00	0.420	1	NA	6/2/11 15:24		248513	
Bromomethane	ND	U	1.00	0.230	1	NA	6/2/11 15:24		248513	
Carbon Disulfide	ND	U	10.0	2.36	1	NA	6/2/11 15:24		248513	
Carbon Tetrachloride	ND	U	1.00	0.340	1	NA	6/2/11 15:24		248513	
Chlorobenzene	ND	U	1.00	0.160	1	NA	6/2/11 15:24		248513	
Chloroethane	ND	U	5.00	0.520	1	NA	6/2/11 15:24		248513	
Chloroform	ND	U	1.00	0.350	1	NA	6/2/11 15:24		248513	
Chloromethane	ND	U	1.00	0.360	1	NA	6/2/11 15:24		248513	
cis-1,2-Dichloroethene	ND	U	1.00	0.360	1	NA	6/2/11 15:24		248513	
cis-1,3-Dichloropropene	ND	U	1.00	0.200	1	NA	6/2/11 15:24		248513	
Dibromochloromethane	ND	U	1.00	0.210	1	NA	6/2/11 15:24		248513	
Dibromomethane	ND	U	5.00	0.360	1	NA	6/2/11 15:24		248513	
Ethylbenzene	ND	U	1.00	0.210	1	NA	6/2/11 15:24		248513	
Iodomethane	ND	U	5.00	2.68	1	NA	6/2/11 15:24		248513	
m,p-Xylenes	ND	U	2.00	0.310	1	NA	6/2/11 15:24		248513	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: Trip Blank
 Lab Code: J1102280-009

Service Request: J1102280
 Date Collected: 5/23/11 0000
 Date Received: 5/24/11

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248513

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	ND	U	5.00	0.210	1	NA	6/2/11 15:24		248513	
o-Xylene	ND	U	1.00	0.140	1	NA	6/2/11 15:24		248513	
Styrene	ND	U	1.00	0.290	1	NA	6/2/11 15:24		248513	
Tetrachloroethene (PCE)	ND	U	1.00	0.220	1	NA	6/2/11 15:24		248513	
Toluene	ND	U	1.00	0.190	1	NA	6/2/11 15:24		248513	
trans-1,2-Dichloroethene	ND	U	1.00	0.190	1	NA	6/2/11 15:24		248513	
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	NA	6/2/11 15:24		248513	
trans-1,4-Dichloro-2-butene	ND	U	20.0	2.20	1	NA	6/2/11 15:24		248513	
Trichloroethene (TCE)	ND	U	1.00	0.360	1	NA	6/2/11 15:24		248513	
Trichlorofluoromethane	ND	U	20.0	0.240	1	NA	6/2/11 15:24		248513	
Vinyl Acetate	ND	U	10.0	1.90	1	NA	6/2/11 15:24		248513	
Vinyl Chloride	ND	U	1.00	0.360	1	NA	6/2/11 15:24		248513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	89	68-118	6/2/11 15:24	
4-Bromofluorobenzene	103	78-129	6/2/11 15:24	
Dibromofluoromethane	94	80-114	6/2/11 15:24	
Toluene-d8	100	87-118	6/2/11 15:24	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: JQ1102991-01

Service Request: J1102280
 Date Collected: NA
 Date Received: NA
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND U	1.00	0.190	1	NA	5/31/11 15:51		248104	
1,1,1-Trichloroethane (TCA)	ND U	1.00	0.170	1	NA	5/31/11 15:51		248104	
1,1,2,2-Tetrachloroethane	ND U	1.00	0.290	1	NA	5/31/11 15:51		248104	
1,1,2-Trichloroethane	ND U	1.00	0.400	1	NA	5/31/11 15:51		248104	
1,1-Dichloroethane (1,1-DCA)	ND U	1.00	0.300	1	NA	5/31/11 15:51		248104	
1,1-Dichloroethene (1,1-DCE)	ND U	1.00	0.160	1	NA	5/31/11 15:51		248104	
1,2,3-Trichloropropane	ND U	2.00	0.420	1	NA	5/31/11 15:51		248104	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.00	2.30	1	NA	5/31/11 15:51		248104	
1,2-Dibromoethane (EDB)	ND U	1.00	0.460	1	NA	5/31/11 15:51		248104	
1,2-Dichlorobenzene	ND U	1.00	0.478	1	NA	5/31/11 15:51		248104	
1,2-Dichloroethane	ND U	1.00	0.220	1	NA	5/31/11 15:51		248104	
1,2-Dichloropropane	ND U	1.00	0.190	1	NA	5/31/11 15:51		248104	
1,2-Dichlorobenzene	ND U	1.00	0.160	1	NA	5/31/11 15:51		248104	
2-Butanone (MEK)	ND U	10.0	3.80	1	NA	5/31/11 15:51		248104	
2-Hexanone	ND U	25.0	2.20	1	NA	5/31/11 15:51		248104	
4-Methyl-2-pentanone (MIBK)	ND U	25.0	1.10	1	NA	5/31/11 15:51		248104	
Acetone	ND U	50.0	5.60	1	NA	5/31/11 15:51		248104	
Acrylonitrile	ND U	10.0	1.50	1	NA	5/31/11 15:51		248104	
Benzene	ND U	1.00	0.210	1	NA	5/31/11 15:51		248104	
Bromochloromethane	ND U	5.00	0.270	1	NA	5/31/11 15:51		248104	
Bromodichloromethane	ND U	1.00	0.220	1	NA	5/31/11 15:51		248104	
Bromoform	ND U	2.00	0.420	1	NA	5/31/11 15:51		248104	
Bromomethane	ND U	1.00	0.230	1	NA	5/31/11 15:51		248104	
Carbon Disulfide	ND U	10.0	2.36	1	NA	5/31/11 15:51		248104	
Carbon Tetrachloride	ND U	1.00	0.340	1	NA	5/31/11 15:51		248104	
Chlorobenzene	ND U	1.00	0.160	1	NA	5/31/11 15:51		248104	
Chloroethane	ND U	5.00	0.520	1	NA	5/31/11 15:51		248104	
Chloroform	ND U	1.00	0.350	1	NA	5/31/11 15:51		248104	
Chloromethane	ND U	1.00	0.360	1	NA	5/31/11 15:51		248104	
cis-1,2-Dichloroethene	ND U	1.00	0.360	1	NA	5/31/11 15:51		248104	
cis-1,3-Dichloropropene	ND U	1.00	0.200	1	NA	5/31/11 15:51		248104	
Dibromochloromethane	ND U	1.00	0.210	1	NA	5/31/11 15:51		248104	
Dibromomethane	ND U	5.00	0.360	1	NA	5/31/11 15:51		248104	
Ethylbenzene	ND U	1.00	0.210	1	NA	5/31/11 15:51		248104	
Iodomethane	ND U	5.00	2.68	1	NA	5/31/11 15:51		248104	
m,p-Xylenes	ND U	2.00	0.310	1	NA	5/31/11 15:51		248104	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: JQ1102991-01

Service Request: J1102280
 Date Collected: NA
 Date Received: NA
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248104

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	ND	U	5.00	0.210	1	NA	5/31/11 15:51		248104	
o-Xylene	ND	U	1.00	0.140	1	NA	5/31/11 15:51		248104	
Styrene	ND	U	1.00	0.290	1	NA	5/31/11 15:51		248104	
Tetrachloroethene (PCE)	ND	U	1.00	0.220	1	NA	5/31/11 15:51		248104	
Toluene	ND	U	1.00	0.190	1	NA	5/31/11 15:51		248104	
trans-1,2-Dichloroethene	ND	U	1.00	0.190	1	NA	5/31/11 15:51		248104	
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	NA	5/31/11 15:51		248104	
trans-1,4-Dichloro-2-butene	ND	U	20.0	2.20	1	NA	5/31/11 15:51		248104	
Trichloroethene (TCE)	ND	U	1.00	0.360	1	NA	5/31/11 15:51		248104	
Trichlorofluoromethane	ND	U	20.0	0.240	1	NA	5/31/11 15:51		248104	
Vinyl Acetate	ND	U	10.0	1.90	1	NA	5/31/11 15:51		248104	
Vinyl Chloride	ND	U	1.00	0.360	1	NA	5/31/11 15:51		248104	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	93	68-118	5/31/11 15:51	
4-Bromofluorobenzene	89	78-129	5/31/11 15:51	
Dibromofluoromethane	96	80-114	5/31/11 15:51	
Toluene-d8	103	87-118	5/31/11 15:51	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: JQ1103050-02

Service Request: J1102280
 Date Collected: NA
 Date Received: NA

Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248513

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	ND U	1.00	0.190	1	NA	6/2/11 14:24		248513	
1,1,1-Trichloroethane (TCA)	ND U	1.00	0.170	1	NA	6/2/11 14:24		248513	
1,1,2,2-Tetrachloroethane	ND U	1.00	0.290	1	NA	6/2/11 14:24		248513	
1,1,2-Trichloroethane	ND U	1.00	0.400	1	NA	6/2/11 14:24		248513	
1,1-Dichloroethane (1,1-DCA)	ND U	1.00	0.300	1	NA	6/2/11 14:24		248513	
1,1-Dichloroethene (1,1-DCE)	ND U	1.00	0.160	1	NA	6/2/11 14:24		248513	
1,2,3-Trichloropropane	ND U	2.00	0.420	1	NA	6/2/11 14:24		248513	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.00	2.30	1	NA	6/2/11 14:24		248513	
1,2-Dibromoethane (EDB)	ND U	1.00	0.460	1	NA	6/2/11 14:24		248513	
1,2-Dichlorobenzene	ND U	1.00	0.478	1	NA	6/2/11 14:24		248513	
1,2-Dichloroethane	ND U	1.00	0.220	1	NA	6/2/11 14:24		248513	
1,2-Dichloropropane	ND U	1.00	0.190	1	NA	6/2/11 14:24		248513	
1,2-Dichlorobenzene	ND U	1.00	0.160	1	NA	6/2/11 14:24		248513	
2-Butanone (MEK)	ND U	10.0	3.80	1	NA	6/2/11 14:24		248513	
2-Hexanone	ND U	25.0	2.20	1	NA	6/2/11 14:24		248513	
4-Methyl-2-pentanone (MIBK)	ND U	25.0	1.10	1	NA	6/2/11 14:24		248513	
Acetone	ND U	50.0	5.60	1	NA	6/2/11 14:24		248513	
Acrylonitrile	ND U	10.0	1.50	1	NA	6/2/11 14:24		248513	
Benzene	ND U	1.00	0.210	1	NA	6/2/11 14:24		248513	
Bromochloromethane	ND U	5.00	0.270	1	NA	6/2/11 14:24		248513	
Bromodichloromethane	ND U	1.00	0.220	1	NA	6/2/11 14:24		248513	
Bromoform	ND U	2.00	0.420	1	NA	6/2/11 14:24		248513	
Bromomethane	ND U	1.00	0.230	1	NA	6/2/11 14:24		248513	
Carbon Disulfide	ND U	10.0	2.36	1	NA	6/2/11 14:24		248513	
Carbon Tetrachloride	ND U	1.00	0.340	1	NA	6/2/11 14:24		248513	
Chlorobenzene	ND U	1.00	0.160	1	NA	6/2/11 14:24		248513	
Chloroethane	ND U	5.00	0.520	1	NA	6/2/11 14:24		248513	
Chloroform	ND U	1.00	0.350	1	NA	6/2/11 14:24		248513	
Chloromethane	ND U	1.00	0.360	1	NA	6/2/11 14:24		248513	
cis-1,2-Dichloroethene	ND U	1.00	0.360	1	NA	6/2/11 14:24		248513	
cis-1,3-Dichloropropene	ND U	1.00	0.200	1	NA	6/2/11 14:24		248513	
Dibromochloromethane	ND U	1.00	0.210	1	NA	6/2/11 14:24		248513	
Dibromomethane	ND U	5.00	0.360	1	NA	6/2/11 14:24		248513	
Ethylbenzene	ND U	1.00	0.210	1	NA	6/2/11 14:24		248513	
Iodomethane	ND U	5.00	2.68	1	NA	6/2/11 14:24		248513	
m,p-Xylenes	ND U	2.00	0.310	1	NA	6/2/11 14:24		248513	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: JQ1103050-02

Service Request: J1102280
 Date Collected: NA
 Date Received: NA
 Units: µg/L
 Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analysis Lot: 248513

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Methylene Chloride	ND	U	5.00	0.210	1	NA	6/2/11 14:24		248513	
o-Xylene	ND	U	1.00	0.140	1	NA	6/2/11 14:24		248513	
Styrene	ND	U	1.00	0.290	1	NA	6/2/11 14:24		248513	
Tetrachloroethene (PCE)	ND	U	1.00	0.220	1	NA	6/2/11 14:24		248513	
Toluene	ND	U	1.00	0.190	1	NA	6/2/11 14:24		248513	
trans-1,2-Dichloroethene	ND	U	1.00	0.190	1	NA	6/2/11 14:24		248513	
trans-1,3-Dichloropropene	ND	U	1.00	0.230	1	NA	6/2/11 14:24		248513	
trans-1,4-Dichloro-2-butene	ND	U	20.0	2.20	1	NA	6/2/11 14:24		248513	
Trichloroethene (TCE)	ND	U	1.00	0.360	1	NA	6/2/11 14:24		248513	
Trichlorofluoromethane	ND	U	20.0	0.240	1	NA	6/2/11 14:24		248513	
Vinyl Acetate	ND	U	10.0	1.90	1	NA	6/2/11 14:24		248513	
Vinyl Chloride	ND	U	1.00	0.360	1	NA	6/2/11 14:24		248513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	89	68-118	6/2/11 14:24	
4-Bromofluorobenzene	101	78-129	6/2/11 14:24	
Dibromofluoromethane	96	80-114	6/2/11 14:24	
Toluene-d8	99	87-118	6/2/11 14:24	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Collected: 05/23/2011
Date Received: 05/24/2011

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by GC-ECD

Sample Name: MW-23A
Lab Code: J1102280-001
Extraction Method: METHOD
Analysis Method: 8011

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND U	0.021	0.00015	1	05/31/11	05/31/11	JWG1101266	
1,2-Dibromo-3-chloropropane (DIB)	ND U	0.021	0.00039	1	05/31/11	05/31/11	JWG1101266	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,1,1,2-Tetrachloroethane	73	77-150	05/31/11	Outside Control Limits

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Collected: 05/23/2011
Date Received: 05/24/2011

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by GC-ECD

Sample Name: MW-23B
Lab Code: J1102280-002
Extraction Method: METHOD
Analysis Method: 8011

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND U	0.021	0.00015	1	05/31/11	05/31/11	JWG1101266	
1,2-Dibromo-3-chloropropane (DIB)	ND U	0.021	0.00039	1	05/31/11	05/31/11	JWG1101266	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,1,1,2-Tetrachloroethane	101	77-150	05/31/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Collected: 05/23/2011
Date Received: 05/24/2011

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by GC-ECD

Sample Name: MW-19A
Lab Code: J1102280-003
Extraction Method: METHOD
Analysis Method: 8011

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND	U	0.021	0.00015	1	05/31/11	05/31/11	JWG1101266	
1,2-Dibromo-3-chloropropane (DI)	ND	U	0.021	0.00039	1	05/31/11	05/31/11	JWG1101266	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,1,1,2-Tetrachloroethane	69	77-150	05/31/11	Outside Control Limits

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Collected: 05/23/2011
Date Received: 05/24/2011

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by GC-ECD

Sample Name: MW-19B
Lab Code: J1102280-004
Extraction Method: METHOD
Analysis Method: 8011

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND	U	0.021	0.00015	1	05/31/11	05/31/11	JWG1101266	
1,2-Dibromo-3-chloropropane (DI)	ND	U	0.021	0.00039	1	05/31/11	05/31/11	JWG1101266	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,1,1,2-Tetrachloroethane	110	77-150	05/31/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Collected: 05/23/2011
Date Received: 05/24/2011

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by GC-ECD

Sample Name: MW-16A
Lab Code: J1102280-005
Extraction Method: METHOD
Analysis Method: 8011

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND	U	0.021	0.00015	1	05/31/11	06/01/11	JWG1101266	
1,2-Dibromo-3-chloropropane (DIB)	ND	U	0.021	0.00039	1	05/31/11	06/01/11	JWG1101266	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,1,1,2-Tetrachloroethane	109	77-150	06/01/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Collected: 05/23/2011
Date Received: 05/24/2011

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by GC-ECD

Sample Name: MW-16B
Lab Code: J1102280-006
Extraction Method: METHOD
Analysis Method: 8011

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND	U	0.021	0.00015	1	05/31/11	06/01/11	JWG1101266	
1,2-Dibromo-3-chloropropane (DI)	ND	U	0.021	0.00039	1	05/31/11	06/01/11	JWG1101266	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,1,1,2-Tetrachloroethane	108	77-150	06/01/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Collected: 05/23/2011
Date Received: 05/24/2011

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by GC-ECD

Sample Name: MW-16C
Lab Code: J1102280-007
Extraction Method: METHOD
Analysis Method: 8011

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND U	0.021	0.00015	1	05/31/11	06/01/11	JWG1101266	
1,2-Dibromo-3-chloropropane (DIB)	ND U	0.021	0.00039	1	05/31/11	06/01/11	JWG1101266	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,1,1,2-Tetrachloroethane	110	77-150	06/01/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Collected: 05/23/2011
Date Received: 05/24/2011

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by GC-ECD

Sample Name: EB-2
Lab Code: J1102280-008
Extraction Method: METHOD
Analysis Method: 8011

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND U	0.021	0.00015	1	05/31/11	06/01/11	JWG1101266	
1,2-Dibromo-3-chloropropane (DIB)	ND U	0.021	0.00039	1	05/31/11	06/01/11	JWG1101266	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,1,1,2-Tetrachloroethane	112	77-150	06/01/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Collected: NA
Date Received: NA

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by GC-ECD

Sample Name: Method Blank
Lab Code: JWGI101266-3
Extraction Method: METHOD
Analysis Method: 8011

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
1,2-Dibromoethane (EDB)	ND U	0.020	0.00014	1	05/31/11	05/31/11	JWGI101266	
1,2-Dibromo-3-chloropropane (DI	ND U	0.020	0.00038	1	05/31/11	05/31/11	JWGI101266	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,1,1,2-Tetrachloroethane	113	77-150	05/31/11	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Subject: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-23A
 Lab Code: J1102280-001

Service Request: J1102280
 Date Collected: 5/23/11 1030
 Date Received: 5/24/11

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Antimony, Dissolved	6020	ND U	µg/L	2.0	0.2	1	5/31/11	6/1/11 11:24	
Antimony, Total Recoverable	6020	0.3 I	µg/L	2.0	0.2	1	5/31/11	6/1/11 18:37	
Arsenic, Dissolved	6020	1.22	µg/L	0.50	0.40	1	5/31/11	6/1/11 11:24	
Arsenic, Total Recoverable	6020	1.81	µg/L	0.50	0.40	1	5/31/11	6/1/11 18:37	
Barium, Dissolved	6020	8.7	µg/L	2.0	0.3	1	5/31/11	6/1/11 11:24	
Barium, Total Recoverable	6020	11.0	µg/L	2.0	0.3	1	5/31/11	6/1/11 18:37	
Beryllium, Dissolved	6020	ND U	µg/L	1.0	0.2	1	5/31/11	6/1/11 11:24	
Beryllium, Total Recoverable	6020	ND U	µg/L	1.0	0.2	1	5/31/11	6/1/11 18:37	
Cadmium, Dissolved	6020	ND U	µg/L	0.50	0.30	1	5/31/11	6/1/11 11:24	
Cadmium, Total Recoverable	6020	ND U	µg/L	0.50	0.30	1	5/31/11	6/1/11 18:37	
Chromium, Dissolved	6020	2.6	µg/L	2.0	0.3	1	5/31/11	6/1/11 11:24	
Chromium, Total Recoverable	6020	5.2	µg/L	2.0	0.3	1	5/31/11	6/1/11 18:37	
Cobalt, Dissolved	6020	0.4 I	µg/L	1.0	0.08	1	5/31/11	6/1/11 11:24	
Cobalt, Total Recoverable	6020	0.5 I	µg/L	1.0	0.08	1	5/31/11	6/1/11 18:37	
Copper, Dissolved	6020	ND U	µg/L	2.0	1.0	1	5/31/11	6/1/11 11:24	
Copper, Total Recoverable	6020	1.1 I	µg/L	2.0	1.0	1	5/31/11	6/1/11 18:37	
Iron, Dissolved	6010B	1850	µg/L	100	20	1	5/27/11	6/2/11 04:09	
Iron, Total Recoverable	6010B	2000	µg/L	100	20	1	5/27/11	6/1/11 21:21	
Lead, Dissolved	6020	0.1 I	µg/L	1.0	0.06	1	5/31/11	6/1/11 11:24	
Lead, Total Recoverable	6020	1.5	µg/L	1.0	0.06	1	5/31/11	6/1/11 18:37	
Mercury, Dissolved	7470A	ND U	µg/L	0.20	0.02	1	6/2/11	6/3/11 14:43	
Mercury, Total	7470A	0.05 I	µg/L	0.20	0.02	1	5/31/11	6/1/11 13:22	
Nickel, Dissolved	6020	1.8 I	µg/L	2.0	0.2	1	5/31/11	6/1/11 11:24	
Nickel, Total Recoverable	6020	2.2	µg/L	2.0	0.2	1	5/31/11	6/1/11 18:37	
Selenium, Dissolved	6020	ND U	µg/L	5.0	1.0	1	5/31/11	6/1/11 11:24	
Selenium, Total Recoverable	6020	1.3 I	µg/L	5.0	1.0	1	5/31/11	6/1/11 18:37	
Silver, Dissolved	6020	ND U	µg/L	0.50	0.07	1	5/31/11	6/1/11 11:24	
Silver, Total Recoverable	6020	ND U	µg/L	0.50	0.07	1	5/31/11	6/1/11 18:37	
Sodium, Dissolved	6010B	21.4	mg/L	0.50	0.02	1	5/27/11	6/2/11 04:09	
Sodium, Total Recoverable	6010B	22.2	mg/L	0.50	0.02	1	5/27/11	6/1/11 21:21	
Thallium, Dissolved	6020	0.2 I	µg/L	1.0	0.03	1	5/31/11	6/1/11 11:24	
Thallium, Total Recoverable	6020	ND U	µg/L	1.0	0.03	1	5/31/11	6/1/11 18:37	
Vanadium, Dissolved	6020	5.0	µg/L	5.0	0.5	1	5/31/11	6/1/11 11:24	
Vanadium, Total Recoverable	6020	6.3	µg/L	5.0	0.5	1	5/31/11	6/1/11 18:37	
Zinc, Dissolved	6020	1 I	µg/L	10	1	1	5/31/11	6/1/11 11:24	
Zinc, Total Recoverable	6020	1 I	µg/L	10	1	1	5/31/11	6/1/11 18:37	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-23B
 Lab Code: J1102280-002

Service Request: J1102280
 Date Collected: 5/23/11 0855
 Date Received: 5/24/11

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Antimony, Total Recoverable	6020	ND U	µg/L	2.0	0.2	1	5/31/11	6/1/11 18:42	
Arsenic, Total Recoverable	6020	ND U	µg/L	0.50	0.40	1	5/31/11	6/1/11 18:42	
Barium, Total Recoverable	6020	8.9	µg/L	2.0	0.3	1	5/31/11	6/1/11 18:42	
Beryllium, Total Recoverable	6020	ND U	µg/L	1.0	0.2	1	5/31/11	6/1/11 18:42	
Cadmium, Total Recoverable	6020	ND U	µg/L	0.50	0.30	1	5/31/11	6/1/11 18:42	
Chromium, Total Recoverable	6020	0.7 I	µg/L	2.0	0.3	1	5/31/11	6/1/11 18:42	
Cobalt, Total Recoverable	6020	0.2 I	µg/L	1.0	0.08	1	5/31/11	6/1/11 18:42	
Copper, Total Recoverable	6020	ND U	µg/L	2.0	1.0	1	5/31/11	6/1/11 18:42	
Iron, Total Recoverable	6010B	610	µg/L	100	20	1	5/27/11	6/1/11 21:26	
Lead, Total Recoverable	6020	ND U	µg/L	1.0	0.06	1	5/31/11	6/1/11 18:42	
Mercury, Total	7470A	ND U	µg/L	0.20	0.02	1	5/31/11	6/1/11 13:24	
Nickel, Total Recoverable	6020	ND U	µg/L	2.0	0.2	1	5/31/11	6/1/11 18:42	
Selenium, Total Recoverable	6020	ND U	µg/L	5.0	1.0	1	5/31/11	6/1/11 18:42	
Silver, Total Recoverable	6020	ND U	µg/L	0.50	0.07	1	5/31/11	6/1/11 18:42	
Sodium, Total Recoverable	6010B	12.9	mg/L	0.50	0.02	1	5/27/11	6/1/11 21:26	
Thallium, Total Recoverable	6020	ND U	µg/L	1.0	0.03	1	5/31/11	6/1/11 18:42	
Vanadium, Total Recoverable	6020	1.4 I	µg/L	5.0	0.5	1	5/31/11	6/1/11 18:42	
Zinc, Total Recoverable	6020	ND U	µg/L	10	1	1	5/31/11	6/1/11 18:42	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-19A
 Lab Code: J1102280-003

Service Request: J1102280
 Date Collected: 5/23/11 11:50
 Date Received: 5/24/11

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Antimony, Dissolved	6020	0.4	I	µg/L	2.0	0.2	1	5/31/11	6/1/11 11:50	
Antimony, Total Recoverable	6020	0.3	I	µg/L	2.0	0.2	1	5/31/11	6/1/11 18:47	
Arsenic, Dissolved	6020	8.14		µg/L	0.50	0.40	1	5/31/11	6/1/11 11:50	
Arsenic, Total Recoverable	6020	10.1		µg/L	0.50	0.40	1	5/31/11	6/1/11 18:47	
Barium, Dissolved	6020	27.3		µg/L	2.0	0.3	1	5/31/11	6/1/11 11:50	
Barium, Total Recoverable	6020	37.5		µg/L	2.0	0.3	1	5/31/11	6/1/11 18:47	
Beryllium, Dissolved	6020	0.8	I	µg/L	1.0	0.2	1	5/31/11	6/1/11 11:50	
Beryllium, Total Recoverable	6020	1.2		µg/L	1.0	0.2	1	5/31/11	6/1/11 18:47	
Cadmium, Dissolved	6020	ND	U	µg/L	0.50	0.30	1	5/31/11	6/1/11 11:50	
Cadmium, Total Recoverable	6020	ND	U	µg/L	0.50	0.30	1	5/31/11	6/1/11 18:47	
Chromium, Dissolved	6020	26.5		µg/L	2.0	0.3	1	5/31/11	6/1/11 11:50	
Chromium, Total Recoverable	6020	42.4		µg/L	2.0	0.3	1	5/31/11	6/1/11 18:47	
Cobalt, Dissolved	6020	1.9		µg/L	1.0	0.08	1	5/31/11	6/1/11 11:50	
Cobalt, Total Recoverable	6020	2.4		µg/L	1.0	0.08	1	5/31/11	6/1/11 18:47	
Copper, Dissolved	6020	1.1	I	µg/L	2.0	1.0	1	5/31/11	6/1/11 11:50	
Copper, Total Recoverable	6020	2.1		µg/L	2.0	1.0	1	5/31/11	6/1/11 18:47	
Iron, Dissolved	6010B	10000		µg/L	100	20	1	5/27/11	6/2/11 04:27	
Iron, Total Recoverable	6010B	13300		µg/L	100	20	1	5/27/11	6/1/11 21:31	
Lead, Dissolved	6020	7.9		µg/L	1.0	0.06	1	5/31/11	6/1/11 11:50	
Lead, Total Recoverable	6020	14.8		µg/L	1.0	0.06	1	5/31/11	6/1/11 18:47	
Mercury, Dissolved	7470A	0.12	I	µg/L	0.20	0.02	1	6/2/11	6/3/11 14:50	
Mercury, Total	7470A	0.28		µg/L	0.20	0.02	1	5/31/11	6/1/11 13:25	
Nickel, Dissolved	6020	4.4		µg/L	2.0	0.2	1	5/31/11	6/1/11 11:50	
Nickel, Total Recoverable	6020	6.8		µg/L	2.0	0.2	1	5/31/11	6/1/11 18:47	
Selenium, Dissolved	6020	5.8		µg/L	5.0	1.0	1	5/31/11	6/1/11 11:50	
Selenium, Total Recoverable	6020	8.0		µg/L	5.0	1.0	1	5/31/11	6/1/11 18:47	
Silver, Dissolved	6020	ND	U	µg/L	0.50	0.07	1	5/31/11	6/1/11 11:50	
Silver, Total Recoverable	6020	ND	U	µg/L	0.50	0.07	1	5/31/11	6/1/11 18:47	
Sodium, Dissolved	6010B	26.6		mg/L	0.50	0.02	1	5/27/11	6/2/11 04:27	
Sodium, Total Recoverable	6010B	28.5		mg/L	0.50	0.02	1	5/27/11	6/1/11 21:31	
Thallium, Dissolved	6020	0.2	I	µg/L	1.0	0.03	1	5/31/11	6/1/11 11:50	
Thallium, Total Recoverable	6020	ND	U	µg/L	1.0	0.03	1	5/31/11	6/1/11 18:47	
Vanadium, Dissolved	6020	29.6		µg/L	5.0	0.5	1	5/31/11	6/1/11 11:50	
Vanadium, Total Recoverable	6020	38.7		µg/L	5.0	0.5	1	5/31/11	6/1/11 18:47	
Zinc, Dissolved	6020	1	I	µg/L	10	1	1	5/31/11	6/1/11 11:50	
Zinc, Total Recoverable	6020	2	I	µg/L	10	1	1	5/31/11	6/1/11 18:47	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-19B
 Lab Code: J1102280-004

Service Request: J1102280
 Date Collected: 5/23/11 1125
 Date Received: 5/24/11

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Antimony, Total Recoverable	6020	ND	U	µg/L	2.0	0.2	1	5/31/11	6/1/11 18:52	
Arsenic, Total Recoverable	6020	ND	U	µg/L	0.50	0.40	1	5/31/11	6/1/11 18:52	
Barium, Total Recoverable	6020	29.4		µg/L	2.0	0.3	1	5/31/11	6/1/11 18:52	
Beryllium, Total Recoverable	6020	ND	U	µg/L	1.0	0.2	1	5/31/11	6/1/11 18:52	
Cadmium, Total Recoverable	6020	ND	U	µg/L	0.50	0.30	1	5/31/11	6/1/11 18:52	
Chromium, Total Recoverable	6020	1.0	I	µg/L	2.0	0.3	1	5/31/11	6/1/11 18:52	
Cobalt, Total Recoverable	6020	0.2	I	µg/L	1.0	0.08	1	5/31/11	6/1/11 18:52	
Copper, Total Recoverable	6020	ND	U	µg/L	2.0	1.0	1	5/31/11	6/1/11 18:52	
Iron, Total Recoverable	6010B	1010		µg/L	100	20	1	5/27/11	6/1/11 21:36	
Lead, Total Recoverable	6020	0.4	I	µg/L	1.0	0.06	1	5/31/11	6/1/11 18:52	
Mercury, Total	7470A	ND	U	µg/L	0.20	0.02	1	5/31/11	6/1/11 13:27	
Nickel, Total Recoverable	6020	0.3	I	µg/L	2.0	0.2	1	5/31/11	6/1/11 18:52	
Selenium, Total Recoverable	6020	ND	U	µg/L	5.0	1.0	1	5/31/11	6/1/11 18:52	
Silver, Total Recoverable	6020	ND	U	µg/L	0.50	0.07	1	5/31/11	6/1/11 18:52	
Cadmium, Total Recoverable	6010B	17.7		mg/L	0.50	0.02	1	5/27/11	6/1/11 21:35	
Mallium, Total Recoverable	6020	ND	U	µg/L	1.0	0.03	1	5/31/11	6/1/11 18:52	
Vanadium, Total Recoverable	6020	0.8	I	µg/L	5.0	0.5	1	5/31/11	6/1/11 18:52	
Zinc, Total Recoverable	6020	ND	U	µg/L	10	1	1	5/31/11	6/1/11 18:52	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-16A
 Lab Code: J1102280-005

Service Request: J1102280
 Date Collected: 5/23/11 14:15
 Date Received: 5/24/11

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Antimony, Total Recoverable	6020	0.3	I	µg/L	2.0	0.2	1	5/31/11	6/1/11 18:58	
Arsenic, Total Recoverable	6020	0.74		µg/L	0.50	0.40	1	5/31/11	6/1/11 18:58	
Barium, Total Recoverable	6020	10.1		µg/L	2.0	0.3	1	5/31/11	6/1/11 18:58	
Beryllium, Total Recoverable	6020	ND	U	µg/L	1.0	0.2	1	5/31/11	6/1/11 18:58	
Cadmium, Total Recoverable	6020	ND	U	µg/L	0.50	0.30	1	5/31/11	6/1/11 18:58	
Chromium, Total Recoverable	6020	2.7		µg/L	2.0	0.3	1	5/31/11	6/1/11 18:58	
Cobalt, Total Recoverable	6020	0.1	I	µg/L	1.0	0.08	1	5/31/11	6/1/11 18:58	
Copper, Total Recoverable	6020	ND	U	µg/L	2.0	1.0	1	5/31/11	6/1/11 18:58	
Iron, Total Recoverable	6010B	370		µg/L	100	20	1	5/27/11	6/1/11 21:41	
Lead, Total Recoverable	6020	0.8	I	µg/L	1.0	0.06	1	5/31/11	6/1/11 18:58	
Mercury, Total	7470A	ND	U	µg/L	0.20	0.02	1	5/31/11	6/1/11 13:28	
Nickel, Total Recoverable	6020	0.8	I	µg/L	2.0	0.2	1	5/31/11	6/1/11 18:58	
Selenium, Total Recoverable	6020	ND	U	µg/L	5.0	1.0	1	5/31/11	6/1/11 18:58	
Silver, Total Recoverable	6020	ND	U	µg/L	0.50	0.07	1	5/31/11	6/1/11 18:58	
Cadmium, Total Recoverable	6010B	1.05		mg/L	0.50	0.02	1	5/27/11	6/1/11 21:40	
Mallium, Total Recoverable	6020	ND	U	µg/L	1.0	0.03	1	5/31/11	6/1/11 18:58	
Vanadium, Total Recoverable	6020	5.2		µg/L	5.0	0.5	1	5/31/11	6/1/11 18:58	
Zinc, Total Recoverable	6020	ND	U	µg/L	10	1	1	5/31/11	6/1/11 18:58	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-16B
 Lab Code: J1102280-006

Service Request: J1102280
 Date Collected: 5/23/11 1445
 Date Received: 5/24/11

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Antimony, Total Recoverable	6020	ND U	µg/L	2.0	0.2	1	5/31/11	6/1/11 19:03	
Arsenic, Total Recoverable	6020	0.47 I	µg/L	0.50	0.40	1	5/31/11	6/1/11 19:03	
Barium, Total Recoverable	6020	14.2	µg/L	2.0	0.3	1	5/31/11	6/1/11 19:03	
Beryllium, Total Recoverable	6020	ND U	µg/L	1.0	0.2	1	5/31/11	6/1/11 19:03	
Cadmium, Total Recoverable	6020	ND U	µg/L	0.50	0.30	1	5/31/11	6/1/11 19:03	
Chromium, Total Recoverable	6020	1.5 I	µg/L	2.0	0.3	1	5/31/11	6/1/11 19:03	
Cobalt, Total Recoverable	6020	0.2 I	µg/L	1.0	0.08	1	5/31/11	6/1/11 19:03	
Copper, Total Recoverable	6020	ND U	µg/L	2.0	1.0	1	5/31/11	6/1/11 19:03	
Iron, Total Recoverable	6010B	930	µg/L	100	20	1	5/27/11	6/1/11 21:59	
Lead, Total Recoverable	6020	0.3 I	µg/L	1.0	0.06	1	5/31/11	6/1/11 19:03	
Mercury, Total	7470A	ND U	µg/L	0.20	0.02	1	5/31/11	6/1/11 13:39	
Nickel, Total Recoverable	6020	0.4 I	µg/L	2.0	0.2	1	5/31/11	6/1/11 19:03	
Selenium, Total Recoverable	6020	ND U	µg/L	5.0	1.0	1	5/31/11	6/1/11 19:03	
Silver, Total Recoverable	6020	ND U	µg/L	0.50	0.07	1	5/31/11	6/1/11 19:03	
Cadmium, Total Recoverable	6010B	5.56	mg/L	0.50	0.02	1	5/27/11	6/1/11 21:59	
Mallium, Total Recoverable	6020	ND U	µg/L	1.0	0.03	1	5/31/11	6/1/11 19:03	
Vanadium, Total Recoverable	6020	1.5 I	µg/L	5.0	0.5	1	5/31/11	6/1/11 19:03	
Zinc, Total Recoverable	6020	ND U	µg/L	10	1	1	5/31/11	6/1/11 19:03	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: MW-16C
 Lab Code: J1102280-007

Service Request: J1102280
 Date Collected: 5/23/11 1345
 Date Received: 5/24/11

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Antimony, Total Recoverable	6020	ND	U	µg/L	2.0	0.2	1	5/31/11	6/1/11 19:08	
Arsenic, Total Recoverable	6020	ND	U	µg/L	0.50	0.40	1	5/31/11	6/1/11 19:08	
Barium, Total Recoverable	6020	15.3		µg/L	2.0	0.3	1	5/31/11	6/1/11 19:08	
Beryllium, Total Recoverable	6020	ND	U	µg/L	1.0	0.2	1	5/31/11	6/1/11 19:08	
Cadmium, Total Recoverable	6020	ND	U	µg/L	0.50	0.30	1	5/31/11	6/1/11 19:08	
Chromium, Total Recoverable	6020	0.9	I	µg/L	2.0	0.3	1	5/31/11	6/1/11 19:08	
Cobalt, Total Recoverable	6020	ND	U	µg/L	1.0	0.08	1	5/31/11	6/1/11 19:08	
Copper, Total Recoverable	6020	7.1		µg/L	2.0	1.0	1	5/31/11	6/1/11 19:08	
Iron, Total Recoverable	6010B	860		µg/L	100	20	1	5/27/11	6/1/11 22:04	
Lead, Total Recoverable	6020	2.8		µg/L	1.0	0.06	1	5/31/11	6/1/11 19:08	
Mercury, Total	7470A	ND	U	µg/L	0.20	0.02	1	5/31/11	6/1/11 13:40	
Nickel, Total Recoverable	6020	21.2		µg/L	2.0	0.2	1	5/31/11	6/1/11 19:08	
Selenium, Total Recoverable	6020	ND	U	µg/L	5.0	1.0	1	5/31/11	6/1/11 19:08	
Silver, Total Recoverable	6020	ND	U	µg/L	0.50	0.07	1	5/31/11	6/1/11 19:08	
Cadmium, Total Recoverable	6010B	10.8		mg/L	0.50	0.02	1	5/27/11	6/1/11 22:04	
Mallium, Total Recoverable	6020	ND	U	µg/L	1.0	0.03	1	5/31/11	6/1/11 19:08	
Vanadium, Total Recoverable	6020	1.7	I	µg/L	5.0	0.5	1	5/31/11	6/1/11 19:08	
Zinc, Total Recoverable	6020	74		µg/L	10	1	1	5/31/11	6/1/11 19:08	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: EB-2
 Lab Code: J1102280-008

Service Request: J1102280
 Date Collected: 5/23/11 1525
 Date Received: 5/24/11

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Antimony, Total Recoverable	6020	ND U	µg/L	2.0	0.2	1	5/31/11	6/1/11 19:13	
Arsenic, Total Recoverable	6020	ND U	µg/L	0.50	0.40	1	5/31/11	6/1/11 19:13	
Barium, Total Recoverable	6020	ND U	µg/L	2.0	0.3	1	5/31/11	6/1/11 19:13	
Beryllium, Total Recoverable	6020	ND U	µg/L	1.0	0.2	1	5/31/11	6/1/11 19:13	
Cadmium, Total Recoverable	6020	ND U	µg/L	0.50	0.30	1	5/31/11	6/1/11 19:13	
Chromium, Total Recoverable	6020	1.1 I	µg/L	2.0	0.3	1	5/31/11	6/1/11 19:13	
Cobalt, Total Recoverable	6020	ND U	µg/L	1.0	0.08	1	5/31/11	6/1/11 19:13	
Copper, Total Recoverable	6020	ND U	µg/L	2.0	1.0	1	5/31/11	6/1/11 19:13	
Iron, Total Recoverable	6010B	ND U	µg/L	100	20	1	5/27/11	6/1/11 22:09	
Lead, Total Recoverable	6020	ND U	µg/L	1.0	0.06	1	5/31/11	6/1/11 19:13	
Mercury, Total	7470A	ND U	µg/L	0.20	0.02	1	5/31/11	6/1/11 13:42	
Nickel, Total Recoverable	6020	0.6 I	µg/L	2.0	0.2	1	5/31/11	6/1/11 19:13	
Selenium, Total Recoverable	6020	ND U	µg/L	5.0	1.0	1	5/31/11	6/1/11 19:13	
Silver, Total Recoverable	6020	ND U	µg/L	0.50	0.07	1	5/31/11	6/1/11 19:13	
Sodium, Total Recoverable	6010B	0.36 I	mg/L	0.50	0.02	1	5/27/11	6/1/11 22:09	
Thallium, Total Recoverable	6020	ND U	µg/L	1.0	0.03	1	5/31/11	6/1/11 19:13	
Vanadium, Total Recoverable	6020	ND U	µg/L	5.0	0.5	1	5/31/11	6/1/11 19:13	
Zinc, Total Recoverable	6020	4 I	µg/L	10	1	1	5/31/11	6/1/11 19:13	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water
 Sample Name: Method Blank
 Lab Code: J1102280-MB

Service Request: J1102280
 Date Collected: NA
 Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Antimony, Dissolved	6020	ND U	µg/L	2.0	0.2	1	5/31/11	6/1/11 11:09	
Antimony, Total Recoverable	6020	0.2 I	µg/L	2.0	0.2	1	5/31/11	6/1/11 16:41	
Arsenic, Dissolved	6020	ND U	µg/L	0.50	0.40	1	5/31/11	6/1/11 11:09	
Arsenic, Total Recoverable	6020	ND U	µg/L	0.50	0.40	1	5/31/11	6/1/11 16:41	
Barium, Dissolved	6020	ND U	µg/L	2.0	0.3	1	5/31/11	6/1/11 11:09	
Barium, Total Recoverable	6020	ND U	µg/L	2.0	0.3	1	5/31/11	6/1/11 16:41	
Beryllium, Dissolved	6020	ND U	µg/L	1.0	0.2	1	5/31/11	6/1/11 11:09	
Beryllium, Total Recoverable	6020	ND U	µg/L	1.0	0.2	1	5/31/11	6/1/11 16:41	
Cadmium, Dissolved	6020	ND U	µg/L	0.50	0.30	1	5/31/11	6/1/11 11:09	
Cadmium, Total Recoverable	6020	ND U	µg/L	0.50	0.30	1	5/31/11	6/1/11 16:41	
Chromium, Dissolved	6020	ND U	µg/L	2.0	0.3	1	5/31/11	6/1/11 11:09	
Chromium, Total Recoverable	6020	ND U	µg/L	2.0	0.3	1	5/31/11	6/1/11 16:41	
Cobalt, Dissolved	6020	ND U	µg/L	1.0	0.08	1	5/31/11	6/1/11 11:09	
Cobalt, Total Recoverable	6020	ND U	µg/L	1.0	0.08	1	5/31/11	6/1/11 16:41	
Copper, Dissolved	6020	ND U	µg/L	2.0	1.0	1	5/31/11	6/1/11 11:09	
Copper, Total Recoverable	6020	ND U	µg/L	2.0	1.0	1	5/31/11	6/1/11 16:41	
Iron, Dissolved	6010B	ND U	µg/L	100	20	1	5/27/11	6/2/11 03:50	
Iron, Total Recoverable	6010B	ND U	µg/L	100	20	1	5/27/11	6/1/11 20:49	
Lead, Dissolved	6020	ND U	µg/L	1.0	0.06	1	5/31/11	6/1/11 11:09	
Lead, Total Recoverable	6020	ND U	µg/L	1.0	0.06	1	5/31/11	6/1/11 16:41	
Mercury, Dissolved	7470A	ND U	µg/L	0.20	0.02	1	6/2/11	6/3/11 14:40	
Mercury, Total	7470A	0.05 I	µg/L	0.20	0.02	1	5/31/11	6/1/11 13:20	
Nickel, Dissolved	6020	ND U	µg/L	2.0	0.2	1	5/31/11	6/1/11 11:09	
Nickel, Total Recoverable	6020	ND U	µg/L	2.0	0.2	1	5/31/11	6/1/11 16:41	
Selenium, Dissolved	6020	ND U	µg/L	5.0	1.0	1	5/31/11	6/1/11 11:09	
Selenium, Total Recoverable	6020	ND U	µg/L	5.0	1.0	1	5/31/11	6/1/11 16:41	
Silver, Dissolved	6020	ND U	µg/L	0.50	0.07	1	5/31/11	6/1/11 11:09	
Silver, Total Recoverable	6020	ND U	µg/L	0.50	0.07	1	5/31/11	6/1/11 16:41	
Sodium, Dissolved	6010B	0.11 I	mg/L	0.50	0.02	1	5/27/11	6/2/11 03:50	
Sodium, Total Recoverable	6010B	0.13 I	mg/L	0.50	0.02	1	5/27/11	6/1/11 20:49	
Thallium, Dissolved	6020	ND U	µg/L	1.0	0.03	1	5/31/11	6/1/11 11:09	
Thallium, Total Recoverable	6020	ND U	µg/L	1.0	0.03	1	5/31/11	6/1/11 16:41	
Vanadium, Dissolved	6020	ND U	µg/L	5.0	0.5	1	5/31/11	6/1/11 11:09	
Vanadium, Total Recoverable	6020	ND U	µg/L	5.0	0.5	1	5/31/11	6/1/11 16:41	
Zinc, Dissolved	6020	ND U	µg/L	10	1	1	5/31/11	6/1/11 11:09	
Zinc, Total Recoverable	6020	ND U	µg/L	10	1	1	5/31/11	6/1/11 16:41	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water
Sample Name: MW-23A
Lab Code: J1102280-001

Service Request: J1102280
Date Collected: 5/23/11 1030
Date Received: 5/24/11

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Ammonia as Nitrogen	350.1	10.5		mg/L	0.050	0.025	5	NA	5/27/11 10:40	
Chloride	300.0	37.6		mg/L	0.50	0.10	1	NA	5/24/11 15:02	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.20	0.04	1	NA	5/24/11 15:02	
Solids, Total Dissolved	SM 2540 C	234		mg/L	10	10	1	NA	5/25/11 11:26	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water
Sample Name: MW-23B
Lab Code: J1102280-002

Service Request: J1102280
Date Collected: 5/23/11 0855
Date Received: 5/24/11

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Ammonia as Nitrogen	350.1	0.102		mg/L	0.010	0.005	1	NA	5/27/11 10:41	
Chloride	300.0	11.5		mg/L	0.50	0.10	1	NA	5/24/11 15:17	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.20	0.04	1	NA	5/24/11 15:17	
Solids, Total Dissolved	SM 2540 C	69		mg/L	10	10	1	NA	5/25/11 11:26	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water
Sample Name: MW-19A
Lab Code: J1102280-003

Service Request: J1102280
Date Collected: 5/23/11 11:50
Date Received: 5/24/11

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Ammonia as Nitrogen	350.1	21.6		mg/L	0.20	0.10	20	NA	5/27/11 10:47	
Chloride	300.0	13.1		mg/L	0.50	0.10	1	NA	5/24/11 15:32	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.20	0.04	1	NA	5/24/11 15:32	
Solids, Total Dissolved	SM 2540 C	1020		mg/L	10	10	1	NA	5/25/11 11:26	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water
Sample Name: MW-19B
Lab Code: J1102280-004

Service Request: J1102280
Date Collected: 5/23/11 11:25
Date Received: 5/24/11

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Ammonia as Nitrogen	350.1	0.107	mg/L	0.010	0.005	1	NA	5/27/11 10:48	
Chloride	300.0	39.1	mg/L	0.50	0.10	1	NA	5/24/11 15:47	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.20	0.04	1	NA	5/24/11 15:47	
Solids, Total Dissolved	SM 2540 C	93	mg/L	10	10	1	NA	5/25/11 11:26	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water
Sample Name: MW-16A
Lab Code: J1102280-005

Service Request: J1102280
Date Collected: 5/23/11 1415
Date Received: 5/24/11

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Ammonia as Nitrogen	350.1	0.252	mg/L	0.010	0.005	1	NA	5/27/11 10:27	
Chloride	300.0	2.49	mg/L	0.50	0.10	1	NA	5/24/11 16:02	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.20	0.04	1	NA	5/24/11 16:02	
Solids, Total Dissolved	SM 2540 C	51	mg/L	10	10	1	NA	5/25/11 11:26	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water
Sample Name: MW-16B
Lab Code: J1102280-006

Service Request: J1102280
Date Collected: 5/23/11 1445
Date Received: 5/24/11

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Ammonia as Nitrogen	350.1	0.139	mg/L	0.010	0.005	1	NA	5/27/11 10:32	
Chloride	300.0	4.68	mg/L	0.50	0.10	1	NA	5/24/11 16:47	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.20	0.04	1	NA	5/24/11 16:47	
Solids, Total Dissolved	SM 2540 C	46	mg/L	10	10	1	NA	5/25/11 11:26	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water
Sample Name: MW-16C
Lab Code: J1102280-007

Service Request: J1102280
Date Collected: 5/23/11 1345
Date Received: 5/24/11

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Ammonia as Nitrogen	350.1	0.127	mg/L	0.010	0.005	1	NA	5/27/11 10:33	
Chloride	300.0	21.1	mg/L	0.50	0.10	1	NA	5/24/11 17:02	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.20	0.04	1	NA	5/24/11 17:02	
Solids, Total Dissolved	SM 2540 C	81	mg/L	10	10	1	NA	5/25/11 11:26	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water
Sample Name: EB-2
Lab Code: J1102280-008

Service Request: J1102280
Date Collected: 5/23/11 1525
Date Received: 5/24/11

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Ammonia as Nitrogen	350.1	ND U	mg/L	0.010	0.005	1	NA	5/27/11 10:35	
Chloride	300.0	ND U	mg/L	0.50	0.10	1	NA	5/24/11 17:17	
Nitrate as Nitrogen	300.0	0.21	mg/L	0.20	0.04	1	NA	5/24/11 17:17	
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	10	10	1	NA	5/25/11 11:26	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: J1102280-MB

Service Request: J1102280
Date Collected: NA
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Ammonia as Nitrogen	350.1	ND	U	mg/L	0.010	0.005	1	NA	5/27/11 10:20	
Chloride	300.0	ND	U	mg/L	0.50	0.10	1	NA	5/24/11 13:47	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.20	0.04	1	NA	5/24/11 13:47	
Solids, Total Dissolved	SM 2540 C	ND	U	mg/L	10	10	1	NA	5/25/11 11:26	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280

Surrogate Recovery Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: Percent

<u>Sample Name</u>	<u>Lab Code</u>	<u>Sur1</u>	<u>Sur2</u>	<u>Sur3</u>	<u>Sur4</u>
MW-23A	J1102280-001	92	95	99	101
MW-23B	J1102280-002	89	92	97	106
MW-19A	J1102280-003	88	85	94	101
MW-19B	J1102280-004	92	92	97	101
MW-16A	J1102280-005	94	87	98	104
MW-16B	J1102280-006	91	86	98	105
MW-16C	J1102280-007	89	88	96	103
EB-2	J1102280-008	88	94	93	111
Trip Blank	J1102280-009	89	103	94	100
Method Blank	JQ1102991-01	93	89	96	103
Method Blank	JQ1103050-02	89	101	96	99
Lab Control Sample	JQ1102991-02	97	87	103	99
Lab Control Sample	JQ1103050-01	88	96	95	104

Surrogate Recovery Control Limits(%)

Sur1	= 1,2-Dichloroethane-d4	68 - 118
Sur2	= 4-Bromofluorobenzene	78 - 129
Sur3	= Dibromofluoromethane	80 - 114
Sur4	= Toluene-d8	87 - 118

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
 Subject: JED SWDF
 Sample Matrix: Water

Service Request: J1102280
 Date Analyzed: 5/31/11

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L
 Basis: NA

Analysis Lot: 248104

Lab Control Sample
 JQ1102991-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	22.5	20.0	112	79 - 120
1,1,1-Trichloroethane (TCA)	19.8	20.0	99	78 - 120
1,1,2,2-Tetrachloroethane	22.3	20.0	112	65 - 137
1,1,2-Trichloroethane	20.1	20.0	101	81 - 121
1,1-Dichloroethane (1,1-DCA)	20.5	20.0	103	83 - 119
1,1-Dichloroethene (1,1-DCE)	20.8	20.0	104	79 - 123
1,2,3-Trichloropropane	21.4	20.0	107	71 - 129
1,2-Dibromo-3-chloropropane (DBCP)	19.4	20.0	97	36 - 143
1,2-Dibromoethane (EDB)	21.5	20.0	107	80 - 122
1,2-Dichlorobenzene	19.5	20.0	97	79 - 114
1,2-Dichloroethane	19.6	20.0	98	73 - 120
1,2-Dichloropropane	21.0	20.0	105	86 - 116
1,4-Dichlorobenzene	19.7	20.0	98	77 - 117
2-Butanone (MEK)	107	100	107	38 - 152
2-Hexanone	108	100	108	63 - 131
4-Methyl-2-pentanone (MIBK)	102	100	102	69 - 127
Acetone	107	100	107	45 - 157
Acrylonitrile	112	100	112	56 - 139
Benzene	21.3	20.0	106	83 - 118
Bromochloromethane	22.7	20.0	113	82 - 117
Bromodichloromethane	20.7	20.0	103	77 - 120
Bromoform	21.3	20.0	107	38 - 149
Bromomethane	18.3	20.0	91	78 - 132
Carbon Disulfide	114	100	114	74 - 132
Carbon Tetrachloride	21.6	20.0	108	67 - 129
Chlorobenzene	23.0	20.0	115	83 - 122
Chloroethane	23.2	20.0	116	80 - 129
Chloroform	20.5	20.0	103	81 - 118
Chloromethane	25.4	20.0	127	61 - 138
cis-1,2-Dichloroethene	20.5	20.0	102	74 - 127
cis-1,3-Dichloropropene	20.6	20.0	103	80 - 120
Dibromochloromethane	21.1	20.0	106	71 - 122

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Analyzed: 5/31/11

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 248104

Lab Control Sample
JQ1102991-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Dibromomethane	21.5	20.0	108	73 - 125
Ethylbenzene	22.4	20.0	112	82 - 124
Iodomethane	87.5	100	88	78 - 128
m,p-Xylenes	46.4	40.0	116	82 - 125
Methylene Chloride	21.4	20.0	107	70 - 134
o-Xylene	23.3	20.0	116	82 - 122
Styrene	23.9	20.0	120	82 - 123
Tetrachloroethene (PCE)	21.9	20.0	110	77 - 129
Toluene	22.1	20.0	110	82 - 122
trans-1,2-Dichloroethene	21.0	20.0	105	81 - 119
trans-1,3-Dichloropropene	20.5	20.0	102	71 - 124
trans-1,4-Dichloro-2-butene	16.5	20.0	83	10 - 172
Trichloroethene (TCE)	22.3	20.0	111	81 - 120
Trichlorofluoromethane	22.6	20.0	113	72 - 127
Vinyl Acetate	102	100	102	50 - 145
Vinyl Chloride	31.5	20.0	157 *	72 - 133

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water

Service Request: J1102280
 Date Analyzed: 6/2/11

Lab Control Sample Summary
 Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L

Basis: NA

Analysis Lot: 248513

Lab Control Sample
 JQ1103050-01

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	19.9	20.0	99	79 - 120
1,1,1-Trichloroethane (TCA)	19.3	20.0	96	78 - 120
1,1,2,2-Tetrachloroethane	20.8	20.0	104	65 - 137
1,1,2-Trichloroethane	22.0	20.0	110	81 - 121
1,1-Dichloroethane (1,1-DCA)	20.8	20.0	104	83 - 119
1,1-Dichloroethene (1,1-DCE)	19.8	20.0	99	79 - 123
1,2,3-Trichloropropane	21.8	20.0	109	71 - 129
1,2-Dibromo-3-chloropropane (DBCP)	16.6	20.0	83	36 - 143
1,2-Dibromoethane (EDB)	20.6	20.0	103	80 - 122
1,2-Dichlorobenzene	19.9	20.0	100	79 - 114
1,2-Dichloroethane	18.9	20.0	94	73 - 120
1,2-Dichloropropane	23.2	20.0	116	86 - 116
1,4-Dichlorobenzene	20.8	20.0	104	77 - 117
2-Butanone (MEK)	105	100	105	38 - 152
2-Hexanone	104	100	104	63 - 131
4-Methyl-2-pentanone (MIBK)	106	100	106	69 - 127
Acetone	100	100	100	45 - 157
Acrylonitrile	112	100	112	56 - 139
Benzene	21.6	20.0	108	83 - 118
Bromochloromethane	19.9	20.0	99	82 - 117
Bromodichloromethane	20.1	20.0	100	77 - 120
Bromoform	19.7	20.0	99	38 - 149
Bromomethane	20.8	20.0	104	78 - 132
Carbon Disulfide	104	100	104	74 - 132
Carbon Tetrachloride	17.4	20.0	87	67 - 129
Chlorobenzene	21.5	20.0	107	83 - 122
Chloroethane	20.8	20.0	104	80 - 129
Chloroform	20.4	20.0	102	81 - 118
Chloromethane	22.2	20.0	111	61 - 138
cis-1,2-Dichloroethene	21.9	20.0	110	74 - 127
cis-1,3-Dichloropropene	23.0	20.0	115	80 - 120
Dibromochloromethane	20.1	20.0	100	71 - 122

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Analyzed: 6/2/11

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L
Basis: NA

Analysis Lot: 248513

Lab Control Sample
JQ1103050-01

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Dibromomethane	20.4	20.0	102	73 - 125
Ethylbenzene	21.4	20.0	107	82 - 124
Iodomethane	91.6	100	92	78 - 128
m,p-Xylenes	39.5	40.0	99	82 - 125
Methylene Chloride	22.4	20.0	112	70 - 134
o-Xylene	20.6	20.0	103	82 - 122
Styrene	21.8	20.0	109	82 - 123
Tetrachloroethene (PCE)	21.9	20.0	110	77 - 129
Toluene	21.8	20.0	109	82 - 122
trans-1,2-Dichloroethene	20.0	20.0	100	81 - 119
trans-1,3-Dichloropropene	20.4	20.0	102	71 - 124
trans-1,4-Dichloro-2-butene	5.07	20.0	25	10 - 172
Trichloroethene (TCE)	19.5	20.0	97	81 - 120
Trichlorofluoromethane	18.1	20.0	90	72 - 127
Vinyl Acetate	84.4	100	84	50 - 145
Vinyl Chloride	21.0	20.0	105	72 - 133

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280

Surrogate Recovery Summary
1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by GC-ECD

Extraction Method: METHOD
Analysis Method: 8011

Units: PERCENT
Level: Low

<u>Sample Name</u>	<u>Lab Code</u>	<u>Sur1</u>
MW-23A	J1102280-001	73 #
MW-23B	J1102280-002	101
MW-19A	J1102280-003	69 #
MW-19B	J1102280-004	110
MW-16A	J1102280-005	109
MW-16B	J1102280-006	108
MW-16C	J1102280-007	110
EB-2	J1102280-008	112
Method Blank	JWG1101266-3	113
Lab Control Sample	JWG1101266-1	106
Duplicate Lab Control Sample	JWG1101266-2	108

Surrogate Recovery Control Limits (%)

Sur1 = 1,1,1,2-Tetrachloroethane 77-150

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Extracted: 05/31/2011
Date Analyzed: 05/31/2011

Lab Control Spike/Duplicate Lab Control Spike Summary
1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane by GC-ECD

Extraction Method: METHOD
Analysis Method: 8011

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: JWG1101266

Analyte Name	Lab Control Sample JWG1101266-1 Lab Control Spike			Duplicate Lab Control Sample JWG1101266-2 Duplicate Lab Control Spike			%Rec Limits	RPD	RPD Limit
	Result	Expected	%Rec	Result	Expected	%Rec			
1,2-Dibromoethane (EDB)	0.273	0.250	109	0.265	0.250	106	70-130	3	20
1,2-Dibromo-3-chloropropane (DBCP)	0.245	0.250	98	0.246	0.250	98	70-130	0	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water

Service Request: J1102280
 Date Collected: 5/23/11
 Date Received: 5/24/11
 Date Analyzed: 6/1/11 - 6/3/11

Matrix Spike Summary
 Inorganic Parameters

Sample Name: MW-23A
 Lab Code: J1102280-001

Units: µg/L
 Basis: NA

Analyte Name	Method	Sample Result	MW-23AMS Matrix Spike J1102280-001MS1			MW-23ADMS Duplicate Matrix Spike J1102280-001DMS1			% Rec Limits	RPD	
			Result	Spike Amount	% Rec	Result	Spike Amount	% Rec		RPD	Limit
Antimony, Dissolved	6020	ND	51.9	50.0	104	51.6	50.0	103	75 - 125	<1	20
Arsenic, Dissolved	6020	1.22	52.1	50.0	102	52.6	50.0	103	75 - 125	1	20
Barium, Dissolved	6020	8.7	58.7	50.0	100	58.5	50.0	99	75 - 125	<1	20
Beryllium, Dissolved	6020	ND	52.5	50.0	105	51.5	50.0	103	75 - 125	2	20
Cadmium, Dissolved	6020	ND	52.1	50.0	104	51.9	50.0	104	75 - 125	<1	20
Chromium, Dissolved	6020	2.6	49.0	50.0	93	48.8	50.0	92	75 - 125	<1	20
Cobalt, Dissolved	6020	0.4	49.4	50.0	98	48.8	50.0	97	75 - 125	1	20
Copper, Dissolved	6020	ND	47.8	50.0	96	48.1	50.0	96	75 - 125	<1	20
Lead, Dissolved	6020	0.1	50.7	50.0	101	51.3	50.0	102	75 - 125	1	20
Mercury, Dissolved	7470A	ND	5.07	5.00	101	5.07	5.00	101	75 - 125	<1	20
Nickel, Dissolved	6020	1.8	48.6	50.0	94	48.8	50.0	94	75 - 125	<1	20
Selenium, Dissolved	6020	ND	36.3	50.0	73 *	35.7	50.0	71 *	75 - 125	2	20
Silver, Dissolved	6020	ND	48.1	50.0	96	47.7	50.0	95	75 - 125	<1	20
Thallium, Dissolved	6020	0.2	47.3	50.0	94	50.2	50.0	100	75 - 125	6	20
Vanadium, Dissolved	6020	5.0	52.7	50.0	95	51.5	50.0	93	75 - 125	2	20
Zinc, Dissolved	6020	1	103	100	102	102	100	101	75 - 125	1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Collected: 5/23/11
Date Received: 5/24/11
Date Analyzed: 6/1/11

Matrix Spike Summary
Inorganic Parameters

Sample Name: MW-16A
Lab Code: J1102280-005

Units: µg/L
Basis: NA

Analytical Method: 7470A
Prep Method: Method

Analyte Name	Sample Result	MW-16AMS Matrix Spike J1102280-005MS2			MW-16ADMS Duplicate Matrix Spike J1102280-005DMS2			% Rec Limits	RPD	
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec		RPD	Limit
Mercury, Total	ND	5.25	5.00	105	5.20	5.00	104	75 - 125	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
 Project: JED SWDF
 Sample Matrix: Water

Service Request: J1102280
 Date Analyzed: 6/1/11 -
 6/3/11

Lab Control Sample Summary
 Inorganic Parameters

Units: µg/L
 Basis: NA

Lab Control Sample
 J1102280-LCS

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Antimony, Dissolved	6020	53.3	50.0	107	80 - 120
Antimony, Total Recoverable	6020	53.3	50.0	107	80 - 120
Arsenic, Dissolved	6020	52.8	50.0	106	80 - 120
Arsenic, Total Recoverable	6020	53.8	50.0	108	80 - 120
Barium, Dissolved	6020	50.8	50.0	102	80 - 120
Barium, Total Recoverable	6020	50.3	50.0	101	80 - 120
Beryllium, Dissolved	6020	53.7	50.0	107	80 - 120
Beryllium, Total Recoverable	6020	52.8	50.0	106	80 - 120
Cadmium, Dissolved	6020	52.8	50.0	106	80 - 120
Cadmium, Total Recoverable	6020	52.9	50.0	106	80 - 120
Chromium, Dissolved	6020	47.7	50.0	95	80 - 120
Chromium, Total Recoverable	6020	49.5	50.0	99	80 - 120
Cobalt, Dissolved	6020	50.0	50.0	100	80 - 120
Cobalt, Total Recoverable	6020	52.1	50.0	104	80 - 120
Copper, Dissolved	6020	50.1	50.0	100	80 - 120
Copper, Total Recoverable	6020	51.6	50.0	103	80 - 120
Iron, Dissolved	6010B	5270	5000	105	85 - 115
Iron, Total Recoverable	6010B	5130	5000	103	85 - 115
Lead, Dissolved	6020	50.3	50.0	101	80 - 120
Lead, Total Recoverable	6020	50.3	50.0	101	80 - 120
Mercury, Dissolved	7470A	4.97	5.00	99	80 - 120
Mercury, Total	7470A	5.10	5.00	102	80 - 120
Nickel, Dissolved	6020	50.9	50.0	102	80 - 120
Nickel, Total Recoverable	6020	50.4	50.0	101	80 - 120
Selenium, Dissolved	6020	53.6	50.0	107	80 - 120
Selenium, Total Recoverable	6020	55.0	50.0	110	80 - 120
Silver, Dissolved	6020	50.5	50.0	101	80 - 120
Silver, Total Recoverable	6020	50.0	50.0	100	80 - 120
Thallium, Dissolved	6020	47.2	50.0	94	80 - 120
Thallium, Total Recoverable	6020	46.5	50.0	93	80 - 120
Vanadium, Dissolved	6020	49.1	50.0	98	80 - 120
Vanadium, Total Recoverable	6020	49.8	50.0	100	80 - 120
Zinc, Dissolved	6020	107	100	107	80 - 120
Zinc, Total Recoverable	6020	107	100	107	80 - 120

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Analyzed: 6/1/11 -
6/3/11

Lab Control Sample Summary
Inorganic Parameters

Units: mg/L
Basis: NA

Lab Control Sample
J1102280-LCS

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Sodium, Dissolved	6010B	26.8	25.0	107	90 - 114
Sodium, Total Recoverable	6010B	26.4	25.0	106	90 - 114

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3C

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SuperSet Reference: 11-0000178828 rev 00

Revision 1

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Collected: 5/23/11
Date Received: 5/24/11
Date Analyzed: 5/27/11

Matrix Spike Summary
General Chemistry Parameters

Sample Name: MW-16C
Lab Code: J1102280-007

Units: mg/L
Basis: NA

Analytical Method: 350.1

MW-16CMS
Matrix Spike
J1102280-007MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	0.127	1.12	1.00	99	90 - 110

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Collected: 5/23/11
Date Received: 5/24/11
Date Analyzed: 5/25/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: MW-19B
Lab Code: J1102280-004

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	MW-19BDUP Duplicate Sample		RPD	RPD Limit
					J1102280-004DUP1 Result	Average		
Solids, Total Dissolved	SM 2540 C	10	10	93	99	96.0	6	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Collected: 5/23/11
Date Received: 5/24/11
Date Analyzed: 5/27/11

Replicate Sample Summary
General Chemistry Parameters

Sample Name: MW-16C
Lab Code: J1102280-007

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	MW-16CDUP Duplicate Sample J1102280-007DUP2		RPD	RPD Limit
					Result	Average		
Ammonia as Nitrogen	350.1	0.010	0.005	0.127	0.127	0.127	<1	20

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Environmental Planning Specialists
Project: JED SWDF
Sample Matrix: Water

Service Request: J1102280
Date Analyzed: 5/24/11 -
5/27/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Lab Control Sample
J1102280-LCS

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	0.988	1.00	99	90 - 110
Chloride	300.0	51.9	50.0	104	90 - 110
Nitrate as Nitrogen	300.0	4.93	5.00	99	90 - 110
Solids, Total Dissolved	SM 2540 C	299	300	100	85 - 115

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Cooler Receipt Form

Client: EPS

Service Request #: 51102280

Project: JED SWDF

Cooler received on 5/24/11

and opened on 5/24/11 by SL

COURIER: CAS UPS FEDEX Client Other _____ Airbill # 1ZXS5W0982210203864

- | | | | |
|----|---|---|---|
| 1 | Were custody seals on outside of cooler? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| | If yes, how many and where? | #: <u>1</u> on lid | other _____ |
| 2 | Were seals intact and signature and date correct? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No N/A |
| 3 | Were custody papers properly filled out? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No N/A |
| 4 | Temperature of cooler(s) upon receipt (Should be > 0°C and < 6°C) | <u>4.6</u> | _____ |
| 5 | Thermometer ID | <u>783</u> | _____ |
| 6 | Temperature Blank Present? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 7 | Were Ice or Ice Packs present | <input checked="" type="checkbox"/> Ice | Ice Packs _____ No |
| 8 | Did all bottles arrive in good condition (unbroken, etc....)? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No N/A |
| 9 | Type of packing material present | Netting _____ Vial Holder _____ | Bubble Wrap <input checked="" type="checkbox"/> |
| | | Paper _____ Styrofoam _____ | Other _____ N/A |
| 10 | Were all bottle labels complete (sample ID, preservation, etc....)? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No N/A |
| 11 | Did all bottle labels and tags agree with custody papers? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No N/A |
| 12 | Were the correct bottles used for the tests indicated? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No N/A |
| 13 | Were all of the preserved bottles received with the appropriate preservative? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No N/A |
| | HNO3 pH<2 H2SO4 pH<2 ZnAc2/NaOH pH>9 NaOH pH>12 HCl pH<2 | | |
| | Preservative additions noted below | | |
| 14 | Were all samples received within analysis holding times? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No N/A |
| 15 | Were all VOA vials free of air bubbles? If present, note below | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No N/A |
| 16 | Where did the bottles originate? | <input checked="" type="checkbox"/> CAS | <input type="checkbox"/> Client |

Sample ID	Reagent	Lot #	ml added	Initials Date/Time

Additional comments and/or explanation of all discrepancies noted above:

Client approval to run samples if discrepancies noted:

Date: 71

SR #: J 1102280

Date: 5/24/11

Initials: SC

Note that pH is check and meets the required pH criterion listed in the column heading unless otherwise noted on the cooler receipt form.

Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Container	40mL	40mL	40mL	125mL	125mL	125mL	125mL	250mL	250mL	250mL	250mL	250mL	250mL	250mL	500mL	500mL	500mL	500mL	500mL	1L	1L	1L	1L	1L	2oz	4oz	8oz	16oz	100mL	Ziplock	Misc.			
Preserve	G	G	G	P	P	P	P	P	P	P	P	P	G	G	P	P	P	P	G	P	P	G	G	G	G	G	G	G	P	P	Misc.			
Req. pH	N/A	HCl	Na2S2O3	N/A	HCl	H2SO4	HNO3	N/A	H2SO4	HNO3	NaOH	NaOH	N/A	HNO3	N/A	HCl	H2SO4	HNO3	N/A	N/A	HNO3	N/A	HCl	H2SO4	N/A	N/A	N/A	N/A	Na2S2O3	N/A	N/A			
Sample #	N/A	<2	N/A	N/A	<2	<2	<2	N/A	<2	<2	>9	>12	N/A	<2	N/A	<2	<2	<2	N/A	N/A	<2	N/A	<2	<2	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
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NOTE: VOA pH checks are performed by the analytical area, not sample control



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

9143 Philips Highway, Ste 200 • Jacksonville, FL 32256 (904) 739-2277 • 800-695-7222 x06 • FAX (904) 739-2011

PAGE 1 OF 1

SR #

57402280

CAS Contact

Project Name JED SWDF		Project Number		ANALYSIS REQUESTED (Include Method Number and Container Number)																																			
Project Manager Kirk Wills		Email Address kwillse@enrplanning.com		PRESERVATIVE		1		0		2		3		0		2		<div style="background-color: black; width: 100%; height: 100%;"></div>																					
Company/Address EPS 1936 Bruce B Downs Blvd #328 Wesley Chapel, FL 33543				NUMBER OF CONTAINERS		8260		8011		Metals		NH3		TDS, Cl, NO3		Dissolved Metals																							
Phone # 813-388-1026		FAX#		Sampler's Signature Joe Terry		Sampler's Printed Name Joe Terry		REMARKS/ ALTERNATE DESCRIPTION																															
1. HCL		2. HNO3		3. H2SO4		4. NaOH		5. Zn. Acetate		6. MeOH		7. NaHSO4		8. Other _____																									
CLIENT SAMPLE ID		LAB ID		SAMPLING DATE		TIME		MATRIX																															
MW-23A				5-23-11		1030		GW		10		3		3		1		1		1		1																	
MW-23B				↓		0855		↓		9		↓		↓		↓		↓		↓		↓																	
MW-19A				↓		1150		↓		10		↓		↓		↓		↓		↓		↓																	
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MW-16A				↓		1415		↓		9		↓		↓		↓		↓		↓		↓																	
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MW-16C				↓		1345		GW		9		↓		↓		↓		↓		↓		↓																	
EB-2				5-23-11		1525		DE H2O		9		3		3		1		1		1																			
Trip Blank				5-12-11		1000		DE H2O		2		2																											
SPECIAL INSTRUCTIONS/COMMENTS Cooler ID: 11143 - JED										TURNAROUND REQUIREMENTS ____ RUSH (SURCHARGES APPLY) <input checked="" type="checkbox"/> STANDARD REQUESTED FAX DATE _____ REQUESTED REPORT DATE _____										REPORT REQUIREMENTS ____ I. Results Only <input checked="" type="checkbox"/> II. Results + QC Summaries (LCS, DUP, MS/MSD as required) ____ III. Results + QC and Calibration Summaries ____ IV. Data Validation Report with Raw Data ____ V. Specialized Forms / Custom Report Edata ____ Yes ____ No										INVOICE INFORMATION PO# _____ BILL TO: _____									
SAMPLE RECEIPT: CONDITION/COOLER TEMP: _____ CUSTODY SEALS: Y N																																							
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Distribution: White - Return to Originator: Yellow - Retained by Client

JSCOC-06/20/08

ATTACHMENT 7

Response to FDEP Comment #16

5.0 Water-Quality Monitoring Plan

Based on the information collected during the field investigation and described in the hydrogeological investigation report, a ground and surface water quality monitoring plan has been prepared in accordance with the provisions of Chapter 62-701.510, F.A.C.

5.1 Ground-Water Quality Monitoring

While the hydrogeological investigation encompassed the entire disposal area and surrounding vicinity, the ground-water quality monitoring plan is focused specifically on the portion of the site where disposal will occur during the five-year life of the initial operating permit. This area includes cells 1-4 in the northern part of the site as shown on Figure 15. A detection monitor well network consisting of 45 wells in 15 well clusters (i.e., 3 monitor wells per cluster) is proposed for the initial operating permit. Figure 15 also shows the locations of proposed monitor wells/clusters which are described in more detail below.

5.1.1 Monitor Well Placements

In accordance with Chapter 62-701.510(2)(b), F.A.C. detection monitor wells will be installed at appropriate locations and depths to yield ground-water samples from the aquifer(s) reasonably expected to be affected by the landfill; in this case, the upper surficial aquifer system located above the first confining unit (intermediate clay) encountered beneath the site (Figures 3, 4, 5). The rationale for selecting the placements shown on Figure 15 include the following considerations:

- The lithology of the formation materials above the first confining unit (intermediate clay) were fairly uniform and found to consist principally of fine to medium sands and silty sands. Some variation in color, grain size and silt content were noted but the nature of the materials was consistent across the site and no indications of preferential flow paths were identified.
- Based on the horizontal and vertical hydraulic gradients, conductivities, flow rates and nature of the materials in the upper surficial aquifer, transport of any constituents entering the ground-water system would be through advection and lateral and vertical dispersion. The lithology and ground-water conditions are such that no discrete, preferential flow

zones were identified that would dictate well placement vertically or horizontally in the upper surficial aquifer system.

- All disposal of waste will occur above grade, on top of a double composite liner with a leachate collection system. Prior to being lined, the disposal area will be elevated above land surface and crowned so that any leachate generated will move toward the perimeter where it will collect in leachate collection sumps. The material used to build the sub-base beneath the disposal area will be dredged from the borrow pit and deposited as a slurry or placed in the dry. Although existing site conditions indicate a direction of ground-water movement from west to east across the site, placement of fill material in a wet condition will affect ground-water movement such that, at least temporarily, there may be no predominant upgradient locations to monitor and flow may be radial off of, and away from, the disposal area.
- Based on an analysis of the liner and landfill design (Fluet, 2000), it is highly unlikely that leachate will leak through the double composite liner and enter the ground-water system beneath the disposal facility. Considering the hydrogeologic conditions and landfill design, the locations most likely to experience water-quality impacts, should they occur, would be at the sumps which collect any leachate before it is pumped out and sent off for treatment. Therefore, the primary consideration in locating monitor wells was to situate a cluster at the location of each leachate collection sump (locations MW-1, MW-3, MW-6, MW-9, MW-11 and MW-13) and to place supplemental well clusters between sump locations based on their distribution and distances.
- For the purposes of monitor well placement for the initial five year permit, it is assumed that at least temporarily, the entire perimeter of the area to be filled will be considered as downgradient for the purposes of detection monitoring. Therefore, supplemental monitor well clusters have been located between leachate collection sumps such that the spacing between wells is no greater than 500-ft apart, in accordance with the provisions of Chapter 62-701.510(3)(d)3, F.A.C.
- Vertically, three wells will be installed at each ground-water monitoring location shown on Figure 15. Based on discussions with the FDEP in a meeting held on March 1, 2002, wells will be installed across the water table to monitor the upper surficial aquifer/A-zone (wells designated with an "A"); in the upper surficial aquifer/C-zone above the intermediate clay

(wells designated with a "C"); and, at a position intermediate to the A-zone and C-zone wells (wells designated with a "B"). Should any water-quality impacts occur, this vertical placement should allow for the detection of dissolved constituents as well as any constituents that are lighter or heavier than water.

- In order to comply with the provisions of Chapter 62-701(3)(a), F.A.C. requiring placement of detection wells within 50-ft of the limit of waste, the well clusters will be installed through the berm which forms the perimeter access road around the disposal area (or through the cell-dividing interior dikes in the case of clusters at MW-14 and MW-15). This placement will allow the upper surficial aquifer A-wells to straddle the water table, which at times of the year is within 6-in or less of land surface. The top of the A-wells will be screened starting 2-ft above the existing, pre-development land surface to 8-ft below.

5.1.2 Well Construction Details

Proposed well construction details for the ground-water monitoring network are as follows:

- All wells will be installed using hollow-stem augers having a minimum inside diameter of 6-7/8-in. Wells will be constructed with 2-in PVC casing and attached well screen and all connections will be threaded, not glued. Well screen will be #6-slot (0.006-in), 10-ft in length. A fine (30/45) sand will be placed around the screen with a tremie pipe to a height of 3-ft above the top of the screen. The remaining annular space from the top of the sand pack to land surface will be grouted with a bentonite/cement mixture using a tremie line. The well casing will extend approximately 2.5-ft to 3-ft above land surface and will be covered with a PVC slip cap. The well installation will be completed at the surface by installing a protective steel casing and locking cap. The grout will be allowed to cure for approximately 24-hr at which time the wells will be developed by alternately pumping and swabbing the screen until a clear discharge is achieved.
- The A-zone upper surficial wells will be screened from 2-ft above the existing, pre-development land surface to a depth of 8-ft below.
- The C-zone upper surficial aquifer wells will be screened above the first confining unit (intermediate clay) which in this part of the site was encountered at approximately 65-ft bls. In order to screen the lower zone without breaching the intermediate clay, the bottom of the

well screens in the C-zone wells will terminate at a depth of 60-ft below existing land surface and therefore will be screened from 50-ft to 60-ft below existing, pre-development land surface.

- At the FDEP's request, monitor wells will also be installed to screen the intermediate zone between the A-zone and C-zone surficial aquifer wells. Therefore, the B-zone wells will be installed with screens extending from 24-ft to 34-ft below existing, pre-development land surface.
- Following installation of the detection monitor wells, their latitude and longitude will be established by a registered Florida land surveyor who will also determine top of casing measuring point elevations referenced to NGVD of 1929.

5.1.3 Sampling Protocols/Parameters/Frequency/Reporting

All ground-water sampling will be performed in accordance with Chapter 62-160, F.A.C. using FDEP low-flow purging and sampling techniques. In order to establish background water quality, the initial set of samples will be analyzed for the parameters specified in Chapter 62-701.510(8)(a), F.A.C. and Chapter 62-701.510(8)(d), F.A.C. Subsequent samples will be collected and analyzed semiannually for the parameters specified in Chapter 62-701.510(8)(a), F.A.C.

Based on the configuration and design of the landfill with respect to the property boundary and limit of waste, the detection monitor wells cannot be installed and background water quality further established until such time as the perimeter road and cell-dividing interior dikes are constructed. Once the perimeter road is completed, the monitor well clusters will be installed in the berm and interior dike at the proposed locations shown on Figure 15. All monitor wells will be installed, sampled and analyzed for the requisite background parameter list and these data will be submitted to the FDEP prior to the site receiving any waste.

5.1.4 Piezometer/Monitor Well Abandonment

During the initial five year permit, cells 1-4 will be constructed over piezometers DP-1, DP-2, DP-3 and DP-4. During site preparation activities, the protective steel casings around the piezometers will be removed, the casings will be dug out and cut off 1-ft below land surface and

the piezometers will be properly abandoned by pressure grouting the holes from the bottom back to land surface. All other piezometers unaffected by landfill operations during the initial five-year permit will remain in place and will be used to collect water-level data during the semiannual sampling events. As the landfill expands, all remaining piezometers will eventually be abandoned.

In addition to piezometer abandonment, six monitor wells at two of the interior cluster locations (i.e., A-, B- and C-zone wells at locations MW-14 and MW-15) will need to be abandoned when construction of future cells 5 and 6 commences. These wells will be abandoned as a precautionary measure to prevent potential ground-water quality impacts in the event they are destroyed or damaged during new cell construction. The monitor wells will be abandoned in accordance with the piezometer abandonment procedure described above and the FDEP will be provided with a schedule for this work as existing cells are filled and new cell construction begins.

5.2 Surface Water-Quality Monitoring

The engineering design of the stormwater management system provides for retention of stormwater runoff up to and including the 100-year storm event. No routine stormwater discharge is planned for the site and therefore there are no discrete discharge points planned along Bull Creek to designate as surface water monitoring stations.

During the field investigation, four surface samples were collected and analyzed for the parameters in Chapter 62-701.510(8)(b), F.A.C. in order to gather background surface water-quality data. Based on the configuration of the landfill, two of these locations (SW-3 and SW-4, Figure 14) are best situated to evaluate impacts from any potential discharge from the site. SW-4 is an upgradient location situated off site and northwest of the disposal area which will be used to establish surface water quality before it passes the disposal site. SW-3 is a downgradient location along Bull Creek at the point where it first crosses onto OMNI property east of the disposal site.

As noted earlier, Bull Creek is intermittent, and the surface water samples collected during the field investigation coincided with a period of no flow in the creek. In the future, an attempt will be made to collect surface water samples during the semiannual ground-water sampling events assuming Bull Creek is flowing at the time. No surface water sample will be collected during a semiannual sampling event in which the creek is not flowing. However, this does not preclude OMNI Waste from voluntarily sampling the creek on an irregular frequency during the rainy season, or at other times, when there is flow in Bull Creek.

The surface water samples collected at SW-3 and SW-4 will be analyzed for the parameters specified in Chapter 62-701.510(8)(b), F.A.C.

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