

Williams, Elizabeth

From: Shawn McCash [SMcCash@wasteservicesinc.com]
To: Williams, Elizabeth
Sent: Thursday, December 18, 2008 10:45 AM
Subject: Read: J.E.D. Solid Waste Mgmt. Fac. Class I - first rai 0616

Your message

To: SMcCash@wasteservicesinc.com
Subject:

was read on 12/18/2008 10:45 AM.

FO
12-18-08



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

By E-Mail
smccash@wasteservicesinc.com

Mr. Shawn McCash
Omni Waste of Osceola County, LLC (Omni)
1501 Omni Way
St. Cloud, FL 34773

OCD-SW-08-0616

Osceola County – SW
J.E.D. Solid Waste Management Facility – Class I
Partial Closure of Side Slopes of Phase I – Intermediate Modification
First Request for Additional Information
Modification of Permit No.SO49-0199726-010
Permit Application No.SO49-0199726-011

Dear Mr. McCash:

Geosyntec Consultants submitted on your behalf "Partial Landfill Closure – Application for an Intermediate Permit Modification, J.E.D. Solid Waste Management Facility". It was dated November 25, 2008 and received November 26, 2008. We have assigned Permit No SO49-0199726-011 to the application. Your application is incomplete. Please provide the information listed on the attached sheets promptly. Evaluation of your application will be delayed until all the requested information has been received.

Pursuant to Section 120.60(2), Florida Statutes, the Department may deny an application, if the applicant, after receiving timely notice, fails to correct errors and omissions, or supply additional information within a reasonable period of time. Accordingly, please provide the additional information within 30 days of the date you receive this letter. Submit three copies of the requested information to the Department and reference the above permit application number in your correspondence.

If you have any questions, please contact me at (407) 893-3328 or by e-mail at tom.lubozynski@dep.state.fl.us.

Sincerely,

F. Thomas Lubozynski, P.E.
Waste Program Administrator

Date: December 18, 2008

FTL/sj

Enclosure
cc:

Craig R. Browne, P.E., Geosyntec Consultants, cbrowne@geosyntec.com
Kwasi-Badu Tweneboah, Ph.D., P.E., Geosyntec Consultants, kbadutweneboah@geosyntec.com

FO
12-18-08

Note that all references to "Report" in the following text refer to the document entitled, "Partial Landfill Closure - Application for an Intermediate Permit Modification, J.E.D. Solid Waste Management Facility", Prepared by: Geosyntec Consultants, 14055 Riveredge Drive, Suite 300, Tampa, FL 33637 dated November 25, 2008.

1. **Appendix A, DEP Form 62-701.900(1), Page 5 of 40, Item A.15.:** You have provided an estimate of the partial closure costs for the phase I, cells 1-4, side slopes closure consisting of 24.7 acres based on a percentage of the total closure costs (approx. 1 Million). In accordance with Rule 62-701.630(4)(c), please provide a detailed closure cost estimate for the partial closure of the Phase I landfill consisting of Cells I thru 4. These costs shall be estimated and certified by a Professional Engineer for a third party performing the work, on a per unit basis, with the source of estimates indicated. Accordingly, change the response for item S.1 on Page 39 of 40 of the DEP Form 62-701.900(1) from N/C to S.
2. **Appendix A, DEP Form 62-701.900(1), Page 6 of 40, Item B.8.:** Include Asbestos as a type of waste received. The box next to Asbestos should be checked. If you would prefer, the Department can make that correction on your behalf in the Report.
3. **Appendix A, DEP Form 62-701.900(1), Page 8 of 40, Item 28:** If applicable, include ERP49-0199752-004-EM in your list of ERP permits listed in this section. The Engineering Report included with your application (Section 2.6 on Page 5) lists ERP49-0199752-004-EM as one of the approved FDEP Environmental Resources Permit.
4. **Appendix B, Construction Drawings, Drawing No. 13 of 13, Gas System Penetration Details:** Detail 13 of 13, Pipe Final Cover Penetration, does not show the details of the gas extraction well penetration through the geocomposite drainage layer. The Engineering Report included with your application on Page 4, first paragraph, describes the final cover from bottom to top consists of a 40-mil polyethylene geomembrane, a geocomposite drainage layer, 1.5 ft thick cap protective layer, and a 0.5 ft thick vegetative layer. Submit a revised drawing that shows the penetration of the gas extraction well through all components of the final cover system.

Catalog	SOLID WASTE
---------	-------------

Administrative	
Discovery Compliance	
Cleanup	
Enforcement Legal	
Fiscal	
Permitting	X

County	Osceola
Facility ID #	89544
Document Date	
Received Date	
Doc Type	Permit Application Related
Contractor ID	
Facility Type	100
Document Subject	J.E.D. SWMF, Class I- Phase I, Partial Closure of Side Slopes, Permit App. No. SO49-199726-011, First RAI

Janwadkar, Sandeep

From: Lubozynski, Tom
Sent: Monday, December 15, 2008 4:39 PM
To: Janwadkar, Sandeep; DePradine, Gloria-Jean
Subject: FW: Start-up of Gas Collection and Control System - JED Solid Waste Management Facility

Info in case you want to go to JED with Air program.

Sandeep - Please place in oculus.

Tom,

From: Shine, Caroline
Sent: Monday, December 15, 2008 3:14 PM
To: Michael Kaiser; Bradner, James
Cc: Shawn McCash; Matt Orr; Dennis Pantano; Lubozynski, Tom
Subject: RE: Start-up of Gas Collection and Control System - JED Solid Waste Management Facility

Mr. Kaiser:

We would like to have an electronic copy of the SSM Plan for our files. We can schedule a site visit after all the paperwork is submitted. Will you be on site during the first week of January 2009?

Thank you,

Caroline Shine, Environmental Manager

*Air Enforcement, Compliance and Ambient Air Monitoring
Florida Department of Environmental Protection, Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803
407-893-3336*

From: Michael Kaiser [mailto:mkaiser@wasteservicesinc.com]
Sent: Monday, December 15, 2008 2:09 PM
To: Bradner, James; Shine, Caroline
Cc: Shawn McCash; Matt Orr; Dennis Pantano; Lubozynski, Tom
Subject: Start-up of Gas Collection and Control System - JED Solid Waste Management Facility

Mr. Bradner and Ms. Shine:

Last week we performed an initial test run of our gas collection and control system at the JED Solid Waste Management Facility. Generally, everything went smoothly. We did run the system for a full day and performed an initial well field balance. We are still working on a few construction related punchlist items and minor troubleshooting this week. Based on initial start-up activities accomplished last week, I expect to see the system operating on a full time basis later this week. I have prepared the documents listed below and all are filed at the site. We are required to submit a copy of the GCCS O&M Plan per Consent Order OGC No. 08-1769. Subpart AAA does not require the SS&M Plan be submitted, only filed at the site. I would be happy to provide hard or electronic copies of the SS&M Plan and Gas Flare User Manual if you like. A final as-built report is being prepared and I expect to have it submitted by the end of the year.

I am available this Friday, Monday next week, and the entire week of December 29th if you would like to visit the site and look over the system.

Start-up, Shutdown and Malfunction Plan (SS&M Plan)

GCCS Operation and Maintenance Plan (GCCS O&M Plan)
User Manual – Landfill Flare System, LFG Specialties Inc.

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@wsii.us

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Janwadkar, Sandeep

From: Heidorn, Marjorie
Sent: Friday, December 05, 2008 12:29 PM
To: Cheryan, George
Cc: Lubozynski, Tom; Levin, Laxsamee; Janwadkar, Sandeep; Williams, Elizabeth
Subject: Review--Permit Mod JED

George,

I have reviewed the submittal. No GW issues.

No GW questions for RAI.

Marjorie

Marjorie Heidorn P.G.
FDEP Waste Management
Solid Waste Permitting
3319 Maguire Blvd. Suite 232
Orlando, FL 32803
(407) 893-3320
Suncom 325-3320
Marjorie.Heidorn@dep.state.fl.us



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

MEETING ATTENDANCE RECORD

Facility: J.E.D. Solid Waste Management Facility

Purpose: 1) Leachate Aeration Permit Requirements

2) Waste Tires Collection and Processing Permit Requirements

*Minor Mod for Solid Waste to Install Aeration System in pond
- Vols. 5-5 and 6-5 to be signed by DEP
Date: Wednesday, December 03, 2008*

Name	Affiliation	10 Digit Phone No.	E-Mail Address
Tom Lubozynski	FDEP	407-893-3327	Tom.lubozynski@dep.state.fl.us
Gloria-Jean DePradine	FDEP	407-893-3994	Gloria.Depradine@dep.state.fl.us
Sandeep Janwadkar	FDEP	407-893-3328	Sandeep.Janwadkar@dep.state.fl.us
Mike Kaiser	WSI	(904) 673-0446	m.kaiser@wsii.us
Dennis Pantano	"	917 359 5174	D.PANTANO@WSII.US
Matthew Orr	"	863-634-7177	morr@wsii.us
Caroline Shine	"	407-893-3336	caroline.shine@dep.fl.us
Alan Zahn	"	407-893-3335	alan.zahn@dep.fl.us

Memorandum

Environmental Protection

TO: M. HEIDORN, P.G.

FROM: T. LUBOZYNSKI, P.E.

DATE: DECEMBER 01 2008

SUBJECT: County: OSCEOLA

Permit/OGC: S049-0199726-011 - OPERATING PERMIT, INTERMEDIATE MOD.

Facility: DAK HAMMOCK DISPOSAL FACILITY (PARTIAL CLOSURE OF SIDE SLOPES PHASE I, CELL 1-4)

Attachment: ✓

The attached is being sent to you to:

☐ Information only

☒ Review and comments

If review comments are needed, please respond:

☒ By:

(Solid Waste deadline is December 16, 2008)

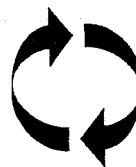
☐ As soon as possible for your schedule.

Comments: _____

G. DEPRADSNE

CC: S. JANWADKAR

Applicant:



Omni Waste

Omni Waste of Osceola County, LLC

1501 Omni Way
St. Cloud, Florida 34773

**PARTIAL LANDFILL CLOSURE –
APPLICATION FOR AN INTERMEDIATE
PERMIT MODIFICATION**

J.E.D. SOLID WASTE MANAGEMENT FACILITY

1501 Omni Way
St. Cloud, Osceola County, Florida 34773

Prepared by:

Geosyntec[®]

consultants

14055 Riveredge Drive, Suite 300
Tampa, FL 33637

RECEIVED
NOV 25 2008
DEP Central Dist.

Project No. FL1612

November 2008

25 November 2008

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

Subject: Intermediate Permit Modification Application for Partial Closure
Side Slope Areas of Cells 1 through 4, Phase 1
Permit Nos. SC49-0199726-004 and SO49-0199726-005
J.E.D. Solid Waste Management Facility
Omni Waste of Osceola County, LLC

Dear Mr. Lubozynski:

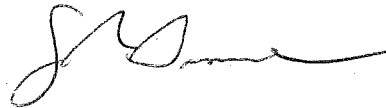
Transmitted herewith are four copies of an intermediate permit modification application for partial closure of side slope areas of Cells 1 through 4, Phase 1 at the J.E.D. Solid Waste Management Facility (JED Facility). This intermediate permit modification application was prepared by Geosyntec Consultants and is being submitted on behalf of Omni Waste of Osceola County, LLC (Omni).

JED is presently operating under FDEP solid waste permits SC49-0199726-004 and SO49-0199726-005, and subsequent modifications. Under the currently permitted design, waste may be placed up to an elevation of 330 ft, NGVD at side slopes of 3 horizontal to 1 vertical (3H:1V) with 15-ft wide benches every 40 vertical feet. This intermediate modification application is being submitted to permit the closure of a portion of the side slopes of Cells 1 through 4 that have (or will soon) reach final permitted waste elevations.

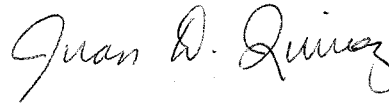
Mr. F. Thomas Lubozynski, P.E.
25 November 2008
Page 2

A check in the amount of \$5,000 is also enclosed with this intermediate permit modification application. If you or your staff has any questions or need additional information, please feel free to contact Mr. Mike Kaiser of Waste Services, Inc. at (904) 673-0446, mkaiser@wsii.us, or the undersigned.

Sincerely,



Craig R. Browne, P.E.
Engineer



for Kwasi Badu-Tweneboah, Ph.D., P.E.
Associate

Enclosures

Copy: Mike Kaiser, Waste Services, Inc.



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

By E-Mail
smccash@wasteservicesinc.com

Mr. R. Shawn McCash
Omni Waste of Osceola County, LLC (Omni)
1501 Omni Way,
St. Cloud, FL 34773

OCD-SW-08-0586

Osceola County – SW
J.E.D Solid Waste Management Facility, Class I
Waste Solidification Operations – Minor Modification
Modification of Permit No. SO49-0199726-009
Permit Application No. SO49-0199726-010 – Complete

Dear Mr. McCash:

Your application for permit DEP File Number SO49-0199726-010 is considered complete. The original permit application was submitted on your behalf by HDR Engineering Inc. It was dated September 12, 2008 and received on September 16, 2008. The final information received by the Department to make the permit application complete was dated October 29, 2008 and received on October 30, 2008. The Department will make a final determination about the permit application no later than January 28, 2009.

If you have any questions, please contact me at (407) 893-3328 or at tom.lubozynski@dep.state.fl.us.

Sincerely,

F. Thomas Lubozynski, P.E.
Waste Program Administrator

Date: November 19, 2008

FTL/gc/ew

cc: Brenda Ann Smith Clark, P.E. – HDR Engineering Inc. brenda.clark@hdrinc.com

FO
11-19-08

Catalog	SOLID WASTE
---------	-------------

Administrative	
Discovery Compliance	
Cleanup	
Enforcement Legal	
Fiscal	
Permitting	X

County	Osceola
Facility ID #	89544
Document Date	
Received Date	
Doc Type	Permit Application Related
Contractor ID	
Facility Type	100
Document Subject	J.E.D. SWMF, Class I- Waste Solidification Operations, Permit App. No. SO49- 199726-010, Completion Letter

Williams, Elizabeth

From: Shawn McCash [SMcCash@wasteservicesinc.com]
To: Williams, Elizabeth
Sent: Wednesday, November 19, 2008 8:14 PM
Subject: Read: J.E.D. SW Mgmt. Fac., Class I minor mod. application complete ltr 0586

Your message

To: SMcCash@wasteservicesinc.com
Subject:

was read on 11/19/2008 8:14 PM.

To
11-19-08

Williams, Elizabeth

From: Shawn McCash [SMcCash@wasteservicesinc.com]
Sent: Tuesday, November 18, 2008 9:36 AM
To: Williams, Elizabeth
Subject: FW: JED Solid Waste Management Facility - Gas Probe Exceedence Investigation
Attachments: 08 11 05 JED review If gas exceedance info 0566.pdf

Mike Kaiser responded back on Wednesday, November 12, 2008. Did the FDEP receive his response?

Regards,

R. Shawn McCash

Sr. Vice President, Landfill Operations & Engineering



Waste Services, Inc.
5002 T-Rex Avenue, Suite 200
Boca Raton, Florida 33431
(561) 237-3414 [Office]
(561) 237-3491 [Fax]
smccash@wsii.us [eMail]

From: Michael Kaiser
Sent: Wednesday, November 12, 2008 10:16 AM
To: 'Lubozynski, Tom'
Cc: 'DePradine, Gloria-Jean'; Shawn McCash; Matt Orr; 'Courcy, Dan'; Dennis Pantano; Keith Lunsford
Subject: JED Solid Waste Management Facility - Gas Probe Exceedence Investigation

Mr. Lubozynski:

I have reviewed your November 5, 2008, letter regarding the exceedences at the gas monitoring probes at the JED Solid Waste Management Facility. As noted in your letter, I would like to complete items 7-10 prior to meeting with your Department to further discuss the subject. I feel this additional information would be beneficial in the discussions. I will begin steps to complete the items over the next month or two and request a meeting as soon as we are completed.

Please call if you have questions or require additional information.

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

10-11-08



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

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Lt. Governor

Michael W. Sole
Secretary

ELECTRONIC MAIL

mkaiser@wasteservicesinc.com

Mr. Mike Kaiser
Waste Services, Inc.
1501 Omni Way
St. Cloud, Florida 34473

OCD-SW-08-0566

Osceola County - SW
J.E.D. Solid Waste Management Facility Class I
Permit # SO49-0197726-007
Review of Landfill Gas Exceedance Information

Dear Mr. Kaiser:

The Department has reviewed your submittal, "Reporting of Gas Monitoring Probe Test Results Fingerprint Analyses of Exceedances," dated August 11, 2008. A report from Brown and Caldwell, "Gas Monitoring Probe Testing Result Summary, J.E.D. Solid Waste Management Facility," dated August 7, 2008, was included in your submittal. The submittal concludes the landfill gas (LFG) exceedances at the probes are caused by natural occurring methane associated with decomposition of organic materials in the wetlands surrounding the facility's boundary. You requested a meeting to discuss future methods for sampling, validating exceedances, and reporting results for probes.

The Department has the following comments regarding the Brown and Caldwell (BC), "Gas Monitoring Probe Testing Result Summary, J.E.D. Solid Waste Management Facility," dated August 7, 2008:

1. Page 3: BC states, "Except for ethanol, it is believed that the presence of these compounds in the gas probe samples can be attributed to the PVC adhesive cement used to attach the sampling ports to the PVC gas probe pipes. ... WSI has indicated to BC that theses ports and the adhesive will be removed, and new ports will be attached without adhesives." The hypothesis that the VOCs may come from adhesive cement is plausible. Removing the adhesive is a reasonable action.
2. Page 4: We do agree that methane and some naturally occurring VOCs, such as, chloroform or ethanol, can originate from wetlands and swamp.
3. Page 4: We do not agree that the double geosynthetic liner system will block landfill gas from exiting the landfill. The liners will impede the flow. LFG will seek easier pathways. However, LFG gas can migrate through the liners.
4. Page 4: There is the assertion that if there is water in the stormwater retention area then the saturated soils beneath the retention area would effectively block the path of any gas migration. On July 18, there was water in the stormwater basin and LFG concentrations exceeded 100% of the lower explosive level (LEL). Therefore, Brown and Caldwell concludes the LFG is coming from sources outside the landfill.

- a. What proof is there that water in the retention area does correlate to fully saturated soil beneath the retention pond?
 - b. Has groundwater been detected in the gas probes? I did not see in the Brown and Caldwell report anything to indicate that groundwater was or was not present in the gas probes that had high LFG concentrations.
5. Page 4: BC recommends "WSI randomly retest some of the perimeter gas probes for VOCs once the PVC adhesive has been removed and the ports replaced." This is not specific enough. An agreement must be reached about the number of samples and whether they need to be taken over a period of time. Also, "random" retest is not desirable. Retesting the worst gas probes would be a better indication.
6. Based on the LFG monitoring logs for May, June, and July 2008 the gas concentrations are higher when there is standing water in the storm water basin. However, it is not clear whether the "standing water" was throughout the basin or small ponding of water within the basin.

On October 9, 2008 you submitted "Reporting Results for the Soil Gas Monitoring Probes Oct 2008." All the gas probes except for GP-8, GP-20, and GP-22 had landfill gas concentrations above 99% of the lower explosive limit of the gas meter used. There was standing water in reported in the storm water basin. You concluded, "the results reported during this monitoring event are consistent with previous events and is attributed to natural occurring methane."


Based on the submittals the Department recommends the following:

7. Remove the adhesive from the gas probes and attach new ports without adhesives. Then repeat the VOC testing done by BC. The testing needs to be done in the eight gas probes already tested. Testing in the leachate risers is not necessary
8. For gas probes GP-10 and GP-18, measure groundwater levels in the gas probes after each LFG measurement to determine if the water level is above the bottom of the dry retention area. (Since we are now entering the dry season, you may want to do a special sampling event, such as, take the LEL measurement after a storm event when water is still in the retention area.)
9. When taking landfill gas measurements, describe more fully the extent of water remaining in stormwater ponds. What depth? How large an area? Is it near the gas probe?
10. Please submit a drawing showing the locations of the gas probe in relation to the stormwater ponds, the wetlands (actual delineations or estimated) and the property boundary.
11. Some other ideas to consider:
 - a. Move the gas probes closer to the edge of the liner. If the gas is coming from the disposal area, the concentrations should be higher. And, when there is water in the stormwater basin there should be no LFG problem in the gas probe.
 - b. Using temporary bore holes, go radially out from gas probes with high LFG concentrations to see if a source direction can be determined.
 - c. Determine the total organic content (TOC) using method 415.1 in the soil (vadose/smear) upgradient and downgradient (as close to wetlands as possible) of the probe locations to find out the change in TOC.

Mr. Mike Kaiser
OCD-SW-08-0566
Page #3

The Department would be willing to meet with you now to discuss future methods for sampling, validating exceedances, and reporting results for probes. We could meet at the DEP office or by teleconference. Or, you can accomplish Items 7 through 10 first, and then we could meet to discuss the results. Let me know what you would like to do.

Sincerely,



F. Thomas Lubozynski, P.E.
Waste Program Administrator

Date: November 5, 2008

FTL

Copies to:

Shawn McCash, Waste Services Inc, smccash@wasteservicesinc.com
Matt Orr, Waste Services Inc, morr@wasteservicesinc.com
Dennis Pantano, Waste Services Inc, Waste Services Inc, dpantano@wasteservicesinc.com
Daniel Courcy, P.E., Brown and Caldwell dcourcy@brwncald.com

Williams, Elizabeth

From: Lubozynski, Tom
Sent: Tuesday, November 04, 2008 3:31 PM
To: Janwadkar, Sandeep; Williams, Elizabeth
Subject: RE: Landfill gas issue at JED

Betty - put letter in final and send. Copy me, Sandeep, and Gloria.

S:\Solid Waste\SW Facilities\Osceola\J.E.D\Landfill Gas Monitoring\2008-10-26 draft of review of gas study.doc

Oculus Info:

SW
FAC ID: 89544
FAC Type: Class I (100)
Disc_Compl
Doc Type: Monitoring Report related
Subject: Review Comments on Landfill Gas Exceedance Information Brown and Caldwell Report August 2008

Sandeep - thanks fro the comments. I incorporated them. I am not sure how the article applies. I assume they were measuring the gas that was emitted to the atmosphere not to the soil pores. And, I am not sure they really measured gas generation rates.

Tom

From: Janwadkar, Sandeep
Sent: Tuesday, October 21, 2008 8:33 AM
To: Lubozynski, Tom
Subject: RE: Landfill gas issue at JED

Tom,

I concur with your recommendations. I was also interested in knowing couple of other things:

- 1) The total organic content (TOC) using method 415.1 in the soil (vadose/smear) upgradient and downgradient (as close to wetlands as possible) of the probe locations to find out the change in TOC.
- 2) I would also like them to submit a map showing the relative locations of the gas probe with reference to the wetlands and the property boundaries
- 3) Please see the link to a latest article on the methane generation with reference to slug flows (storms) and steady flow of water in wetlands. It appears that lower methane generation was observed during the slug flow compared to steady flow.

<http://www.sciencedaily.com/releases/2008/09/080923164714.htm>

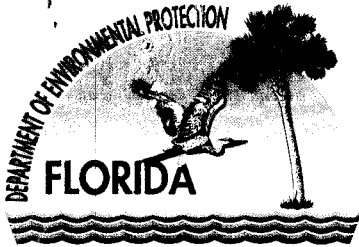
Sandeep

From: Lubozynski, Tom
Sent: Thursday, October 16, 2008 5:44 PM
To: DePradine, Gloria-Jean; Janwadkar, Sandeep
Subject: Landfill gas issue at JED

Please review the following letter. Any recommendations? If you want to look at the report it is Oculus and I have a paper copy on the right side of my desk. Thanks.


S:\Solid Waste\SW Facilities\Osceola\J.E.D\Landfill Gas Monitoring\2008-10-26 draft of review of gas study.doc

Tom



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

 Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

By E-Mail
smccash@wasteservicesinc.com

Mr. R. Shawn McCash
Omni Waste of Osceola County, LLC (Omni)
1501 Omni Way
St. Cloud, FL 34773

OCD-SW-08-0576

Osceola County – SW
J.E.D. Solid Waste Management Facility, Class I
Cell 6 Operation – Minor Modification
Modification of Permit No. SC49-0199726-008
Permit Application No. SO49-0199726-009

Dear Mr. McCash:

In response to the request submitted on July 30, 2008 by Kwasi Badu-Tweneboah, P.E. of Geosyntec Consultants, Jacksonville, Florida, Permit No. SC49-0199726-008 is modified to include the operation of Cell 6 with an additional area of approximately 12.5 acres in Phase 2 of the J.E.D. Solid Waste Management Facility, Class I.

The permittee has satisfied the requirements of Specific Condition No. 60 of Permit SC49-0199726-004 and SO49-0199726-005 which includes a Certification of Construction Completion for Cell 6 approved by the Department and financial assurance mechanism for Cell 6 that meets the requirements of Rule 62-701.630, F.A.C., acceptable to the Department.

The information submitted, on file at the Central District office, is made part of the subject permit. The documents are listed in Appendix A.

All other conditions of the subject permit remain unchanged.

This letter must be attached to Permit No. SC49-0199726-008 and becomes part of that permit. The new Permit No. is SO49-0199726-009.

Sincerely,



F. Thomas Lubozynski for

Vivian F. Garfein
Director, Central District

Date: November 7, 2008

10
11-7-08

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

E. Williams

Nov. 7, 2008

Clerk

Date

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT MODIFICATION and all copies were sent before the close of business on November 7, 2008 to the listed persons.

E. Williams

Clerk

VFG/gc/ew

Enclosure:

Appendix A – List of Documents Incorporated into Permit

cc:

Richard Tedder, P.E. – DEP – Tallahassee

Frank Hornbrook – DEP – Tallahassee

Fred Wick – DEP – Tallahassee

Kwasi Badu-Tweneboah, P.E. – Geosyntec Consultants kbadutweneboah@geosyntec.com

Jim Bradner, P.E. – DEP – Air Program Administrator – Central District

Appendix A
List of Documents Incorporated into Permit

1. Minor Modification Application For Phased Financial Assurance, Cell 6 Construction – Omni Waste of Osceola County, LLC, Prepared by: Geosyntec, Tampa, Florida, dated July 2008. Received and stamped July 30, 2008, DEP – Central District.
2. Certification Report, Construction of Cell 6, J.E.D. Solid Waste Management Facility, Osceola County, Florida, Prepared by Geosyntec Consultants, Tampa, Florida dated July 2008. Received and stamped July 30, 2008.
3. First Request for Additional Information from DEP – Central District dated August 27, 2008.
4. Response to First Request for Additional Information from Geosyntec Consultants, Tampa, Florida dated September 5, 2008. Received and stamped September 9, 2008, DEP – Central District.
5. Second Request for Additional Information from DEP – Central District dated September 30, 2008.
6. Certification of Construction Completion – Cell 6 from DEP – Central District dated September 30, 2008.
7. Financial Assurance approval letter from DEP – Tallahassee dated September 30, 2008.
8. Renewal permit application entitled "Renew Permit Application to Construct and Operate Phases 2 and 3 of the Oak Hammock Disposal Facility", prepared and submitted by Geosyntec Consultants, Tampa, Florida in September 2006 and approved by the FDEP Central District in March 2007.
9. Permit renewal drawings entitled "Oak Hammock Disposal Facility, Phases 2 and 3 Renewal Permit Drawings", dated September 2006.
10. Major modification application entitled "Major Modification application for Vertical Expansion of the J.E.D. Solid Waste Management Facility (Phases 1 through 3)", prepared and submitted by Geosyntec Consultants, Tampa, Florida in September 2007 and approved by the FDEP Central District in April 2008.
11. Minor modification entitled "Minor Modification Application for Cell 6 at the Oak Hammock Disposal Facility", prepared and submitted by Geosyntec Consultants, Tampa, Florida in December 2007 and approved by the FDEP Central District in February 2008.
12. Vertical expansion permit drawings entitled "J.E.D. Solid Waste Management Facility, Vertical Expansion Permit Drawings Phases 1 through 3", dated September 2007.
13. Construction drawings entitled "J.E.D. Solid Waste Management Facility, St. Cloud, Florida, Cell 6 Construction (Revised design)", dated January 2008, prepared by Geosyntec Consultants, Tampa, Florida.

Catalog	SOLID WASTE
---------	-------------

Administrative	
Discovery Compliance	
Cleanup	
Enforcement Legal	
Fiscal	
Permitting	X

County	Osceola
Facility ID #	89544
Document Date	
Received Date	
Doc Type	Permit Issued
Contractor ID	
Facility Type	Class I (100)
Document Subject	J.E.D. SWMF,ClassI. Cell6—Operation. Permit No. SO49-0199726-009

Williams, Elizabeth

From: Shawn McCash [SMcCash@wasteservicesinc.com]
To: Williams, Elizabeth
Sent: Friday, November 07, 2008 2:03 PM
Subject: Read: J.E.D. SW Mgmt. Fac., Class I minor mod. 0576

Your message

To: SMcCash@wasteservicesinc.com
Subject:

was read on 11/7/2008 2:03 PM.

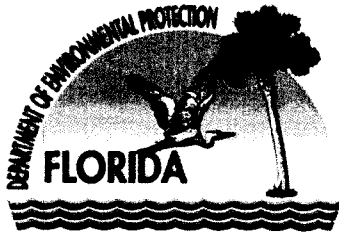
Events Scheduled

53 of 90

Site # 0199726 Site Name OAK HAMMOCK DISPOSAL FACILITY (CLASS 1)
Permit # 0199726-009-SO Type/Subtype SO / MM Received 08/01/2008
Project # 009 Project Name JED SWMF MODIFICATION OF PERMIT SC49-0199726-009

STOP CLOCK: Done PERMIT APPL. NO. SC49-0199726-009 EXP. DATE 01/11/2012

Event	Begin Date	Period	Due Date	Rmn	Status	End Date
Completeness Review	08/01/2008	30	08/31/2008		Incomplete	08/27/2008
RESET CLOCK	08/27/2008	1	08/28/2008		Done	08/27/2008
Awaiting Additional Information	08/27/2008	45	10/11/2008		Received	09/09/2008
Completeness Review	09/09/2008	30	10/09/2008		Incomplete	09/30/2008
RESET CLOCK	09/30/2008	1	10/01/2008		Done	09/30/2008
Awaiting Additional Information	09/30/2008	45	11/14/2008		Received	09/30/2008
Completeness Review	09/30/2008	30	10/30/2008		Complete	09/30/2008
Determine Agency Action	09/30/2008	90	12/29/2008		Issue	11/07/2008
Issue Final Permit	11/07/2008	14	11/21/2008		Issued	11/07/2008
STOP CLOCK	11/07/2008	1	11/08/2008		Done	11/07/2008
ISSUE PERMIT	11/07/2008	1	11/08/2008		Issued	11/07/2008



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

By E-Mail
smccash@wasteservicesinc.com

Mr. R. Shawn McCash
Omni Waste of Osceola County, LLC (Omni)
1501 Omni Way,
St. Cloud, FL 34773

OCD-SW-08-0527

Osceola County – SW
J.E.D Solid Waste Management Facility, Class I
Waste Solidification Operations – Minor Modification
First Request for Additional Information
Modification of Permit No. SO49-0199726-009
Permit Application No. SO49-0199726-010

Dear Mr. McCash:

HDR Engineering Inc., submitted on your behalf, "Request for Permit Modification, J.E.D. Solid Waste Management Facility". It was dated September 12, 2008, and received September 16, 2008. We have assigned permit number SO49-0199726-010 to the application. The application is incomplete. Please provide the information listed on the attached sheet promptly. Evaluation of your application will be delayed until all the requested information has been received.

Pursuant to Section 120.60(2), Florida Statutes, the Department may deny an application, if the applicant, after receiving timely notice, fails to correct errors and omissions, or supply additional information within a reasonable period of time. Accordingly, please provide the additional information within 30 days of the date you receive this letter. Submit three copies of the requested information to the Department and reference the above permit application number in your correspondence.

If you have any questions, please contact George Cheryan at (407) 893-3328 or by e-mail at George.cheryan@dep.state.fl.us.

Sincerely,

F. Thomas Lubozynski, P.E.
Waste Program Administrator

Date: October 15, 2008

FTL/gc/ew

Enclosure

cc: Brenda Ann Smith Clark, P.E. – HDR Engineering Inc., brenda.clark@hdrinc.com

Note that all references to "Report" in the following text refer to the document entitled, "Request for Permit Modification, J.E.D. Solid Waste Management Facility", Prepared by: HDR Engineering Inc., 15450 New Barn Road, Suite 304, Miami Lakes, FL 33014 dated September 2008.

1. **Page 1. Appendix A. Operations Plan Addendum. Section 1. Introduction. Paragraph 1:** The third sentence in the report indicates that the Operation Plan prepared by Geosyntec Consultants dated June 2008 is approved. Please note that the June 2008 operations plan is not yet approved. Your submittal can be incorporated into the current approved operations plan dated September 14, 2007 as an Appendix when this permit application is approved. Then when the June 2008 version of the Operation Plan is approved, your submittal will become part of the Plan.
2. **Page 3. Appendix A. Operations Plan Addendum. Section 3.1. Waste Solidification Operating Area:**
 - a. The waste solidification operating area should be clearly designated with visible signs at the site. Additionally, provide signage for the incoming traffic to direct them to the waste solidification operating area. The GPS co-ordinates of the solidified waste disposal locations within the Cell footprint should be recorded. This data should be maintained at the site and be readily available during Department inspections.
 - b. Provide a discussion on how often the containers and the associated equipment used in the waste solidification operation will be cleaned. Would cleaning be performed at the end of each working day? Will water be used to clean the containers and the equipment? If so, how will the rinse water be disposed of?
3. **Page 6. Appendix A. Operations Plan Addendum. Section 4.2. Testing:** Provide specific details of the training requirements for employees at the site to perform testing and mixing of the solidified waste. Does the facility currently have trained employees to perform this operation? If so, provide copies of the training documentation.
4. **Appendix A. Operations Plan Addendum. Attachment A. Special Waste Reference Guide:** Page 3 (Note that the pages are not numbered) refers to Flowchart 4, and Section 4, Part D, which are missing. Provide the missing pages.

ATTACHMENT B

REVISED WASTE SOLIDIFICATION
OPERATION PLAN

CLEAN VERSION



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

REQUEST FOR PERMIT MODIFICATION

OPERATION PERMIT

FDEP Operation Permit SO49-0199726-005
DEP ID Number: 89544 (WACS)

J.E.D. SOLID WASTE MANAGEMENT FACILITY

Prepared by:



15450 New Barn Road - Suite 304
Miami Lakes, FL 33014
Phone: (305) 728-7400

September 2008
Revised October 2008

Brinda Ann Smith Clark
29 October 2008

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 - 3.2 Daily Incoming Volume
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 - 3.4 Operator Training
 - 3.5 Equipment Cleaning
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Figures

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Figure 2: General Layout of Waste Solidification Area

Attachments

Attachment A: Special Waste Reference Guide

Attachment B: Training Documentation

Attachment C: Paint Filter Test Method

Attachment D: Liquid Waste Processing Record

1. INTRODUCTION

HDR Engineering, Inc. (HDR) has prepared this Waste Solidification Operation Plan (WSO Plan) to describe waste solidification operations that will be performed at the J.E.D. Solid Waste Management Facility (JED Facility). The JED Facility is owned and operated by Omni Waste of Osceola County, LLC (Omni), a subsidiary company of Waste Services, Inc. (WSI). This WSO Plan has been prepared in accordance with the requirements of Rule 62-701 of the Florida Administrative Code (FAC) and serves as an addendum (Appendix E) to the permitted Operation Plan prepared by Geosyntec Consultants and dated 14 September 2007. The information included in this WSO Plan is not replacing information in the permitted Operation Plan. The J.E.D. Facility is currently operating in accordance with FDEP Permits Numbered SC49-0199726-004 and SO49-0199726-005, dated March 22, 2007, and subsequent permit modifications.

The intent of the WSO Plan is to describe activities and procedures that will be implemented by site operations personnel in performing waste solidification activities at the JED Facility. Omni intends to accept non-hazardous liquid and semi-liquid wastes at the JED Facility and solidify the wastes using solid waste materials presently accepted for disposal. Solid waste materials used to solidify the liquid and semi-liquid wastes will be those types that characteristically have higher moisture absorptive characteristics (i.e., auto shredder fluff, contaminated and clean soils, cement, lime and ash based wastes, and recovered screen materials (RSM)). Waste solidification operations will be performed within the lined limits of the Class I disposal area and solidified wastes will be transported and disposed at the active landfilling area.

2. LIQUID AND SEMI-LIQUID WASTE RECEIPT

2.1 Processing Customers

The transporter/generator of a liquid or semi-liquid waste to the JED Facility will be approved by Omni prior to delivery and acceptance. Liquid and semi-liquid waste streams will be screened in accordance with Omni's special waste acceptance policy to confirm the wastes are non-hazardous in accordance with State and Federal regulations. A copy of the Special Waste Reference Guide is presented in Attachment A. A typical hazardous and non-hazardous waste screening flow diagram is shown on Figure 1. As part of Omni's special waste acceptance policy, Omni requires a non-hazardous waste manifest be generated for all special waste streams. This requirement will include liquid and semi-liquid wastes accepted for solidification. Generally, non-hazardous waste manifests must be received at the JED Facility 24-hours prior to delivery to allow review and approval by Omni site personnel or a 3rd party consultant contracted by Omni.

Upon entering the site, the transporter/generator of the liquid or semi-liquid waste will be required to stop at the weigh scales. The transporter/generator will be required to provide the scale house attendant a copy of an Omni approved non-hazardous waste manifest. All waste will be weighed upon entering the site. The weigh scale attendant will record the weight, type of waste, and transporter/generator information. The weigh scale attendant will then contact appropriate site personnel to notify them that a load of liquid or semi-liquid waste has been received and will direct the driver to the waste solidification area to be received by a spotter. The spotter will direct the customer to the specific offloading location and will monitor offloading activities.

2.2 Types of Wastes

As previously noted, wastes accepted for solidification will be liquid and semi-liquid wastes that are classified as non-hazardous according to State and Federal regulations. Typical wastes may include pumpings from maintenance and cleaning of septic systems, oil/water separators, drainage inlets, and other types of collection systems. Other wastes may include by-products and waste waters generated from industrial manufacturing activities, drilling fluids, bilge waters, and groundwater/soil contamination remediation activities.

3. WASTE SOLIDIFICATION OPERATING AREA AND PROCESSING PROCEDURES

3.1 Waste Solidification Operating Area

The waste solidification operating area will be clearly designated with visible signs at the site. Signage for the incoming traffic will be provided to direct them to the waste solidification operating area. The GPS co-ordinates of the solidified waste disposal locations within the Cell footprint will be recorded. This data will be maintained at the site and be readily available during Department inspections.

Liquid and semi-liquid wastes will be discharged only at the area designated for solidification operations. The designated area will be located within the limits of a lined disposal area which has been approved by the FDEP for Class I landfilling operations. The designated area will be relocated as necessary as landfilling operations progress. An ideal location will be an easily accessible flat area separate from the daily active landfilling operations. A typical layout of the waste solidification operating area is shown on Figure 2. As shown on Figure 2, the area will include water-tight solidification containers (i.e., 20-40 cubic yard roll-off or similar containers) for solidification of the liquid and semi-liquid wastes. Additionally, sufficient area surrounding the solidification containers will be provided to stockpile solid waste materials that will be used for the absorptive media and sufficient area for staging of equipment used to mix the waste streams and load out for transport to the active landfilling area. The dimensions and number of solidification containers shown on Figure 2 are approximate and will be adjusted as necessary based on the incoming quantities of liquid and semi-liquid wastes and other operating needs.

The landfill grades surrounding the waste solidification area will be graded to provide stormwater drainage away from the area. All weather access roads will be constructed to the area and maintained for safe access by customers. Grading and base material will be provided in areas adjacent to the solidification containers as needed to provide a firm stable working area for heavy equipment used in the waste solidification operations. The water tight containers will be slightly raised above the surrounding waste elevation to further prevent surface water run-off into the containers. Raised containers will also help prevent spillage of the liquid waste onto the surrounding landfill surface.

In accordance with the requirements of Rule 62-701.500(1) of the FAC, at least one trained spotter will be on duty in this area during discharge of the liquid waste.

3.2 Daily Incoming Volume

Daily incoming volumes of liquid and semi-liquid wastes accepted for solidification will depend on the following factors: 1) Market availability of liquid and semi-liquid wastes; 2) The number of solidification containers stationed at the area for processing of incoming wastes; 3) Available volumes of solid waste solidification materials for use as the absorptive media; 4) The time necessary to solidify the wastes and complete testing; and 5) Weather conditions. It is anticipated that the site will have an approximately five 20-40 cubic yard solidification containers available for processing liquid and semi-liquid wastes and any one time. If necessary, Omni may station portable water-tight Frac storage tanks near the solidification area to temporarily store liquid and semi-liquid

wastes if volumes are expected to exceed the daily solidification capabilities on a short term basis. Solidification operations will not occur during extreme wet weather conditions.

3.3 Waste Processing

Following initial processing at the weigh scale, the liquid or semi-liquid waste will be discharged into the solidification containers under a controlled flow rate to reduce splashing and overspill. Discharge operations will be monitored by the spotter to ensure liquid waste is discharged into the containers and not onto the surrounding landfill area, and to confirm the waste matches the description on the non-hazardous waste manifest. The spotter will notify the site Operator (trained and responsible for solidification operations) that a load has been received and is ready to be processed. The site Operator will complete solidification operations as described below by the end of that working day. There will be no overnight storage of liquid or semi-liquid wastes in the water tight containers.

A sufficient quantity of solid waste solidification material will be stockpiled in the area near the solidification containers. The types of materials that may be used for solidification include, but will not necessarily be limited to, auto shredder fluff, contaminated and clean soils, cement, lime and ash based waste streams, recovered screen materials (RSM), and other moisture absorptive materials received at the site for disposal.

Equipment used for processing will typically include an excavator or backhoe to place and mix the solid waste solidification materials in the water tight containers, and heavy earthmoving trucks to transport solid waste solidification materials to the solidification area and haul solidified waste to the active disposal area. These types of equipment are currently available at the JED Facility and will be used as needed to support solidification operations. Additional equipment will be purchased or rented if necessary to support operations.

The liquid or semi-liquid waste solidification process will consist of the following steps:

- Estimating the amount of liquid or semi-liquid waste and solid waste solidification material that can be added to the water tight container to avoid overfill. This estimate will be based on field practice as the site Operator becomes familiar with the absorptive characteristics of various solid waste types;
- Understanding the characteristics of the liquid or semi-liquid waste to be placed in the containers to ensure potentially incompatible wastes are not placed in the solidification containers at the same time;
- Placing the appropriate amount of liquid or semi-liquid waste in the water tight containers;
- Adding and mixing solid waste solidification materials to the liquid or semi-liquid waste;
- Allowing time for curing or absorbing of the wastes, and remixing if necessary;

- Testing of the solidified wastes to determine if acceptable for disposal at the active landfilling area;
- Adding and mixing of additional solid waste solidification materials if testing fails; and
- Retesting of remixed and solidified waste.

As noted above, once the liquid or semi-liquid waste is stabilized, the waste will be tested as described in the following Section. If testing confirms the solidified waste meets the minimum standards for classification as a solid waste, the waste will be loaded onto heavy earthmoving trucks and hauled to the active landfilling area for disposal in accordance with the permitted Operation Plan.

3.4 Operator Training

Employees that perform the mixing of the liquid wastes with the stabilizing materials will be required to go through a training program. The program will include training on the following: (i) discharge of liquid waste to the waste solidification containers; (ii) placement of the stabilizing materials in the waste solidification containers; (iii) mixing of the liquid waste and stabilizing materials; (iv) testing of stabilized wastes; (v) procedures when materials are not properly stabilized; (vi) removal of stabilized waste from the waste solidification containers; (vii) disposal of stabilized waste at the active waste disposal area; (viii) proper maintenance of the waste solidification area; and (ix) proper usage of all equipment involved in the operations. Training documentation is presented in Attachment B. The documentation will be maintained at the site.

3.5 Equipment Cleaning

It is not anticipated that cleaning of the containers used for the waste solidification operation will be required. Any liquid materials placed in the containers will be solidified. All solidified materials will be removed from the container.

Should cleaning of the equipment used for the waste solidification operation be required, it may be performed with water. The cleaning can be performed such that the equipment is suspended over the waste solidification containers and sprayed with water. The water will collect in the container and be mixed with incoming liquid wastes and solidification materials.

4. TESTING AND RECORD KEEPING

4.1 Overview

Upon completion of the mixing of the liquid or semi-liquid waste with the solid waste solidification materials, the waste will be allowed to cure, if necessary. The length of the curing period will be dependent upon the type of liquid or semi-liquid waste and the solid waste solidification material used. In some instances, a curing period may not be required. The site Operator will visually monitor the wastes during mixing and curing period to confirm the processed wastes are relatively consistent prior to retrieving a sample for testing.

4.2 Testing

A trained site employee will perform testing of solidified wastes as described below. The site Operator will use the excavator or backhoe to scoop loads of solidified waste from the solidification container. A composite sample will be obtained by collecting three approximately 100-milliliter (mL) samples from different areas of the processed waste. The three samples will be mixed together and approximately 100 mL of the composite sample will be tested according to United State Environmental Protection Agency Paint Filter Liquids Test Method 9095B. A copy of this test method is included in Attachment C. A schematic of the test apparatus is also included in Attachment C.

The test procedure consists of the following:

- Assemble ring, ring stand, funnel, conical paint filter (mesh number 60, or fine mesh), and receiving graduated cylinder or beaker;
- Deposit 100 mL, or 100 milligrams, of the composite waste sample in the filter;
- Allow the sample to drain for at least 5 minutes, recording start and finish times;
- Check graduated cylinder or beaker below funnel to determine if liquid passed through the filter; and
- Record test result of liquid passing through filter and into graduated cylinder or breaker.

If no liquid passes through the paint filter and drips into the receiving graduated cylinder or beaker, the processed waste is defined as containing no free liquids. A processed waste that is determined to contain no free liquids will be removed from the liquid waste processing area and transported to the active landfilling area and disposed in accordance with the procedure outlined in the Operation Plan. If any liquid drips from the funnel into the receiving graduated cylinder or beaker, the waste is defined as containing free liquids and must be reprocessed and retested until it contains no free liquids.

Training for employees performing the paint filter testing will be performed by a third party consulting or testing company. Subsequent training of new employees will also be performed by a third party.

4.3 Recordkeeping

Information regarding the receipt and processing of each shipment of liquid waste will be recorded on the sample form included as Attachment D. All completed forms, including non-hazardous manifests, and training records will be filed and maintained at the JED Facility administration office. The records shall be maintained for the design period of the landfill.

ATTACHMENT A

SPECIAL WASTE REFERENCE GUIDE

**SPECIAL WASTE
REFERENCE GUIDE**

A. OVERVIEW

The federal government agency responsible for dealing with air, water, and soil pollution is the Environmental Protection Agency (EPA). It headquarters in Washington, D.C. and is divided into ten regional offices, each of which is headed by a Regional Administrator. The following are individual pieces of federal legislation addressing the management of solid and hazardous waste.

Resource Conservation and Recovery Act (RCRA)

The Solid Waste Disposal Act (SWDA), enacted in 1965, was the first federal legislation that addressed the nation's solid waste management practices. RCRA was enacted in 1976, as an amendment to the SWDA, but it completely rewrote the earlier act. In 1984, the Hazardous and Solid Waste Amendments (HSWA) amended RCRA by adding restrictions on the land disposal of certain wastes, corrective action requirements and underground storage tank (UST) regulations. These three acts, SWDA, RCRA and HSWA, are commonly referred to as RCRA.

The purpose of RCRA was to regulate the disposal of waste on the land. The Act required that the EPA promulgate regulations that were designed to protect human health and the environment with respect to the land disposal of waste.

The regulations promulgated under RCRA can be found in the Code of Federal Regulations, Title 40, (40 CFR) in Parts 247 through 280. The act is divided into sections called subtitles, and hazardous wastes are regulated under the *Subtitle C* program, from generation through use and disposal. Municipal Solid Waste and Industrial Solid Waste are managed under the *Subtitle D* program, and leaking underground storage tanks are addressed in the *Subtitle I* program. Key sections pertaining to the identification of hazardous waste are listed below:

PART NO.	SUBJECT
260	Definitions associated with solid and hazardous waste
261	Identification and listing of hazardous waste
268	Land Disposal Restrictions
280	Underground Storage Tank (UST) – Technical Standards and Corrective Action Requirements

RCRA Subtitle D Rule

The EPA promulgated regulations addressing Municipal Solid Waste Landfill criteria in October 1991. These regulations were promulgated under Subtitle D of the Resource Conservation and Recovery Act or (RCRA) and are commonly referred to as the "Subtitle D Rules." The regulations are found in the Code of Federal Regulations, Title 40, Part 258 (40 CFR §§258).

The regulations apply to owners and operators of all municipal solid waste landfills that receive waste after October 9, 1993. Landfills that stopped accepting waste before October 9, 1991, are not affected by these regulations.

The regulations apply to landfills that accept municipal solid waste. They do not apply to units (including landfills, surface impoundments, waste piles, and land applications units) that accept only industrial non-hazardous waste.

The regulations establish comprehensive, protective standards for managing solid waste by specifying:

- location provisions (defining areas where landfills are prohibited)
- design standards (liners & leachate collection systems)
- operating requirements (random hazardous waste inspection procedures, daily cover requirements, record keeping, water management)
- closure and post-closure requirement (designed cover systems, financial assurance for 30 years)

RCRA Solid and Hazardous Waste

The Resource Conservation and Recovery Act (RCRA) and regulations promulgated in accordance with the Act (code of Federal Regulations, Title 40, Part 260-261), define both solid and hazardous waste.

The regulations in 40 CFR §261 set forth the procedures for evaluation of each waste material to determine if the waste is a hazardous waste.

RCRA SOLID WASTE

Solid waste is not a scientific term but a regulatory one. In fact, solid waste may not be in the solid state at all. For instance, a liquid waste in a 55-gallon drum is a solid waste. So is a bulk liquid waste stored in a tank. A gaseous waste which is stored in a compressed gas cylinder is a solid waste. The definition of solid waste found in RCRA.

Each generator of solid waste has the responsibility of characterizing their waste streams. To do that they must consider many things. What processes do they come from? What raw materials or other chemicals go into them? What chemical reactions, if any, have taken place? How many pounds or tons or gallons per hour are generated? What characteristics do they exhibit? Is it a listed chemical or process?

The first step in evaluating a material for management is to determine if the material is a solid waste as set forth in 40 CFR 260-261. Flowchart 1, entitled "Solid Waste Decision Tree" outlines this first step. Once the waste is characterized as a solid waste, Flowchart 2 – Special Waste Acceptance Decision Tree is used to complete the waste classification process.

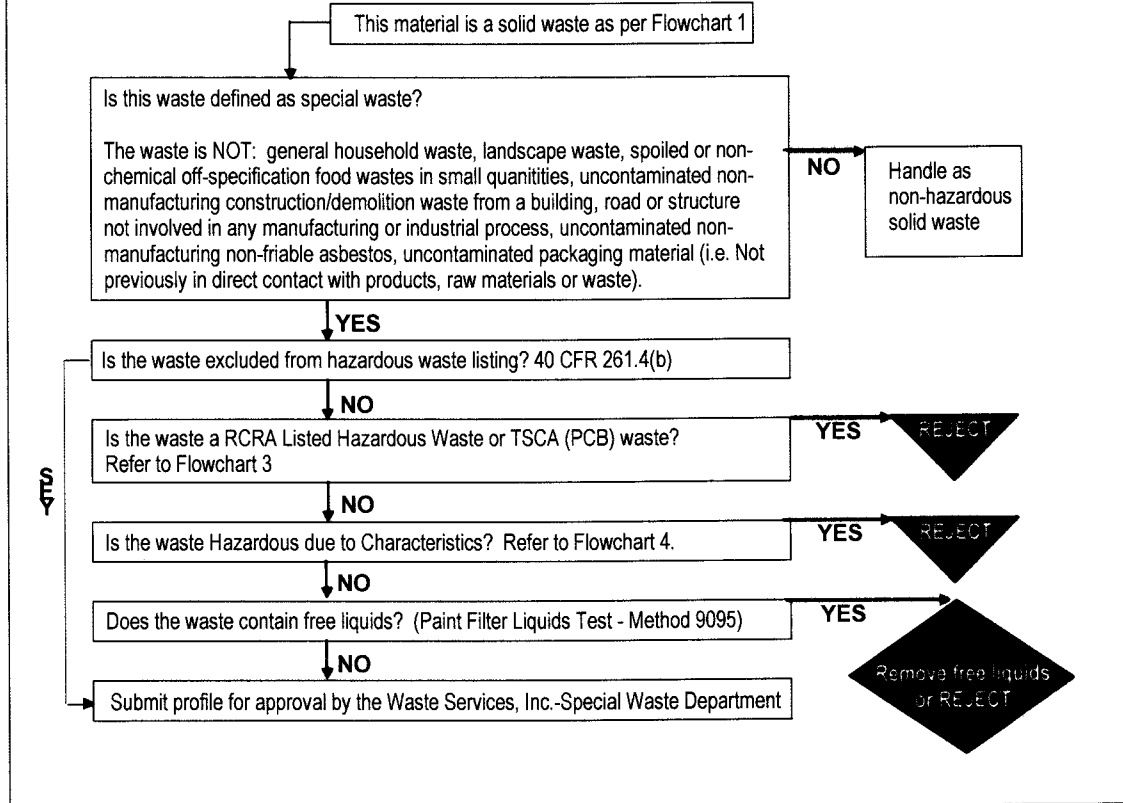
RCRA HAZARDOUS WASTE

Determining whether a waste is a RCRA hazardous waste is perhaps one of the most complex steps within the RCRA regulations. The regulations found in 40 CFR Part 261 use a step-by-step identification process. A solid waste is characterized as a hazardous waste in one of two ways:

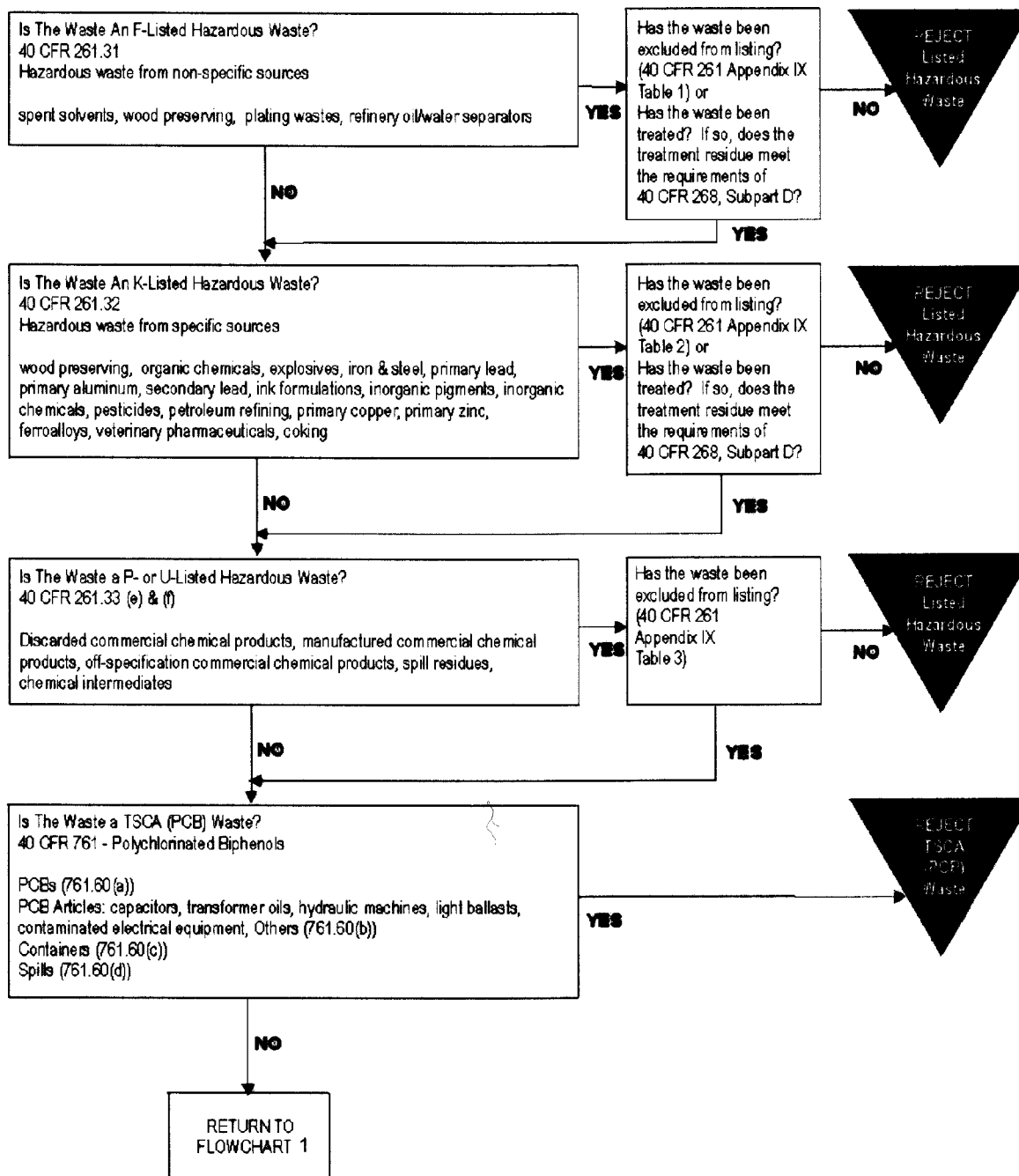
1. It exhibits the characteristics of a hazardous waste; or is a "*characteristically hazardous waste*".
2. It is listed by the EPA as a hazardous waste either by process or as a pure product, termed a "*listed hazardous waste*".

The process used to evaluate a waste for characteristics and listings is outlined in Flowcharts 2 and 3 entitled "Hazardous Waste Determination – Listings" and "Hazardous Waste Determination – Characteristics".

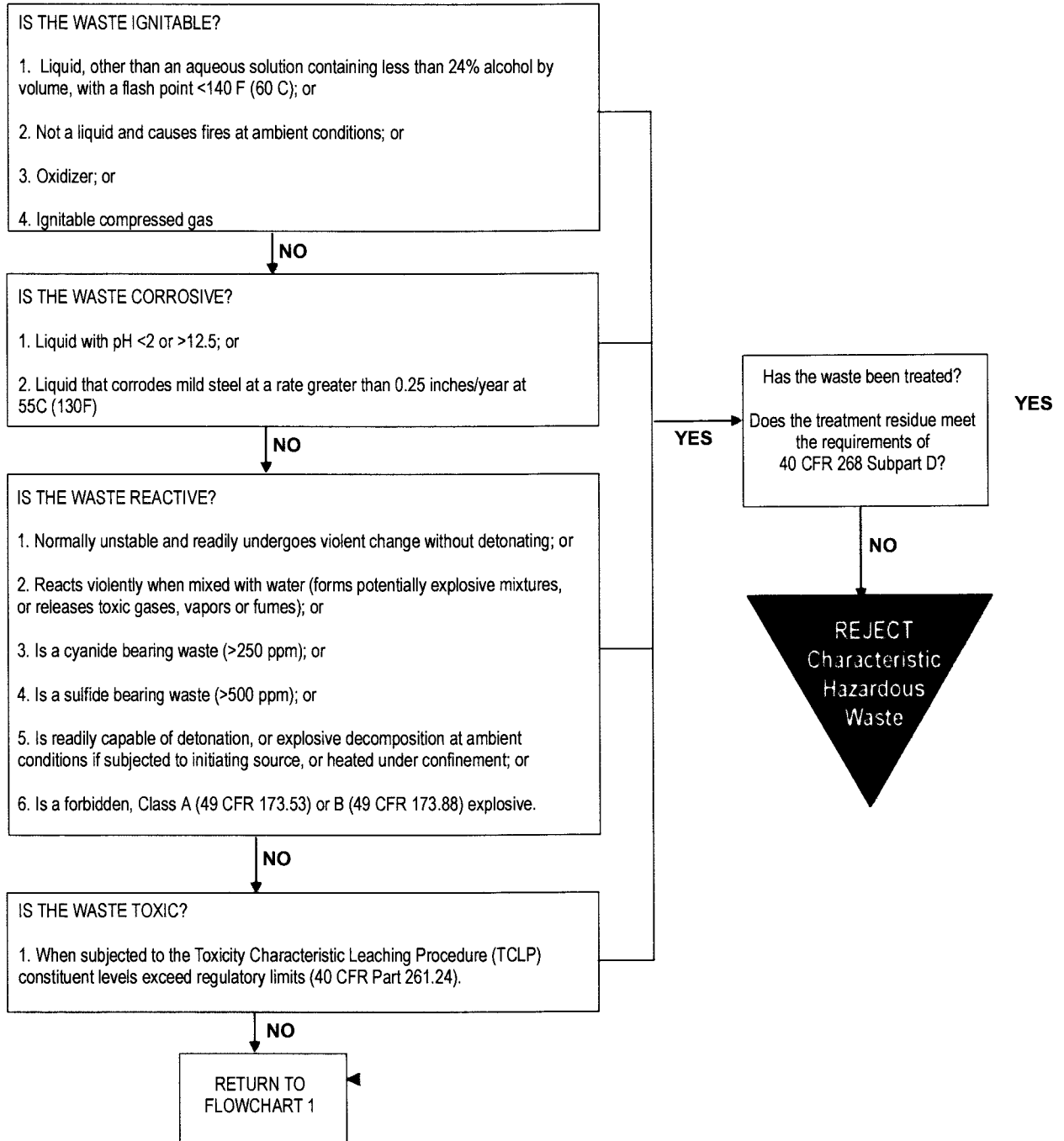
**FLOWCHART 1
CAN IT BE SUBMITTED AS A SPECIAL WASTE?**



**FLOWCHART 2
HAZARDOUS WASTE DETERMINATION
LISTINGS**



**FLOWCHART 3
HAZARDOUS WASTE DETERMINATION
CHARACTERISTICS**



Toxic Substances Control Act (TSCA)

The Toxic Substances Control Act (TSCA) was passed in 1976 to ensure the protection of human health and the environment from toxic chemical substances. The regulations promulgated under TSCA are found in the Code of Federal Regulations, Title 40, Parts 700 to the end. TSCA applies to pure chemical substances, impurities and contaminants found in chemicals and incidental reaction products formed when a compound is manufactured or when it is used. The most common toxic constituent evaluated with regard to WSI's special waste, are polychlorinated biphenyls (PCBs), regulated under TSCA at 40 CFR Part 761.

Clean Water Act (CWA)

The Federal Water Pollution Control Act (FWPCA) amended by the Clean Water Act Amendments of 1977, establishes the standards and requirements for the protection of the nation's waters. One of the key components under Section 402 of the Act is the requirement to have the EPA administer a national permit program for the regulation of discharge of pollutants into waters of the United States. The national permitting program established by the EPA is known as the National Pollutant Discharge Elimination System (NPDES). Regulations promulgated in response to the requirements of the CWA are found in the Code of Federal Regulations, Title 40, Parts 100-149 and 400-699 (40 CFR §§100-149; §§400-699).

Although the regulations promulgated under the CWA do not directly effect WSI's special waste acceptance criteria, the regulations set standards and requirements for our business partners. Major components of CWA regulations include:

PART NO.	SUBJECT
117	Wetlands
122	Discharge Permits
403	Pretreatment Regulations for Publicly Owned Treatment Works (POTWs)
323	Dredge and Fill Operations
131	Water Quality Standards
---	Wastewater Treatment Plant Sludge Management (Section 503)
---	Oil and Hazardous Substance Discharges

Superfund

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) are commonly referred to as SUPERFUND.

CERCLA, passed in 1980, established the policies to clean up hazardous waste sites used for the improper disposal of hazardous waste. A 1979 survey estimated between 30-50 thousand sites existed. The intent of CERCLA was to accomplish the following:

- Development of a national inventory of inactive hazardous waste sites (National Priorities List – NPL).
- Definition of requirements to protect human health environmental response actions and the environment (National Contingency Plan).

- Establishment of a fund to finance the clean-up of sites.
- Establishment of a payback system for costs by liable parties (Potentially Responsible Parties (PRPs)).

Regulations promulgated in response to CERCLA are found in the Code of Federal Regulations, Title 40, Parts 300-399 (40 CFR §§330-399).

SARA, passed in 1986, amended CERCLA by providing the following:

- Additional funding for cleanups.
- Scheduling of EPA cleanup activities.
- Establishment of national cleanup standards for Superfund sites.
- Cleanup of sites owned by the federal government.
- Requirements for research and training on hazardous substances.
- Authority for EPA to enter into settlements with responsible parties.
- Citizen's rights to participate in cleanup decisions.
- Enhancement to EPA response and enforcement authority.
- Strength to the role of the Toxic Substance and Disease Registry Agency.
- Establishment of standards for the cleanup of leaking USTs in which responsible parties are unknown.

Regulations promulgated under SARA amend CERCLA regulations found at 40 CFR §§300-399.

“Corrective Action Soils” – Petroleum Contaminated Soils

As a result of significant press and public attention in the 1980s, regarding the “unaddressed source of groundwater contamination,” leaking underground petroleum storage tanks, EPA developed regulations for underground storage tanks (USTs) to prevent, detect and correct releases.

The UST regulations are found in the Code of Federal Regulations, Title 40, Part 280. In summary, the regulations set standards from installation to closure for owners and operators of certain USTs. The standards include:

- Tank design, construction, installation and notification requirements.
- General operating requirements.
- Release detection.
- Release reporting, investigation, and confirmation.
- Release response and corrective action requirements.
- Closure requirements.
- Financial responsibility requirements.

The soils resulting from corrective action typically are the petroleum contaminated soils generated from corrective action requirements initiated under 40 CFR 280.

ATTACHMENT B

TRAINING DOCUMENTATION

TRAINING DOCUMENTATION

My signature below indicates that I participated in the waste solidification training program at the J.E.D. Solid Waste Management Facility. As part of this program, I have been trained to perform the following activities (indicate by placing initials next to items for which you have received training):

- _____ Liquid waste discharge to waste solidification tank
- _____ Placement of stabilizing materials in the waste solidification tank
- _____ Mixing of liquid waste and stabilizing materials
- _____ Testing of solidified wastes
- _____ Procedures to follow when waste solidification is not complete
- _____ Removal of solidified waste from the solidification containers
- _____ Disposal of solidified waste at the active waste disposal area
- _____ Proper maintenance of the waste solidification area
- _____ Proper operation of all required equipment

Employee Signature

Date

Supervisor Signature

Date

ATTACHMENT C

PAINT FILTER TEST METHOD

METHOD 9095B

PAINT FILTER LIQUIDS TEST

1.0 SCOPE AND APPLICATION

1.1 This method is used to determine the presence of free liquids in a representative sample of waste.

1.2 The method is used to determine compliance with 40 CFR 264.314 and 265.314.

2.0 SUMMARY OF METHOD

2.1 A predetermined amount of material is placed in a paint filter. If any portion of the material passes through and drops from the filter within the 5-min test period, the material is deemed to contain free liquids.

3.0 INTERFERENCES

3.1 Filter media were observed to separate from the filter cone on exposure to alkaline materials. This development causes no problem if the sample is not disturbed.

3.2 Temperature can affect the test results if the test is performed below the freezing point of any liquid in the sample. Tests must be performed above the freezing point and can, but are not required to, exceed room temperature of 25 °C.

4.0 APPARATUS AND MATERIALS

4.1 Conical paint filter -- Mesh number 60 +/- 5% (fine meshed size). Available at local paint stores such as Sherwin-Williams and Glidden.

4.2 Glass funnel -- If the paint filter, with the waste, cannot sustain its weight on the ring stand, then a fluted glass funnel or glass funnel with a mouth large enough to allow at least 1 in. of the filter mesh to protrude should be used to support the filter. The funnel should be fluted or have a large open mouth in order to support the paint filter yet not interfere with the movement, to the graduated cylinder, of the liquid that passes through the filter mesh.

4.3 Ring stand and ring, or tripod.

4.4 Graduated cylinder or beaker -- 100-mL.

5.0 REAGENTS

5.1 None.

6.0 SAMPLE COLLECTION, PRESERVATION, AND HANDLING

A 100-mL or 100-g representative sample is required for the test. If it is not possible to obtain a sample of 100 mL or 100 g that is sufficiently representative of the waste, the analyst may use larger size samples in multiples of 100 mL or 100 g, i.e., 200, 300, 400 mL or g. However, when larger samples are used, analysts shall divide the sample into 100-mL or 100-g portions and test each portion separately. If any portion contains free liquids, the entire sample is considered to have free liquids. If the sample is measured volumetrically, then it should lack major air spaces or voids.

7.0 PROCEDURE

7.1 Assemble test apparatus as shown in Figure 1.

7.2 Place sample in the filter. A funnel may be used to provide support for the paint filter. If the sample is of such light bulk density that it overflows the filter, then the sides of the filter can be extended upward by taping filter paper to the inside of the filter and above the mesh. Settling the sample into the paint filter may be facilitated by lightly tapping the side of the filter as it is being filled.

7.3 In order to assure uniformity and standardization of the test, material such as sorbent pads or pillows which do not conform to the shape of the paint filter should be cut into small pieces and poured into the filter. Sample size reduction may be accomplished by cutting the sorbent material with scissors, shears, a knife, or other such device so as to preserve as much of the original integrity of the sorbent fabric as possible. Sorbents enclosed in a fabric should be mixed with the resultant fabric pieces. The particles to be tested should be reduced smaller than 1 cm (i.e., should be capable of passing through a 9.5 mm (0.375 inch) standard sieve). Grinding sorbent materials should be avoided as this may destroy the integrity of the sorbent and produce many "fine particles" which would normally not be present.

7.4 For brittle materials larger than 1 cm that do not conform to the filter, light crushing to reduce oversize particles is acceptable if it is not practical to cut the material. Materials such as clay, silica gel, and some polymers may fall into this category.

7.5 Allow sample to drain for 5 min into the graduated cylinder.

7.6 If any portion of the test material collects in the graduated cylinder in the 5-min period, then the material is deemed to contain free liquids for purposes of 40 CFR 264.314 and 265.314.

8.0 QUALITY CONTROL

8.1 Duplicate samples should be analyzed on a routine basis.

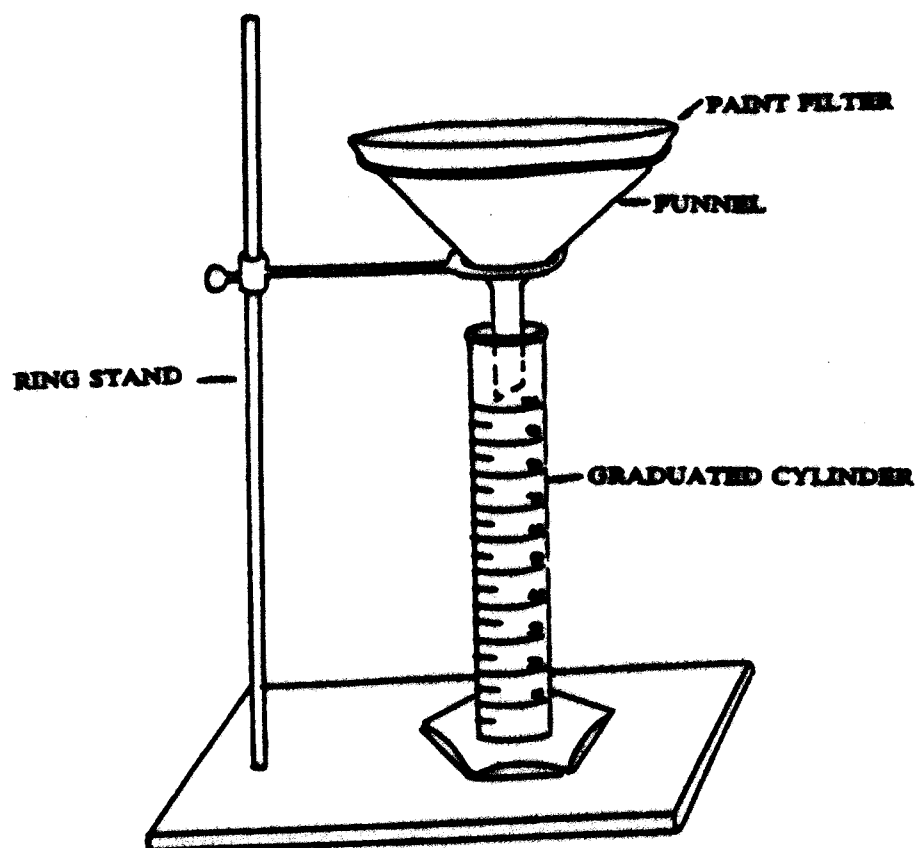
9.0 METHOD PERFORMANCE

9.1 No data provided.

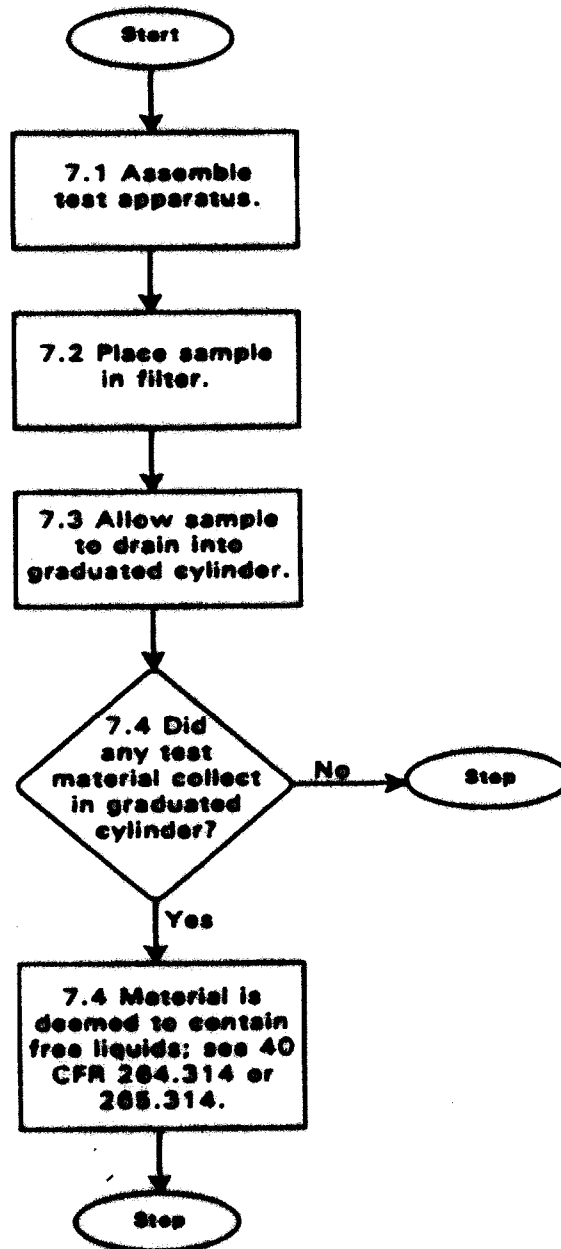
10.0 REFERENCES

10.1 None provided.

FIGURE 1
PAINT FILTER TEST APPARATUS



METHOD 9095B
PAINT FILTER LIQUIDS TEST



ATTACHMENT D

LIQUID WASTE PROCESSING RECORD

J.E.D. Solid Waste Management Facility

LIQUID WASTE PROCESSING RECORD

Date: _____

Received by: _____

WASTE TRANSPORTER

Company: _____

Driver's Name: _____

Truck ID Number or License Number: _____

Waste Quantity: _____

Waste Type: (check all that apply)

sludge: _____

grit trap: _____

grease trap: _____

other: _____

Explain Other: _____

WASTE PROCESSING

Date: _____

Bulking/Stabilizing Agents: _____

Approximate Volume of Liquid Waste: _____

Approximate Volume of Bulking/Stabilizing Agent: _____

Approximate Time to Stabilize: _____

PAINT FILTER LIQUIDS TEST

Test run by: _____

Test start time: _____

Test end time: _____

Length of test: _____ minutes (Note: Test must run at least 5 minutes)

Any liquid observed in graduated cylinder or beaker below funnel?

_____ No PASS - Processing complete, compact and cover waste.

_____ Yes FAIL - Waste must be retested after additional processing/curing time.

DUPLICATE SAMPLE TESTING

(One duplicate test for every five regular tests)

Test run by: _____

Test start time: _____

Test end time: _____

Length of test: _____ minutes (Note: Test must run at least 5 minutes)

Any liquid observed in graduated cylinder or beaker below funnel?

_____ No

_____ Yes

Williams, Elizabeth

From: Levin, Laxsamee
Sent: Monday, October 27, 2008 5:38 PM
To: Lubozynski, Tom; Heidorn, Marjorie; Williams, Elizabeth
Subject: FW: OCD-SW-08-0549 J.E. D. Landfill WACS Facility I.D. Number 89544

Oops! Forgot to copy you all on the e-mail I sent (below). Sorry about that.

Laxsamee

From: Levin, Laxsamee
Sent: Monday, October 27, 2008 5:36 PM
To: Mike Kaiser (mkaiser@wasteservicesinc.com)
Cc: Kirk Willis (kwillis@geosyntec.com)
Subject: OCD-SW-08-0549 J.E. D. Landfill WACS Facility I.D. Number 89544

Dear Mr. Kaiser:

On behalf of J.E.D. Landfill, Geosyntec Consultants submitted "8th Semi-Annual Water Quality Monitoring Report", dated August 2008. The report was received on August 8, 2008. The report was for May 2008 sampling event. We reviewed the report and our findings are listed below.

1. Field parameters were not included in the electronic data deliverable (EDD) file. Please ensure that field parameters are included in future EDD submittals.
2. Many parameters were reported with two test results. Please report only one result with a lower detection limit test method in future EDD submittals.
3. Analytical results showed many parameters (ammonia, arsenic, lead, benzene, toluene and vinyl chloride) exceed state minimum criteria. However, they were at low concentrations. Please continue the semi-annual monitoring and watch for trends.
4. You may want to consider paperless for future submittal of semi-annual water quality monitoring reports. Submit electronically or mail in a compact disc that contains Validator electronic data and Adobe .pdf electric report. Sealed signature page may be submitted with the report provided that the seal is legible (gray the embossed seal and scan). Otherwise, you must separately mail the sealed and signed page.

Please contact me if you have further questions.

Laxsamee Levin
Compliance Engineer
3319 Maguire Blvd., Suite 232
Orlando, FL 32803
<http://www.dep.state.fl.us>
 Laxsamee.Levin@dep.state.fl.us
 407-893-3311
 407-893-3124

Williams, Elizabeth

From: Judy, Dennise
Sent: Friday, October 24, 2008 8:45 AM
To: Michael Kaiser; Lubozynski, Tom
Cc: Shawn McCash; Matt Orr; Eric J. Almond; DePradine, Gloria-Jean; Cheryan, George; Janwadkar, Sandeep; Kazi, Ali; Williams, Elizabeth; Debra Klein
Subject: RE: JED Solid Waste Management Facility - Offsite Leachate Storage and Discharge OCD-SW-08-0534

I see you will have a pump station for the leachate. If you connect to a city forcemain, you will need a permit from us; if your discharge point is a manhole, you probably do not need a permit. Thanks, Dennise

Dennise Judy
Program Manager
Domestic Waste Permitting
407-893-3989

From: Michael Kaiser [mailto:mkaiser@wasteservicesinc.com]
Sent: Wednesday, October 22, 2008 10:32 PM
To: Lubozynski, Tom
Cc: Shawn McCash; Matt Orr; Eric J. Almond; DePradine, Gloria-Jean; Cheryan, George; Janwadkar, Sandeep; Judy, Dennise; Kazi, Ali; Williams, Elizabeth; Debra Klein
Subject: RE: JED Solid Waste Management Facility - Offsite Leachate Storage and Discharge OCD-SW-08-0534

Sorry, see attached figure.

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@wsii.us

From: Michael Kaiser
Sent: Wednesday, October 22, 2008 10:30 PM
To: 'Lubozynski, Tom'
Cc: Shawn McCash; Matt Orr; Eric J. Almond; DePradine, Gloria-Jean; Cheryan, George; Janwadkar, Sandeep; Judy, Dennise; Kazi, Ali; Williams, Elizabeth; 'Debra Klein'
Subject: RE: JED Solid Waste Management Facility - Offsite Leachate Storage and Discharge OCD-SW-08-0534

Mr. Lubozynski:

Thanks for the reply. Please see my comments below:

Our Water Program gave me the following information. There are no permitting requirements from Domestic Waste unless you need to construct a collection/transmission system. The treatment facility should have an approved industrial pretreatment program (this would be a permit from the utility, City of St Cloud) that would cover what the utility can accept for treatment. If you will need a permit to construct a collection/transmission

system, contact Ms Dennise Judy. You will not need an industrial waste water permit because you will not be discharging the industrial wastewater to the environment.

This is also how I understood the requirements in reviewing FL Rules. We will not be constructing a collection/transmission system, only discharging to a permitted system operated by the City of St. Cloud. We will be required to meet conditions imposed by the City of St. Cloud to meet requirements they have in operating their WWTP. We are developing a formal leachate disposal agreement with the City for long term disposal.

You mention the leachate storage facility will be constructed on property where the closed St Cloud landfill and active Omni Waste transfer station exists. From the drawing it appears the storage facility will not be built on the closed landfill and it will be a separate operation from the waste transfer station. If I am correct, then a permit modification is not necessary. We do ask that you send us a formal letter with that information, including a site plan. If the storage facility becomes part of the transfer station operations or if it is built over the closed disposal area, a permit modification must be submitted.

Yes you are correct - please see the attached figure as confirmation. The facility will be built on the transfer station permitted property and will be independent of the operation of the transfer station. I will forward a formal letter as you requested once we clear all permitting hurdles with the City of St. Cloud.

Your e-mail states that any treatment of the leachate will be accomplished at the JED facility. That treatment activity is covered by your permit for the JED facility.

All treatment will be performed at the JED facility. We do plan to submit a minor modification application in the near future to request approval to aerate the leachate at the JED facility.

Thanks again for your feedback on this project.

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@wsii.us

From: Lubozynski, Tom [<mailto:Tom.Lubozynski@dep.state.fl.us>]

Sent: Thursday, October 16, 2008 5:46 PM

To: Michael Kaiser

Cc: Shawn McCash; Matt Orr; Eric J. Almond; DePradine, Gloria-Jean; Cheryan, George; Janwadkar, Sandeep; Judy, Dennise; Kazi, Ali; Williams, Elizabeth

Subject: FW: JED Solid Waste Management Facility - Offsite Leachate Storage and Discharge OCD-SW-08-0534

TO: Mike Kaiser

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Tom Lubozynski

F. Thomas Lubozynski, P.E.
Waste Program Administrator
FDEP Central District
407-893-3328

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From: Michael Kaiser [mailto:mkaiser@wasteservicesinc.com]

Sent: Monday, October 13, 2008 3:09 PM

To: Lubozynski, Tom

Cc: Shawn McCash; Matt Orr; Eric J. Almond

Subject: JED Solid Waste Management Facility - Offsite Leachate Storage and Discharge

Tom,

Below is a general description of the leachate storage and discharge facility I spoke of during our telephone conversation this afternoon. The below paragraph was taken from a Draft Disposal Agreement with the City of St. Cloud. Also attached is a site plan drawing showing the proposed size and location of the facility. To assist the City of St. Cloud in regulating the flow rate of our JED Facility leachate through their WWTP, we have agreed to permit and construct a storage and discharge facility on property they own at their closed landfill and Omni Solid Waste Transfer Station. The intent is to discharge leachate directly into their sewer system at an upstream location to allow for additional dilution before it reaches the WWTP. Additionally, they would like to regulated the discharge rate based on treatment flows at their WWTP (less than 80 gpm). I would like to understand what, if any, permitting efforts are needed through your Department. We would not be performing any treatment at the facility, only offloading from the tanker truck and discharging to the sewer system. Any aeration or other treatment would be done at the JED Facility. As discussed, the facility would be located on the Omni Transfer Station property which is permitted through your Department.

The City shall lease to the Company that portion of the City's property located at the Omni Waste Transfer Station at 2705 Peghorn Way, St. Cloud, FL 34769 designated in the Lease Agreement attached as Exhibit B (the "Leased Property"). Pursuant to the Lease Agreement, the City shall allow the Company to permit, construct and maintain a leachate storage and discharge facility (the "Facility") on the Leased Property that will allow controlled discharge of leachate to a City owned sewer manhole located at the Omni Waste Transfer Station (see attached Exhibit A). The Facility will generally consist of a concrete secondary containment pad, concrete offloading pad, two (2) - 12,500 gallon polyethylene storage tanks, offloading and discharge pumps, piping, meters and valves. Pursuant to the terms of the Lease Agreement, the Company will operate the Facility during normal business hours of the Omni Waste Transfer Station. Current hours of operations are 7:00 a.m to 4:00 p.m., Monday through Friday, and 7:00 a.m. to 12:00 p.m. on Saturday. The City may from time to time allow the Company the operation of the Facility outside these hours upon approval by the Director of Public Works, Director of Solid Waste, or other City appointed contact employee.

Thanks for your feedback.

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(904) 673-0446 [Cell]
mkaiser@wsii.us

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Sent: Wednesday, October 22, 2008 10:32 PM
To: Lubozynski, Tom
Cc: Shawn McCash; Matt Orr; Eric J. Almond; DePradine, Gloria-Jean; Cheryan, George; Janwadkar, Sandeep; Judy, Dennise; Kazi, Ali; Williams, Elizabeth; Debra Klein
Subject: RE: JED Solid Waste Management Facility - Offsite Leachate Storage and Discharge OCD-SW-08-0534
Attachments: Document.pdf

Sorry, see attached figure.

Mike Kaiser

Vice President, Environmental Management & Engineering, U.S.
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Sent: Thursday, October 16, 2008 5:46 PM

To: Michael Kaiser

Cc: Shawn McCash; Matt Orr; Eric J. Almond; DePradine, Gloria-Jean; Cheryan, George; Janwadkar, Sandeep; Judy, Dennise; Kazi, Ali; Williams, Elizabeth

Subject: FW: JED Solid Waste Management Facility - Offsite Leachate Storage and Discharge OCD-SW-08-0534

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on Saturday. The City may from time to time allow the Company the operation of the Facility outside these hours upon approval by the Director of Public Works, Director of Solid Waste, or other City appointed contact employee.

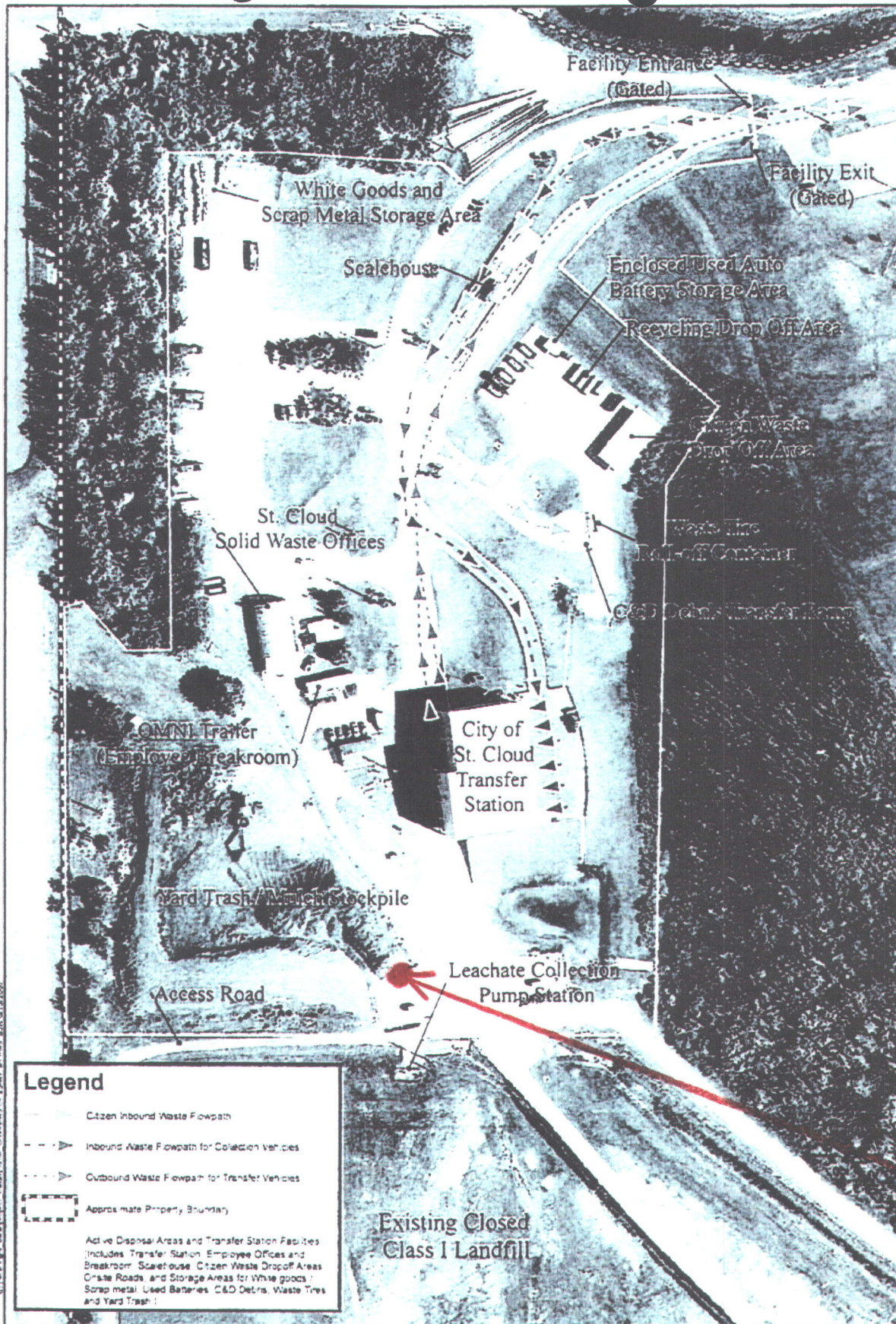
Thanks for your feedback.

Mike Kaiser

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JONES EDMUNDS
ENGINEERS ARCHITECTS SCIENTISTS
Use for informational purposes only.

Figure 2 - Site Plan
City of St. Cloud Transfer Station
Osceola County, Florida

0 100 200
Feet



Note: Approximate Property Boundary Area is 1.14 ac. Approximate area for Active Disposal Areas and Transfer Station Facilities is 1.15 ac. Source: Imagery - Planet and Associates, Inc. flown on 3/27/2006.

Williams, Elizabeth

From: Lubozynski, Tom
Sent: Thursday, October 16, 2008 5:46 PM
To: 'mkaiser@wsii.us'
Cc: Shawn McCash; Matt Orr; Eric J. Almond; DePradine, Gloria-Jean; Cheryan, George; Janwadkar, Sandeep; Judy, Dennise; Kazi, Ali; Williams, Elizabeth
Subject: FW: JED Solid Waste Management Facility - Offsite Leachate Storage and Discharge OCD-SW-08-0534
Attachments: 3-MASTER SITE PLOT (1).pdf

TO: Mike Kaiser

Our Water Program gave me the following information. There are no permitting requirements from Domestic Waste unless you need to construct a collection/transmission system. The treatment facility should have an approved industrial pretreatment program (this would be a permit from the utility, City of St Cloud) that would cover what the utility can accept for treatment. If you will need a permit to construct a collection/transmission system, contact Ms Dennise Judy. You will not need an industrial waste water permit because you will not be discharging the industrial wastewater to the environment.

You mention the leachate storage facility will be constructed on property where the closed St Cloud landfill and active Omni Waste transfer station exists. From the drawing it appears the storage facility will not be built on the closed landfill and it will be a separate operation from the waste transfer station. If I am correct, then a permit modification is not necessary. We do ask that you send us a formal letter with that information, including a site plan. If the storage facility becomes part of the transfer station operations or if it is built over the closed disposal area, a permit modification must be submitted.

Your e-mail states that any treatment of the leachate will be accomplished at the JED facility. That treatment activity is covered by your permit for the JED facility.

Tom Lubozynski

F. Thomas Lubozynski, P.E.
Waste Program Administrator
FDEP Central District
407-893-3328

From: Michael Kaiser [mailto:mkaiser@wasteservicesinc.com]
Sent: Monday, October 13, 2008 3:09 PM
To: Lubozynski, Tom
Cc: Shawn McCash; Matt Orr; Eric J. Almond
Subject: JED Solid Waste Management Facility - Offsite Leachate Storage and Discharge

Tom,

Below is a general description of the leachate storage and discharge facility I spoke of during our telephone conversation this afternoon. The below paragraph was taken from a Draft Disposal Agreement with the City of St. Cloud. Also attached is a site plan drawing showing the proposed size and location of the facility. To assist the City of St. Cloud in regulating the flow rate of our JED Facility leachate through their WWTP, we have agreed to permit and construct a storage and discharge facility on property they own at their closed landfill and Omni Solid Waste Transfer Station. The intent is to discharge leachate directly into their sewer system at an upstream location to allow for additional dilution before it reaches the WWTP. Additionally, they would like to regulated the discharge rate based on treatment flows at their WWTP (less than 80 gpm). I would like to understand what, if any, permitting efforts are needed through your Department. We would

not be performing any treatment at the facility, only offloading from the tanker truck and discharging to the sewer system. Any aeration or other treatment would be done at the JED Facility. As discussed, the facility would be located on the Omni Transfer Station property which is permitted through your Department.

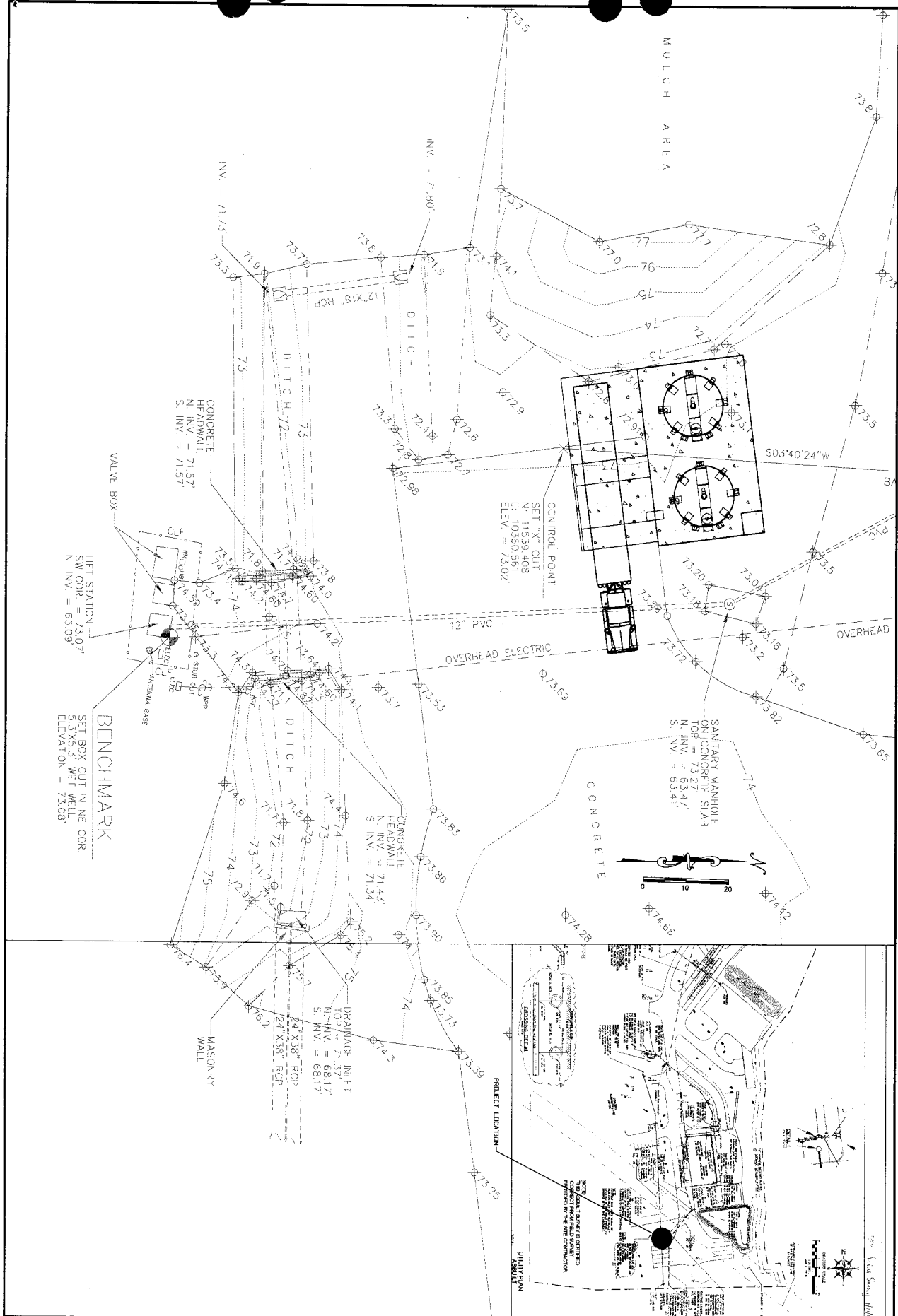
The City shall lease to the Company that portion of the City's property located at the Omni Waste Transfer Station at 2705 Peghorn Way, St. Cloud, FL 34769 designated in the Lease Agreement attached as Exhibit B (the "Leased Property"). Pursuant to the Lease Agreement, the City shall allow the Company to permit, construct and maintain a leachate storage and discharge facility (the "Facility") on the Leased Property that will allow controlled discharge of leachate to a City owned sewer manhole located at the Omni Waste Transfer Station (see attached Exhibit A). The Facility will generally consist of a concrete secondary containment pad, concrete offloading pad, two (2) - 12,500 gallon polyethylene storage tanks, offloading and discharge pumps, piping, meters and valves. Pursuant to the terms of the Lease Agreement, the Company will operate the Facility during normal business hours of the Omni Waste Transfer Station. Current hours of operations are 7:00 a.m to 4:00 p.m., Monday through Friday, and 7:00 a.m. to 12:00 p.m. on Saturday. The City may from time to time allow the Company the operation of the Facility outside these hours upon approval by the Director of Public Works, Director of Solid Waste, or other City appointed contact employee.


Thanks for your feedback.

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@wsii.us

CONFIDENTIALITY NOTICE: The information transmitted in this email is intended for the addressee and may contain confidential information of Waste Services Inc. or its affiliated corporations. Any unauthorized review, distribution or use or the taking of any action in reliance on the information contained in this email or any attachments is strictly prohibited. If you have received this message in error, please delete or destroy it, all attachments and any copies, and notify the sender.



3		ALMOND ENGINEERING, P.A. 3609 HENDRICKS AVENUE JACKSONVILLE, FL 32207 (904) 306-0162 PHONE (904) 306-2185 FAX	JED SOLID WASTE MANAGEMENT FACILITY OFF SITE LEACHATE STORAGE AND PUMPING FACILITY FOR WASTE SERVICES, INC.	MASTER SITE PLAN	JOB NO. : AC08-47 DESIGN E.A. BRAUN ECA CHECKED E.A. DATE: AUGUST 2008	Date		Revision	
						ERIC J. ALMOND, P.E. FL# 59246			

Williams, Elizabeth

From: Shawn McCash [SMcCash@wasteservicesinc.com]
To: Williams, Elizabeth
Sent: Wednesday, October 15, 2008 8:08 AM
Subject: Read: J.E.D. SW Mgmt. Fac. Class I first rai 0527

st rai

*5049. 0199726-
010*

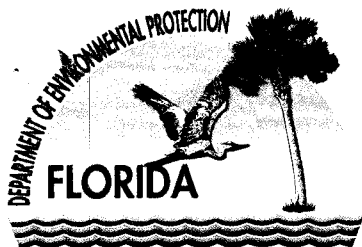
Your message

To: SMcCash@wasteservicesinc.com
Subject:

89544

was read on 10/15/2008 8:08 AM.

*FO
10-15-08*



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

By E-Mail
smccash@wasteservicesinc.com

Mr. R. Shawn McCash
Omni Waste of Osceola County, LLC (Omni)
1501 Omni Way,
St. Cloud, FL 34773

OCD-SW-08-0527

Osceola County – SW
J.E.D Solid Waste Management Facility, Class I
Waste Solidification Operations – Minor Modification
First Request for Additional Information
Modification of Permit No. SO49-0199726-009
Permit Application No. SO49-0199726-010

Dear Mr. McCash:

HDR Engineering Inc., submitted on your behalf, "Request for Permit Modification, J.E.D. Solid Waste Management Facility". It was dated September 12, 2008, and received September 16, 2008. We have assigned permit number SO49-0199726-010 to the application. The application is incomplete. Please provide the information listed on the attached sheet promptly. Evaluation of your application will be delayed until all the requested information has been received.

Pursuant to Section 120.60(2), Florida Statutes, the Department may deny an application, if the applicant, after receiving timely notice, fails to correct errors and omissions, or supply additional information within a reasonable period of time. Accordingly, please provide the additional information within 30 days of the date you receive this letter. Submit three copies of the requested information to the Department and reference the above permit application number in your correspondence.

If you have any questions, please contact George Cheryan at (407) 893-3328 or by e-mail at George.cheryan@dep.state.fl.us.

Sincerely,

F. Thomas Lubozynski, P.E.
Waste Program Administrator

Date: October 15, 2008

FTL/gc/ew

Enclosure

cc: Brenda Ann Smith Clark, P.E. – HDR Engineering Inc., brenda.clark@hdrinc.com

FO
10-15-08

Note that all references to "Report" in the following text refer to the document entitled, "Request for Permit Modification, J.E.D. Solid Waste Management Facility", Prepared by: HDR Engineering Inc., 15450 New Barn Road, Suite 304, Miami Lakes, FL 33014 dated September 2008.

1. **Page 1, Appendix A, Operations Plan Addendum, Section 1, Introduction, Paragraph 1:** The third sentence in the report indicates that the Operation Plan prepared by Geosyntec Consultants dated June 2008 is approved. Please note that the June 2008 operations plan is not yet approved. Your submittal can be incorporated into the current approved operations plan dated September 14, 2007 as an Appendix when this permit application is approved. Then when the June 2008 version of the Operation Plan is approved, your submittal will become part of the Plan.
2. **Page 3, Appendix A, Operations Plan Addendum, Section 3.1, Waste Solidification Operating Area:**
 - a. The waste solidification operating area should be clearly designated with visible signs at the site. Additionally, provide signage for the incoming traffic to direct them to the waste solidification operating area. The GPS co-ordinates of the solidified waste disposal locations within the Cell footprint should be recorded. This data should be maintained at the site and be readily available during Department inspections.
 - b. Provide a discussion on how often the containers and the associated equipment used in the waste solidification operation will be cleaned. Would cleaning be performed at the end of each working day? Will water be used to clean the containers and the equipment? If so, how will the rinse water be disposed of?
3. **Page 6, Appendix A, Operations Plan Addendum, Section 4.2, Testing:** Provide specific details of the training requirements for employees at the site to perform testing and mixing of the solidified waste. Does the facility currently have trained employees to perform this operation? If so, provide copies of the training documentation.
4. **Appendix A, Operations Plan Addendum, Attachment A, Special Waste Reference Guide:** Page 3 (Note that the pages are not numbered) refers to Flowchart 4, and Section 4, Part D, which are missing. Provide the missing pages.

File Copy



1501 Omni Way, St. Cloud, FL 34773

October 14, 2008

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

Re: **Quarterly Reporting: Period July 1st- September 31st, 2008**
J.E.D. Solid Waste Management Facility
Osceola County, Florida
Permit Nos. SC49-0199726-004 and SO49-0199726-005
Major Modification Permit Nos. SC49-0199726-006 and SO49-0199726-007

Dear Mr. Lubozynski:

Omni Waste of Osceola County, LLC (Omni) is submitting this Quarterly Report in compliance with the above listed permits for the J.E.D. Solid Waste Management Facility. Provided is Waste Reporting - Specific Condition No. 53, Precipitation Records - Specific Condition No. 36, and Leachate Quantities - Specific Condition No. 35.

Specific Condition 53 - Waste Reporting

Provided below is the waste types listed in Specific Condition 53 and tonnages received during the reporting period.

Waste Type	Quantity (Tons)
Household Waste	16,282.02
Agricultural Waste	0.00
Commercial Waste	106,542.01
Incinerator By-Pass Waste	0.00
Construction & Demolition Debris	46,604.72
Industrial Sludge	0.00
Treated Biomedical Waste	4,756.71
Yard Trash	0.00
Industrial Waste	120,821.70
Ash Residue	8,065.53
Sewage Sludge	24,003.24
Water/Air Treatment Sludges	0.00
Waste Tires	1.29

02-10/21/08
WACS - 10/23/08

Specific Condition 36 – Precipitation Records

Attached are records of precipitation recorded by site personnel on a daily basis during permitted operating hours. Precipitation is monitored at a rain gauge located near the Administration Office.

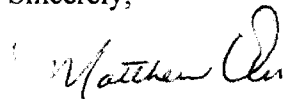
Specific Condition 35 – Leachate Quantities

The following monthly leachate quantities were recorded at the leachate sump systems for Cells 1-5.

Location	Volume (gallons)		
	July - 2008	August - 2008	Sept. - 2008
Cell 1	110,349	68,835	107,321
Cell 2	79,100	49,476	116,216
Cell 3	77,390	38,100	89,371
Cell 4	88,900	79,348	91,545
Cell 5	151,280	163,420	186,118

If you have any questions or require any additional information, please contact me at (407) 891-3720 or morr@wsii.us at your earliest convenience.

Sincerely,



Matt Orr
District Manager

Attachments

Cc: Mr. Mike Kaiser, WSI
Mr. Shawn McCash, WSI

**J.E.D. Solid Waste Management Facility
Precipitation Records**

Jul-08

Date	Precipitation (inches)
7/1/2008	0
7/2/2008	0
7/3/2008	4
7/4/2008	1
7/5/2008	1
7/6/2008	1.5
7/7/2008	0.5
7/8/2008	0.5
7/9/2008	0
7/10/2008	0
7/11/2008	1.5
7/12/2008	0
7/13/2008	1
7/14/2008	0
7/15/2008	1
7/16/2008	0
7/17/2008	0
7/18/2008	0
7/19/2008	0
7/20/2008	0
7/21/2008	1
7/22/2008	1
7/23/2008	2
7/24/2008	0.5
7/25/2008	0
7/26/2008	0
7/27/2008	0
7/28/2008	0
7/29/2008	0
7/30/2008	1
7/31/2008	4
Month Total	21.5

Daily precipitation data recorded by site operations at the gauge located near the Administration Office

**J.E.D. Solid Waste Management Facility
Precipitation Records**

Aug-08

Date	Precipitation (inches)
8/1/2008	0
8/2/2008	0
8/3/2008	0
8/4/2008	0
8/5/2008	0
8/6/2008	0
8/7/2008	0
8/8/2008	1
8/9/2008	1
8/10/2008	0
8/11/2008	0
8/12/2008	0
8/13/2008	0
8/14/2008	0
8/15/2008	1
8/16/2008	0
8/17/2008	0
8/18/2008	0
8/19/2008	1
8/20/2008	4.5
8/21/2008	6
8/22/2008	5
8/23/2008	4
8/24/2008	1
8/25/2008	0
8/26/2008	0
8/27/2008	1
8/28/2008	0
8/29/2008	0
8/30/2008	3.5
8/31/2008	0
Month Total	29

Daily precipitation data recorded by site operations at the gauge located near the Administration Office

**J.E.D. Solid Waste Management Facility
Precipitation Records**

Sep-08

Date	Precipitation (inches)
9/1/2008	0
9/2/2008	0
9/3/2008	0
9/4/2008	0.5
9/5/2008	0
9/6/2008	0
9/7/2008	0
9/8/2008	0.5
9/9/2008	0
9/10/2008	0
9/11/2008	0
9/12/2008	0
9/13/2008	1
9/14/2008	0
9/15/2008	0
9/16/2008	0
9/17/2008	1
9/18/2008	0
9/19/2008	0
9/20/2008	0
9/21/2008	2.5
9/22/2008	0
9/23/2008	2.5
9/24/2008	1.2
9/25/2008	0
9/26/2008	0
9/27/2008	0
9/28/2008	1.1
9/29/2008	0
9/30/2008	0
Month Total	10.3

Daily precipitation data recorded by site operations at the gauge located near the Administration Office



RECEIVED

OCT 13 2008

DEP Central Dist.

1501 Omni Way, St. Cloud, FL 34773

October 9, 2008

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

Re: Reporting of Results for Soil Gas Monitoring Probes – October 2008
J.E.D. Solid Waste Management Facility
Osceola County, Florida
Permit Nos. SC49-0199726-004 and SO49-0199726-005, Modifications Nos.
SC49-0199726-006 and SO49-0199726-007

Dear Mr. Lubozynski:

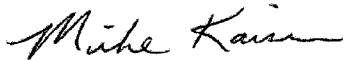
Omni Waste of Osceola County, LLC (Omni) is submitting the attached results of perimeter soil gas probe monitoring completed by Geosyntec Consultants on September 30, 2008, for the J.E.D. Solid Waste Management Facility (facility). As shown on the attached Landfill Gas Monitoring Log, the Lower Explosive Limit (LEL) for methane was exceeded in probes GP-7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 21 during this monitoring period (regulatory levels listed in F.A.C. Rule 62-701.530(1)).

As reported to your Department (letter dated August 11, 2008), Omni requested the services of Brown & Caldwell Consultants (B&C) to complete a fingerprint analysis and evaluation of gas detected in several probes exceeding the regulatory levels in May 2008 for comparison with landfill gas collected from facility's leachate collection system. B&C reported results supporting Omni's belief that the exceedences at the probes is attributed to natural occurring methane associated with decomposition of organic materials in the wetlands surrounding the facility's boundary. Omni believes the results reported during this monitoring event are consistent with previous events and is attributed to natural occurring methane. Therefore, we request that a remediation plan not be required in accordance with F.A.C. Rule 62-701.530(3)(a)(1&2).

*In October
10/9/08*

If you have any questions or require additional information, please contact me at (904) 673-0446 or mkaiser@wsii.us at your earliest convenience.

Sincerely,

A handwritten signature in cursive script that reads "Mike Kaiser".

Mike Kaiser
Vice President, Environmental Management and Engineering, US
Waste Services, Inc.

Attachments

Cc: Mr. Matt Orr, WSI
Mr. Shawn McCash, WSI

LANDFILL GAS MONITORING LOG

RECEIVED
OCT 13 2008
DEP Central Dist.

Facility Name: J.E.D. Solid Waste Management Facility

Date: 9/30/2008

Facility Address: 1501 Omni Way, St Cloud, Florida 34773

Technician: Joe Terry

Company: Geosyntec Consultants

Weather Conditions: Temperature: 75°F M. Cloudy/P. Cloudy/Clear/Overcast

Barometric Pressure: 29.9 inch Hg Wind: East ~3mph Humidity: ~40%

Landfill Gas Meter: LANDTEC GA - 90 Serial No. : G1388

Gas Probe No.	Time	% LEL	Comments
GP-7	10:55	>>>	No standing water
GP-8	11:00	0	No standing water
GP-9	11:05	>>>	Standing water east side of SWB
GP-10	11:10	>>>	Standing water east side of SWB
GP-11	11:15	>>>	Standing water east side of SWB
GP-12	11:20	>>>	Standing water east side of SWB
GP-13	11:23	>>>	Standing water east side of SWB
GP-14	11:27	>>>	Standing water south side of SWB
GP-15	11:30	>>>	Standing water north & south side of SWB
GP-16	11:35	>>>	Standing water north & south side of SWB
GP-17	11:43	>>>	Standing water east & west side of SWB
GP-18	11:45	>>>	Standing water west side of SWB
GP-19	11:52	>>>	Standing water west side of SWB
GP-20	11:57	0	Standing water south side & saturated soil north of SWB
GP-21	12:00	>>>	Standing water south side & saturated soil north of SWB
GP-22	12:05	0	Standing water south side & saturated soil north of SWB
Admin Office	10:30	No alarms	
Scale House	10:30	No alarms	

Notes: Percent of lower explosive limit (LEL) was calibrated to Methane (CH₄)
Continuous gas monitors that sound alarms at 0.95% by volume of methane in air have been installed at the admin office and scale house.
SWB=Storm water berm
>>> = Above the detection limit (99% LEL) of the gas meter used



1501 Omni Way, St. Cloud, FL 34773

FILE COPY

October 9, 2008

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

Re: Reporting of Results for Soil Gas Monitoring Probes – October 2008
J.E.D. Solid Waste Management Facility
Osceola County, Florida
Permit Nos. SC49-0199726-004 and SO49-0199726-005, Modifications Nos.
SC49-0199726-006 and SO49-0199726-007

Dear Mr. Lubozynski:


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S-10/10/08
0-10/19/08

If you have any questions or require additional information, please contact me at (904) 673-0446 or mkaiser@wsii.us at your earliest convenience.

Sincerely,

A handwritten signature in cursive script that reads "Mike Kaiser".

Mike Kaiser
Vice President, Environmental Management and Engineering, US
Waste Services, Inc.

Attachments

Cc: Mr. Matt Orr, WSI
Mr. Shawn McCash, WSI

LANDFILL GAS MONITORING LOG

Facility Name: J.E.D. Solid Waste Management Facility Date: 9/30/2008

Facility Address: 1501 Omni Way, St Cloud, Florida 34773

Technician: Joe Terry

Company: Geosyntec Consultants

Weather Conditions: Temperature: 75°F M. Cloudy/P. Cloudy/Clear/Overcast

Barometric Pressure: 29.9 inch Hg Wind: East ~3mph Humidity: ~40%

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GP-13	11:23	>>>	Standing water east side of SWB
GP-14	11:27	>>>	Standing water south side of SWB
GP-15	11:30	>>>	Standing water north & south side of SWB
GP-16	11:35	>>>	Standing water north & south side of SWB
GP-17	11:43	>>>	Standing water east & west side of SWB
GP-18	11:45	>>>	Standing water west side of SWB
GP-19	11:52	>>>	Standing water west side of SWB
GP-20	11:57	0	Standing water south side & saturated soil north of SWB
GP-21	12:00	>>>	Standing water south side & saturated soil north of SWB
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 Continuous gas monitors that sound alarms at 0.95% by volume of methane in air have been installed at the admin office and scale house.
 SWB=Storm water berm
 >>> = Above the detection limit (99% LEL) of the gas meter used



1501 Omni Way, St. Cloud, FL 34773

September 25, 2008

RECEIVED
OCT 01 2008
DEP Central Dist.

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

Re: Closure and Postclosure Financial Assurance
Minor Permit Modification Cell 6 Disposal Area
J.E.D. Solid Waste Management Facility
Osceola County, Florida
Permit Nos. SC49-0199726-004 and SO49-0199726-005

Dear Mr. Lubozynski:

Please find attached updated certificates of insurance for closure and postclosure financial assurance for the J.E.D. Solid Waste Management Facility. The insurance certificates have been reissued to reflect total closure and postclosure costs based on the Minor Permit Modification for addition of the Cell 6 disposal area. The Cell 6 closure and postclosure cost estimates provided by Geosyntec Consultants in their September 5, 2008 response to your request for additional information have been added to the previously approved cost estimates for Cells 1-5. The certificates have been submitted to Mr. Frank Hornbrook and Ms. Susan Eldredge at the FDEP Tallahassee office.

If you have any questions or require any additional information, please contact me at (904) 673-0446 or by e-mail at mkaiser@wsii.us at your earliest convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Kaiser", written over a horizontal line.

Mike Kaiser
V.P., Environmental Management and Engineering, US
Waste Services, Inc.

Tom Owens
BR
10/6

Cc:

Mr. Frank Hornbrook, FDEP Tallahassee

Ms. Susan Eldredge, FDEP Tallahassee

Mr. Shawn McCash, WSI

Mr. Matt Orr, WSI

Mr. Kwasi Badu-Tweneboah, Geosyntec

STATE OF FLORIDA
SOLID WASTE MANAGEMENT FACILITY INSURANCE CERTIFICATE
TO DEMONSTRATE FINANCIAL ASSURANCE
FOR

☒ Closing ☐ Long-Term Care ☐ Corrective Action
[Check Appropriate Box(es)]

The term "Required Action," as used in this document means closing, long-term care, or corrective action, or any combination of these, which is checked above.

Evergreen National Indemnity Company

Name of Insurer
(the "Insurer"), of 6140 Parkland Boulevard, Suite 321, Mayfield Heights, Ohio 44124
Address of Insurer

Omni Waste of Osceola County, LLC

Named Insured
(the "Insured"), of 1501 Omni Way, St. Cloud, Florida 34773
Address of Insured

Additional Named Insured Information

Complete only if the person or business submitting this document is not the policy "Named Insured" but is listed by endorsement as an "Additional Named Insured."

Additional Named Insured: _____
Name

Address

List endorsements that effect the demonstration of financial assurance for the facility(ies) owned by the "Additional Named Insured" covered by this certificate. For sublimit of liability enter dollar amount or "N/A" when not applicable.

<u>Endorsement No.</u>	<u>Effective Date</u>	<u>Sublimit of Liability</u>
------------------------	-----------------------	------------------------------

List for each facility covered by this certificate: the FDEP identification number, name & address, and the amount of insurance for each "Required Action."

<u>FDEP I.D. No.</u>	<u>Name & Address</u>	<u>Required Action Amount</u>
WACS #00089544	J.E.D. Solid Waste Management Facility Osceola County, Florida	Closing: \$6,594,943.23

Face Amount: \$ 6,594,943.23

Policy Number: 851130


Effective Date: October 17, 2007

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for Closing ^{"Required Action"} for the facilities

identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of 40 CFR 264.143(e) and/or 264.145(e), as adopted by reference in Rule 62-701.630 and 62-711.500, Florida Administrative Code, as applicable, for the above specified financial assurance. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the Secretary of the Florida Department of Environmental Protection (FDEP), or the Secretary's designee (the "designee"), the Insurer agrees to furnish to the FDEP Secretary, or designee, a duplicate original of the policy listed above, including all endorsements thereon.

The persons whose signatures appear below hereby certify that the wording of this certificate is identical to the wording as adopted and incorporated by reference in Rule 62-701.900, F.A.C.


Signature of Authorized Representative of Insurer

Karen M. LoConti-Diaz, Resident Florida Agent

Type Name and Title

800-641-9222

Telephone Number

Authorized Representative of:

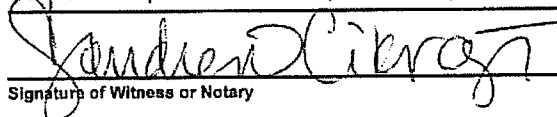
Evergreen National Indemnity Company

Name of Insurer

United Nations Insurance Agency, Inc.

Address of Representative

1900 NW Corporate Boulevard, Suite 400E, Boca Raton, Florida 33431-8515


Signature of Witness or Notary

September 23, 2008

Date

Seal

STATE OF FLORIDA
SOLID WASTE MANAGEMENT FACILITY INSURANCE CERTIFICATE
TO DEMONSTRATE FINANCIAL ASSURANCE
FOR

☐ Closing ☒ Long-Term Care ☐ Corrective Action
[Check Appropriate Box(es)]

The term "Required Action," as used in this document means closing, long-term care, or corrective action, or any combination of these, which is checked above.

Evergreen National Indemnity Company
Name of Insurer
(the "Insurer"), of 6140 Parkland Boulevard, Suite 321, Mayfield Heights, Ohio 44124
Address of Insurer

Omni Waste of Osceola County, LLC
Named Insured
(the "Insured"), of 1501 Omni Way, St. Cloud, Florida 34773
Address of Insured

Additional Named Insured Information

Complete only if the person or business submitting this document is not the policy "Named Insured" but is listed by endorsement as an "Additional Named Insured."

Additional Named Insured: _____
Name

Address

List endorsements that effect the demonstration of financial assurance for the facility(ies) owned by the "Additional Named Insured" covered by this certificate. For sublimit of liability enter dollar amount or "N/A" when not applicable.

Endorsement No. Effective Date Sublimit of Liability

List for each facility covered by this certificate: the FDEP Identification number, name & address, and the amount of insurance for each "Required Action."

<u>FDEP I.D. No.</u>	<u>Name & Address</u>	<u>Required Action Amount</u>
WACS #00089544	J.E.D. Solid Waste Management Facility Osceola County, Florida	Long-Term Care: \$6,554,024.20

Face Amount: \$ 6,554,024.20

Policy Number: 851131

Effective Date: October 17, 2007

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for Long-Term Care "Required Action" for the facilities

identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of 40 CFR 264.143(e) and/or 264.145(e), as adopted by reference in Rule 62-701.630 and 62-711.500, Florida Administrative Code, as applicable, for the above specified financial assurance. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the Secretary of the Florida Department of Environmental Protection (FDEP), or the Secretary's designee (the "designee"), the Insurer agrees to furnish to the FDEP Secretary, or designee, a duplicate original of the policy listed above, including all endorsements thereon.

The persons whose signatures appear below hereby certify that the wording of this certificate is identical to the wording as adopted and incorporated by reference in Rule 62-701.900, F.A.C.



Signature of Authorized Representative of Insurer

Karen M. LoConti-Diaz, Resident Florida Agent

Type Name and Title

800-641-9222

Telephone Number

Authorized Representative of:

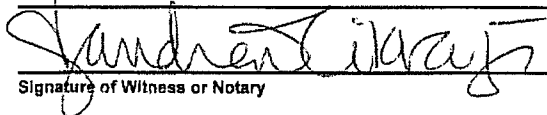
Evergreen National Indemnity Company

Name of Insurer

United Nations Insurance Agency, Inc.

Address of Representative

1900 NW Corporate Boulevard, Suite 400E, Boca Raton, Florida 33431-8515



Signature of Witness or Notary

September 23, 2008

Date

Seal

Williams, Elizabeth

From: Lubozynski, Tom
Sent: Tuesday, September 30, 2008 4:56 PM
To: Shawn McCash; 'smccash@wsii.us'
Cc: Cheryan, George; Williams, Elizabeth; DePradine, Gloria-Jean; Janwadkar, Sandeep; 'mkaiser@wsii.us'; Lubozynski, Tom; 'KBaduTweneboah@Geosyntec.com'
Subject: FW: J.E.D. SWMF (WACS 89544) - Application Is Complete
Attachments: 89544.pdf

TO: Shawn McCash

Today my office sent you the second RAI for Permit Application SO49-0199726-009 (OCD-SW-08-0490). The only outstanding item was funding of the financial assurance instrument to cover the total estimated costs for closure and long-term care of Cells 1-6. Based on the e-mail I received (below), you have fulfilled that obligation. We consider your application to be complete. We will make a decision on the application within the next 60 days.

Please note that the 2009 updates for the cost estimate for Cells 1-6 is due March 1, 2009.

Tom Lubozynski

F. Thomas Lubozynski, P.E.
Waste Program Administrator
FDEP Central District
407-893-3328

From: Hornbrook, Frank
Sent: Tuesday, September 30, 2008 4:02 PM
To: Lubozynski, Tom; Cheryan, George; DePradine, Gloria-Jean; Janwadkar, Sandeep
Subject: J.E.D. SWMF (WACS 89544)

FYI,

I have received an adequate financial assurance increase to cover the District approved estimates for Cell 6 in addition to the previously approved Cells 1-5.

The facility is now in financial compliance for Cells 1-6, assuming no further changes, until 3/1/09 when 2009 estimates are due.

Frank Hornbrook

Send Correspondence to:
Solid Waste Financial Coordinator
Florida Department Of Environmental Protection
2600 Blair Stone Rd. MS 4565
Tallahassee, Florida 32399-2400
Att: Frank Hornbrook, Environmental Specialist

Contact Information:
☎ (850) 245-8745
☎ (850) 245-8811
✉ Frank.Hornbrook@dep.state.fl.us

Website References:
Financial Assurance Website (current inflation factor)
<http://www.dep.state.fl.us/waste/categories/swfr/>

Solid Waste Financial Assurance Forms / Cost Estimate Forms / Permit Forms / Change Forms

http://www.dep.state.fl.us/waste/quick_topics/forms/pages/62-701.htm

Used Oil Website

http://www.dep.state.fl.us/waste/categories/used_oil/default.htm

Used Oil Forms / Financial Assurance Forms / Cost Estimate Forms

http://www.dep.state.fl.us/waste/categories/used_oil/pages/forms.htm

Please note: Florida has a very broad public records law. Most written communications to or from state officials are public records and may be made available to the public or media upon request. This e-mail communication, your reply, and future e-mails to my attention may therefore be subject to public disclosure.



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road MS 4565
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

September 30, 2008

Mr. Mike Kaiser
V.P., Environmental Management and Engineering
Omni Waste of Osceola County, LLC
1501 Omni Way
St. Cloud, Florida 34773

Re: WACS 89544 – J.E.D. Solid Waste Management Facility Phase I (Cells 1-4) Phase II (Cells 5-6)

Dear Mr. Kaiser:

I have reviewed the documentation submitted to demonstrate financial assurance for the above referenced facility and find it is in order. Evergreen National Indemnity Company insurance certificates to policy number 851130 for closing and 851131 for long-term care, both dated September 23, 2008, demonstrate adequate financial assurance in the amount of the Department approved closing and long-term care cost estimates for Phase I Cells 1-4 and Phase II Cell 5 dated February 7, 2008 and Phase II Cell 6 received on September 9, 2008 in the total amount of \$6,594,943.23 for closing and \$6,554,024.20 for long-term care. Therefore, J.E.D. Solid Waste Management Facility is in compliance with the financial assurance requirements of 40 CFR Part 264, Subpart H, as adopted by reference in Rule 62-701.630, Florida Administrative Code, at this time.

If you have any questions, please contact me at (850) 245-8745.

Sincerely,

Frank Hornbrook
Environmental Specialist
Solid Waste Section

FH

cc: Fred Wick, DEP/TLH
Tom Lubozynski, DEP/ORL

3
12/11/08



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

ELECTRONIC MAIL
smccash@wsii.us

September 30, 2008

Mr. Shawn McCash, Senior Vice President
Landfill Operations and Engineering
Waste Services, Inc.
1501 Omni Way
Holopaw, Florida 34773

OCD-SW-08-0478

Osceola County SW
J.E.D. Solid Waste Management Facility
Certification of Construction Completion – Cell 6

Dear Mr. McCash:

This will acknowledge receipt on July 30, 2008, of the *Certification of Construction Completion of a Solid Waste Management Facility*, dated July 28, 2008, by Kwasi Badu-Tweneboah, Ph.D., P.E. of Geosyntec Consultants, addressing Cell 6 of the J.E.D. Solid Waste Management Facility.

Based upon an inspection by James Bradner, P.E. conducted on September 19, 2008, and Mr. Bradner's review of the certification report, construction of Cell 6, as certified by the Engineer of Record, has been completed and is substantially consistent with plans and specifications approved under DEP Permit SC49-0199726-008.

Waste cannot be deposited in Cell 6 until permit application SC49-0199726-009 is approved. Separately you will receive one last Request for Additional Information regarding your application. It states the closure and long-term care cost for Cell 6 of the J.E.D. Solid Waste Management Facility have been approved. These costs must be added to the current approved estimate for Cells 1-5 of the Facility in order for the total facility to have appropriate financial assurance. Proof of adequate financial assurance must be approved by the Department's Financial Coordinator before this application can be deemed complete.

Neither this letter nor any prior agreement with the Department relieves you of the responsibility of complying with any applicable ordinances, rules, or laws of any local, county, state, or federal government entity.

Please contact me at 407-893-3328 if you have questions or need further information.

Sincerely,

F. Thomas Lubozynski, P.E.
Waste Program Administrator

FTL/jnb

cc: Kwasi Badu-Tweneboah, Ph.D., P.E., Geosyntec Consultants (KBaduTweneboah@Geosyntec.com)
Mike Kaiser, Waste Services, Inc. (mkaiser@wsii.us)
Matthew Orr, Waste Services, Inc. (morr@wsii.us)
Danny Sheaffer, Osceola County (dshe@osceola.org)
James N. Bradner, P.E., Air Program Administrator, FDEP Central District

"More Protection, Less Process"

89544
CI

IO
9-30-08

Williams, Elizabeth

From: Shawn McCash [SMcCash@wasteservicesinc.com]
To: Williams, Elizabeth
Sent: Tuesday, September 30, 2008 10:34 AM
Subject: Read: J.E.D. Cert. of Const. Completion-Cell 6 0478

Your message

To: SMcCash@wasteservicesinc.com
Subject:

was read on 9/30/2008 10:34 AM.

FO
9-30-08

Memorandum

**Florida Department Of
Environmental Protection**

CENTRAL DISTRICT

TO: Fred Wick
Financial Coordinator
Solid Waste Section
MS-4565
Division of Waste Management
OCD-SW-08-0491

FROM: F. Thomas Lubozynski, P.E.
Waste Program Administrator

DATE: September 30, 2008

SUBJECT: Osceola County – SW
J.E.D. Solid Waste Management Facility, Class I
Phase 2/Cell 6 – Operation
WACS # 89544
Review and Approval of Financial Assurance Cost Estimates

We have reviewed the closure and long-term care cost for Cell 6 of the J.E.D. Solid Waste Management Facility. The estimate was dated September 2008 (signed and sealed on Sept 8, 2008). It was received on September 9, 2008. This is a detailed estimate, not an inflation adjusted estimate. The closing costs for Cell 6 are estimated to be \$1,159,774.34; the 30-year long-term care costs for Cell 6 are estimated to be \$439,850.47. The Central District accepts it as adequate for Cell 6 at this time.

These costs must be added to the current approved estimate for Cells 1-5 of the Facility in order for the total facility to have appropriate financial assurance. The last approved cost estimate for Cells 1-5 was dated October 2, 2007; It was approved on October 17, 2007. The estimated closing costs for Cells 1-5 was \$5,435,168.89; the estimated 30-year long-term costs were \$6,114,173.73.

The signed and sealed original cost estimates are in the Central District's file. A copy is available in Oculus in Solid Waste/Fiscal/Cost Estimate Related.

Please feel free to contact me if you need any additional information.

FTL/gc/ew

cc: Frank Hornbrook – DEP – Tallahassee – MS-4565

FL 9-30-08



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

By E-Mail
smccash@wasteserviceinc.com

Mr. R. Shawn McCash
Omni Waste of Osceola County, LLC (Omni)
1501 Omni Way
St. Cloud, FL 34473

OCD-SW-08-0490

Osceola County – SW
J.E.D. Solid Waste Management Facility, Class I
Cell 6 Operation – Minor Modification
Second Request For Additional Information
Modification of Permit No. SC49-0199726-008
Permit Application No. SO49-0199726-009

Dear Mr. McCash:

The additional information dated September 5, 2008 and received on September 9, 2008, was reviewed. The items listed on the attached page(s) remain incomplete. Evaluation of your application will continue to be delayed until all the requested information has been received.

Pursuant to Section 120.60(2), Florida Statutes, the Department may deny an application, if the applicant, after receiving timely notice, fails to correct errors and omissions, or supply additional information within a reasonable period of time. Accordingly, please provide the additional information within 30 days of the date you receive this letter. Submit three copies of the requested information to the Department and reference the above permit application number in your correspondence.

If you have any questions, please contact me at 407-893-3328.

Sincerely,

F. Thomas Lubozynski, P.E.
Waste Program Administrator

Date: September 30, 2008

FTL/gc/ew

Enclosure

cc: Kwasi Badu-Tweneboah, P.E. – Geosyntec Consultants, Tampa, FL 33637
kbadutweneboah@geosyntec.com
Jim Bradner, Air Program james.bradner@dep.state.fl.us

89544
CI

70930-08

1. We have reviewed the closure and long-term care cost for Cell 6 of the J.E.D. Solid Waste Management Facility. The estimate was dated September 2008 (signed and sealed on Sept 8, 2008). It was received on September 9, 2008. This is a detailed estimate, not an inflation adjusted estimate. The closing costs for Cell 6 are estimated to be \$1,159,774.34; the 30-year long-term care costs for Cell 6 are estimated to be \$439,850.47. The Central District accepts it as adequate for Cell 6 at this time.

These costs must be added to the current approved estimate for Cells 1-5 of the Facility in order for the total facility to have appropriate financial assurance. The last approved cost estimate for Cells 1-5 was dated October 2, 2007; It was approved on October 17, 2007. The estimated closing costs for Cells 1-5 was \$5,435,168.89; the estimated 30-year long-term costs were \$6,114,173.73.

A financial mechanism must be funded to cover the total approved cost estimate for Cells 1-6 and accepted by the Department's Financial Coordinator before this application can be deemed complete. Financial responsibility arrangements for the facility for the approved amounts are to be made with the Financial Coordinator, Solid Waste Section, MS-4565, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, and a copy of the approval letter submitted to: Department of Environmental Protection, Central District, Solid Waste Section, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767.

Williams, Elizabeth

From: Shawn McCash [SMcCash@wasteservicesinc.com]
To: Williams, Elizabeth
Sent: Tuesday, September 30, 2008 10:47 AM
Subject: Read: J.E.S. SW Mgmt. Fac., Class I Cell 6 min. mod. 2nd rai 0490

Your message

To: SMcCash@wasteservicesinc.com
Subject:

was read on 9/30/2008 10:47 AM.

Janwadkar, Sandeep

From: DePradine, Gloria-Jean
Sent: Wednesday, September 24, 2008 11:15 AM
To: Janwadkar, Sandeep
Subject: FW: Notification of Leachate System Malfunction (Cells 1-3) - JED Solid Waste Management Facility

fyi

From: Michael Kaiser [mailto:mkaiser@wasteservicesinc.com]
Sent: Wednesday, September 24, 2008 11:13 AM
To: Lubozynski, Tom
Cc: DePradine, Gloria-Jean; Matt Orr; Shawn McCash
Subject: Notification of Leachate System Malfunction (Cells 1-3) - JED Solid Waste Management Facility

Mr. Lubozynski:

In compliance with Specific Condition 8 of Permits SC49-0199726-004 & SO49-0199726-005, I am notifying the FDEP Central District that we are experiencing programming problems at the leachate MCC systems at Cells 1, 2 and 3. The systems have experienced electrical power surges due lightning and rain storms. We have initiated repair work with the equipment vendors and expect to have repairs completed as soon as possible. In the mean time, we are able to manually operate the pump systems and maintain leachate levels in the cells.

Please contact me at the number listed below if you have any questions.

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@wsii.us

CONFIDENTIALITY NOTICE: The information transmitted in this email is intended for the addressee and may contain confidential information of Waste Services Inc. or its affiliated corporations. Any unauthorized review, distribution or use or the taking of any action in reliance on the information contained in this email or any attachments is strictly prohibited. If you have received this message in error, please delete or destroy it, all attachments and any copies, and notify the sender.

FILE COPY
S, O/E
10/2/08

Memorandum

Florida Department of
Environmental Protection

TO: G. DEPRADINE

FROM: T. LUBOZYNSKI, P.E.

DATE: SEPT. 22, 2008

SUBJECT: County: OSCEOLA

Permit/APP: MODIF. OF SOL49-0199726-009

PERMIT APPL. SOL49-0199726-010

Facility: J.E.D SWMF, CLASS I, WASTE SOLIDIFICATION - MINOR MODIFICATION

Attachment: ✓

The attached is being sent to you to:

☐ Information only

☒ Review and comments

If review comments are needed, please respond:

☒ By:

(Solid Waste deadline is OCTOBER 3, 2008)

☐ As soon as possible for your schedule.

Comments: ONLY ONE COPY RECEIVED.

cc S. JANWADKAR



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

REQUEST FOR PERMIT MODIFICATION

OPERATION PERMIT

FDEP Operation Permit SO49-0199726-005
DEP ID Number: 89544 (WACS)

J.E.D. SOLID WASTE MANAGEMENT FACILITY

Prepared by:



15450 New Barn Road - Suite 304
Miami Lakes, FL 33014
Phone: (305) 728-7400

September 2008

Brinda Ann Smith Clark
12 September 2008

PERMIT DATA FORM

CHECK IF NEW: _____

MOD NEW **RENEWAL** _____

SITE WAFR # AIR # 22-9199726

SITE/WAFER/FACILITY NAME: Oak Hammock Disposal Fee

PROJECT NAME: _____

DESC: _____

TYPE CODE: SO

SUBCODE: MM

CHECK IF GP **EXEMPT** **NPDES**

CORRECT FEE: \$250 -

PROCESSOR: JL

AMOUNT RCV'D: 250 -

AMOUNT REFUND: _____

MONIES DUE: _____

COMPLETED SEP 1 9 2008

0 RCVA

Memorandum

Florida Department of
Environmental Protection

TO: G. DEPRADINE

FROM: T. LUBOZYNSKI, P.E.

DATE: SEPTEMBER 16, 2008

SUBJECT: County: OSCEOLA

Permit/OGC: MODIF. OF SC49-0199726-008

PERMIT APPL. SD49-0199726-009

Facility: J.E.D. SWMF, CLASS I, CELL 6 OPERATION-MINOR MODIF.

Attachment: ☒

The attached is being sent to you to:

☐ Information only

☒ Review and comments

If review comments are needed, please respond:

☒ By:

(Solid Waste deadline is SEPT. 29, 2008)

☐ As soon as possible for your schedule.

Comments: _____

5 September 2008

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

RECEIVED
SEP 09 2008
DEP Central Dist.

**Re: Response to Request for Additional Information for Permit Application
No. SO49-019726-009
Cell 6 Operation – Minor Modification
Minor Modification of Permit No. SC49-0199726-008
J.E.D. Solid Waste Management Facility, Class I
Osceola County, Florida**

Dear Mr. Lubozynski:

On behalf of Omni Waste of Osceola County, LLC (Omni), Geosyntec Consultants (Geosyntec) has prepared this letter to respond to the first request for additional information (RAI) by the Florida Department of Environmental Protection (Department) on the above-referenced permit application. The first RAI was presented in a 27 August 2008 letter from Mr. F. Thomas Lubozynski, P.E. of the Department to Mr. R. Shawn McCash of Omni with a copy to Kwasi Badu-Tweneboah, P.E. of Geosyntec. A copy of this letter has been included as Attachment 1 to this document. The RAIs pertain to two reports prepared by Geosyntec Consultants, 14055 Riveredge Drive, Suite 300, Tampa, Florida 33637, namely: (i) Certification Report Construction of Cell 6", dated July 2008; and (ii) "Minor Modification Application for Phased Financial Assurance Cell 6 Construction", dated July 2008. These reports are subsequently referred to as Certification Report and Minor Modification Application Report, respectively, in this document.

The remainder of this letter presents each of the Department RAI in italic font followed by Geosyntec's response in normal font.

A. COMMENTS ON THE CERTIFICATION REPORT

COMMENT 1

1. Page 1-1, Section 1.1 Overview, Paragraph 3, First sentence in the report reads "The CQA activities were performed . . . with Construction Permit SC49-0199726-007 . . ." The

Permit No. is SC49--0199726-008. Submit the revised page or if you prefer the Department will make the correction.

RESPONSE

Geosyntec has made the correction to the above referenced permit number. Two copies of the replacement page have been included in Attachment 2 of this letter.

COMMENT 2

2. Page 2-1, Section 2.1, Paragraph 3, Second last sentence in the report reads "The footprint of Cell 6 is approximately 12.5 acres". The DEP Form # 62-701.900(2), Titled "Certification of Construction Completion" submitted along with this Report on line 8 reads "Site acreage: Cell 6, Approx. 12 Acres". Provide the correct acreage footprint information in the Report and accordingly revise the DEP Form # 62-701.900(2).

RESPONSE

The actual plan area for Cell 6 is 12.43 acres, or approximately 12.5 acres. DEP Form # 62-701.900(2) has been revised to reflect 12.5 acres. The permit # and permit date have also been revised on the DEP form to incorporate the permit # referenced in comment 1 above. Three copies of the completed form, signed and sealed by the certifying engineer, have been included in Attachment 3.

COMMENT 3

3. Page 3-4, Section 3.4, Certification Report and Record Drawings, Paragraph 2, last sentence reads "Results . . . have been summarized in a tabular form and are included in the certification report." Revise the sentence to provide details of where the tabular form is located in the Report.

RESPONSE

For clarity the last sentence has been revised to state: "Results of the CQA monitoring and testing activities that are critical with respect to the satisfactory performance of Cell 6 at the JED facility and protection of the surrounding environment have been summarized in a tabular form and are included in Section 4 (Tables 4-1 through 4-3) and Section 5 (Tables 5-1 through 5-7) of this certification report". Three copies of the revised page have been included in Attachment 4.

COMMENT 4

4. Page 4-5, Section 4.4.5, Anchorage of Geosynthetic does not include a description of how the geosynthetics panels were tied into respective layers of geosynthetics from Cell 3 and Cell 5. Include a brief description accordingly in this section of this Report.

RESPONSE

Section 4 of the report is related to the earthwork aspects of the construction; the installation of the geosynthetic components is described in Section 5. The following has been added to Section 4.4.5 as a second paragraph:

“The construction sequence for the tie-in of the geosynthetic layers was as follows:

- a small, low ground pressure tracked excavator, hand shovels and brooms were used to carefully remove the existing protective cover soil from an approximate 7-ft wide swath along the length of the north and west sides of Cell 6 where the geosynthetic layers of the adjacent existing Cells (i.e., Cells 3 and 5) were to be tied into;
- when the Installer was ready to deploy the secondary geosynthetic layers along the tie-in area, the existing primary geosynthetic components (primary geocomposite and primary geomembrane) were cut open and folded back to expose the secondary geosynthetic layers in Cells 3 or 5; and
- the similar geosynthetic components from Cell 6 were overlapped, fastened, or welded to the existing adjacent cell (i.e., Cells 3 and 5) geosynthetic components as described in Section 5.

Three copies of the revised page or pages have been included in Attachment 5.

COMMENT 5

5. Page 5-18, Section 5.8, Other Related Geosynthetics work, last sentence reads “These panels have been noted on the Secondary geomembrane panel layout drawing.” Please provide the drawing number and the location of this drawing in the Report.

RESPONSE

The last sentence has been revised to state: “These panels have been noted on the Secondary geomembrane panel layout drawing which is included as Drawing 1 of 2 in Appendix C-2”. Copies of the revised page have been included in Attachment 6.

COMMENT 6

6. Appendix C-2, As-Built Liner Panel Drawings From Comanco: In accordance with Rule 62-701.320(7)(f)2 FAC, the as-built panel layout drawings need to be signed and sealed by a Florida Licensed Professional Engineer. Additionally, Appendix C-2 includes two drawings (Cell 6 – 60 mil textured primary, and secondary layers) and both drawings are labeled as DWG. NO: 1. Revise the Drawing Numbers.

RESPONSE

The Panel Layout drawings have been relabeled as Drawing 1 of 2 (Secondary Geomembrane Panel Drawing) and Drawing 2 of 2 (Primary Geomembrane Panel Drawing). Signed and sealed Panel layout drawings, as required by Rule 62-701.400(7)(d) FAC, have been included in Attachment 7.

COMMENT 7

7. The Table of Contents of this Report on Page iv, lists Appendix M to contain CQA Laboratory Test Results for Primary and Secondary Geocomposites and Geotextile. However, the CQA Laboratory Test Results for the Geotextile are missing in the Appendix M submitted electronically in the PDF file format on a Compact Disc along with this Report. Please provide these results electronically.

RESPONSE

Hard copies of the CQA laboratory test results for the geotextile component of the geocomposite (primary and secondary) have been included in Attachment 8. A replacement CD containing Appendices E through R with the additional geotextile CQA laboratory report in Appendix M has also been included in Attachment 8.

B. COMMENTS ON THE MINOR MODIFICATION APPLICATION REPORT

COMMENT 8

8. Attachment No. 1 of this Report – On Page 5 of 40, DEP Form 62-701.900(1), item no. 13 asks for the date the site, that is, Cell 6, will be ready to be inspected for completion. Because of Tropical Storm Fay the scheduled Construction Completion inspection had to be delayed until September 4, 2008.

RESPONSE

Geosyntec acknowledges the change in the inspection date, and also, recognizes that the 4 September 2008 inspection date has to be postponed due to the impact of Tropical Storm Fay on the Cell 6 construction. Geosyntec and Omni will coordinate with the Department to reschedule the Cell 6 inspection.

COMMENT 9

(a) On page 1 of 11, DEP Form 62-701.900(28) lists the acreage of Cell 6 as 12.0 Acres. Clarify if the acreage of Cell is 6 12.0 Acres or approximately 12.5 Acres as noted in Comment no. 2 of this correspondence.

RESPONSE

For consistency the DEP Form has been revised to reflect Cell 6 as approximately 12.5 acres.

(b) Total Cell 6 acreage included in this cost estimate is 12.0 Acres. If the 12.0 Acres is the area based on the footprint, then all surface area and volume calculations for cover and vegetation need to be revised. The area and volume calculations must use the surface area, which includes the side slope areas and is larger than the footprint area. Please provide the calculations which will form the basis of surface area cover material and vegetation to properly close the facility.

RESPONSE

Attachment 9 presents calculations for the total footprint area of the 12.5-acre cell requiring closure. The calculations account for the 3 horizontal to 1 vertical (3H:1V) side slopes component of the final cover system.

(c) Submit the revised cost estimate to incorporate the changes listed above (Comment 9 a. and 9 b), signed and sealed by a professional engineer licensed in Florida.

RESPONSE

A revised cost estimate incorporating the changes from Comments 9(a) and 9(b) above, signed and sealed by a Florida licensed professional engineer, is included in Attachment 10 of this letter.

COMMENT 10

10. *A financial mechanism must be funded in the amount of the sum of the total closure and long-term care costs specified in the approved cost estimate and accepted by the Department's Financial Coordinator before this application can be deemed complete. At this time the cost estimate has not been approved. Financial responsibility arrangements for the facility for the approved amounts are to be made with the Financial Coordinator, Solid Waste Section, MS-4565, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, and a copy of the approval letter submitted to: Department of Environmental Protection, Central District, Solid Waste Section, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767.*

RESPONSE

Omni will make arrangements with the FDEP Financial Coordinator once the closure and long-term care costs have been approved. A copy of the approval letter will be submitted to the Central District as required above.

CLOSURE

Three copies of the response to the first RAI are enclosed in this submittal. Should you have any questions or comments regarding the response to Department's comments on the Minor Modification Permit Application, please do not hesitate to contact the either of the undersigned.

Sincerely,



Kirk Wills
Project Engineer

Kwasi Badu-Tweneboah, Ph.D., P.E.
Associate

9-8-08

Enclosures

Copies to: R. Shawn McCash (Omni/WSI)
Mike Kaiser (Omni/WSI)

G. DePRADINE

ATTACHMENT 1



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

By E-Mail
smccash@wasteservicesinc.com

Mr. R. Shawn McCash
Senior Vice President
Omni Waste of Osceola County, LLC (Omni)
1501 Omni Way,
St. Cloud, FL 34773

OCD-SW-08-0451

Osceola County – SW
J.E.D Solid Waste Management Facility, Class I
Cell 6 Operation – Minor Modification
Minor Modification of Permit No. SC49-0199726-008
First Request for Additional Information for Permit Application No. SO49-0199726-009

Dear Mr. McCash:

The Department received your application for a minor modification to SC49-0199726-008. The application was dated July 28, 2008; it was received July 30, 2008. The minor modification was submitted to comply with Specific Condition No. 60 of the permit. As required, the application provided the updated closure and long-term care cost estimates and Certification of Construction for Cell 6. After the new cost estimate is approved, the financial assurance mechanism must be updated.

The application materials included the certification that all construction of Cell 6 had been completed. The Department has some questions about the certification (see Attachment A). Because of Tropical Storm Fay, the Department's inspection of Cell 6 has been delayed. It is scheduled for September 4, 2008. Therefore, the Department has not yet approved the certification of construction for Cell 6.

The application is incomplete. Please provide the information listed on the attached sheets promptly. Evaluation of your application will be delayed until all the requested information has been received. Disposal of waste in Cell 6 is not permitted at this time.

Pursuant to Section 120.60(2), Florida Statutes, the Department may deny an application, if the applicant, after receiving timely notice, fails to correct errors and omissions, or supply additional information within a reasonable period of time. Accordingly, please provide the additional information within 30 days of the date you receive this letter. Submit three copies of the requested information to the Department and reference the above permit application number in your correspondence.

Mr. R. Shawn McCash
OCD-SW-08-0451
Page #2

If you have any questions, please contact me at (407) 893-3328 or at tom.lubozynski@dep.state.fl.us.

Sincerely,



F. Thomas Lubozynski, P.E.
Waste Program Administrator

Date: August 27, 2008

FTL/gc/ew

Attachments:

- A. RAI for "Certification Report Construction of Cell 6"
- B. RAI for "Minor Modification Application for Phased Financial Assurance Cell 6 Construction"

cc: Kwasi Badu-Tweneboah, P.E. – Geosyntec Consultants, Tampa, FL 33637
kbadutweneboah@geosyntec.com
Jim Bradner, Air Program james.bradner@dep.state.fl.us

A. Note that all references to "Report" in the following text refers to the document entitled, "Certification Report Construction of Cell 6", prepared by Geosyntec Consultants, 14055 Riveredge Drive, Suite 300, Tampa, Florida 33637, dated July 2008.

1. Page 1-1, Section 1.1 Overview, Paragraph 3, First sentence in the report reads "The CQA activities were performed.....with Construction Permit SC49-0199726-007..." The Permit No. is SC49-0199726-008. Submit the revised page or if you prefer the Department will make correction.
2. Page 2-1, Section 2.1, Paragraph 3, Second last sentence in the report reads "The footprint of Cell 6 is approximately 12.5 acres". The DEP Form # 62-701.900(2), Titled "Certification of Construction Completion" submitted along with this Report on line 8 reads "Site Acreage: Cell 6, Approx. 12 Acres". Provide the correct acreage footprint information in the Report and accordingly revise the DEP Form # 62-701.900(2).
3. Page 3-4, Section 3.4, Certification Report and Record Drawings, Paragraph 2, last sentence reads "Resultshave been summarized in a tabular form and are included in this certification report." Revise the sentence to provide details of where the tabular form is located in the Report.
4. Page 4-5, Section 4.4.5, Anchorage of Geosynthetics does not include a description of the how the geosynthetics panels were tied into respective layers of geosynthetics from Cell 3 and Cell 5. Include a brief description accordingly in this section of the Report.
5. Page 5-18, Section 5.8, Other Related Geosynthetics Work, last sentence reads "These panels have been noted on the Secondary geomembrane panel layout drawing". Please provide the drawing number and the location of this drawing in the Report.
6. Appendix C-2, As-Built Liner Panel Layout Drawings From Comanco: In accordance with Rule 62-701.320(7)(f)2, FAC, the as-built panel layout drawings need to be signed and sealed by a Florida Licensed Professional Engineer. Additionally, Appendix C-2 includes two drawings (Cell 6 - 60 mil textured primary, and secondary layers) and both the drawings are labeled as DWG. NO: 1. Revise the Drawing Numbers.
7. The Table of Contents of this report on Page iv, lists Appendix M to contain CQA Laboratory Test Results for Primary and Secondary Geocomposites and Geotextile. However, the CQA Laboratory Test Results for the Geotextile are missing in the Appendix M submitted electronically in the PDF file format on a Compact Disc along with this Report. Please provide these result electronically.

B. Note that all references to "Report" in the following text refers to the document entitled "Minor Modification Application for Phased Financial Assurance Cell 6 Construction", prepared by Geosyntec Consultants, 14055 Riveredge Drive, Suite 300, Tampa, Florida 33637 dated July 2008.

8. Attachment No. 1 of this Report - On Page 5 of 40, DEP Form 62-701.900(1), item no. 13, asks for the date the site, that is, Cell 6, will be ready to be inspected for completion. Because of Tropical Storm Fay the scheduled Construction Completion inspection had to be delayed until September 4, 2008.
9. Following comments pertain to Attachment 2 of this Report – Financial Assurance Cost Estimate
 - a) On Page 1 of 11, DEP Form 62-701.900(28) lists the acreage of Cell 6 as 12.0 Acres. Clarify if the acreage of Cell 6 is 12.0 Acres or approximately 12.5 Acres as noted in Comment no. 2 of this correspondence.
 - b) Total Cell 6 acreage included in this cost estimate is 12.0 Acres. If the 12.0 acres is the area based on the footprint, then all surface area and volume calculations for cover and vegetation need to be revised. The area and volume calculations must use the surface area, which includes the side slope areas and is larger than the footprint area. Please provide the calculations which will form the basis of surface area cover material and vegetation to properly close the facility.
 - c) Submit the revised cost estimate to incorporate the changes listed above (Comment 9 a. and 9 b.), signed and sealed by a professional engineer licensed in Florida.
10. A financial mechanism must be funded in the amount of the sum of the total closure and long-term care costs specified in the approved cost estimate and accepted by the Department's Financial Coordinator before this application can be deemed complete. At this time the cost estimate has not been approved. Financial responsibility arrangements for the facility for the approved amounts are to be made with the Financial Coordinator, Solid Waste Section, MS-4565, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, and a copy of the approval letter submitted to: Department of Environmental Protection, Central District, Solid Waste Section, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767.

ATTACHMENT 2

1. INTRODUCTION

1.1 Overview

This certification report summarizes the Construction Quality Assurance (CQA) activities performed by Geosyntec Consultants (Geosyntec), Tampa, Florida during construction of Cell 6 at the J.E.D. Solid Waste Management (JED) facility, a Class I landfill, located in Osceola County, Florida. The JED facility is owned by Omni Waste of Osceola County, LLC, which is a wholly owned subsidiary of Waste Services of Florida, Inc. (WSI).

Cell 6 is the second cell to be constructed as part of Phase 2 development of the JED facility. The CQA activities performed by Geosyntec included monitoring of:

- (i) earthwork construction;
- (ii) geosynthetics installation;
- (iii) leachate management system construction; and
- (iv) miscellaneous activities associated with development and ongoing operation of the landfill.

The CQA activities were performed to confirm that the construction materials and procedures were in compliance with the Construction Permit SC49-0199726-008 issued by the Florida Department of Environmental Protection (FDEP), Central District and in accordance with Chapter 62-701, Solid Waste Management Facilities, Florida Administrative Code (FAC).

Cell 6 was constructed in accordance with the above-mentioned permit and associated permit drawings. This certification report was prepared for Mr. Mike Kaiser of WSI. The report was prepared by Mr. Kirk Wills and was reviewed by Mr. Kwasi Badu-Twenboah, Ph.D., P.E., both of Geosyntec.

The certification report primarily includes the construction of Cell 6. The report also includes construction of the final remaining storm water management berm for development of Phase 3 of the landfill, relocation of the landfill haul road, and other miscellaneous construction activities. It is noted that the construction of the interim leachate storage area and the leachate transmission line (from Cell 6 to the leachate storage area) were included in Geosyntec's report entitled "*Certification Report, Construction of Cell 1A and Leachate Storage Area*", which was submitted to FDEP in January 2004. Hereafter, the certification report for construction of Cell 1A and the leachate storage area is referred to as Cell 1A Certification Report.

ATTACHMENT 3



Florida Department of Environmental Protection
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

DEP Form # 62-701.900(2)
Form Title Certification of Construction Completion
Effective Date May 19, 1994
DEP Application No. _____
(Filled by DEP)

Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No: SC-49-0199726-008 County: Osceola

Name of Project: J.E.D. Solid Waste Management Facility

Name of Owner: Omni Waste of Osceola County, LLC (WSI)

Name of Engineer: Geosyntec Consultants

Type of Project: Construction of Cell 6

Cost: Estimate \$ _____ Actual \$ _____

Site Design: Quantity: 7,500 ton/day Site Acreage: Cell 6, Approx. 12.5 Acres

Deviations from Plans and Application Approved by DEP: _____

No Significant Deviations from the Approved Application and Plans.

Address and Telephone No. of Site: 1501 Omni Way, St. Cloud, Florida 34773

Tel : (407) 981-3720

Name(s) of Site Supervisor: Matt Orr (WSI)

Date Site inspection is requested: _____

This is to certify that, with the exception of any deviation noted above, the construction of the project has been completed in substantial accordance with the plans authorized by Construction

Permit No. SC-49-0199726-008 :Dated: 8 February 2008

Date: 9/8/2008

[Signature]
Signature of Professional Engineer

Page 1 of 1

ATTACHMENT 4

- monitoring placement, grading, and compaction of general fill used to construct the Phase 3 storm water management berm;
- monitoring construction of Cell 6 access ramp;
- monitoring pressure cleaning of the Cell 6 leachate collection system piping; and
- monitoring installation of sump risers, concrete surface pads, leachate pumps, leachate piping and system controls.

During construction activities involving monitoring and/or testing, the observations made and results obtained by Geosyntec CQA personnel were compared with the requirements of the CQA Documents. The construction manager and the appropriate contractor were notified of deficiencies in construction practices and/or materials to ensure appropriate corrective actions are taken. The corrective actions were monitored and/or tested by CQA personnel to ensure compliance with the requirements of the CQA Documents.

3.4 Certification Report and Record Drawings

Record drawings for Cell 6 liner subbase, primary and secondary geomembrane panel layouts, liner protective cover, and the leachate collection and transmission system piping, and this CQA certification report were prepared as the final task of the CQA program for construction of Cell 6. The record drawings are included in Appendix C of this report. This certification report summarizes the CQA monitoring, testing, and documentation activities performed by Geosyntec.

During construction of Cell 6, CQA monitoring and testing activities were documented by CQA personnel in Daily Field Reports and various other forms. In addition, QC certificates for the geosynthetics, other construction materials, and surveyor's data were provided to Geosyntec for review. These and other construction-related documents are maintained by WSI and Geosyntec, and will be made available for FDEP review upon request. Results of CQA monitoring and testing activities that are critical with respect to the satisfactory performance of Cell 6 at the JED facility and protection of the surrounding environment have been summarized in a tabular form and are included in Sections 4 and 5 of this certification report.

3.5 Project Personnel

Major personnel or representatives of the firms involved in the project are as follows:

Owner: Waste Services, Inc.

- Mike Kaiser, Vice President, Environmental Management, U.S.

ATTACHMENT 5

The construction sequence for the tie-in of the geosynthetic layers was as follows:

- a small, low ground pressure, tracked excavator, hand shovels and brooms were used to carefully remove the existing protective cover soil from an approximate 7-ft wide swath along the length of the north and west sides of Cell 6 where the geosynthetic layers of the adjacent existing Cells (i.e., Cells 3 and 5) were to be tied into;
- when the Installer was ready to deploy the secondary GCL along the tie-in area, the existing primary geosynthetic components (primary geocomposite and primary geomembrane) and the secondary geocomposite were cut open and folded back to expose the secondary liner; and
- the similar geosynthetic components from Cell 6 were overlapped, fastened, or welded to the existing adjacent geosynthetic components as shown in detail E3 on Sheet 6 of 16 of the Construction Drawings and as described in Section 5.

4.5 Protective Soil Layer

Protective soil was used to cover the geosynthetic components of the liner system in Cell 6. The minimum thickness of the protective soil layer atop the geosynthetic components of the liner system in Cell 6 was 2 feet.

Sandy soils from the Bronsons Borrow Area were used as protective soil. CQA personnel monitored the placement of the protective soil in Cell 6. The construction sequence of protective soil layer was as follows:

- articulated dump trucks hauled the sandy soils from Bronsons Borrow Area to Cell 6; and
- the sandy soils were placed and spread using low ground pressure bulldozers.

During placement of the protective soil, CQA personnel monitored the contractor's activities to assure that the risk of damage to the underlying geosynthetics was minimized. CQA personnel also confirmed that at least a 2-ft thick layer of sandy soils was maintained over the geosynthetics where the contractor operated the dozer equipment. A minimum 3-ft thick layer of sandy soils was maintained where the articulated off-road dump trucks operated. Geosyntec also reviewed the certified survey for the protective cover soil layer, submitted by the Contractor, to ensure compliance with the project documents.

Grain-size distribution analyses (ASTM D 422), soil classification in accordance with USCS (ASTM D 2487), and hydraulic conductivity (ASTM D 2434) tests were performed on samples of protective soil at the off-site geotechnical laboratory EGT. Grain-size distribution analyses, soil classification, and hydraulic conductivity tests were performed at a minimum frequency of 1 test per 5,000 cyd of in-place protective soil.

A total of 40,000 cyd (approx.) of protective soil was placed in Cell 6. Eight (8) grain-size distribution analyses (and USCS classification) and hydraulic conductivity tests were performed on the protective layer soils placed in Cell 6. The laboratory test results are presented in Table 4-3. The CQA laboratory reports for the protective soil samples are included in Appendix F. The actual CQA test frequencies of 1 test per 4,000 cyd (approx.) for grain-size distribution analyses, USCS classification, and hydraulic conductivity met the minimum testing frequencies required by the CQA Documents. As noted, the measured hydraulic conductivities of protective soil exceeded the minimum hydraulic conductivity of 1.0×10^{-3} cm/sec required by the CQA Documents. It is noted that soils with fines content greater than 10 percent were accepted since the measured hydraulic conductivities exceeded the project requirements.

ATTACHMENT 6

were replaced due to the excessive numbers of repairs required. These panels have been noted on the Secondary geomembrane panel layout drawing which is included as Drawing 1 of 2 in Appendix C-2.

ATTACHMENT 7

ATTACHMENT 8



Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Colleen Castille
Secretary

MEETING ATTENDANCE RECORD

Purpose: OHDF/J.E.D. Landfill

Date: March 18, 2008

[illegible]

JED - Mike Krizer + Shawn McCash
- Leachate Test

3/18/08

- St Cloud concerned about odors & delivery
 - Tank so leachate flow controlled at TS
- Try Aerate - Pilot Project after Batch Test
 - 1 or 2 batches
 - Then Pilot that would last several months

- Send Air + Waste Notification
 - especially time frame and throughput
 - no modification until going to full scale, full time

- Air Program Enforcement
 - EPA documents indicate cover material can be subtracted from waste amount calculations (~ Sept 2007)
 - Air Permit Application said gas collection system would be installed within 3 years of operation (about July 2007).
 - Have to do multi-day for lack of having gas control system
 - Corrective Action - Need to install gas collection/treatment for all of Phase I (Cells 1-4)
 - They are thinking about horizontal
 - want to use concept approved in permit with minor modifications (e.g., header location) - submit design ~ 2 weeks

*
decide
whether
minor mod
after submitted



1501 Omni Way, St. Cloud, FL 34773

RECEIVED

MAR 10 2008

DEP Central Dist.

March 6, 2008

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

Re: Notification of Leachate Management Activities
J.E.D Solid Waste Management Facility (fka Oak Hammock Disposal Facility)
Omni Waste of Osceola County, LLC
Osceola County, Florida
Permit Nos. SC49-0199726-004 and SO49-0199726-005

Dear Mr. Lubozynski:

This correspondence is notification of Omni Waste of Osceola County, LLC's (Omni's) activities at the JED Solid Waste Management Facility (JED facility) regarding leachate management. Omni has disposed of leachate generated at the JED facility at the nearby waste water treatment plant (WWTP) owned and operated by the City of St. Cloud. The City of St. Cloud has asked Omni to try and reduce the odor of the leachate prior to discharge to their WWTP. In response to this request, Omni has met with the City and is exploring treatment options and alternative disposal points (i.e., remote manhole disposal within the City of St. Cloud). In working with the City to reduce the odor, Omni plans to aerate the leachate on a trial basis prior to trucking to the City and discharging in their WWTP system. To accomplish trial aeration of the leachate, Omni plans to perform the following activities at the JED facility over the next few weeks:

- A 6,500 gallon polyethylene tank will be stationed at the truck fill area at the leachate holding ponds (within the limits of the secondary containment pad). A small 1-hp compressor will supply air to the tank to aerate a batch of leachate. The batch of aerated leachate will then be loaded onto a semi-trailer and hauled to the City of St. Cloud for discharge to their WWTP. Omni and the City of St. Cloud will monitor aeration of the leachate to determine if the activities aid in reducing odors.

If aeration of the leachate appears to reduce odors to the satisfaction of the City of St. Cloud, Omni will pursue design and permitting with the FDEP (if necessary) of a permanent aeration treatment system at the JED facility.

*In O'Connell
for
4/7*

If you have any questions please contact me at (904) 673-0446 or by e-mail at mkaiser@wsii.us at your earliest convenience.

Sincerely,

A handwritten signature in cursive script that reads "Mike Kaiser".

Mike Kaiser
V.P., Environmental Management and Engineering, US
Waste Services, Inc.

Cc: Mr. Matt Orr, WSI
Mr. Shawn McCash, WSI



1501 Omni Way, St. Cloud, FL 34773

February 23, 2008

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

RECEIVED

FEB 25 2008

DEP Central Dist.

Re: Notification of Liner Installation – Cell 6 Disposal Area
J.E.D Solid Waste Management Facility (fka Oak Hammock Disposal Facility)
Omni Waste of Osceola County, LLC
Osceola County, Florida
Permit Nos. SC49-0199726-004 and SO49-0199726-005

Dear Mr. Lubozynski:

Omni Waste of Osceola County, LLC is hereby notifying the Florida Department of Environmental Protection (FDEP), Central District that liner installation work will commence on or about March 17, 2008, for the Cell 6 disposal area at the J.E.D Solid Waste Management Facility. Specific Condition 19 of the above noted Permits requires notification to the Department within 10 days of commencement of liner installation work in any cell.

If you have any questions please contact me at (904) 673-0446 or by e-mail at mkaiser@wsii.us at your earliest convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Kaiser", with a stylized flourish at the end.

Mike Kaiser
V.P., Environmental Management and Engineering, US
Waste Services, Inc.

Cc: Mr. Matt Orr, WSI
Mr. Shawn McCash, WSI
Mr. Kirk Wills, Geosyntec Consultants
Mr. Ayushman Gupta, Geosyntec Consultants

In. Oculum
PC 3/3



February 29, 2008

Mail To:

Kirk Wills
GeoSyntec Consultants
14055 Riveredge Drive, Suite 300
Tampa, FL 33637

email: kwills@geosyntec.com

Bill To:

<= Same (Proj. Number: FQ1450)

Dear Mr. Wills:

Thank you for consulting TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs.
TRI is pleased to submit this final report for laboratory testing.

Project:	Oak Hammock (JED) Solid Waste Disposal Facility Cell 6 Construction
TRI Job Reference Number:	E2302-72-04
Material(s) Tested:	13 SKAPS 8 oz Nonwoven Geotextile Component of Geocomposite(s)
Test(s) Requested:	Mass/Unit Area (ASTM D 5261) Grab Tensile (ASTM D 4632) Trapezoidal Tear (ASTM D 4533) Apparent Opening Size (ASTM D 4751) Permittivity (ASTM D 4491)

If you have any questions or require any additional information, please call us at
1-800-880-8378.

Sincerely,

Dr. Mansukh Patel
Sr. Laboratory Coordinator
Geosynthetic Services Division
www.GeosyntheticTesting.com

cc: Sam R. Allen, Vice President and Division Manager



GEOCOMPOSITE TEST RESULTS

TRI Client: GeoSyntec Consultants

Project: Oak Hammock (JED) Solid Waste Disposal Facility - Cell 6 Construction

Material: SKAPS 8 oz Nonwoven Geotextile-Geocomposite Component

Sample Identification: 2648.001

TRI Log #: E2302-72-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.30	4.72	3.02	3.85	3.39	3.63	3.59	3.62	3.73	3.54	3.64	0.45	
Mass/Unit Area (oz/sq.yd)	7.68	10.98	7.02	8.96	7.89	8.44	8.35	8.42	8.68	8.23	8.46	1.04	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	235	232	215	262	236	255	271	301	232	231	247	25	200 min
TD - Tensile Strength (lbs)	251	304	285	299	242	264	256	261	249	274	269	21	200 min
MD - Elong. @ Max. Load (%)	79	75	66	76	81	70	83	67	80	74	75	6	
TD - Elong. @ Max. Load (%)	81	88	88	82	84	82	83	93	78	94	85	5	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	88	105	114	89	108	95	87	89	150	103	103	19	75 min
TD - Tear Strength (lbs)	133	118	147	143	120	101	125	122	148	137	129	15	75 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.180	0.150	0.090	0.180	0.106						0.141	0.042	0.21 max
Sieve No.	80	100	170	80	140						100		
Constant Head Permittivity (ASTM D 4491, 2 in Constant Head)													
Water Temp. (C):	22												
Correction Factor:	0.953												
Trial =>	1					2							
Thickness (mils)	101	101	101	101	101	103	103	103	103	103			
Time (s)	14	14	14	14	14	12	12	12	12	12			
Flow (L)	2.68	2.68	2.72	2.68	2.68	2.60	2.60	2.56	2.56	2.56			
Permittivity (s-1)	1.86	1.86	1.89	1.86	1.86	2.10	2.10	2.07	2.07	2.07			
Flow rate (GPM/ft2)	139	139	141	139	139	157	157	155	155	155			
Permeability (cm/s)	0.477	0.477	0.484	0.477	0.477	0.551	0.551	0.542	0.542	0.542			
Trial =>	3					4							
Thickness (mils)	111	111	111	111	111	106	106	106	106	106			
Time (s)	16	16	16	16	16	14	14	14	14	14			
Flow (L)	2.64	2.60	2.60	2.64	2.60	2.60	2.60	2.56	2.56	2.56			
Permittivity (s-1)	1.60	1.58	1.58	1.60	1.58	1.80	1.80	1.78	1.78	1.78	1.83	0.18	
Flow rate (GPM/ft2)	120	118	118	120	118	135	135	133	133	133	137	14	
Permeability (cm/s)	0.452	0.445	0.445	0.452	0.445	0.486	0.486	0.478	0.478	0.478	0.488	0.037	
											TEMPERATURE CORRECTED VALUES	Permittivity (s-1) Flow rate (GPM/ft2) Permeability (cm/s)	0.5 min
												1.74	
												131	
												0.465	

MD Machine Direction TD Transverse Direction

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



GEOCOMPOSITE TEST RESULTS

TRI Client: GeoSyntec Consultants

Project: Oak Hammock (JED) Solid Waste Disposal Facility - Cell 6 Construction

Material: SKAPS 8 oz Nonwoven Geotextile-Geocomposite Component

Sample Identification: 2648.014

TRI Log #: E2302-72-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.72	4.13	3.92	3.64	4.09	3.43	3.49	5.06	3.59	4.03	3.91	0.48	
Mass/Unit Area (oz/sq.yd)	8.65	9.61	9.12	8.47	9.51	7.98	8.12	11.77	8.35	9.37	9.09	1.11	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	252	183	249	288	397	268	351	200	296	217	270	66	200 min
TD - Tensile Strength (lbs)	377	267	305	300	243	301	235	283	345	337	299	45	200 min
MD - Elong. @ Max. Load (%)	71	61	67	85	89	79	72	69	81	73	75	9	
TD - Elong. @ Max. Load (%)	121	78	91	85	79	81	107	77	90	87	90	14	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	80	106	118	143	113	97	120	85	106	100	107	18	75 min
TD - Tear Strength (lbs)	102	123	150	163	163	150	126	111	138	125	135	21	75 min
MD Machine Direction	TD Transverse Direction												

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GEOCOMPOSITE TEST RESULTS

TRI Client: GeoSyntec Consultants

Project: Oak Hammock (JED) Solid Waste Disposal Facility - Cell 6 Construction

Material: SKAPS 8 oz Nonwoven Geotextile-Geocomposite Component

Sample Identification: 2648.026

TRI Log #: E2302-72-04

PARAMETER											TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
											1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)																							
5" diameter circle (grams)											3.60	3.97	4.78	3.72	3.54	3.77	3.38	3.93	3.95	3.61	3.83	0.39	
Mass/Unit Area (oz/sq.yd)											8.37	9.23	11.12	8.65	8.23	8.77	7.86	9.14	9.19	8.40	8.90	0.90	8 min
Grab Tensile Properties (ASTM D 4632)																							
MD - Tensile Strength (lbs)											256	233	266	238	268	273	223	323	244	229	255	29	200 min
TD - Tensile Strength (lbs)											274	306	277	298	300	258	317	306	304	262	290	21	200 min
MD - Elong. @ Max. Load (%)											75	75	75	75	85	81	75	74	79	74	77	4	
TD - Elong. @ Max. Load (%)											77	88	84	84	93	94	83	96	85	76	86	7	
Trapezoidal Tear (ASTM D 4533)																							
MD - Tear Strength (lbs)											112	91	115	128	88	99	147	72	106	103	106	21	75 min
TD - Tear Strength (lbs)											151	121	119	122	107	130	144	98	145	115	125	17	75 min
Apparent Opening Size (ASTM D 4751)																							
Opening Size Diameter (mm)											0.106	0.106	0.125	0.150	0.090						0.115	0.023	0.21 max
Sieve No.											140	140	120	100	170						120		
Constant Head Permittivity (ASTM D 4491, 2 in Constant Head)																							
Water Temp. (C):											21												
Correction Factor:											0.976												
Trial ==>											1					2							
Thickness (mils)											115	115	115	115	115	123	123	123	123	123			
Time (s)											14	14	14	14	14	16	16	16	16	16			
Flow (L)											2.32	2.32	2.28	2.32	2.28	2.24	2.24	2.28	2.28	2.24			
Permittivity (s-1)											1.61	1.61	1.58	1.61	1.58	1.36	1.36	1.38	1.38	1.36			
Flow rate (GPM/ft2)											120	120	118	120	118	102	102	104	104	102			
Permeability (cm/s)											0.470	0.470	0.462	0.470	0.462	0.425	0.425	0.432	0.432	0.425			
Trial ==>											3					4							
Thickness (mils)											113	113	113	113	113	100	100	100	100	100			
Time (s)											14	14	14	14	14	14	14	14	14	14			
Flow (L)											2.48	2.48	2.48	2.44	2.44	2.76	2.76	2.72	2.72	2.76			
Permittivity (s-1)											1.72	1.72	1.72	1.69	1.69	1.91	1.91	1.89	1.89	1.91	1.65	0.20	
Flow rate (GPM/ft2)											129	129	129	127	127	143	143	141	141	143	123	15	
Permeability (cm/s)											0.494	0.494	0.494	0.486	0.486	0.486	0.486	0.479	0.479	0.486	0.467	0.025	
											TEMPERATURE CORRECTED VALUES					Permittivity (s-1) Flow rate (GPM/ft2) Permeability (cm/s)					1.61		0.5 min
																					120		
																					0.456		

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS

TRI Client: GeoSyntec Consultants

Project: Oak Hammock (JED) Solid Waste Disposal Facility - Cell 6 Construction

Material: SKAPS 8 oz Nonwoven Geotextile-Geocomposite Component

Sample Identification: 2648.037

TRI Log #: E2302-72-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.41	3.71	4.07	3.34	5.13	3.26	3.77	5.01	3.91	3.67	3.93	0.65	
Mass/Unit Area (oz/sq.yd)	7.93	8.63	9.47	7.77	11.93	7.58	8.77	11.65	9.09	8.54	9.14	1.52	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	285	298	215	363	250	254	243	393	255	246	280	57	200 min
TD - Tensile Strength (lbs)	285	304	258	308	285	295	269	314	271	267	286	19	200 min
MD - Elong. @ Max. Load (%)	82	79	75	79	78	77	89	85	88	86	82	5	
TD - Elong. @ Max. Load (%)	84	109	82	90	87	81	114	82	93	88	91	12	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	126	91	125	101	103	93	88	105	113	137	108	17	75 min
TD - Tear Strength (lbs)	111	121	110	119	109	148	144	155	116	138	127	17	75 min
MD Machine Direction TD Transverse Direction													

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GEOCOMPOSITE TEST RESULTS

TRI Client: GeoSyntec Consultants

Project: Oak Hammock (JED) Solid Waste Disposal Facility - Cell 6 Construction

Material: SKAPS 8 oz Nonwoven Geotextile-Geocomposite Component

Sample Identification: 2648.050

TRI Log #: E2302-72-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.30	3.84	3.89	4.45	3.75	4.50	3.87	3.31	3.03	3.84	3.78	0.47	
Mass/Unit Area (oz/sq.yd)	7.68	8.93	9.05	10.35	8.72	10.47	9.00	7.70	7.05	8.93	8.79	1.10	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	291	207	264	252	339	267	261	306	277	291	276	35	200 min
TD - Tensile Strength (lbs)	293	285	302	313	294	318	278	221	317	273	289	29	200 min
MD - Elong. @ Max. Load (%)	81	70	77	81	82	77	77	65	83	76	77	6	
TD - Elong. @ Max. Load (%)	87	83	90	88	111	83	86	87	85	94	89	8	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	128	90	103	102	92	97	121	137	87	94	105	17	75 min
TD - Tear Strength (lbs)	118	132	128	125	137	128	114	108	111	147	125	12	75 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.150	0.180	0.125	0.150	0.125						0.146	0.023	0.21 max
Sieve No.	100	80	120	100	120						100		
Constant Head Permittivity (ASTM D 4491, 2 in Constant Head)													
Water Temp. (C):	21												
Correction Factor:	0.976												
Trial ==>	1					2							
Thickness (mils)	128	128	128	128	128	108	108	108	108	108			
Time (s)	16	16	16	16	16	14	14	14	14	14			
Flow (L)	2.28	2.28	2.28	2.32	2.28	2.64	2.64	2.64	2.60	2.64			
Permittivity (s-1)	1.38	1.38	1.38	1.41	1.38	1.83	1.83	1.83	1.80	1.83			
Flow rate (GPM/ft2)	104	104	104	105	104	137	137	137	135	137			
Permeability (cm/s)	0.450	0.450	0.450	0.458	0.450	0.502	0.502	0.502	0.495	0.502			
Trial ==>	3					4							
Thickness (mils)	122	122	122	122	122	126	126	126	126	126			
Time (s)	16	16	16	16	16	16	16	16	16	16			
Flow (L)	2.32	2.28	2.28	2.24	2.28	2.56	2.52	2.56	2.56	2.56			
Permittivity (s-1)	1.41	1.38	1.38	1.36	1.38	1.55	1.53	1.55	1.55	1.55	1.54	0.18	
Flow rate (GPM/ft2)	105	104	104	102	104	116	114	116	116	116	115	14	
Permeability (cm/s)	0.436	0.429	0.429	0.421	0.429	0.497	0.490	0.497	0.497	0.497	0.469	0.031	
											TEMPERATURE CORRECTED VALUES	Permittivity (s-1)	
												Flow rate (GPM/ft2)	
												Permeability (cm/s)	
												1.50	0.5 min
												112	
												0.458	

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS

TRI Client: GeoSyntec Consultants

Project: Oak Hammock (JED) Solid Waste Disposal Facility - Cell 6 Construction

Material: SKAPS 8 oz Nonwoven Geotextile-Geocomposite Component

Sample Identification: 2648.062

TRI Log #: E2302-72-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.94	3.31	3.89	3.36	3.90	4.39	3.54	3.82	3.90	3.56	3.76	0.32	
Mass/Unit Area (oz/sq.yd)	9.16	7.70	9.05	7.82	9.07	10.21	8.23	8.89	9.07	8.28	8.75	0.75	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	231	197	212	251	382	239	224	357	237	232	256	62	200 min
TD - Tensile Strength (lbs)	284	281	286	280	349	301	265	226	277	302	285	31	200 min
MD - Elong. @ Max. Load (%)	75	65	67	71	81	79	74	73	82	70	74	6	
TD - Elong. @ Max. Load (%)	86	84	88	87	124	86	81	101	81	91	91	13	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	91	68	83	115	145	89	107	88	95	81	96	22	75 min
TD - Tear Strength (lbs)	123	121	130	147	142	112	124	103	150	136	129	15	75 min
MD Machine Direction TD Transverse Direction													

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GEOCOMPOSITE TEST RESULTS

TRI Client: GeoSyntec Consultants

Project: Oak Hammock (JED) Solid Waste Disposal Facility - Cell 6 Construction

Material: SKAPS 8 oz Nonwoven Geotextile-Geocomposite Component

Sample Identification: 2648.074

TRI Log #: E2302-72-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.66	3.52	4.25	3.70	3.40	4.09	3.93	3.28	3.32	3.88	3.70	0.33	
Mass/Unit Area (oz/sq.yd)	8.51	8.19	9.89	8.61	7.91	9.51	9.14	7.63	7.72	9.02	8.61	0.77	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	267	217	253	211	272	228	255	216	343	248	251	39	200 min
TD - Tensile Strength (lbs)	274	269	288	286	254	322	246	216	306	337	280	36	200 min
MD - Elong. @ Max. Load (%)	81	76	64	79	86	81	79	80	97	87	81	8	
TD - Elong. @ Max. Load (%)	91	95	83	99	86	92	96	87	93	115	94	9	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	87	152	90	107	105	142	70	109	94	94	105	25	75 min
TD - Tear Strength (lbs)	127	153	100	95	112	116	134	126	134	157	125	20	75 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.150	0.180	0.125	0.180	0.125						0.152	0.028	0.21 max
Sieve No.	100	80	120	80	120						80		
Constant Head Permittivity (ASTM D 4491, 2 in Constant Head)													
Water Temp. (C):	21												
Correction Factor:	0.976												
Trial ==>:	1					2							
Thickness (mils)	111	111	111	111	111	102	102	102	102	102			
Time (s)	14	14	14	14	14	13	13	13	13	13			
Flow (L)	2.36	2.36	2.36	2.36	2.36	2.64	2.68	2.64	2.68	2.64			
Permittivity (s-1)	1.64	1.64	1.64	1.64	1.64	1.97	2.00	1.97	2.00	1.97			
Flow rate (GPM/ft2)	122	122	122	122	122	148	150	148	150	148			
Permeability (cm/s)	0.462	0.462	0.462	0.462	0.462	0.511	0.519	0.511	0.519	0.511			
Trial ==>:	3					4							
Thickness (mils)	105	105	105	105	105	102	102	102	102	102			
Time (s)	13	13	13	13	13	13	13	13	13	13			
Flow (L)	2.12	2.08	2.08	2.08	2.08	2.44	2.44	2.48	2.44	2.48			
Permittivity (s-1)	1.58	1.55	1.55	1.55	1.55	1.82	1.82	1.85	1.82	1.85	1.75	0.17	
Flow rate (GPM/ft2)	118	116	116	116	116	136	136	139	136	139	131	13	
Permeability (cm/s)	0.422	0.414	0.414	0.414	0.414	0.472	0.472	0.480	0.472	0.480	0.467	0.036	
</													



GEOCOMPOSITE TEST RESULTS

TRI Client: GeoSyntec Consultants

Project: Oak Hammock (JED) Solid Waste Disposal Facility - Cell 6 Construction

Material: SKAPS 8 oz Nonwoven Geotextile-Geocomposite Component

Sample Identification: 2648.086

TRI Log #: E2302-72-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.68	3.92	4.03	3.59	3.89	4.46	3.34	3.65	3.18	4.13	3.79	0.38	
Mass/Unit Area (oz/sq.yd)	8.56	9.12	9.37	8.35	9.05	10.37	7.77	8.49	7.40	9.61	8.81	0.88	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	219	233	271	316	280	262	226	405	259	254	273	54	200 min
TD - Tensile Strength (lbs)	256	318	301	287	267	345	300	224	304	272	287	34	200 min
MD - Elong. @ Max. Load (%)	77	69	95	76	89	77	71	76	81	75	79	8	
TD - Elong. @ Max. Load (%)	83	88	121	89	82	95	83	95	81	95	91	12	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	148	113	80	114	81	86	78	164	81	100	105	30	75 min
TD - Tear Strength (lbs)	102	116	118	123	134	152	100	110	113	162	123	21	75 min
MD Machine Direction	TD Transverse Direction												

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GEOCOMPOSITE TEST RESULTS

TRI Client: GeoSyntec Consultants

Project: Oak Hammock (JED) Solid Waste Disposal Facility - Cell 6 Construction

Material: SKAPS 8 oz Nonwoven Geotextile-Geocomposite Component

Sample Identification: 2648.097

TRI Log #: E2302-72-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.69	4.07	3.27	4.55	3.34	3.38	3.63	4.69	3.78	3.45	3.79	0.50	
Mass/Unit Area (oz/sq.yd)	8.58	9.47	7.61	10.58	7.77	7.86	8.44	10.91	8.79	8.02	8.80	1.17	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	277	242	249	209	233	233	274	279	250	268	251	23	200 min
TD - Tensile Strength (lbs)	249	329	339	271	243	325	350	293	224	219	284	50	200 min
MD - Elong. @ Max. Load (%)	69	79	69	72	83	85	86	84	81	73	78	7	
TD - Elong. @ Max. Load (%)	80	87	93	84	94	85	119	79	81	80	88	12	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	87	107	98	87	86	112	99	127	112	95	101	13	75 min
TD - Tear Strength (lbs)	115	105	140	124	105	138	131	143	120	139	126	14	75 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.125	0.150	0.125	0.125	0.125						0.130	0.011	0.21 max
Sieve No.	120	100	120	120	120						100		
Constant Head Permittivity (ASTM D 4491, 2 in Constant Head)													
Water Temp. (C):	21												
Correction Factor:	0.976												
Trial ==>	1					2							
Thickness (mils)	97	97	97	97	97	110	110	110	110	110			
Time (s)	13	13	13	13	13	14	14	14	14	14			
Flow (L)	2.76	2.76	2.72	2.72	2.76	2.12	2.16	2.16	2.12	2.12			
Permittivity (s-1)	2.06	2.06	2.03	2.03	2.06	1.47	1.50	1.50	1.47	1.47			
Flow rate (GPM/ft2)	154	154	152	152	154	110	112	112	110	110			
Permeability (cm/s)	0.508	0.508	0.501	0.501	0.508	0.411	0.419	0.419	0.411	0.411			
Trial ==>	3					4							
Thickness (mils)	101	101	101	101	101	111	111	111	111	111			
Time (s)	13	13	13	13	13	14	14	14	14	14			
Flow (L)	2.72	2.68	2.72	2.72	2.68	2.48	2.48	2.52	2.48	2.48			
Permittivity (s-1)	2.03	2.00	2.03	2.03	2.00	1.72	1.72	1.75	1.72	1.72	1.82	0.24	
Flow rate (GPM/ft2)	152	150	152	152	150	129	129	131	129	129	136	18	
Permeability (cm/s)	0.521	0.514	0.521	0.521	0.514	0.485	0.485	0.493	0.485	0.485	0.481	0.041	



GEOCOMPOSITE TEST RESULTS

TRI Client: GeoSyntec Consultants

Project: Oak Hammock (JED) Solid Waste Disposal Facility - Cell 6 Construction

Material: SKAPS 8 oz Nonwoven Geotextile-Geocomposite Component

Sample Identification: 2648.105

TRI Log #: E2302-72-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.77	3.59	4.32	3.75	3.57	4.51	3.70	3.06	3.43	4.01	3.77	0.42	
Mass/Unit Area (oz/sq.yd)	8.77	8.35	10.05	8.72	8.30	10.49	8.61	7.12	7.98	9.33	8.77	0.98	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	230	225	273	204	311	273	260	313	259	289	264	36	200 min
TD - Tensile Strength (lbs)	325	269	244	330	315	298	310	250	266	302	291	31	200 min
MD - Elong. @ Max. Load (%)	71	68	74	76	77	77	78	66	80	80	75	5	
TD - Elong. @ Max. Load (%)	84	85	85	89	103	91	85	105	83	93	90	8	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	97	96	106	89	141	105	123	115	123	109	110	16	75 min
TD - Tear Strength (lbs)	119	107	105	164	135	160	119	115	151	147	132	22	75 min

MD Machine Direction TD Transverse Direction

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GEOCOMPOSITE TEST RESULTS

TRI Client: GeoSyntec Consultants

Project: Oak Hammock (JED) Solid Waste Disposal Facility - Cell 6 Construction

Material: SKAPS 8 oz Nonwoven Geotextile-Geocomposite Component

Sample Identification: 2648.116

TRI Log #: E2302-72-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.56	3.87	4.65	3.66	3.41	3.92	3.87	3.27	3.40	3.69	3.73	0.39	
Mass/Unit Area (oz/sq.yd)	8.28	9.00	10.82	8.51	7.93	9.12	9.00	7.61	7.91	8.58	8.68	0.91	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	248	257	267	236	286	274	276	363	287	297	279	35	200 min
TD - Tensile Strength (lbs)	292	263	303	325	297	337	260	280	349	335	304	31	200 min
MD - Elong. @ Max. Load (%)	79	73	73	75	77	84	81	80	73	87	78	5	
TD - Elong. @ Max. Load (%)	86	77	87	93	93	89	87	90	87	96	89	5	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	108	77	108	105	100	95	101	117	92	102	101	11	75 min
TD - Tear Strength (lbs)	133	119	109	125	132	134	116	102	114	140	122	12	75 min
Apparent Opening Size (ASTM D 4751)													
Opening Size Diameter (mm)	0.125	0.180	0.106	0.125	0.125						0.132	0.028	0.21 max
Sieve No.	120	80	140	120	120						100		
Constant Head Permittivity (ASTM D 4491, 2 in Constant Head)													
Water Temp. (C):	22												
Correction Factor:	0.953												
Trial =>	1					2							
Thickness (mils)	106	106	106	106	106	103	103	103	103	103			
Time (s)	12	12	12	12	12	12	12	12	12	12			
Flow (L)	2.24	2.20	2.24	2.24	2.24	2.28	2.32	2.32	2.32	2.32			
Permittivity (s-1)	1.81	1.78	1.81	1.81	1.81	1.85	1.88	1.88	1.88	1.88			
Flow rate (GPM/ft2)	136	133	136	136	136	138	140	140	140	140			
Permeability (cm/s)	0.488	0.479	0.488	0.488	0.488	0.483	0.491	0.491	0.491	0.491			
Trial =>	3					4							
Thickness (mils)	116	116	116	116	116	105	105	105	105	105			
Time (s)	16	16	16	16	16	12	12	12	12	12			
Flow (L)	2.36	2.36	2.32	2.32	2.32	2.23	2.36	2.32	2.32	2.36			
Permittivity (s-1)	1.43	1.43	1.41	1.41	1.41	1.80	1.91	1.88	1.88	1.91	1.74	0.20	
Flow rate (GPM/ft2)	107	107	105	105	105	135	143	140	140	143	130	15	
Permeability (cm/s)	0.422	0.422	0.415	0.415	0.415	0.481	0.509	0.501	0.501	0.509	0.474	0.034	
											TEMPERATURE CORRECTED VALUES	Permittivity (s-1) Flow rate (GPM/ft2) Permeability (cm/s)	0.5 min
												1.66	
												124	
												0.451	

MD Machine Direction

TD Transverse Direction

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



GEOCOMPOSITE TEST RESULTS

TRI Client: GeoSyntec Consultants

Project: Oak Hammock (JED) Solid Waste Disposal Facility - Cell 6 Construction

Material: SKAPS 8 oz Nonwoven Geotextile-Geocomposite Component

Sample Identification: 2648.127

TRI Log #: E2302-72-04

PARAMETER	TEST REPLICATE NUMBER										MEAN	STD. DEV.	PROJ. SPEC.
	1	2	3	4	5	6	7	8	9	10			
Mass/Unit Area (ASTM D 5261)													
5" diameter circle (grams)	3.66	3.82	4.31	3.65	3.77	3.82	3.63	3.85	3.62	3.85	3.80	0.20	
Mass/Unit Area (oz/sq.yd)	8.51	8.89	10.03	8.49	8.77	8.89	8.44	8.96	8.42	8.96	8.83	0.47	8 min
Grab Tensile Properties (ASTM D 4632)													
MD - Tensile Strength (lbs)	270	225	221	321	251	230	369	240	211	198	254	53	200 min
TD - Tensile Strength (lbs)	319	222	281	280	332	351	279	261	267	292	288	37	200 min
MD - Elong. @ Max. Load (%)	78	73	65	80	79	75	73	76	70	77	75	5	
TD - Elong. @ Max. Load (%)	85	77	91	86	102	92	83	120	80	82	90	13	
Trapezoidal Tear (ASTM D 4533)													
MD - Tear Strength (lbs)	114	98	85	90	92	104	93	75	145	94	99	19	75 min
TD - Tear Strength (lbs)	120	96	126	126	117	105	125	125	117	140	120	12	75 min
MD Machine Direction	TD Transverse Direction												

The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



GEOCOMPOSITE TEST RESULTS

TRI Client: GeoSyntec Consultants

Project: Oak Hammock (JED) Solid Waste Disposal Facility - Cell 6 Construction

Material: SKAPS 8 oz Nonwoven Geotextile-Geocomposite Component

Sample Identification: 2648.137

TRI Log #: E2302-72-04

REF Log #: L2302-12-04												STD.	DEV.	PROJ.
PARAMETER	TEST REPLICATE NUMBER										MEAN			
	1	2	3	4	5	6	7	8	9	10				
Mass/Unit Area (ASTM D 5261)														
5" diameter circle (grams)	4.30	3.50	4.19	3.28	3.71	3.92	3.24	3.41	3.08	3.11	3.57	0.44		
Mass/Unit Area (oz/sq.yd)	10.00	8.14	9.75	7.63	8.63	9.12	7.54	7.93	7.16	7.23	8.31	1.02	8 min	
Grab Tensile Properties (ASTM D 4632)														
MD - Tensile Strength (lbs)	236	228	358	291	210	271	238	244	285	220	258	44	200 min	
TD - Tensile Strength (lbs)	313	254	207	320	326	245	274	285	314	258	280	39	200 min	
MD - Elong. @ Max. Load (%)	74	85	85	93	78	81	80	73	90	84	82	6		
TD - Elong. @ Max. Load (%)	87	90	85	90	96	82	91	78	89	89	88	5		
Trapezoidal Tear (ASTM D 4533)														
MD - Tear Strength (lbs)	72	95	103	87	83	78	86	74	89	136	90	19	75 min	
TD - Tear Strength (lbs)	128	135	114	106	108	92	107	113	123	138	116	14	75 min	
Apparent Opening Size (ASTM D 4751)														
Opening Size Diameter (mm)	0.125	0.150	0.125	0.125	0.150						0.135	0.014	0.21 max	
Sieve No.	120	100	120	120	100						100			
Constant Head Permittivity (ASTM D 4491, 2 in Constant Head)														
Water Temp. (C):	19													
Correction Factor:	1.025													
Trial ==>:	1					2								
Thickness (mils)	109	109	109	109	109	112	112	112	112	112				
Time (s)	14	14	14	14	14	16	16	16	16	16				
Flow (L)	2.32	2.32	2.28	2.28	2.24	2.68	2.64	2.68	2.68	2.64				
Permittivity (s-1)	1.61	1.61	1.58	1.58	1.55	1.63	1.60	1.63	1.63	1.60				
Flow rate (GPM/ft2)	120	120	118	118	116	122	120	122	122	120				
Permeability (cm/s)	0.446	0.446	0.438	0.438	0.430	0.463	0.456	0.463	0.463	0.456				
Trial ==>:	3					4								
Thickness (mils)	105	105	105	105	105	113	113	113	113	113				
Time (s)	14	14	14	14	14	14	14	14	14	14				
Flow (L)	2.60	2.56	2.60	2.60	2.56	2.36	2.32	2.36	2.32	2.32				
Permittivity (s-1)	1.80	1.78	1.80	1.80	1.78	1.64	1.61	1.64	1.61	1.61	1.65	0.08		
Flow rate (GPM/ft2)	135	133	135	135	133	122	120	122	120	120	124	6		
Permeability (cm/s)	0.481	0.474	0.481	0.481	0.474	0.470	0.462	0.470	0.462	0.462	0.461	0.015		
											1.70			
											127			
											0.472	0.5 min		
MD Machine Direction													TD Transverse Direction	

ATTACHMENT 9

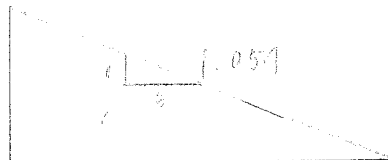
Written by: Jay Eun Date: 03/09/08 Reviewed by: Kirk Willis Date: 03/09/08
 DD MM YY DD MM YY
 Client: OMNI Project: Financial Assn. for Cell 6 Project/Proposal No.: FL1491 Task No:

1) Surface area for closure of Cell 6

* Cell 6 footprint area is 12.5 ac

* Most of the 12.5-ac footprint area would consist of the side slopes at final grade.

* Slope correction factor = 1.054



* Surface area for Cell 6 = 12.5 ac x 1.054 = 13.2 ac

2) Quantity estimate for cover protective soil and vegetative cover

* cover protective soil (18 inches thick)

$$= 13.2 \text{ ac} \times \frac{43560 \text{ ft}^2}{\text{ac}} \times 1.5 \text{ ft} \times \frac{1 \text{ yd}}{27 \text{ ft}^3} = \underline{\underline{31,944 \text{ yd}}}$$

* vegetative cover (6 inches thick)

$$= 13.2 \text{ ac} \times \frac{43560 \text{ ft}^2}{\text{ac}} \times 0.5 \text{ ft} \times \frac{1 \text{ yd}}{27 \text{ ft}^3} = \underline{\underline{10,648 \text{ yd}}}$$

Kirk Willis
 PE #42460
 9/8/28



ATTACHMENT 10

COMPLETED SEP 12 2008

Written by: Jay Eun Date: Sep 2008 Reviewed by: K. Wills Date: Sep 2008
Client: Omni Waste Project: Fin Assur for Cell 6 Project No.: FL1451 Phase No.: 01

**FINANCIAL ASSURANCE COST ESTIMATE FOR CELL 6:
NOTES AND CALCULATIONS
J.E.D. SOILD WASTE MANAGEMENT FACILITY**

The information provided below presents the methods and assumptions used to estimate the cost for the items listed on the FDEP Form 62-701.900(28), *Financial Assurance Cost Estimate Form*. The unit prices for closure and long-term care of the J.E.D. Solid Waste Management (JED) facility are based on the unit prices used for the 2007 financial assurance cost estimate submitted to FDEP in September 2007 as part of the Major Modification Application for Vertical Expansion and the bids received for the construction of Cell 6. The unit prices used for the 2007 financial assurance cost estimate were increased by an inflation factor of 1.03 (3%) for 2008 as listed in the FDEP web site. The bid documents for the construction of Cell 6 showing soil and geosynthetics unit rates are included in Attachment 2-1. The section numbers noted below correspond to the item numbers on the FDEP form.

I. GENERAL INFORMATION

The financial assurance cost estimate presented on the FDEP form provides the closure and long-term care costs for approximately 12.5 acres corresponding to the footprint of Cell 6 of the JED facility.

V. RECALCULATE ESTIMATED CLOSING COST

1. Monitoring Wells

The groundwater monitoring well system for Phases 1 through 3 (Cells 1 through 10) has already been completed. Therefore, no additional cost is included as part of the closure cost estimate for Cell 6.

2. Slope and Fill (Intermediate Cover)

On-site soils will be used for intermediate cover. The surface area for closure of Cell 6 would be approximately 13.2 acres that account for 33 percent of the side slope area. The

Written by: Jay Eun Date: Sep 2008 Reviewed by: K. Wills Date: Sep 2008
Client: Omni Waste Project: Fin Assur for Cell 6 Project No.: FL1451 Phase No.: 01

total estimated cubic yardage is 21,296 cy for the 1-ft thick intermediate cover layer over the waste surface. The cost per cubic yard (cy) includes excavation, hauling, placement, spreading, and compaction. The estimated cost for slope and fill material is as follows:

- 21,296 cy @ \$3.05/cy = \$64,953

3. Cover Material (Barrier Layer)

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

- 40-mil PE textured geomembrane;
- geocomposite drainage layer on 3:1 side slope only;
- 18 inch of cover protective soil layer; and
- 6 inch of vegetative soil layer.

Cover protective soil will consist of material obtained from on-site. Cost for cover protective soil includes excavation, hauling, placement, spreading, and compaction. Cost for geosynthetics includes material and installation costs.

The estimated quantities for Cell 6 are:

- 31,944 cy cover soils @ \$3.05/cy = \$97,429
- 63,888 sy 40-mil PE textured geomembrane @ \$4.05/sy = \$258,746
- 63,888 sy geocomposite drainage layer @ \$4.01/sy = \$256,191

The total cost for final cover materials (excluding the vegetative soil layer) is \$612,366

4. Vegetative Soil Cover

The vegetative soil layer consists of a 6 inch layer over the entire Phases 1 through 3 areas. The estimated cubic yardage for Cell 6 is 10,648 cy. The cost per cubic yard includes hauling, placing and spreading. The estimated cost for the vegetative soil layer is as follows:

- 10,648 cy @ \$3.05/cy = \$32,476

Written by: Jay Eun Date: Sep 2008 Reviewed by: K. Wills Date: Sep 2008
Client: Omni Waste Project: Fin Assur for Cell 6 Project No.: FL1451 Phase No.: 01

5. Vegetative Layer

The final cover area will be hydro-seeded. Hydro-seeding costs include all labor and materials. The estimated area for closure of Cell 6 is 13.2 acres:

- 13.2 acres @ \$2,214.50/acre = \$29,231

6. Storm Water Control System

Most of the perimeter and site storm water control system components will be installed as part of the landfill construction, and are therefore not included as part of the closure construction estimate. Storm water control components for Cell 6 that will be installed during closure consist of drainage swales and structures on the side slope benches and HDPE corrugated pipe downchutes. The earthwork estimate includes excavation, hauling, placement, spreading, and compaction.

For the purpose of estimating closure cost, it has been assumed that approximately 550 linear feet of pipe downchutes and six (6) drainage structures will be installed to convey the storm water from the proposed side slope benches to the storm water ponds at the toe of the landfill. It has been further assumed that a 20-ft by 20-ft section of Fabriform will be placed for erosion protection at the location of each drainage structure.

The total cost for the storm water control system is estimated to be \$45,116 as indicated below.

- Earthwork: 3,213 cy @ \$3.05/cy = \$ 111,901
- Piping: 529 lf of 18 inch HDPE pipe @ \$15.45/ft = \$8,173
- Drainage structures: 6 @ \$2,060 each = \$12,360
- Fabriform: 261 sy @ \$56.65/sy = \$14,786

7. Gas Controls: Active

The JED facility will have an active gas collection and control system (GCCS). Based on the proposed GCCS design, an average of 1.2 gas extraction wells will be installed per acre of the landfill footprint. This corresponds to approximately 15 gas extraction wells in Cell

Written by: Jay Eun Date: Sep 2008 Reviewed by: K. Wills Date: Sep 2008
Client: Omni Waste Project: Fin Assur for Cell 6 Project No.: FL1451 Phase No.: 01

6. For the purpose of estimating closure cost, it has been assumed that 10 of the 15 gas extraction wells will be installed during closure. Installation cost for gas extraction wells is approximately \$10,000 per well. This unit price includes installation of the lateral and header pipe network as well. Therefore, the cost of installing the GCCS during closure = $\$10,300 \times 10 \text{ wells} = \$103,000$

8. Gas Control: Active Extraction

Based on the proposed GCCS design, two gas flare stations will be installed as part of the GCCS for Phases 1 through 3. For the purpose of estimating closure cost, it has been assumed that each gas flare station will cost approximately \$206,000. It has also been assumed that one flare station will be installed prior to closure and the other will be installed during closure. Closure cost for a flare station for Phases 1 through 10 is split based on ratio of the area of Cell 6 (12 acres) to total area of Phases 1 through 3 (124.8 acres). Therefore, the total active gas extraction cost for Cell 6 = $\$206,000 \times (12/124.8) = \$19,808$.

9. Security System

Perimeter fencing, gates, and signs will be repaired, as needed, during closure. A \$495 lump sum allowance has been estimated for this work. Note that perimeter fencing and gates were installed as part of the Phase 1 construction and therefore have not been included as part of the closure costs estimate. Closure signs will be installed as required.

10. Engineering

Costs for each item of engineering services associated with final closure of Phases 1 through 3 are split based on number of cells (i.e. 10 cells) to estimate the engineering services costs for Cell 6.

- Closure Permit Plan and Report: $\$25,750 \times (1/10) = \$2,575$
- Final Survey: $\$10,300 \times (1/10) = \$1,030$
- Certification Report (prepared and certified by Florida registered professional engineer): $\$18,540 \times (1/10) = \$1,854$
- Other: Construction Drawings and Technical Specifications: $\$41,200 \times (1/10) = \$4,120$

Written by: Jay Eun Date: Sep 2008 Reviewed by: K. Wills Date: Sep 2008
Client: Omni Waste Project: Fin Assur for Cell 6 Project No.: FL1451 Phase No.: 01

11. Professional Services

It has been assumed that 3% of construction cost will be needed for contract/construction management, which corresponds to $0.03 \times \$927,027 = \$27,511$

It has also been assumed that 7% of construction cost will be needed for construction quality assurance, which corresponds to $0.07 \times \$927,027 = \$64,192$

12. Contingency

Assuming a contingency of 10% of the closure cost.

13. Site Specific Costs

Contractor mobilization has been assumed to be 3% of the closure cost, excluding the costs for professional services, which corresponds to $0.03 \times \$927,027 = \$27,511$

VI. ANNUAL COST FOR LONG-TERM CARE

1. Groundwater Monitoring

The long-term care cost for groundwater monitoring wells was included in the previously approved financial assurance cost estimate for Cells 1 through 5. Therefore, no additional cost is included as part of the long-term care cost estimate for Cell 6.

2. Surface Water Monitoring

The JED facility has been designed to retain all water from a 100-year storm event on-site. No off-site discharge of surface water is anticipated. Therefore, no surface water monitoring costs have been included.

Written by: Jay Eun Date: Sep 2008 Reviewed by: K. Wills Date: Sep 2008
Client: Omni Waste Project: Fin Assur for Cell 6 Project No.: FL1451 Phase No.: 01

3. Gas Monitoring

The long-term care cost for gas monitoring probes was included in the previously approved financial assurance cost estimate for Cells 1 through 5. Therefore, no additional cost is included as part of the long-term care cost estimate for Cell 6.

4. Leachate Monitoring

A leachate sample would be collected from Cell 6 annually. The leachate sampling cost includes all labor, equipment, and laboratory analyses required by the regulations.

- Annual leachate monitoring cost: \$1,030/year

5. Leachate Collection/Treatment System Maintenance

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

Leachate collection pipes: Assumed that one cleaning within the 30-year monitoring period will be required for Cell 6. $\$11,742 / 30 \text{ years} = \$391/\text{year}$.

Leachate pumps: Assumed that pumps require annual maintenance and Cell 6 will require a replacement pump during the 30-year monitoring period:

- Annual maintenance = \$293/year
- Leachate pump replacement cost = $\$6,180/30\text{years} = \$212/\text{year}$
- Total estimated annual cost for pumps = \$505/year

Leachate storage containers: Long term care for the leachate storage containers assumes that three of the four bladders will require replacement over the 30-year monitoring period. Replacement cost has been assumed to be \$10,000 per flexible bladder. Total long-term care cost for the three bladder replacement was split based on number of cells (i.e. 10 cells) to estimate the Cell 6 long-term care cost for leachate storage containers.

- $3 \text{ bladders} \times \$10,300/\text{bladder} / 30 \text{ years} \times (1/10) = \$103/\text{year}$

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Client: Omni Waste Project: Fin Assur for Cell 6 Project No.: FL1451 Phase No.: 01

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 height of 220 ft in the calculation package entitled *Leachate Management System*).

- $24.63 \text{ cf/ac/year or } 184.3 \text{ gal/ac/year} \times 12 \text{ acres} \times 20 \text{ percent} = 442 \text{ gal/year}$
 $\times \$0.12/\text{gallon for transportation and treatment} = \$53/\text{year}.$

Therefore, total long-term care cost for leachate system maintenance = \$1,052/year.

6. Leachate Collection/Treatment Systems Operation

The long-term care cost for leachate collection/treatment system operation was included in the previously approved financial assurance cost estimate for Cells 1 through 5. Therefore, no additional cost is included as part of the long-term care cost estimate for Cell 6.

7. Maintenance of Groundwater Monitoring Wells

The long-term care cost for maintenance of groundwater monitoring wells was included in the previously approved financial assurance cost estimate for Cells 1 through 5. Therefore, no additional cost is included as part of the long-term care cost estimate for Cell 6.

8. Gas System Maintenance

The long-term care cost for gas system maintenance was included in the previously approved financial assurance cost estimate for Cells 1 through 5. Therefore, no additional cost is included as part of the long-term care cost estimate for Cell 6.

9. Landscape

The long-term care cost estimate assumes that for the 13.2-acre area, the grass will be mowed four times per year at a cost of \$111.24 per acre. Mowing/maintenance: 4 times/year $\times 13.2 \text{ acres} \times \$111.24/\text{acre} = \underline{\$5,873/\text{year}}$

Written by: Jay Eun Date: Sep 2008 Reviewed by: K. Wills Date: Sep 2008
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10. Erosion Control and Cover Maintenance

As indicated on FDEP form.

11. Storm Water Management System Maintenance

As indicated on FDEP form.

12. Security System Maintenance

The long-term care cost for security system maintenance was included in the previously approved financial assurance cost estimate for Cells 1 through 5. Therefore, no additional cost is included as part of the long-term care cost estimate for Cell 6.

13. 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 \$2,060 per month. The total utility cost for Phases 1 through 3 is split based on number of cells (i.e. 10 cells) to estimate the utility cost for Cell 6:

- $\$2,060/\text{month} \times 12 \text{ months} \times (1/10) = \underline{\$2,472/\text{year}}.$

14. Administrative

The long-term care cost estimate assumes that the administrative costs for Phases 1 through 3 to be \$20,600/year. The total administrative cost for Phases 1 through 3 is split based on number of cells (i.e. 10 cells) to estimate the administrative cost for Cell 6:

- $\$20,600/\text{year} \times (1/10) = \$2,060/\text{year}$

15. Contingency

Assuming a contingency of 10 % of total long-term annual care cost



Florida Department of Environmental Protection
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

DEP Form # 62-701.900(28)
Form Title Financial Assurance Cost Estimate Form
Effective Date 05-27-01
DEP Application No. _____
(Filled by DEP)

FINANCIAL ASSURANCE COST ESTIMATE FORM

Date: September 2008

Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: J.E.D. Solid Waste Management Facility WACS or GMSID #: 89544

Permit / Application No.: SC49-0199726-006, SO49-0199726-007 Expiration Date: 11 Jan 2012

Facility Address: 1501 Omni Way, St. Cloud, FL 34773

Permittee: Omni Waste of Osceola County, LLC (a wholly owned subsidiary of WSI)

Mailing Address: Same as above

Latitude: 28 03'31" Longitude: 81 05'46" or UTM: _____

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Design Life of Unit From Date of Initial Receipt of Waste
PH2/ Cell 6	~12.5	Sep 2008	1 to 2 yrs

Total Landfill Acreage included in this estimate. 13.2 Closure 13.2 Long-Term Care

Type of landfill: ☒ Class I ☐ Class III ☐ C&D Debris

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check Type)

☐ Letter of Credit* ☒ Insurance Certificate
☐ Surety Bond* ☐ Escrow Account
☐ Trust Fund Agreement ☐ Financial Test

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

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-448-4300

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

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
941-332-6975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-681-6600

III. ESTIMATE ADJUSTMENT

40 CFR Part 264 Subpart H as adopted by reference in Rule 62-701.630, Florida Administrative Code sets forth the method of annual 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

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 Financial Coordinator at (850)-245-8732.

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

Latest Department Approved Closure Cost Estimate:		Current Year Inflation Factor		Inflation Adjusted Closure Cost Estimate:
_____	X	_____	=	\$0.00

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

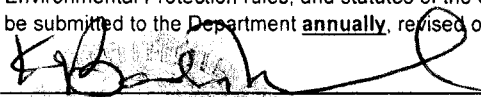
Latest Department Approved Annual Long-Term Care Cost Estimate:		Current Year Inflation Factor		Inflation Adjusted Annual Long-Term Care Cost Estimate:
_____	X	_____	=	\$0.00

Number of Years of Long Term Care Remaining:	X	_____
Inflation Adjusted Long-Term Care Cost Estimate:	=	0.00

☒ (b) Recalculate Estimates (see section V)

IV. CERTIFICATION BY ENGINEER

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



Signature of Engineer

Kwasi Badu-Twenenboah, Associate
Name & Title (please type) GeoSyntec Consultants

42460-9-8-08

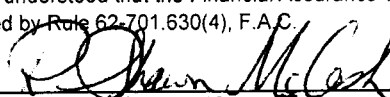
Florida Registration Number (affix seal) & Date

1200 Riverplace Blvd. Suite 710,

Mailing Address Jacksonville, FL 32207

(904) 858-1818

Telephone Number



Signature of Owner/Operator

Shawn McCash, Senior Vice President
Name & Title (please type) Waste Services, Inc.

(561) 237-3414

Telephone Number

V. RECALCULATE ESTIMATED CLOSING COST

For the time period in the landfill operation when the extent and manner of its operation makes closing **most expensive**.

**** Third Party Estimate / Quote must be provided for each item**

**** Costs must be for a third party providing all material and labor**

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
1. Proposed Monitoring Wells	(Do not include wells already in existence.)			
	EA			\$0.00
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	CY			\$0.00
Placement and Spreading	CY	21,296	\$3.05	\$64,952.80
Compaction	CY			\$0.00
Off-Site Material	CY			\$0.00
Delivery	CY			\$0.00
Subtotal Slope and Fill:				\$64,952.80
3. Cover Material (Barrier Layer):				
Cover Protective Soil	CY	31,944	\$3.05	\$97,429.20
Synthetics - 40 mil (textured)	SY	63,888	\$4.05	\$258,746.40
Synthetics - 40 mil (smooth)	SY		\$4.05	\$0.00
Synthetics - Geocomposite	SY	63,888	\$4.01	\$256,190.88
Synthetics - Other	SY			\$0.00
Subtotal Barrier Layer Cover:				\$612,366.48
4. Vegetative Soil Cover:				
Off-Site Material	CY			\$0.00
Delivery	CY			\$0.00
Spread	CY	10,648	\$3.05	\$32,476.40
Subtotal Top Soil Cover:				\$32,476.40

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
5. Vegetative Layer				
Sodding	SY			\$0.00
Hydroseeding	AC	13.2	\$2,214.50	\$29,231.40
Fertilizer	AC			\$0.00
Mulch	AC			\$0.00
Other	SY			\$0.00
Subtotal Vegetative Layer:				\$29,231.40
6. Stormwater Control System:				
Earthwork	CY	3,213	\$3.05	\$9,799.65
Grading	SY			\$0.00
Piping	LF	529	\$15.45	\$8,173.05
Ditches	LF			\$0.00
Berms	LF			\$0.00
Control Structures	EA	6	\$2,060.00	\$12,360.00
Other (Fabriform)	SY	261	\$56.65	\$14,785.65
Subtotal Stormwater Controls:				\$45,118.35
7. Gas Controls: Active				
Wells	EA	10	\$10,300.00	\$103,000.00
Pipe and Fittings	LF			\$0.00
Monitoring Probes	EA			\$0.00
NSPS/Title V requirements	LS			\$0.00
Subtotal Passive Gas Control:				\$103,000.00

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
8. Gas Control: Active Extraction				
Traps	EA			\$0.00
Sump	EA			\$0.00
Flare Assembly	EA			\$0.00
Flame Arrestor	EA			\$0.00
Mist Eliminator	EA			\$0.00
Flow Meter	EA			\$0.00
Blowers	EA			\$0.00
Collection System	LS			\$0.00
Other (Gas Flare System)	LS	1	\$19,807.69	\$19,807.69
Subtotal Active Gas Extraction:				\$19,807.69
9. Security System:				
Fencing				\$0.00
Gate(s)	LS	1	\$495.19	\$495.19
Sign(s)				\$0.00
Subtotal Security System:				\$495.19
10. Engineering:				
Closure Plan report	LS			\$2,575.00
Certified Engineer	LS			
NSPS/Title V Air Permit	LS			
Final Survey	LS			\$1,030.00
Certification of Closure	LS			\$1,854.00
Other (detail) Construction Drawings & Specs				\$4,120.00
Subtotal Engineering:				\$9,579.00

	Contract Management		Quality Assurance		Total
	Hours	LS	Hours	LS	
P.E. Supervisor					\$0.00
On-Site Engineer					\$0.00
Office Engineer					\$0.00
On-Site Technician					\$0.00
Other (explain) 3% of construction cost		\$27,511.	7% of construction cost	\$64,192.	\$91,703.00

Subtotal Professional Services: \$112,303.00

12. Contingency	% of Total (example. enter .1 for 10%)	10%
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13. Site Specific Costs (explain)

Other

TOTAL CLOSING COSTS	\$1,159,774.34
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VI. ANNUAL COST FOR LONG-TERM CARE

(Check Term Length)

_____ 5 Years _____ 20 Years ☒ 30 Years _____ Other

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.

**** Third Party Estimate / Quote must be provided for each item**

**** Costs must be for a third party providing all material and labor**

All items must be addressed. Attach a detailed explanation for all items marked not applicable (N/A)

Description	Sampling Frequency (events/yr.)	Number of Wells	\$ / Well / Event	\$ / Year
1. Groundwater Monitoring (62-701.510(6), and (8)(a))				
Monthly	12	_____	_____	\$0.00
Quarterly	4	_____	_____	\$0.00
Semi-Annual	2	_____	_____	\$0.00
Annual	1	_____	_____	\$0.00
Subtotal Groundwater Monitoring:				\$0.00
2. Surface Water Monitoring (62-701.510(4), and (8)(b))				
Monthly	12	_____	_____	\$0.00
Quarterly	4	_____	_____	\$0.00
Semi-Annual	2	_____	_____	\$0.00
Annual	1	_____	_____	\$0.00
Subtotal Surface Water Monitoring:				\$0.00
3. Gas Monitoring				
Monthly	12	_____	_____	\$0.00
Quarterly	4	_____	_____	\$0.00
Semi-Annual	2	_____	_____	\$0.00
Annual	1	_____	_____	\$0.00
Subtotal Gas Monitoring:				\$0.00

Description	Sampling Frequency (events/yr.)	Number of Locations	\$/Location/Event	\$ / Year
4. Leachate Monitoring (62-701.510(5), (6)(b) and 62-701.510(8)(c))				
Monthly	12			\$0.00
Quarterly	4			\$0.00
Semi-Annual	2			\$0.00
Annual	1	1	\$1,030.00	\$1,030.00
Other				\$0.00
Subtotal Leachate Monitoring:				\$1,030.00

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST
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5. Leachate Collection/Treatment Systems Maintenance

Maintenance

Collection Pipes	LS	1	\$391.40	\$391.40
Sumps, Pumps	LS	1	\$504.70	\$504.70
Lift Stations	EA			\$0.00
Cleaning	LS			\$0.00
Flexible Storage Bladder	LS	1	\$103.00	\$103.00

Impoundments

Liner Repair	SY			\$0.00
Sludge Removal	CY			\$0.00

Aeration Systems	CY			\$0.00
Floating Aerators	EA			\$0.00
Spray Aerators	EA			\$0.00

Disposal

Off-site	gallon	442	0.12	\$53.04
(Include Transportation and Disposal)				\$1,052.14

6. Leachate Collection/Treatment Systems Operation

Operation		Hours	\$/Hour	Total
P.E. Supervisor	HR			\$0.00
On-Site Engineer	HR			\$0.00
Office Engineer	HR			\$0.00
OnSite Technician	HR			\$0.00
Materials	LS			
Subtotal Leachate Collection/Treatment System Maintenance & Operation:				\$0.00

7. Maintenance of Groundwater Monitoring Wells

Monitoring Wells	LF			\$0.00
Replacement	EA			\$0.00
Abandonment	EA			\$0.00
Subtotal Groundwater Monitoring Well Maintenance:				\$0.00

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST
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8. Gas System Maintenance

Piping, Vents	LF			\$0.00
Blowers	EA			\$0.00
Flaring Units	EA			\$0.00
Meters, Valves	EA			\$0.00
Compressors	EA			\$0.00
Flame Arrestors	EA			\$0.00
Total Cost for Replacement LS				
SubTotal Gas System:				\$0.00

9. Landscape

Mowing	AC	13.2	\$444.96	\$5,873.47
Fertilizer	AC			\$0.00
Subtotal Landscape Maintenance:				\$5,873.47

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST
10. Erosion Control & Cover Maintenance				
Sodding	SY	100	\$1.40	\$140.00
Regrading	AC			\$0.00
Liner Repair	Event	1	\$206.00	\$206.00
Clay	CY			\$0.00
Subtotal Erosion Control and Cover Maintenance:				\$346.00
11. Storm Water Management System Maintenance				
Conveyance Maintenance	LS	1		\$495.19
Subtotal Storm Water System Maintenance:				\$495.19
12. Security System Maintenance				
Fences	LF			\$0.00
Gate(s)	EA			\$0.00
Sign(s)	EA			\$0.00
Subtotal Security System:				\$0.00
13. Utilities	LS			\$2,472.00
14. Administrative				
		Hours	\$/Hour	Total
P.E. Supervisor	HR			\$0.00
On-Site Engineer	HR			\$0.00
Office Engineer	HR			\$0.00
OnSite Technician	HR			\$0.00
Other (explain)	LS	1	\$2,060.00	\$2,060.00
Subtotal Administrative:				\$2,060.00
15. Contingency	% of Total			10%
	\$13,328.80	Subtotal Contingency:		\$1,332.88

16. Site Specific Costs (explain)

UNIT COST

<hr/>	LS	<hr/>
<hr/>	LS	<hr/>
<hr/>	LS	<hr/>

ANNUAL LONG-TERM CARE COST (\$/Year): \$14,661.68

NUMBER OF YEARS OF LONG-TERM CARE 30.00

TOTAL LONG-TERM CARE COST (\$) \$439,850.47



Florida Department of Environmental Protection

Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

By E-Mail
smccash@wasteservicesinc.com

Mr. R. Shawn McCash
Senior Vice President
Omni Waste of Osceola County, LLC (Omni)
1501 Omni Way,
St. Cloud, FL 34773

OCD-SW-08-0451

Osceola County – SW
J.E.D Solid Waste Management Facility, Class I
Cell 6 Operation – Minor Modification
Minor Modification of Permit No. SC49-0199726-008
First Request for Additional Information for Permit Application No. SO49-0199726-009

Dear Mr. McCash:

The Department received your application for a minor modification to SC49-0199726-008. The application was dated July 28, 2008; it was received July 30, 2008. The minor modification was submitted to comply with Specific Condition No. 60 of the permit. As required, the application provided the updated closure and long-term care cost estimates and Certification of Construction for Cell 6. After the new cost estimate is approved, the financial assurance mechanism must be updated.

The application materials included the certification that all construction of Cell 6 had been completed. The Department has some questions about the certification (see Attachment A). Because of Tropical Storm Fay, the Department's inspection of Cell 6 has been delayed. It is scheduled for September 4, 2008. Therefore, the Department has not yet approved the certification of construction for Cell 6.

The application is incomplete. Please provide the information listed on the attached sheets promptly. Evaluation of your application will be delayed until all the requested information has been received. Disposal of waste in Cell 6 is not permitted at this time.

Pursuant to Section 120.60(2), Florida Statutes, the Department may deny an application, if the applicant, after receiving timely notice, fails to correct errors and omissions, or supply additional information within a reasonable period of time. Accordingly, please provide the additional information within 30 days of the date you receive this letter. Submit three copies of the requested information to the Department and reference the above permit application number in your correspondence.

FO 9-16-08
FO 8-27-08

If you have any questions, please contact me at (407) 893-3328 or at tom.lubozynski@dep.state.fl.us.

Sincerely,



F. Thomas Lubozynski, P.E.
Waste Program Administrator

Date: August 27, 2008

FTL/gc/ew

Attachments:

- A. RAI for "Certification Report Construction of Cell 6"
- B. RAI for "Minor Modification Application for Phased Financial Assurance Cell 6 Construction"

cc: Kwasi Badu-Tweneboah, P.E. – Geosyntec Consultants, Tampa, FL 33637
kbadutweneboah@geosyntec.com
Jim Bradner, Air Program james.bradner@dep.state.fl.us

A. Note that all references to "Report" in the following text refers to the document entitled, "Certification Report Construction of Cell 6", prepared by Geosyntec Consultants, 14055 Riveredge Drive, Suite 300, Tampa, Florida 33637, dated July 2008.

1. Page 1-1, Section 1.1 Overview, Paragraph 3, First sentence in the report reads "The CQA activities were performed.....with Construction Permit SC49-0199726-007..." The Permit No. is SC49-0199726-008. Submit the revised page or if you prefer the Department will make correction.
2. Page 2-1, Section 2.1, Paragraph 3, Second last sentence in the report reads "The footprint of Cell 6 is approximately 12.5 acres". The DEP Form # 62-701.900(2), Titled "Certification of Construction Completion" submitted along with this Report on line 8 reads "Site Acreage: Cell 6, Approx. 12 Acres". Provide the correct acreage footprint information in the Report and accordingly revise the DEP Form # 62-701.900(2).
3. Page 3-4, Section 3.4, Certification Report and Record Drawings, Paragraph 2, last sentence reads "Resultshave been summarized in a tabular form and are included in this certification report." Revise the sentence to provide details of where the tabular form is located in the Report.
4. Page 4-5, Section 4.4.5, Anchorage of Geosynthetics does not include a description of the how the geosynthetics panels were tied into respective layers of geosynthetics from Cell 3 and Cell 5. Include a brief description accordingly in this section of the Report.
5. Page 5-18, Section 5.8, Other Related Geosynthetics Work, last sentence reads "These panels have been noted on the Secondary geomembrane panel layout drawing". Please provide the drawing number and the location of this drawing in the Report.
6. Appendix C-2, As-Built Liner Panel Layout Drawings From Comanco: In accordance with Rule 62-701.320(7)(f)2, FAC, the as-built panel layout drawings need to be signed and sealed by a Florida Licensed Professional Engineer. Additionally, Appendix C-2 includes two drawings (Cell 6 - 60 mil textured primary, and secondary layers) and both the drawings are labeled as DWG. NO:
1. Revise the Drawing Numbers.
7. The Table of Contents of this report on Page iv, lists Appendix M to contain CQA Laboratory Test Results for Primary and Secondary Geocomposites and Geotextile. However, the CQA Laboratory Test Results for the Geotextile are missing in the Appendix M submitted electronically in the PDF file format on a Compact Disc along with this Report. Please provide these result electronically.

B. Note that all references to "Report" in the following text refers to the document entitled "Minor Modification Application for Phased Financial Assurance Cell 6 Construction", prepared by Geosyntec Consultants, 14055 Riveredge Drive, Suite 300, Tampa, Florida 33637 dated July 2008.

8. Attachment No. 1 of this Report - On Page 5 of 40, DEP Form 62-701.900(1), item no. 13, asks for the date the site, that is, Cell 6, will be ready to be inspected for completion. Because of Tropical Storm Fay the scheduled Construction Completion inspection had to be delayed until September 4, 2008.
9. Following comments pertain to Attachment 2 of this Report – Financial Assurance Cost Estimate
 - a) On Page 1 of 11, DEP Form 62-701.900(28) lists the acreage of Cell 6 as 12.0 Acres. Clarify if the acreage of Cell 6 is 12.0 Acres or approximately 12.5 Acres as noted in Comment no. 2 of this correspondence.
 - b) Total Cell 6 acreage included in this cost estimate is 12.0 Acres. If the 12.0 acres is the area based on the footprint, then all surface area and volume calculations for cover and vegetation need to be revised. The area and volume calculations must use the surface area, which includes the side slope areas and is larger than the footprint area. Please provide the calculations which will form the basis of surface area cover material and vegetation to properly close the facility.
 - c) Submit the revised cost estimate to incorporate the changes listed above (Comment 9 a. and 9 b.), signed and sealed by a professional engineer licensed in Florida.
10. A financial mechanism must be funded in the amount of the sum of the total closure and long-term care costs specified in the approved cost estimate and accepted by the Department's Financial Coordinator before this application can be deemed complete. At this time the cost estimate has not been approved. Financial responsibility arrangements for the facility for the approved amounts are to be made with the Financial Coordinator, Solid Waste Section, MS-4565, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, and a copy of the approval letter submitted to: Department of Environmental Protection, Central District, Solid Waste Section, 3319 Maguire Boulevard, Suite 232, Orlando, Florida 32803-3767.

Catalog	SOLID WASTE
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Administrative	
Discovery Compliance	
Cleanup	
Enforcement Legal	
Fiscal	
Permitting	X

County	Osceola
Facility ID #	87851 89544
Document Date	
Received Date	
Doc Type	Permit Application Related
Contractor ID	
Facility Type	100
Document Subject	J.E.D. SWMF, Class I- Cell 6, Permit App. No. SO49- 199726-009, First RAI

Lubozynski, Tom

From: Michael Kaiser [mkaiser@wasteservicesinc.com]
Sent: Monday, August 11, 2008 2:22 PM
To: Lubozynski, Tom
Cc: DePradine, Gloria-Jean; Shawn McCash; Matt Orr; Courcy, Dan; Dennis Pantano; KWills@Geosyntec.com
Subject: JED Solid Waste Management Facility - Gas Monitoring Probe Exceedence Investigation Report
Attachments: JED SWMF Gas Probe Exceedence Investigation FDEP Submittal August 2008.pdf

Mr. Lubozynski:

Please find attached a summary report of the resample and evaluation of gas detected in the perimeter gas probes at the JED Solid Waste Management Facility. I will send an original copy of the letter and report.

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@wsii.us

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Tom O'Connell
MC
9/29



1501 Omni Way, St. Cloud, FL 34773

August 11, 2008

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

RECEIVED

AUG 15 2008

DEP Central Dist.

Re: Reporting of Gas Monitoring Probe Test Results
Fingerprint Analyses of Exceedences
J.E.D. Solid Waste Management Facility
Osceola County, Florida
Permit Nos. SC-0197726-004 and S049-0199726-005


Dear Mr. Lubozynski:

Omni Waste of Osceola County, LLC (Omni) is submitting the attached Gas Monitoring Probe Test Result Summary prepared by Brown and Caldwell Consultants (B&C) for the J.E.D. Solid Waste Management Facility (facility). The perimeter gas monitoring probe testing and evaluation was completed by B&C in response to the exceedence of the Lower Explosive Limit (LEL) for methane in probes GP-14, GP-18, and GP-21, as reported to the Florida Department of Environmental Protection (FDEP), Central District, on May 19, 2008. Omni requested the services of B&C to complete a fingerprint analysis and evaluation of gas detected in the probes for comparison with landfill gas collected from facility's leachate collection system. As reported by B&C, the results support Omni's belief that the exceedences at the probes is attributed to natural occurring methane associated with decomposition of organic materials in the wetlands surrounding the facility's boundary.

This submittal completes the intermediate step, before developing a remediation plan, as proposed by Omni in the May 19, 2008 letter. Because the gas detected in the probes is not migrating from the landfill area, Omni requests the FDEP Central District not require implementation of a remediation plan per F.A.C. Rule 62-701.530(3)(a)(1&2). Omni would like to meet with your Department to discuss future methods for sampling, validating exceedences, and reporting results for probes. I hope the information submitted meets with your approval. If you have any questions or require additional information, please contact me at (904) 673-0446 or mkaiser@wsii.us at your earliest convenience.

*For Ombler
BSL
8/29*

Sincerely,

A handwritten signature in cursive script that reads "Mike Kaiser".

Mike Kaiser
Vice President, Environmental Management and Engineering, US
Waste Services, Inc.

Attachments

Cc: Mr. Matt Orr, WSI
Mr. Shawn McCash, WSI
Mr. Dan Courcy, Brown and Caldwell Consultants

850 Trafalgar Court
Suite 300
Maitland, Florida 32751

Tel: (407) 661-9500
Fax: (407) 661-9599

www.browncaldwell.com



August 7, 2008

Mr. Mike Kaiser
Vice President, Environmental Management & Engineering, U.S.
Waste Services, Inc.
JED Solid Waste Management Facility
1501 Omni Way
St. Cloud, Florida 34773

Subject: Gas Monitoring Probe Testing Result Summary,
J.E.D. Solid Waste Management Facility

Dear Mr. Kaiser:

Brown and Caldwell (BC) has prepared this letter to summarize the results of monitoring and sample analysis performed at several perimeter gas migration monitoring probes around the active landfill area (Phases 1-3) at the J.E.D. Solid Waste Management Facility, in St. Cloud, Osceola County, Florida. The perimeter gas monitoring probes were installed in April and May 2008, and monitored for the first time on May 12, 2008. During the first routine monitoring event, personnel from Geosyntec Consultants observed methane at eight of the perimeter monitoring probes. Three locations exceeded 100% of the lower explosive limit (LEL) for methane, which led to the need for further investigation of the source of the methane, in accordance with F.A.C. 62-701.530.

At the request of Waste Services Inc. (WSI), BC coordinated the collection of gas samples from eight of the perimeter gas monitoring probes and two landfill leachate collection risers. The samples from the leachate risers and gas probes were sent to Air Toxics, Ltd. in California for detection of volatile organic compounds (VOCs). Additionally, each of the monitored probes and leachate risers were tested using a LandTec GEM-2000 for methane, carbon dioxide, oxygen, and balance gas. The sampling results are included with this letter.

The VOC analysis was performed to compare the results of gas samples from the leachate risers with gas samples from the perimeter gas probes, and identify any common compounds that would indicate the gas may be coming from the landfill. Some of the compounds on the list are common to both the probes and the landfill, as indicated in the table on the next page. However, there are several other explanations, not related to landfill gas, which could cause these compounds to appear in the gas probes. These causes and several other issues related to the

locations of the gas probes that indicate that the methane being observed is naturally occurring are further explained below.

Leachate Riser and Gas Probe VOC Analysis Results (6/06/08)

Compound	Concentration (ppbv)									
	LC-16	LC-18	GP-10	GP-14	GP-15	GP-18	GP-19	GP-20	GP-21	GP-22
Chloroform	ND	ND	ND	ND	ND	25	14	24	ND	ND
Ethanol	1300	7800	4200	3800	3300	2800	2700	1400	2200	2200
2-Propanol	5200	7000	8600	9100	7600	8200	8400	5100	8700	8600
Tetrahydrofuran	2100	4300	5500	4500	9700	4000	1800	1000	15000	42000
2-Butanone	670	3300	660	760	1700	380	130	140	3500	5100
Ethyl Benzene	1900	2300	ND	ND	ND	10	ND	ND	ND	ND
m,p-Xylene	2100	2100	ND	ND	ND	20	18	17	ND	ND
Vinyl Chloride	770	2100	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	300	2000	1600	1200	2600	1100	560	390	5000	7600
Benzene	800	1900	ND	ND	ND	ND	ND	ND	ND	ND
Heptane	560	1900	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	440	1700	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	320	1200	ND	ND	ND	ND	ND	ND	ND	ND
Hexane	630	910	ND	ND	ND	ND	ND	ND	ND	ND
Freon 12	440	790	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	120	610	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	570	530	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	64	230	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	600	210	ND	ND	ND	21	18	ND	ND	ND
1,2-Dichloroethane	51	200	ND	ND	ND	ND	ND	ND	ND	ND
4-Ethyltoluene	200	160	ND	ND	ND	ND	ND	ND	ND	ND
Cumene	150	140	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	35	130	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	63	120	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	23	110	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	120	100	120	120	100	87	83	57	74	ND
Methyl tert-butyl ether	38	100	ND	ND	ND	ND	ND	ND	ND	ND
1,3,4-Trimethylbenzene	130	89	ND	ND	ND	ND	ND	ND	ND	ND
Freon 114	45	84	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	22	71	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	29	52	ND	ND	ND	ND	ND	ND	ND	ND
Propylbenzene	63	50	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	48	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	74	46	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	25	44	ND	ND	ND	ND	ND	ND	ND	ND

- LC-# locations are leachate cleanout risers on the landfill.
- ND = Not Detected

Field Testing Results (6/06/08)

	LC-16	LC-18	GP-10	GP-14	GP-15	GP-18	GP-19	GP-20	GP-21	GP-22
% LEL	---	---	2	192	0	22	0	0	0	0
% Methane	56	56	0.1	9.6	0	1.1	0	0	0	0
% Carbon Dioxide	40	43	12	17	17	12	9	4	2	7
% Oxygen	0.2	0.2	6	6	3	7	11	14	17	12
% Balance	3	1	81	67	80	79	80	82	82	81

The table summarizes the results of the gas monitoring performed on June 6, 2008. John Sullivan of Sullivan Environmental went to the site on this day to collect the samples and ship them to the laboratory for analysis. The first column in the table lists the compounds detected in one or more of the samples. The second and third columns list the results for the two landfill gas samples taken from the leachate collection system riser pipes. The remaining columns list the results of the samples taken from the perimeter gas monitoring probes.

As can be seen in the table, six compounds (highlighted in gray) appear in the landfill gas from the leachate risers and in nearly every perimeter gas probe sample. Except for ethanol, it is believed that the presence of these compounds in the gas probe samples can be attributed to the PVC adhesive cement used to attach the sampling ports to the PVC gas probe pipes. It was reported by Geosyntec Consultants that PVC adhesive cement was used to attach the sampling ports. WSI has indicated to BC that these ports and the adhesive will be removed, and new ports will be attached without adhesives. Ethanol, the other VOC observed in each of the monitoring probes, is not typically used in PVC adhesives or solvents. However, ethanol is a naturally occurring substance generated during the fermentation/decomposition of organic matter in swamps and wetlands.

Of the remaining 29 parameters observed in the landfill gas, only chloroform, xylenes, ethyl benzene, and carbon disulfide were observed in any of the gas probes. All four compounds were observed in GP-18 at low concentrations, and all but ethyl benzene were observed at GP-19 and GP-20 at low concentrations. Each of these parameters can also be associated with the use of PVC adhesives, solvents, and paints. These parameters were observed just above the reportable levels in these samples, which had low dilution factors.

Baseline groundwater monitoring by Geosyntec in May 2004 indicates that chloroform and toluene were detected at the site prior to constructing the landfill facility. The chloroform was observed in one well at a low concentration, and toluene was observed at 13 monitoring wells, two of which were greater than the groundwater cleanup target level (GSTCL) of 40 µg/l. Chloroform was not observed in the landfill gas, but was observed in three of the probes. These results indicate that toluene and chloroform are potentially naturally occurring or a pre-existing condition at the site.

In total, 34 VOCs were observed in the two landfill gas samples. Six VOCs appeared in most of the gas probes at elevated levels, and another four VOCs appeared in three of the probes at low concentrations. None of the remaining 24 VOCs observed in the landfill gas samples were detected in the perimeter gas probes. The VOCs detected in the gas probes can be attributed to the PVC adhesive or naturally occurring conditions at the site. Gases from wetlands and swamp areas can contain methane and some naturally occurring VOCs, such as chloroform or ethanol. Chloroform was observed in three of the gas probes, but not in the landfill gas samples. Based on these observations, and the fact that the samples at the gas probes were devoid of non-naturally occurring VOCs (except for compounds associated with PVC adhesive), it is likely that the gas being observed in the perimeter gas probes is not from the landfill.

It should be noted that the landfill disposal area is lined with a double geosynthetic liner system, which will block landfill gas from exiting the landfill through the surrounding soils. According to WSI personnel, no landfilling activities have taken place at this site prior to the construction of the lined cells, thus eliminating the possibility that the gas may be from pre-existing waste disposal. Additionally, no waste materials from the landfill construction activities, such as stumps and logs, were buried in the area. Buried stumps and pieces of wood have been known to generate measureable quantities of methane as decomposition occurs.

Dry stormwater retention areas surround the disposal areas between the lined cells and the perimeter gas probes (see attached cross sections). Water acts as an effective barrier against landfill gas migration through soil. When the perimeter dry retention areas contain standing stormwater, the saturated soils beneath effectively block the path of any gas migration in that direction. Therefore, even if landfill gas was escaping the landfill through the surrounding soils, it would be blocked by the perimeter dry retention areas before it reached the gas probes, if standing stormwater is present. During a recent gas probe monitoring event on July 17, 2008, Geosyntec observed that standing water was present in the dry retention areas. Despite the presence of the standing water, methane was still observed in some of the perimeter gas probes on the opposite side of the stormwater retention areas from the disposal area.

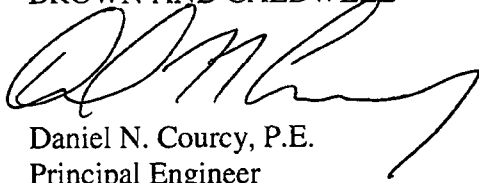
The perimeter gas probes installed at the edge of the property to the north and east of the landfill are constructed at the edge of existing wetlands, based on site records. Since methane can be generated from natural sources, such as the decomposition of organic materials, it is more likely that the methane being observed in the gas probes is associated with naturally occurring processes in the wetlands around the site, and not from the landfill itself.

We recommend that WSI randomly retest some of the perimeter gas probes for VOCs once the PVC adhesive has been removed and the ports replaced. This will help to confirm that many of the VOCs observed in the gas probes are attributable to the adhesive.

If you have any questions comments regarding this letter, please contact me at any time (407)
661-9506.

Very truly yours,

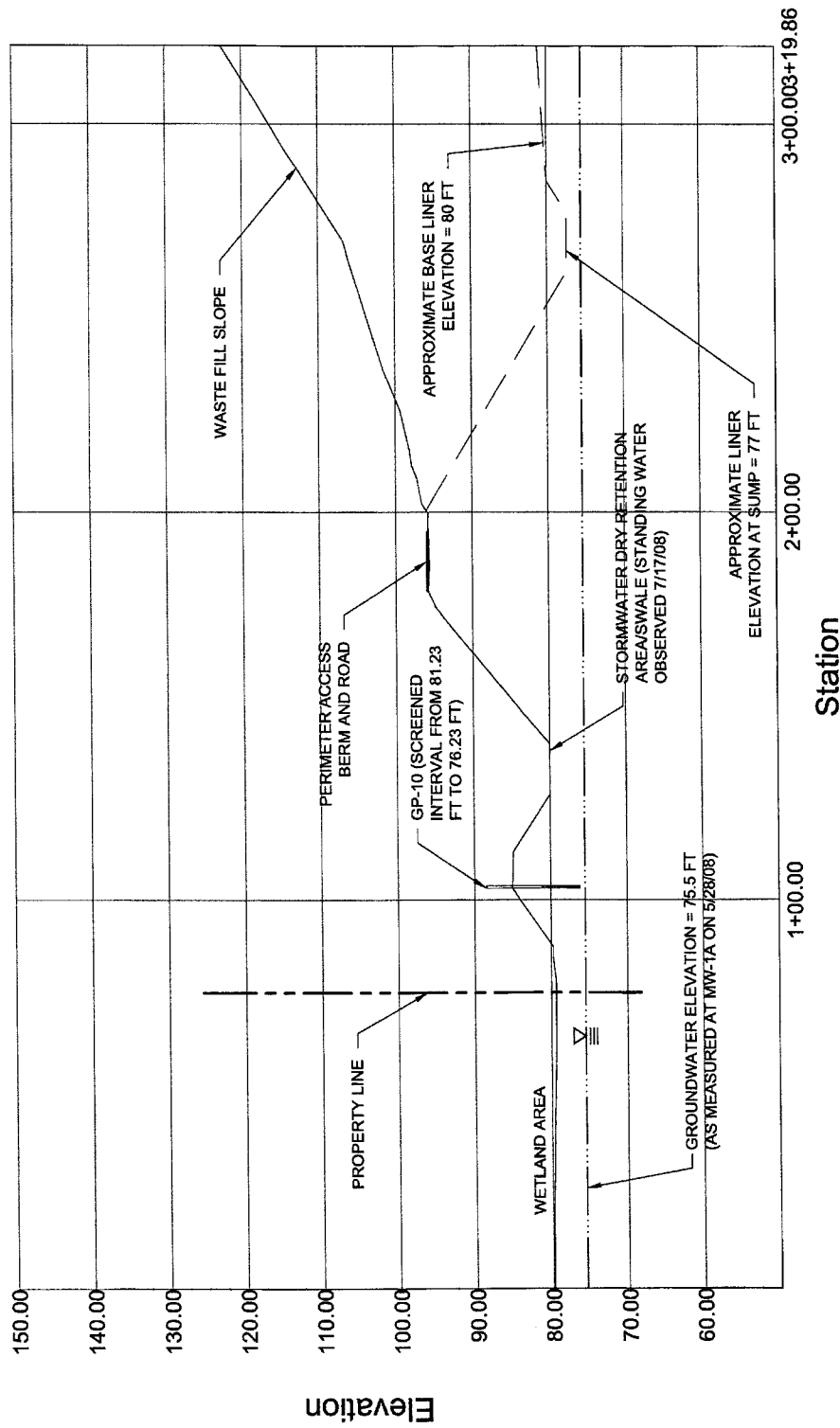
BROWN AND CALDWELL



Daniel N. Courcy, P.E.
Principal Engineer

Enclosures

Profile View of GP- 10

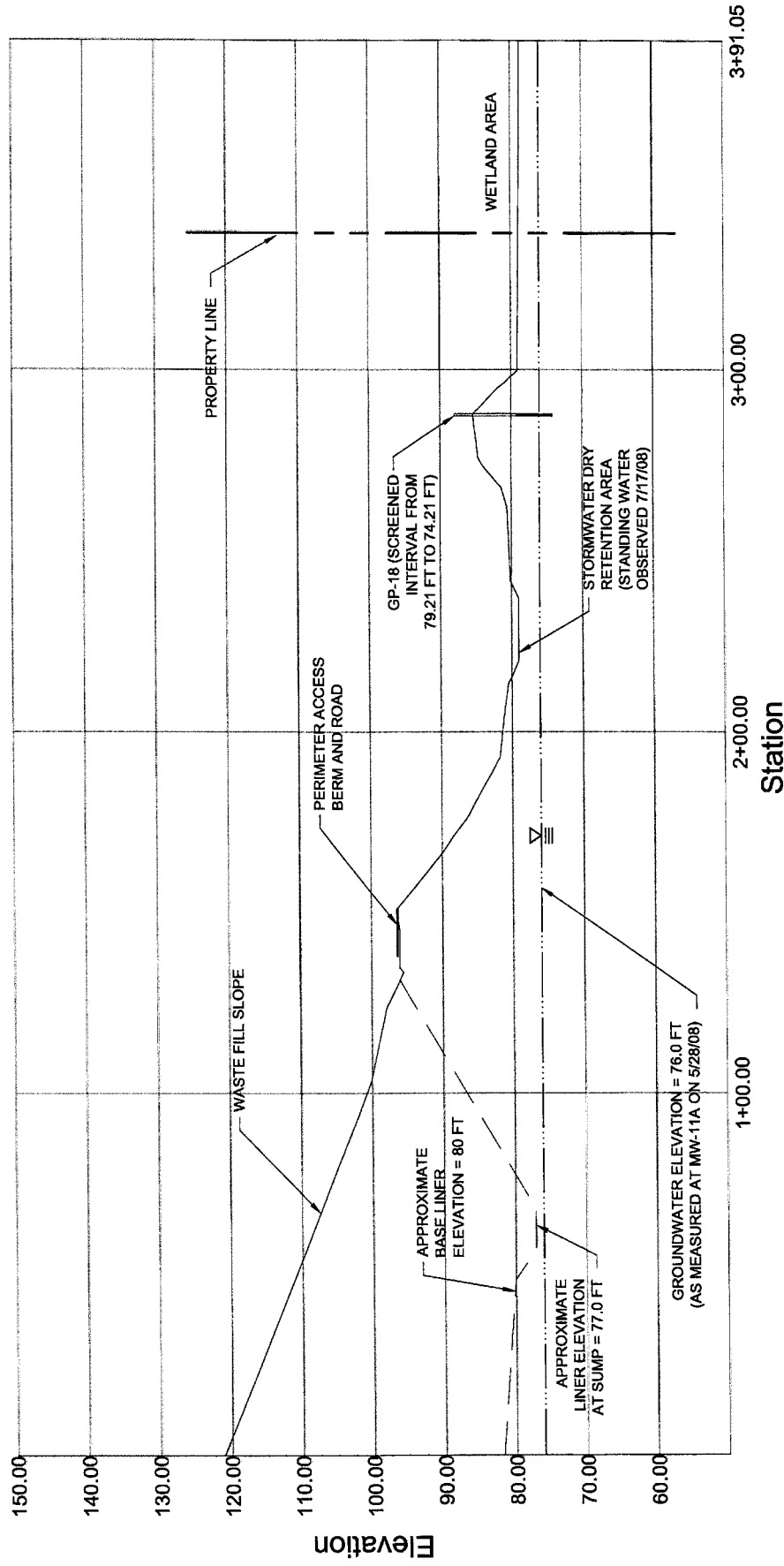


ELEVATIONS BASED ON AERIAL TOPOGRAPHY DATED 5/15/08.

GAS PROBE CROSS SECTION
J.E.D SOLID WASTE FACILITY
ST. CLOUD, OSCEOLA COUNTY, FLORIDA

BROWN AND
CALDWELL

Profile View of GP- 18



ELEVATIONS BASED ON AERIAL TOPOGRAPHY DATED 5/15/08.

**BROWN AND
CALDWELL**

GAS PROBE CROSS SECTION
J.E.D SOLID WASTE FACILITY
ST. CLOUD, OSCEOLA COUNTY, FLORIDA

LANDFILL GAS MONITORING LOG

Facility Name: J.E.D. Solid Waste Management Facility

Date: 13 May 2008

Facility Address: 1501 Omni Way, St Cloud, Florida 34773

Technician: Jay Eun Company: Geosyntec Consultants

Weather Conditions: Temperature: 90 °F M. Cloudy/P. Cloudy/Clear/Overcast

Barometric Pressure: 29.92 inch Hg Wind: 7 to 10 mph Humidity: 30%

Landfill Gas Meter: LANDTEC GEM-2000

Serial No. : GM10749 / 08

Gas Probe No.	Time	% LEL	Comments
GP-7	10:00	0	
GP-8	10:10	0	
GP-9	10:21	0	
GP-10	10:35	1	
GP-11	10:45	0	
GP-12	10:56	0	
GP-13	11:05	0	
GP-14	11:15	>>>	
GP-15	11:30	2	
GP-16	11:40	0	
GP-17	11:46	0	
GP-18	11:56	>>>	
GP-19	12:05	32	
GP-20	12:15	29	
GP-21	13:45	>>>	
GP-22	14:10	13	
Admin Office	No Alarm		
Scale House	No Alarm		

Notes:

Percent of lower explosive limit (LEL) was calibrated to Methane (CH₄)

Continuous gas monitors sound alarm at 0.95% by volume of methane in air.

>>> = exceeds 100% LEL

LANDFILL GAS MONITORING LOG

Facility Name: J.E.D. Solid Waste Management Facility Date: 06 June 2008

Facility Address: 1501 Omni Way, St Cloud, Florida 34773

Technician: John Sullivan Company: Sullivan Environmental

Weather Conditions: Temperature: 90 °F M. Cloudy/P. Cloudy/Clear/Overcast

Barometric Pressure: 29.93 inch Hg Wind: 7 to 10 mph Humidity: 70%

Landfill Gas Meter: LANDTEC GEM-2000 Serial No. : GM08848/06

Gas Probe No.	Time	% LEL	Comments
GP-7	15:48	0	
GP-8	15:54	0	
GP-9	16:03	0	
GP-10	12:24	2	
GP-11	16:11	0	
GP-12	16:18	0	
GP-13	16:24	0	
GP-14	12:43	192	
GP-15	12:50	0	
GP-16	16:33	0	
GP-17	16:41	0	
GP-18	13:34	22	
GP-19	13:47	0	
GP-20	13:59	0	
GP-21	14:13	0	
GP-22	14:21	0	
Admin Office	No Alarm	0	
Scale House	No Alarm	0	

Notes:

Percent of lower explosive limit (LEL) was calibrated to Methane (CH₄)
Continuous gas monitors sound alarm at 0.95% by volume of methane in air.

LANDFILL GAS MONITORING LOG

Facility Name: J.E.D. Solid Waste Management Facility Date: 7/17/2008

Facility Address: 1501 Omni Way, St Cloud, Florida 34773

Technician: Jay Eun

Company: Geosyntec Consultants

Weather Conditions: Temperature: 93 °F M. Cloudy/P. Cloudy/Clear/Overcast

Barometric Pressure: 29.82 inch Hg Wind: 0-5 mph Humidity: 80%

Landfill Gas Meter: LANDTEC GEM-2000 Serial No. : GM-10749-08

Gas Probe No.	Time	% LEL	Comments
GP-7	12:50	>>>	
GP-8	12:55	2	standing water east side of SWB
GP-9	13:00	0	standing water east side of SWB
GP-10	13:05	>>>	standing water east side of SWB
GP-11	13:10	>>>	standing water east side of SWB
GP-12	13:15	19	
GP-13	13:20	80	
GP-14	13:30	>>>	Standing water on north side of SWB
GP-15	13:35	18	Standing water on north side of SWB
GP-16	13:40	6	Standing water on north side of SWB
GP-17	13:45	23	Standing water on west side of SWB
GP-18	13:50	>>>	Standing water on west side of SWB
GP-19	13:55	>>>	Standing water on northwest side of SWB
GP-20	14:00	15	
GP-21	14:05	3	Standing water on west side of SWB/Mosquito pond area
GP-22	14:10	1	Standing water west of SWB/spillway
Admin Office	14:20		Power LED on No alarm sounds
Scale House	14:25		Power LED on No alarm sounds

Notes: Percent of lower explosive limit (LEL) was calibrated to Methane (CH₄)

Continuous gas monitors that sound alarms at 0.95% by volume of methane in air have been installed at the admin office and scale house.

SWB=Storm water berm

>>> = Exceeded 100% of the LEL



AN ENVIRONMENTAL ANALYTICAL LABORATORY



Air Toxics Ltd. Introduces the Electronic Report

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

**(916) 985-1000 .FAX (916) 985-1020
Hours 8:00 A.M to 6:00 P.M. Pacific**



AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0806248

Work Order Summary

CLIENT: Mr. Dan Courcy
Brown and Caldwell
850 Trafalgar Court
Suite 300
Maitland, FL 32751

BILL TO: Mr. Dan Courcy
Brown and Caldwell
850 Trafalgar Court
Suite 300
Maitland, FL 32751

PHONE: 407-661-9500

P.O. #

FAX: 407-661-9599

PROJECT #

DATE RECEIVED: 06/13/2008

CONTACT: Bryanna Langley

DATE COMPLETED: 06/26/2008

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	GP-10	Modified TO-15	Tedlar Bag	Tedlar Bag
02A	GP-14	Modified TO-15	Tedlar Bag	Tedlar Bag
03A	GP-15	Modified TO-15	Tedlar Bag	Tedlar Bag
04A	GP-18	Modified TO-15	Tedlar Bag	Tedlar Bag
05A	GP-19	Modified TO-15	Tedlar Bag	Tedlar Bag
05AA	GP-19 Lab Duplicate	Modified TO-15	Tedlar Bag	Tedlar Bag
06A	GP-20	Modified TO-15	Tedlar Bag	Tedlar Bag
07A	GP-21	Modified TO-15	Tedlar Bag	Tedlar Bag
08A	GP-22	Modified TO-15	Tedlar Bag	Tedlar Bag
09A	LC-16	Modified TO-15	Tedlar Bag	Tedlar Bag
10A	LC-18	Modified TO-15	Tedlar Bag	Tedlar Bag
11A	Lab Blank	Modified TO-15	NA	NA
11B	Lab Blank	Modified TO-15	NA	NA
12A	CCV	Modified TO-15	NA	NA
12B	CCV	Modified TO-15	NA	NA
13A	LCS	Modified TO-15	NA	NA
13B	LCS	Modified TO-15	NA	NA

CERTIFIED BY:

Sandra A. Freeman

DATE: 06/26/08

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/07, Expiration date: 06/30/08

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

LABORATORY NARRATIVE
Modified TO-15
Brown and Caldwell
Workorder# 0806248

Ten 1 Liter Tedlar Bag samples were received on June 13, 2008. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

The Chain of Custody (COC) information for sample GP-19 did not match the entry on the sample tag with regard to sample identification. The information on the COC was used to process and report the sample.

Analytical Notes

All Quality Control Limit failures and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

The reported result for 4-Ethyltoluene in samples LC-16 and LC-18 may be biased high due to co-elution with a non target compound with similar characteristic ions. Both the primary and secondary ion for exhibited potential interference.



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ - Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: GP-10

Lab ID#: 0806248-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Ethanol	130	4200	250	8000
Acetone	130	1600	320	3900
2-Propanol	130	8600	330	21000
2-Butanone (Methyl Ethyl Ketone)	33	660	98	1900
Tetrahydrofuran	33	5500	98	16000
Toluene	33	120	120	450

Client Sample ID: GP-14

Lab ID#: 0806248-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Ethanol	160	3800	300	7200
Acetone	160	1200	380	2900
2-Propanol	160	9100	390	22000
2-Butanone (Methyl Ethyl Ketone)	40	760	120	2200
Tetrahydrofuran	40	4500	120	13000
Toluene	40	120	150	460

Client Sample ID: GP-15

Lab ID#: 0806248-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Ethanol	130	3300	250	6300
Acetone	130	2600	320	6100
2-Propanol	130	7600	330	19000
2-Butanone (Methyl Ethyl Ketone)	33	1700	98	5000
Tetrahydrofuran	33	9700	98	28000
Toluene	33	100	120	380

Client Sample ID: GP-18

Lab ID#: 0806248-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Ethanol	40	2800	75	5400
Acetone	40	1100	95	2600



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: GP-18

Lab ID#: 0806248-04A

2-Propanol	40	8200 E	98	20000 E
Carbon Disulfide	10	21	31	66
2-Butanone (Methyl Ethyl Ketone)	10	380	29	1100
Tetrahydrofuran	10	4000	29	12000
Chloroform	10	25	49	120
Toluene	10	87	38	330
Ethyl Benzene	10	10	43	45
m,p-Xylene	10	20	43	89

Client Sample ID: GP-19

Lab ID#: 0806248-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Ethanol	40	2700	75	5000
Acetone	40	560	95	1300
2-Propanol	40	8400 E	98	21000 E
Carbon Disulfide	10	18	31	56
2-Butanone (Methyl Ethyl Ketone)	10	130	29	380
Tetrahydrofuran	10	1800	29	5200
Chloroform	10	14	49	71
Toluene	10	83	38	310
m,p-Xylene	10	18	43	79

Client Sample ID: GP-19 Lab Duplicate

Lab ID#: 0806248-05AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Ethanol	40	2700	75	5100
Acetone	40	580	95	1400
2-Propanol	40	8600 E	98	21000 E
Carbon Disulfide	10	18	31	55
2-Butanone (Methyl Ethyl Ketone)	10	130	29	370
Tetrahydrofuran	10	1800	29	5200
Chloroform	10	15	49	73
Toluene	10	88	38	330
m,p-Xylene	10	20	43	88



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: GP-20

Lab ID#: 0806248-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Ethanol	57	1400	110	2600
Acetone	57	390	140	930
2-Propanol	57	5100	140	12000
2-Butanone (Methyl Ethyl Ketone)	14	140	42	420
Tetrahydrofuran	14	1000	42	3100
Chloroform	14	24	70	120
Toluene	14	57	54	210
m,p-Xylene	14	17	62	75

Client Sample ID: GP-21

Lab ID#: 0806248-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Ethanol	200	2200	380	4100
Acetone	200	5000	480	12000
2-Propanol	200	8700	490	21000
2-Butanone (Methyl Ethyl Ketone)	50	3500	150	10000
Tetrahydrofuran	50	15000	150	43000
Toluene	50	74	190	280

Client Sample ID: GP-22

Lab ID#: 0806248-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Ethanol	400	2200	750	4200
Acetone	400	7600	950	18000
2-Propanol	400	8600	980	21000
2-Butanone (Methyl Ethyl Ketone)	100	5100	290	15000
Tetrahydrofuran	100	42000 E	290	120000 E

Client Sample ID: LC-16

Lab ID#: 0806248-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	20	440	99	2200



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: LC-16

Lab ID#: 0806248-09A

Freon 114	20	45	140	310
Vinyl Chloride	20	770	51	2000
Chloroethane	20	64	53	170
Freon 11	20	63 J	110	360 J
Ethanol	80	1300	150	2500
Acetone	80	300	190	700
2-Propanol	80	5200	200	13000
Carbon Disulfide	20	600	62	1900
Methylene Chloride	20	23	69	80
Methyl tert-butyl ether	20	38	72	140
Hexane	20	630	70	2200
2-Butanone (Methyl Ethyl Ketone)	20	670	59	2000
cis-1,2-Dichloroethene	20	120	79	460
Tetrahydrofuran	20	2100	59	6300
Cyclohexane	20	320	69	1100
2,2,4-Trimethylpentane	20	440	93	2000
Benzene	20	800	64	2600
1,2-Dichloroethane	20	51	81	210
Heptane	20	560	82	2300
1,2-Dichloropropane	20	25	92	120
4-Methyl-2-pentanone	20	35	82	140
Toluene	20	4300	75	16000
Tetrachloroethene	20	22	140	150
Ethyl Benzene	20	1900	87	8100
m,p-Xylene	20	2100	87	9000
o-Xylene	20	570	87	2500
Styrene	20	29	85	120
Cumene	20	150	98	750
Propylbenzene	20	63	98	310
4-Ethyltoluene	20	200	98	990
1,3,5-Trimethylbenzene	20	74	98	360
1,2,4-Trimethylbenzene	20	130	98	660

Client Sample ID: LC-18

Lab ID#: 0806248-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	40	790	200	3900
Freon 114	40	84	280	590



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: LC-18

Lab ID#: 0806248-10A

Vinyl Chloride	40	2100	100	5500
Chloroethane	40	230	100	600
Freon 11	40	120 J	220	690 J
Ethanol	160	7800	300	15000
Acetone	160	2000	380	4900
2-Propanol	160	7000	390	17000
Carbon Disulfide	40	210	120	660
Methylene Chloride	40	110	140	380
Methyl tert-butyl ether	40	100	140	360
Hexane	40	910	140	3200
1,1-Dichloroethane	40	48	160	190
2-Butanone (Methyl Ethyl Ketone)	40	3300	120	9600
cis-1,2-Dichloroethene	40	610	160	2400
Tetrahydrofuran	40	4300	120	13000
Cyclohexane	40	1200	140	4000
2,2,4-Trimethylpentane	40	1700	190	8100
Benzene	40	1900	130	6200
1,2-Dichloroethane	40	200	160	820
Heptane	40	1900	160	7900
1,2-Dichloropropane	40	44	180	200
4-Methyl-2-pentanone	40	130	160	540
Toluene	40	10000	150	39000
Tetrachloroethene	40	71	270	480
Ethyl Benzene	40	2300	170	9900
m,p-Xylene	40	2100	170	9300
o-Xylene	40	530	170	2300
Styrene	40	52	170	220
Cumene	40	140	200	680
Propylbenzene	40	50	200	240
4-Ethyltoluene	40	160	200	770
1,3,5-Trimethylbenzene	40	46	200	230
1,2,4-Trimethylbenzene	40	89	200	440



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-10

Lab ID#: 0806248-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:		7061408		Date of Collection: 6/11/08	
Dil. Factor:		66.7		Date of Analysis: 6/14/08 02:26 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Freon 12	33	Not Detected	160	Not Detected	
Freon 114	33	Not Detected	230	Not Detected	
Chloromethane	130	Not Detected	280	Not Detected	
Vinyl Chloride	33	Not Detected	85	Not Detected	
1,3-Butadiene	33	Not Detected	74	Not Detected	
Bromomethane	33	Not Detected	130	Not Detected	
Chloroethane	33	Not Detected	88	Not Detected	
Freon 11	33	Not Detected	190	Not Detected	
Ethanol	130	4200	250	8000	
Freon 113	33	Not Detected	260	Not Detected	
1,1-Dichloroethene	33	Not Detected	130	Not Detected	
Acetone	130	1600	320	3900	
2-Propanol	130	8600	330	21000	
Carbon Disulfide	33	Not Detected	100	Not Detected	
3-Chloropropene	130	Not Detected	420	Not Detected	
Methylene Chloride	33	Not Detected	120	Not Detected	
Methyl tert-butyl ether	33	Not Detected	120	Not Detected	
trans-1,2-Dichloroethene	33	Not Detected	130	Not Detected	
Hexane	33	Not Detected	120	Not Detected	
1,1-Dichloroethane	33	Not Detected	130	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	33	660	98	1900	
cis-1,2-Dichloroethene	33	Not Detected	130	Not Detected	
Tetrahydrofuran	33	5500	98	16000	
Chloroform	33	Not Detected	160	Not Detected	
1,1,1-Trichloroethane	33	Not Detected	180	Not Detected	
Cyclohexane	33	Not Detected	110	Not Detected	
Carbon Tetrachloride	33	Not Detected	210	Not Detected	
2,2,4-Trimethylpentane	33	Not Detected	160	Not Detected	
Benzene	33	Not Detected	110	Not Detected	
1,2-Dichloroethane	33	Not Detected	130	Not Detected	
Heptane	33	Not Detected	140	Not Detected	
Trichloroethene	33	Not Detected	180	Not Detected	
1,2-Dichloropropane	33	Not Detected	150	Not Detected	
1,4-Dioxane	130	Not Detected	480	Not Detected	
Bromodichloromethane	33	Not Detected	220	Not Detected	
cis-1,3-Dichloropropene	33	Not Detected	150	Not Detected	
4-Methyl-2-pentanone	33	Not Detected	140	Not Detected	
Toluene	33	120	120	450	
trans-1,3-Dichloropropene	33	Not Detected	150	Not Detected	



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-10

Lab ID#: 0806248-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7061408	Date of Collection: 6/11/08
Dil. Factor:	66.7	Date of Analysis: 6/14/08 02:26 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	33	Not Detected	180	Not Detected
Tetrachloroethene	33	Not Detected	230	Not Detected
2-Hexanone	130	Not Detected	550	Not Detected
Dibromochloromethane	33	Not Detected	280	Not Detected
1,2-Dibromoethane (EDB)	33	Not Detected	260	Not Detected
Chlorobenzene	33	Not Detected	150	Not Detected
Ethyl Benzene	33	Not Detected	140	Not Detected
m,p-Xylene	33	Not Detected	140	Not Detected
o-Xylene	33	Not Detected	140	Not Detected
Styrene	33	Not Detected	140	Not Detected
Bromoform	33	Not Detected	340	Not Detected
Cumene	33	Not Detected	160	Not Detected
1,1,2,2-Tetrachloroethane	33	Not Detected	230	Not Detected
Propylbenzene	33	Not Detected	160	Not Detected
4-Ethyltoluene	33	Not Detected	160	Not Detected
1,3,5-Trimethylbenzene	33	Not Detected	160	Not Detected
1,2,4-Trimethylbenzene	33	Not Detected	160	Not Detected
1,3-Dichlorobenzene	33	Not Detected	200	Not Detected
1,4-Dichlorobenzene	33	Not Detected	200	Not Detected
alpha-Chlorotoluene	33	Not Detected	170	Not Detected
1,2-Dichlorobenzene	33	Not Detected	200	Not Detected
1,2,4-Trichlorobenzene	130	Not Detected U J	990	Not Detected U J
Hexachlorobutadiene	130	Not Detected U J	1400	Not Detected U J

UJ = Non-detected compound associated with low bias in the CCV

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	89	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	104	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-14

Lab ID#: 0806248-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7061407	Date of Collection: 6/11/08		
Dil. Factor:	80.0	Date of Analysis: 6/14/08 01:41 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	40	Not Detected	200	Not Detected
Freon 114	40	Not Detected	280	Not Detected
Chloromethane	160	Not Detected	330	Not Detected
Vinyl Chloride	40	Not Detected	100	Not Detected
1,3-Butadiene	40	Not Detected	88	Not Detected
Bromomethane	40	Not Detected	160	Not Detected
Chloroethane	40	Not Detected	100	Not Detected
Freon 11	40	Not Detected	220	Not Detected
Ethanol	160	3800	300	7200
Freon 113	40	Not Detected	310	Not Detected
1,1-Dichloroethene	40	Not Detected	160	Not Detected
Acetone	160	1200	380	2900
2-Propanol	160	9100	390	22000
Carbon Disulfide	40	Not Detected	120	Not Detected
3-Chloropropene	160	Not Detected	500	Not Detected
Methylene Chloride	40	Not Detected	140	Not Detected
Methyl tert-butyl ether	40	Not Detected	140	Not Detected
trans-1,2-Dichloroethene	40	Not Detected	160	Not Detected
Hexane	40	Not Detected	140	Not Detected
1,1-Dichloroethane	40	Not Detected	160	Not Detected
2-Butanone (Methyl Ethyl Ketone)	40	760	120	2200
cis-1,2-Dichloroethene	40	Not Detected	160	Not Detected
Tetrahydrofuran	40	4500	120	13000
Chloroform	40	Not Detected	200	Not Detected
1,1,1-Trichloroethane	40	Not Detected	220	Not Detected
Cyclohexane	40	Not Detected	140	Not Detected
Carbon Tetrachloride	40	Not Detected	250	Not Detected
2,2,4-Trimethylpentane	40	Not Detected	190	Not Detected
Benzene	40	Not Detected	130	Not Detected
1,2-Dichloroethane	40	Not Detected	160	Not Detected
Heptane	40	Not Detected	160	Not Detected
Trichloroethene	40	Not Detected	210	Not Detected
1,2-Dichloropropane	40	Not Detected	180	Not Detected
1,4-Dioxane	160	Not Detected	580	Not Detected
Bromodichloromethane	40	Not Detected	270	Not Detected
cis-1,3-Dichloropropene	40	Not Detected	180	Not Detected
4-Methyl-2-pentanone	40	Not Detected	160	Not Detected
Toluene	40	120	150	460
trans-1,3-Dichloropropene	40	Not Detected	180	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-14

Lab ID#: 0806248-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7061407	Date of Collection: 6/11/08
Dil. Factor:	80.0	Date of Analysis: 6/14/08 01:41 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	40	Not Detected	220	Not Detected
Tetrachloroethene	40	Not Detected	270	Not Detected
2-Hexanone	160	Not Detected	660	Not Detected
Dibromochloromethane	40	Not Detected	340	Not Detected
1,2-Dibromoethane (EDB)	40	Not Detected	310	Not Detected
Chlorobenzene	40	Not Detected	180	Not Detected
Ethyl Benzene	40	Not Detected	170	Not Detected
m,p-Xylene	40	Not Detected	170	Not Detected
o-Xylene	40	Not Detected	170	Not Detected
Styrene	40	Not Detected	170	Not Detected
Bromoform	40	Not Detected	410	Not Detected
Cumene	40	Not Detected	200	Not Detected
1,1,2,2-Tetrachloroethane	40	Not Detected	270	Not Detected
Propylbenzene	40	Not Detected	200	Not Detected
4-Ethyltoluene	40	Not Detected	200	Not Detected
1,3,5-Trimethylbenzene	40	Not Detected	200	Not Detected
1,2,4-Trimethylbenzene	40	Not Detected	200	Not Detected
1,3-Dichlorobenzene	40	Not Detected	240	Not Detected
1,4-Dichlorobenzene	40	Not Detected	240	Not Detected
alpha-Chlorotoluene	40	Not Detected	210	Not Detected
1,2-Dichlorobenzene	40	Not Detected	240	Not Detected
1,2,4-Trichlorobenzene	160	Not Detected U J	1200	Not Detected U J
Hexachlorobutadiene	160	Not Detected U J	1700	Not Detected U J

UJ = Non-detected compound associated with low bias in the CCV

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	86	70-130
1,2-Dichloroethane-d4	109	70-130
4-Bromofluorobenzene	99	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-15

Lab ID#: 0806248-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN				
File Name:	7061409	Date of Collection: 6/11/08		
Dil. Factor:	66.7	Date of Analysis: 6/14/08 03:05 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	33	Not Detected	160	Not Detected
Freon 114	33	Not Detected	230	Not Detected
Chloromethane	130	Not Detected	280	Not Detected
Vinyl Chloride	33	Not Detected	85	Not Detected
1,3-Butadiene	33	Not Detected	74	Not Detected
Bromomethane	33	Not Detected	130	Not Detected
Chloroethane	33	Not Detected	88	Not Detected
Freon 11	33	Not Detected	190	Not Detected
Ethanol	130	3300	250	6300
Freon 113	33	Not Detected	260	Not Detected
1,1-Dichloroethene	33	Not Detected	130	Not Detected
Acetone	130	2600	320	6100
2-Propanol	130	7600	330	19000
Carbon Disulfide	33	Not Detected	100	Not Detected
3-Chloropropene	130	Not Detected	420	Not Detected
Methylene Chloride	33	Not Detected	120	Not Detected
Methyl tert-butyl ether	33	Not Detected	120	Not Detected
trans-1,2-Dichloroethene	33	Not Detected	130	Not Detected
Hexane	33	Not Detected	120	Not Detected
1,1-Dichloroethane	33	Not Detected	130	Not Detected
2-Butanone (Methyl Ethyl Ketone)	33	1700	98	5000
cis-1,2-Dichloroethene	33	Not Detected	130	Not Detected
Tetrahydrofuran	33	9700	98	28000
Chloroform	33	Not Detected	160	Not Detected
1,1,1-Trichloroethane	33	Not Detected	180	Not Detected
Cyclohexane	33	Not Detected	110	Not Detected
Carbon Tetrachloride	33	Not Detected	210	Not Detected
2,2,4-Trimethylpentane	33	Not Detected	160	Not Detected
Benzene	33	Not Detected	110	Not Detected
1,2-Dichloroethane	33	Not Detected	130	Not Detected
Heptane	33	Not Detected	140	Not Detected
Trichloroethene	33	Not Detected	180	Not Detected
1,2-Dichloropropane	33	Not Detected	150	Not Detected
1,4-Dioxane	130	Not Detected	480	Not Detected
Bromodichloromethane	33	Not Detected	220	Not Detected
cis-1,3-Dichloropropene	33	Not Detected	150	Not Detected
4-Methyl-2-pentanone	33	Not Detected	140	Not Detected
Toluene	33	100	120	380
trans-1,3-Dichloropropene	33	Not Detected	150	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-15

Lab ID#: 0806248-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7061409	Date of Collection: 6/11/08
Dil. Factor:	66.7	Date of Analysis: 6/14/08 03:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	33	Not Detected	180	Not Detected
Tetrachloroethene	33	Not Detected	230	Not Detected
2-Hexanone	130	Not Detected	550	Not Detected
Dibromochloromethane	33	Not Detected	280	Not Detected
1,2-Dibromoethane (EDB)	33	Not Detected	260	Not Detected
Chlorobenzene	33	Not Detected	150	Not Detected
Ethyl Benzene	33	Not Detected	140	Not Detected
m,p-Xylene	33	Not Detected	140	Not Detected
o-Xylene	33	Not Detected	140	Not Detected
Styrene	33	Not Detected	140	Not Detected
Bromoform	33	Not Detected	340	Not Detected
Cumene	33	Not Detected	160	Not Detected
1,1,2,2-Tetrachloroethane	33	Not Detected	230	Not Detected
Propylbenzene	33	Not Detected	160	Not Detected
4-Ethyltoluene	33	Not Detected	160	Not Detected
1,3,5-Trimethylbenzene	33	Not Detected	160	Not Detected
1,2,4-Trimethylbenzene	33	Not Detected	160	Not Detected
1,3-Dichlorobenzene	33	Not Detected	200	Not Detected
1,4-Dichlorobenzene	33	Not Detected	200	Not Detected
alpha-Chlorotoluene	33	Not Detected	170	Not Detected
1,2-Dichlorobenzene	33	Not Detected	200	Not Detected
1,2,4-Trichlorobenzene	130	Not Detected U J	990	Not Detected U J
Hexachlorobutadiene	130	Not Detected U J	1400	Not Detected U J

UJ = Non-detected compound associated with low bias in the CCV

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	87	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	103	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-18

Lab ID#: 0806248-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN				
File Name:	7061410	Date of Collection: 6/11/08		
Dil. Factor:	20.0	Date of Analysis: 6/14/08 04:01 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	10	Not Detected	49	Not Detected
Freon 114	10	Not Detected	70	Not Detected
Chloromethane	40	Not Detected	83	Not Detected
Vinyl Chloride	10	Not Detected	26	Not Detected
1,3-Butadiene	10	Not Detected	22	Not Detected
Bromomethane	10	Not Detected	39	Not Detected
Chloroethane	10	Not Detected	26	Not Detected
Freon 11	10	Not Detected	56	Not Detected
Ethanol	40	2800	75	5400
Freon 113	10	Not Detected	77	Not Detected
1,1-Dichloroethene	10	Not Detected	40	Not Detected
Acetone	40	1100	95	2600
2-Propanol	40	8200 E	98	20000 E
Carbon Disulfide	10	21	31	66
3-Chloropropene	40	Not Detected	120	Not Detected
Methylene Chloride	10	Not Detected	35	Not Detected
Methyl tert-butyl ether	10	Not Detected	36	Not Detected
trans-1,2-Dichloroethene	10	Not Detected	40	Not Detected
Hexane	10	Not Detected	35	Not Detected
1,1-Dichloroethane	10	Not Detected	40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	10	380	29	1100
cis-1,2-Dichloroethene	10	Not Detected	40	Not Detected
Tetrahydrofuran	10	4000	29	12000
Chloroform	10	25	49	120
1,1,1-Trichloroethane	10	Not Detected	54	Not Detected
Cyclohexane	10	Not Detected	34	Not Detected
Carbon Tetrachloride	10	Not Detected	63	Not Detected
2,2,4-Trimethylpentane	10	Not Detected	47	Not Detected
Benzene	10	Not Detected	32	Not Detected
1,2-Dichloroethane	10	Not Detected	40	Not Detected
Heptane	10	Not Detected	41	Not Detected
Trichloroethene	10	Not Detected	54	Not Detected
1,2-Dichloropropane	10	Not Detected	46	Not Detected
1,4-Dioxane	40	Not Detected	140	Not Detected
Bromodichloromethane	10	Not Detected	67	Not Detected
cis-1,3-Dichloropropene	10	Not Detected	45	Not Detected
4-Methyl-2-pentanone	10	Not Detected	41	Not Detected
Toluene	10	87	38	330
trans-1,3-Dichloropropene	10	Not Detected	45	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-18

Lab ID#: 0806248-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7061410	Date of Collection:	6/11/08
Dil. Factor:	20.0	Date of Analysis:	6/14/08 04:01 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	10	Not Detected	54	Not Detected
Tetrachloroethene	10	Not Detected	68	Not Detected
2-Hexanone	40	Not Detected	160	Not Detected
Dibromochloromethane	10	Not Detected	85	Not Detected
1,2-Dibromoethane (EDB)	10	Not Detected	77	Not Detected
Chlorobenzene	10	Not Detected	46	Not Detected
Ethyl Benzene	10	10	43	45
m,p-Xylene	10	20	43	89
o-Xylene	10	Not Detected	43	Not Detected
Styrene	10	Not Detected	42	Not Detected
Bromoform	10	Not Detected	100	Not Detected
Cumene	10	Not Detected	49	Not Detected
1,1,2,2-Tetrachloroethane	10	Not Detected	69	Not Detected
Propylbenzene	10	Not Detected	49	Not Detected
4-Ethyltoluene	10	Not Detected	49	Not Detected
1,3,5-Trimethylbenzene	10	Not Detected	49	Not Detected
1,2,4-Trimethylbenzene	10	Not Detected	49	Not Detected
1,3-Dichlorobenzene	10	Not Detected	60	Not Detected
1,4-Dichlorobenzene	10	Not Detected	60	Not Detected
alpha-Chlorotoluene	10	Not Detected	52	Not Detected
1,2-Dichlorobenzene	10	Not Detected	60	Not Detected
1,2,4-Trichlorobenzene	40	Not Detected U J	300	Not Detected U J
Hexachlorobutadiene	40	Not Detected U J	430	Not Detected U J

E = Exceeds instrument calibration range.

UJ = Non-detected compound associated with low bias in the CCV

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	90	70-130
1,2-Dichloroethane-d4	114	70-130
4-Bromofluorobenzene	106	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-19

Lab ID#: 0806248-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7061413	Date of Collection:	6/11/08
Dil. Factor:	20.0	Date of Analysis:	6/14/08 06:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	10	Not Detected	49	Not Detected
Freon 114	10	Not Detected	70	Not Detected
Chloromethane	40	Not Detected	83	Not Detected
Vinyl Chloride	10	Not Detected	26	Not Detected
1,3-Butadiene	10	Not Detected	22	Not Detected
Bromomethane	10	Not Detected	39	Not Detected
Chloroethane	10	Not Detected	26	Not Detected
Freon 11	10	Not Detected	56	Not Detected
Ethanol	40	2700	75	5000
Freon 113	10	Not Detected	77	Not Detected
1,1-Dichloroethene	10	Not Detected	40	Not Detected
Acetone	40	560	95	1300
2-Propanol	40	8400 E	98	21000 E
Carbon Disulfide	10	18	31	56
3-Chloropropene	40	Not Detected	120	Not Detected
Methylene Chloride	10	Not Detected	35	Not Detected
Methyl tert-butyl ether	10	Not Detected	36	Not Detected
trans-1,2-Dichloroethene	10	Not Detected	40	Not Detected
Hexane	10	Not Detected	35	Not Detected
1,1-Dichloroethane	10	Not Detected	40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	10	130	29	380
cis-1,2-Dichloroethene	10	Not Detected	40	Not Detected
Tetrahydrofuran	10	1800	29	5200
Chloroform	10	14	49	71
1,1,1-Trichloroethane	10	Not Detected	54	Not Detected
Cyclohexane	10	Not Detected	34	Not Detected
Carbon Tetrachloride	10	Not Detected	63	Not Detected
2,2,4-Trimethylpentane	10	Not Detected	47	Not Detected
Benzene	10	Not Detected	32	Not Detected
1,2-Dichloroethane	10	Not Detected	40	Not Detected
Heptane	10	Not Detected	41	Not Detected
Trichloroethene	10	Not Detected	54	Not Detected
1,2-Dichloropropane	10	Not Detected	46	Not Detected
1,4-Dioxane	40	Not Detected	140	Not Detected
Bromodichloromethane	10	Not Detected	67	Not Detected
cis-1,3-Dichloropropene	10	Not Detected	45	Not Detected
4-Methyl-2-pentanone	10	Not Detected	41	Not Detected
Toluene	10	83	38	310
trans-1,3-Dichloropropene	10	Not Detected	45	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-19

Lab ID#: 0806248-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7061413	Date of Collection: 6/11/08
Dil. Factor:	20.0	Date of Analysis: 6/14/08 06:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	10	Not Detected	54	Not Detected
Tetrachloroethene	10	Not Detected	68	Not Detected
2-Hexanone	40	Not Detected	160	Not Detected
Dibromochloromethane	10	Not Detected	85	Not Detected
1,2-Dibromoethane (EDB)	10	Not Detected	77	Not Detected
Chlorobenzene	10	Not Detected	46	Not Detected
Ethyl Benzene	10	Not Detected	43	Not Detected
m,p-Xylene	10	18	43	79
o-Xylene	10	Not Detected	43	Not Detected
Styrene	10	Not Detected	42	Not Detected
Bromoform	10	Not Detected	100	Not Detected
Cumene	10	Not Detected	49	Not Detected
1,1,2,2-Tetrachloroethane	10	Not Detected	69	Not Detected
Propylbenzene	10	Not Detected	49	Not Detected
4-Ethyltoluene	10	Not Detected	49	Not Detected
1,3,5-Trimethylbenzene	10	Not Detected	49	Not Detected
1,2,4-Trimethylbenzene	10	Not Detected	49	Not Detected
1,3-Dichlorobenzene	10	Not Detected	60	Not Detected
1,4-Dichlorobenzene	10	Not Detected	60	Not Detected
alpha-Chlorotoluene	10	Not Detected	52	Not Detected
1,2-Dichlorobenzene	10	Not Detected	60	Not Detected
1,2,4-Trichlorobenzene	40	Not Detected U J	300	Not Detected U J
Hexachlorobutadiene	40	Not Detected U J	430	Not Detected U J

E = Exceeds instrument calibration range.

UJ = Non-detected compound associated with low bias in the CCV

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	86	70-130
1,2-Dichloroethane-d4	113	70-130
4-Bromofluorobenzene	102	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-19 Lab Duplicate

Lab ID#: 0806248-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:		7061414	Date of Collection: 6/11/08	
Dil. Factor:		20.0	Date of Analysis: 6/14/08 07:12 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	10	Not Detected	49	Not Detected
Freon 114	10	Not Detected	70	Not Detected
Chloromethane	40	Not Detected	83	Not Detected
Vinyl Chloride	10	Not Detected	26	Not Detected
1,3-Butadiene	10	Not Detected	22	Not Detected
Bromomethane	10	Not Detected	39	Not Detected
Chloroethane	10	Not Detected	26	Not Detected
Freon 11	10	Not Detected	56	Not Detected
Ethanol	40	2700	75	5100
Freon 113	10	Not Detected	77	Not Detected
1,1-Dichloroethene	10	Not Detected	40	Not Detected
Acetone	40	580	95	1400
2-Propanol	40	8600 E	98	21000 E
Carbon Disulfide	10	18	31	55
3-Chloropropene	40	Not Detected	120	Not Detected
Methylene Chloride	10	Not Detected	35	Not Detected
Methyl tert-butyl ether	10	Not Detected	36	Not Detected
trans-1,2-Dichloroethene	10	Not Detected	40	Not Detected
Hexane	10	Not Detected	35	Not Detected
1,1-Dichloroethane	10	Not Detected	40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	10	130	29	370
cis-1,2-Dichloroethene	10	Not Detected	40	Not Detected
Tetrahydrofuran	10	1800	29	5200
Chloroform	10	15	49	73
1,1,1-Trichloroethane	10	Not Detected	54	Not Detected
Cyclohexane	10	Not Detected	34	Not Detected
Carbon Tetrachloride	10	Not Detected	63	Not Detected
2,2,4-Trimethylpentane	10	Not Detected	47	Not Detected
Benzene	10	Not Detected	32	Not Detected
1,2-Dichloroethane	10	Not Detected	40	Not Detected
Heptane	10	Not Detected	41	Not Detected
Trichloroethene	10	Not Detected	54	Not Detected
1,2-Dichloropropane	10	Not Detected	46	Not Detected
1,4-Dioxane	40	Not Detected	140	Not Detected
Bromodichloromethane	10	Not Detected	67	Not Detected
cis-1,3-Dichloropropene	10	Not Detected	45	Not Detected
4-Methyl-2-pentanone	10	Not Detected	41	Not Detected
Toluene	10	88	38	330
trans-1,3-Dichloropropene	10	Not Detected	45	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-19 Lab Duplicate

Lab ID#: 0806248-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7061414	Date of Collection: 6/11/08
Dil. Factor:	20.0	Date of Analysis: 6/14/08 07:12 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	10	Not Detected	54	Not Detected
Tetrachloroethene	10	Not Detected	68	Not Detected
2-Hexanone	40	Not Detected	160	Not Detected
Dibromochloromethane	10	Not Detected	85	Not Detected
1,2-Dibromoethane (EDB)	10	Not Detected	77	Not Detected
Chlorobenzene	10	Not Detected	46	Not Detected
Ethyl Benzene	10	Not Detected	43	Not Detected
m,p-Xylene	10	20	43	88
o-Xylene	10	Not Detected	43	Not Detected
Styrene	10	Not Detected	42	Not Detected
Bromoform	10	Not Detected	100	Not Detected
Cumene	10	Not Detected	49	Not Detected
1,1,2,2-Tetrachloroethane	10	Not Detected	69	Not Detected
Propylbenzene	10	Not Detected	49	Not Detected
4-Ethyltoluene	10	Not Detected	49	Not Detected
1,3,5-Trimethylbenzene	10	Not Detected	49	Not Detected
1,2,4-Trimethylbenzene	10	Not Detected	49	Not Detected
1,3-Dichlorobenzene	10	Not Detected	60	Not Detected
1,4-Dichlorobenzene	10	Not Detected	60	Not Detected
alpha-Chlorotoluene	10	Not Detected	52	Not Detected
1,2-Dichlorobenzene	10	Not Detected	60	Not Detected
1,2,4-Trichlorobenzene	40	Not Detected U J	300	Not Detected U J
Hexachlorobutadiene	40	Not Detected U J	430	Not Detected U J

E = Exceeds instrument calibration range.

UJ = Non-detected compound associated with low bias in the CCV

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	89	70-130
1,2-Dichloroethane-d4	113	70-130
4-Bromofluorobenzene	106	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-20

Lab ID#: 0806248-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:		1061405		Date of Collection: 6/11/08	
Dil. Factor:		28.6		Date of Analysis: 6/14/08 11:28 AM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)	
Freon 12	14	Not Detected	71	Not Detected	
Freon 114	14	Not Detected	100	Not Detected	
Chloromethane	57	Not Detected	120	Not Detected	
Vinyl Chloride	14	Not Detected	36	Not Detected	
1,3-Butadiene	14	Not Detected	32	Not Detected	
Bromomethane	14	Not Detected	56	Not Detected	
Chloroethane	14	Not Detected	38	Not Detected	
Freon 11	14	Not Detected	80	Not Detected	
Ethanol	57	1400	110	2600	
Freon 113	14	Not Detected	110	Not Detected	
1,1-Dichloroethene	14	Not Detected	57	Not Detected	
Acetone	57	390	140	930	
2-Propanol	57	5100	140	12000	
Carbon Disulfide	14	Not Detected	44	Not Detected	
3-Chloropropene	57	Not Detected	180	Not Detected	
Methylene Chloride	14	Not Detected	50	Not Detected	
Methyl tert-butyl ether	14	Not Detected	52	Not Detected	
trans-1,2-Dichloroethene	14	Not Detected	57	Not Detected	
Hexane	14	Not Detected	50	Not Detected	
1,1-Dichloroethane	14	Not Detected	58	Not Detected	
2-Butanone (Methyl Ethyl Ketone)	14	140	42	420	
cis-1,2-Dichloroethene	14	Not Detected	57	Not Detected	
Tetrahydrofuran	14	1000	42	3100	
Chloroform	14	24	70	120	
1,1,1-Trichloroethane	14	Not Detected	78	Not Detected	
Cyclohexane	14	Not Detected	49	Not Detected	
Carbon Tetrachloride	14	Not Detected	90	Not Detected	
2,2,4-Trimethylpentane	14	Not Detected	67	Not Detected	
Benzene	14	Not Detected	46	Not Detected	
1,2-Dichloroethane	14	Not Detected	58	Not Detected	
Heptane	14	Not Detected	59	Not Detected	
Trichloroethene	14	Not Detected	77	Not Detected	
1,2-Dichloropropane	14	Not Detected	66	Not Detected	
1,4-Dioxane	57	Not Detected	210	Not Detected	
Bromodichloromethane	14	Not Detected	96	Not Detected	
cis-1,3-Dichloropropene	14	Not Detected	65	Not Detected	
4-Methyl-2-pentanone	14	Not Detected	58	Not Detected	
Toluene	14	57	54	210	
trans-1,3-Dichloropropene	14	Not Detected	65	Not Detected	



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-20

Lab ID#: 0806248-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	t061405	Date of Collection: 6/11/08
Dil. Factor:	28.6	Date of Analysis: 6/14/08 11:28 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	14	Not Detected	78	Not Detected
Tetrachloroethene	14	Not Detected	97	Not Detected
2-Hexanone	57	Not Detected	230	Not Detected
Dibromochloromethane	14	Not Detected	120	Not Detected
1,2-Dibromoethane (EDB)	14	Not Detected	110	Not Detected
Chlorobenzene	14	Not Detected	66	Not Detected
Ethyl Benzene	14	Not Detected	62	Not Detected
m,p-Xylene	14	17	62	75
o-Xylene	14	Not Detected	62	Not Detected
Styrene	14	Not Detected	61	Not Detected
Bromoform	14	Not Detected	150	Not Detected
Cumene	14	Not Detected	70	Not Detected
1,1,2,2-Tetrachloroethane	14	Not Detected	98	Not Detected
Propylbenzene	14	Not Detected	70	Not Detected
4-Ethyltoluene	14	Not Detected	70	Not Detected
1,3,5-Trimethylbenzene	14	Not Detected	70	Not Detected
1,2,4-Trimethylbenzene	14	Not Detected	70	Not Detected
1,3-Dichlorobenzene	14	Not Detected	86	Not Detected
1,4-Dichlorobenzene	14	Not Detected	86	Not Detected
alpha-Chlorotoluene	14	Not Detected	74	Not Detected
1,2-Dichlorobenzene	14	Not Detected	86	Not Detected
1,2,4-Trichlorobenzene	57	Not Detected	420	Not Detected
Hexachlorobutadiene	57	Not Detected	610	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	120	70-130
4-Bromofluorobenzene	93	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-21

Lab ID#: 0806248-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	t061408	Date of Collection:	6/11/08
Dil. Factor:	100	Date of Analysis:	6/14/08 01:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	50	Not Detected	250	Not Detected
Freon 114	50	Not Detected	350	Not Detected
Chloromethane	200	Not Detected	410	Not Detected
Vinyl Chloride	50	Not Detected	130	Not Detected
1,3-Butadiene	50	Not Detected	110	Not Detected
Bromomethane	50	Not Detected	190	Not Detected
Chloroethane	50	Not Detected	130	Not Detected
Freon 11	50	Not Detected	280	Not Detected
Ethanol	200	2200	380	4100
Freon 113	50	Not Detected	380	Not Detected
1,1-Dichloroethene	50	Not Detected	200	Not Detected
Acetone	200	5000	480	12000
2-Propanol	200	8700	490	21000
Carbon Disulfide	50	Not Detected	160	Not Detected
3-Chloropropene	200	Not Detected	630	Not Detected
Methylene Chloride	50	Not Detected	170	Not Detected
Methyl tert-butyl ether	50	Not Detected	180	Not Detected
trans-1,2-Dichloroethene	50	Not Detected	200	Not Detected
Hexane	50	Not Detected	180	Not Detected
1,1-Dichloroethane	50	Not Detected	200	Not Detected
2-Butanone (Methyl Ethyl Ketone)	50	3500	150	10000
cis-1,2-Dichloroethene	50	Not Detected	200	Not Detected
Tetrahydrofuran	50	15000	150	43000
Chloroform	50	Not Detected	240	Not Detected
1,1,1-Trichloroethane	50	Not Detected	270	Not Detected
Cyclohexane	50	Not Detected	170	Not Detected
Carbon Tetrachloride	50	Not Detected	310	Not Detected
2,2,4-Trimethylpentane	50	Not Detected	230	Not Detected
Benzene	50	Not Detected	160	Not Detected
1,2-Dichloroethane	50	Not Detected	200	Not Detected
Heptane	50	Not Detected	200	Not Detected
Trichloroethene	50	Not Detected	270	Not Detected
1,2-Dichloropropane	50	Not Detected	230	Not Detected
1,4-Dioxane	200	Not Detected	720	Not Detected
Bromodichloromethane	50	Not Detected	340	Not Detected
cis-1,3-Dichloropropene	50	Not Detected	230	Not Detected
4-Methyl-2-pentanone	50	Not Detected	200	Not Detected
Toluene	50	74	190	280
trans-1,3-Dichloropropene	50	Not Detected	230	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-21

Lab ID#: 0806248-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1061408	Date of Collection: 6/11/08
Dil. Factor:	100	Date of Analysis: 6/14/08 01:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	50	Not Detected	270	Not Detected
Tetrachloroethene	50	Not Detected	340	Not Detected
2-Hexanone	200	Not Detected	820	Not Detected
Dibromochloromethane	50	Not Detected	420	Not Detected
1,2-Dibromoethane (EDB)	50	Not Detected	380	Not Detected
Chlorobenzene	50	Not Detected	230	Not Detected
Ethyl Benzene	50	Not Detected	220	Not Detected
m,p-Xylene	50	Not Detected	220	Not Detected
o-Xylene	50	Not Detected	220	Not Detected
Styrene	50	Not Detected	210	Not Detected
Bromoform	50	Not Detected	520	Not Detected
Cumene	50	Not Detected	240	Not Detected
1,1,2,2-Tetrachloroethane	50	Not Detected	340	Not Detected
Propylbenzene	50	Not Detected	240	Not Detected
4-Ethyltoluene	50	Not Detected	240	Not Detected
1,3,5-Trimethylbenzene	50	Not Detected	240	Not Detected
1,2,4-Trimethylbenzene	50	Not Detected	240	Not Detected
1,3-Dichlorobenzene	50	Not Detected	300	Not Detected
1,4-Dichlorobenzene	50	Not Detected	300	Not Detected
alpha-Chlorotoluene	50	Not Detected	260	Not Detected
1,2-Dichlorobenzene	50	Not Detected	300	Not Detected
1,2,4-Trichlorobenzene	200	Not Detected	1500	Not Detected
Hexachlorobutadiene	200	Not Detected	2100	Not Detected

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	89	70-130
1,2-Dichloroethane-d4	120	70-130
4-Bromofluorobenzene	98	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-22

Lab ID#: 0806248-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1061409	Date of Collection:	6/11/08	
Dil. Factor:	200	Date of Analysis:	6/14/08 02:03 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	100	Not Detected	490	Not Detected
Freon 114	100	Not Detected	700	Not Detected
Chloromethane	400	Not Detected	830	Not Detected
Vinyl Chloride	100	Not Detected	260	Not Detected
1,3-Butadiene	100	Not Detected	220	Not Detected
Bromomethane	100	Not Detected	390	Not Detected
Chloroethane	100	Not Detected	260	Not Detected
Freon 11	100	Not Detected	560	Not Detected
Ethanol	400	2200	750	4200
Freon 113	100	Not Detected	770	Not Detected
1,1-Dichloroethene	100	Not Detected	400	Not Detected
Acetone	400	7600	950	18000
2-Propanol	400	8600	980	21000
Carbon Disulfide	100	Not Detected	310	Not Detected
3-Chloropropene	400	Not Detected	1200	Not Detected
Methylene Chloride	100	Not Detected	350	Not Detected
Methyl tert-butyl ether	100	Not Detected	360	Not Detected
trans-1,2-Dichloroethene	100	Not Detected	400	Not Detected
Hexane	100	Not Detected	350	Not Detected
1,1-Dichloroethane	100	Not Detected	400	Not Detected
2-Butanone (Methyl Ethyl Ketone)	100	5100	290	15000
cis-1,2-Dichloroethene	100	Not Detected	400	Not Detected
Tetrahydrofuran	100	42000 E	290	120000 E
Chloroform	100	Not Detected	490	Not Detected
1,1,1-Trichloroethane	100	Not Detected	540	Not Detected
Cyclohexane	100	Not Detected	340	Not Detected
Carbon Tetrachloride	100	Not Detected	630	Not Detected
2,2,4-Trimethylpentane	100	Not Detected	470	Not Detected
Benzene	100	Not Detected	320	Not Detected
1,2-Dichloroethane	100	Not Detected	400	Not Detected
Heptane	100	Not Detected	410	Not Detected
Trichloroethene	100	Not Detected	540	Not Detected
1,2-Dichloropropane	100	Not Detected	460	Not Detected
1,4-Dioxane	400	Not Detected	1400	Not Detected
Bromodichloromethane	100	Not Detected	670	Not Detected
cis-1,3-Dichloropropene	100	Not Detected	450	Not Detected
4-Methyl-2-pentanone	100	Not Detected	410	Not Detected
Toluene	100	Not Detected	380	Not Detected
trans-1,3-Dichloropropene	100	Not Detected	450	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: GP-22

Lab ID#: 0806248-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	t061409	Date of Collection:	6/11/08
Dil. Factor:	200	Date of Analysis:	6/14/08 02:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	100	Not Detected	540	Not Detected
Tetrachloroethene	100	Not Detected	680	Not Detected
2-Hexanone	400	Not Detected	1600	Not Detected
Dibromochloromethane	100	Not Detected	850	Not Detected
1,2-Dibromoethane (EDB)	100	Not Detected	770	Not Detected
Chlorobenzene	100	Not Detected	460	Not Detected
Ethyl Benzene	100	Not Detected	430	Not Detected
m,p-Xylene	100	Not Detected	430	Not Detected
o-Xylene	100	Not Detected	430	Not Detected
Styrene	100	Not Detected	420	Not Detected
Bromoform	100	Not Detected	1000	Not Detected
Cumene	100	Not Detected	490	Not Detected
1,1,2,2-Tetrachloroethane	100	Not Detected	690	Not Detected
Propylbenzene	100	Not Detected	490	Not Detected
4-Ethyltoluene	100	Not Detected	490	Not Detected
1,3,5-Trimethylbenzene	100	Not Detected	490	Not Detected
1,2,4-Trimethylbenzene	100	Not Detected	490	Not Detected
1,3-Dichlorobenzene	100	Not Detected	600	Not Detected
1,4-Dichlorobenzene	100	Not Detected	600	Not Detected
alpha-Chlorotoluene	100	Not Detected	520	Not Detected
1,2-Dichlorobenzene	100	Not Detected	600	Not Detected
1,2,4-Trichlorobenzene	400	Not Detected	3000	Not Detected
Hexachlorobutadiene	400	Not Detected	4300	Not Detected

E = Exceeds instrument calibration range.

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	89	70-130
1,2-Dichloroethane-d4	125	70-130
4-Bromofluorobenzene	108	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LC-16

Lab ID#: 0806248-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	t061411	Date of Collection:	6/11/08	
Dil. Factor:	40.0	Date of Analysis:	6/14/08 03:36 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	20	440	99	2200
Freon 114	20	45	140	310
Chloromethane	80	Not Detected	160	Not Detected
Vinyl Chloride	20	770	51	2000
1,3-Butadiene	20	Not Detected	44	Not Detected
Bromomethane	20	Not Detected	78	Not Detected
Chloroethane	20	64	53	170
Freon 11	20	63 J	110	360 J
Ethanol	80	1300	150	2500
Freon 113	20	Not Detected	150	Not Detected
1,1-Dichloroethene	20	Not Detected	79	Not Detected
Acetone	80	300	190	700
2-Propanol	80	5200	200	13000
Carbon Disulfide	20	600	62	1900
3-Chloropropene	80	Not Detected	250	Not Detected
Methylene Chloride	20	23	69	80
Methyl tert-butyl ether	20	38	72	140
trans-1,2-Dichloroethene	20	Not Detected	79	Not Detected
Hexane	20	630	70	2200
1,1-Dichloroethane	20	Not Detected	81	Not Detected
2-Butanone (Methyl Ethyl Ketone)	20	670	59	2000
cis-1,2-Dichloroethene	20	120	79	460
Tetrahydrofuran	20	2100	59	6300
Chloroform	20	Not Detected	98	Not Detected
1,1,1-Trichloroethane	20	Not Detected	110	Not Detected
Cyclohexane	20	320	69	1100
Carbon Tetrachloride	20	Not Detected	120	Not Detected
2,2,4-Trimethylpentane	20	440	93	2000
Benzene	20	800	64	2600
1,2-Dichloroethane	20	51	81	210
Heptane	20	560	82	2300
Trichloroethene	20	Not Detected	110	Not Detected
1,2-Dichloropropane	20	25	92	120
1,4-Dioxane	80	Not Detected	290	Not Detected
Bromodichloromethane	20	Not Detected	130	Not Detected
cis-1,3-Dichloropropene	20	Not Detected	91	Not Detected
4-Methyl-2-pentanone	20	35	82	140
Toluene	20	4300	75	16000
trans-1,3-Dichloropropene	20	Not Detected	91	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LC-16

Lab ID#: 0806248-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	t061411	Date of Collection: 6/11/08
Dil. Factor:	40.0	Date of Analysis: 6/14/08 03:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	20	Not Detected	110	Not Detected
Tetrachloroethene	20	22	140	150
2-Hexanone	80	Not Detected	330	Not Detected
Dibromochloromethane	20	Not Detected	170	Not Detected
1,2-Dibromoethane (EDB)	20	Not Detected	150	Not Detected
Chlorobenzene	20	Not Detected	92	Not Detected
Ethyl Benzene	20	1900	87	8100
m,p-Xylene	20	2100	87	9000
o-Xylene	20	570	87	2500
Styrene	20	29	85	120
Bromoform	20	Not Detected	210	Not Detected
Cumene	20	150	98	750
1,1,2,2-Tetrachloroethane	20	Not Detected	140	Not Detected
Propylbenzene	20	63	98	310
4-Ethyltoluene	20	200	98	990
1,3,5-Trimethylbenzene	20	74	98	360
1,2,4-Trimethylbenzene	20	130	98	660
1,3-Dichlorobenzene	20	Not Detected	120	Not Detected
1,4-Dichlorobenzene	20	Not Detected	120	Not Detected
alpha-Chlorotoluene	20	Not Detected	100	Not Detected
1,2-Dichlorobenzene	20	Not Detected	120	Not Detected
1,2,4-Trichlorobenzene	80	Not Detected	590	Not Detected
Hexachlorobutadiene	80	Not Detected	850	Not Detected

J = Estimated value due to bias in the CCV.

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	127	70-130
4-Bromofluorobenzene	105	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LC-18

Lab ID#: 0806248-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN				
File Name:	1061415	Date of Collection: 6/11/08		
Dil. Factor:	80.0	Date of Analysis: 6/14/08 06:50 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	40	790	200	3900
Freon 114	40	84	280	590
Chloromethane	160	Not Detected	330	Not Detected
Vinyl Chloride	40	2100	100	5500
1,3-Butadiene	40	Not Detected	88	Not Detected
Bromomethane	40	Not Detected	160	Not Detected
Chloroethane	40	230	100	600
Freon 11	40	120 J	220	690 J
Ethanol	160	7800	300	15000
Freon 113	40	Not Detected	310	Not Detected
1,1-Dichloroethene	40	Not Detected	160	Not Detected
Acetone	160	2000	380	4900
2-Propanol	160	7000	390	17000
Carbon Disulfide	40	210	120	660
3-Chloropropene	160	Not Detected	500	Not Detected
Methylene Chloride	40	110	140	380
Methyl tert-butyl ether	40	100	140	360
trans-1,2-Dichloroethene	40	Not Detected	160	Not Detected
Hexane	40	910	140	3200
1,1-Dichloroethane	40	48	160	190
2-Butanone (Methyl Ethyl Ketone)	40	3300	120	9600
cis-1,2-Dichloroethene	40	610	160	2400
Tetrahydrofuran	40	4300	120	13000
Chloroform	40	Not Detected	200	Not Detected
1,1,1-Trichloroethane	40	Not Detected	220	Not Detected
Cyclohexane	40	1200	140	4000
Carbon Tetrachloride	40	Not Detected	250	Not Detected
2,2,4-Trimethylpentane	40	1700	190	8100
Benzene	40	1900	130	6200
1,2-Dichloroethane	40	200	160	820
Heptane	40	1900	160	7900
Trichloroethene	40	Not Detected	210	Not Detected
1,2-Dichloropropane	40	44	180	200
1,4-Dioxane	160	Not Detected	580	Not Detected
Bromodichloromethane	40	Not Detected	270	Not Detected
cis-1,3-Dichloropropene	40	Not Detected	180	Not Detected
4-Methyl-2-pentanone	40	130	160	540
Toluene	40	10000	150	39000
trans-1,3-Dichloropropene	40	Not Detected	180	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LC-18

Lab ID#: 0806248-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	t061415	Date of Collection: 6/11/08
Dil. Factor:	80.0	Date of Analysis: 6/14/08 06:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	40	Not Detected	220	Not Detected
Tetrachloroethene	40	71	270	480
2-Hexanone	160	Not Detected	660	Not Detected
Dibromochloromethane	40	Not Detected	340	Not Detected
1,2-Dibromoethane (EDB)	40	Not Detected	310	Not Detected
Chlorobenzene	40	Not Detected	180	Not Detected
Ethyl Benzene	40	2300	170	9900
m,p-Xylene	40	2100	170	9300
o-Xylene	40	530	170	2300
Styrene	40	52	170	220
Bromoform	40	Not Detected	410	Not Detected
Cumene	40	140	200	680
1,1,2,2-Tetrachloroethane	40	Not Detected	270	Not Detected
Propylbenzene	40	50	200	240
4-Ethyltoluene	40	160	200	770
1,3,5-Trimethylbenzene	40	46	200	230
1,2,4-Trimethylbenzene	40	89	200	440
1,3-Dichlorobenzene	40	Not Detected	240	Not Detected
1,4-Dichlorobenzene	40	Not Detected	240	Not Detected
alpha-Chlorotoluene	40	Not Detected	210	Not Detected
1,2-Dichlorobenzene	40	Not Detected	240	Not Detected
1,2,4-Trichlorobenzene	160	Not Detected	1200	Not Detected
Hexachlorobutadiene	160	Not Detected	1700	Not Detected

J = Estimated value due to bias in the CCV.

Container Type: 1 Liter Tedlar Bag

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	121	70-130
4-Bromofluorobenzene	104	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0806248-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN				
File Name:	1061404	Date of Collection: NA		
Dil. Factor:	1.00	Date of Analysis: 6/14/08 10:43 AM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0806248-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	t061404	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/14/08 10:43 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	114	70-130
4-Bromofluorobenzene	91	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0806248-11B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

MODIFIED EPA METHOD 10-15 GC/MS FULL SCAN				
File Name:	7061405	Date of Collection: NA		
Dil. Factor:	1.00	Date of Analysis: 6/14/08 11:57 AM		
Compound	Rot. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0806248-11B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7061405	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/14/08 11:57 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected U J	15	Not Detected U J
Hexachlorobutadiene	2.0	Not Detected U J	21	Not Detected U J

UJ = Non-detected compound associated with low bias in the CCV

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	88	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	98	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0806248-12A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1061402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/14/08 09:17 AM

Compound	%Recovery
Freon 12	116
Freon 114	108
Chloromethane	94
Vinyl Chloride	97
1,3-Butadiene	90
Bromomethane	97
Chloroethane	88
Freon 11	132 Q
Ethanol	84
Freon 113	112
1,1-Dichloroethene	108
Acetone	91
2-Propanol	93
Carbon Disulfide	98
3-Chloropropene	98
Methylene Chloride	98
Methyl tert-butyl ether	106
trans-1,2-Dichloroethene	101
Hexane	93
1,1-Dichloroethane	103
2-Butanone (Methyl Ethyl Ketone)	89
cis-1,2-Dichloroethene	105
Tetrahydrofuran	90
Chloroform	113
1,1,1-Trichloroethane	123
Cyclohexane	99
Carbon Tetrachloride	128
2,2,4-Trimethylpentane	92
Benzene	101
1,2-Dichloroethane	130
Heptane	101
Trichloroethene	112
1,2-Dichloropropane	102
1,4-Dioxane	104
Bromodichloromethane	123
cis-1,3-Dichloropropene	105
4-Methyl-2-pentanone	100
Toluene	103
trans-1,3-Dichloropropene	110



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0806248-12A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	1061402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/14/08 09:17 AM

Compound	%Recovery
1,1,2-Trichloroethane	100
Tetrachloroethene	103
2-Hexanone	100
Dibromochloromethane	112
1,2-Dibromoethane (EDB)	104
Chlorobenzene	104
Ethyl Benzene	100
m,p-Xylene	97
o-Xylene	95
Styrene	100
Bromoform	111
Cumene	97
1,1,2,2-Tetrachloroethane	101
Propylbenzene	95
4-Ethyltoluene	95
1,3,5-Trimethylbenzene	85
1,2,4-Trimethylbenzene	83
1,3-Dichlorobenzene	88
1,4-Dichlorobenzene	88
alpha-Chlorotoluene	94
1,2-Dichlorobenzene	89
1,2,4-Trichlorobenzene	82
Hexachlorobutadiene	87

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	123	70-130
4-Bromofluorobenzene	98	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0806248-12B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7061402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/14/08 09:20 AM

Compound	%Recovery
Freon 12	105
Freon 114	110
Chloromethane	130
Vinyl Chloride	111
1,3-Butadiene	113
Bromomethane	110
Chloroethane	93
Freon 11	109
Ethanol	102
Freon 113	103
1,1-Dichloroethene	103
Acetone	90
2-Propanol	99
Carbon Disulfide	92
3-Chloropropene	89
Methylene Chloride	100
Methyl tert-butyl ether	100
trans-1,2-Dichloroethene	92
Hexane	93
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	106
Tetrahydrofuran	105
Chloroform	107
1,1,1-Trichloroethane	106
Cyclohexane	97
Carbon Tetrachloride	112
2,2,4-Trimethylpentane	107
Benzene	109
1,2-Dichloroethane	119
Heptane	107
Trichloroethene	110
1,2-Dichloropropane	111
1,4-Dioxane	104
Bromodichloromethane	119
cis-1,3-Dichloropropene	112
4-Methyl-2-pentanone	115
Toluene	103
trans-1,3-Dichloropropene	121



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0806248-12B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7061402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/14/08 09:20 AM

Compound	%Recovery
1,1,2-Trichloroethane	107
Tetrachloroethene	112
2-Hexanone	122
Dibromochloromethane	123
1,2-Dibromoethane (EDB)	120
Chlorobenzene	109
Ethyl Benzene	103
m,p-Xylene	104
o-Xylene	103
Styrene	110
Bromoform	130
Cumene	102
1,1,2,2-Tetrachloroethane	113
Propylbenzene	105
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	98
1,2,4-Trimethylbenzene	96
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	104
alpha-Chlorotoluene	119
1,2-Dichlorobenzene	101
1,2,4-Trichlorobenzene	64 Q
Hexachlorobutadiene	64 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	109	70-130
4-Bromofluorobenzene	104	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0806248-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	t061403	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/14/08 09:55 AM

Compound	%Recovery
Freon 12	107
Freon 114	97
Chloromethane	86
Vinyl Chloride	87
1,3-Butadiene	81
Bromomethane	88
Chloroethane	83
Freon 11	117
Ethanol	76
Freon 113	111
1,1-Dichloroethene	110
Acetone	82
2-Propanol	86
Carbon Disulfide	92
3-Chloropropene	91
Methylene Chloride	97
Methyl tert-butyl ether	97
trans-1,2-Dichloroethene	94
Hexane	84
1,1-Dichloroethane	99
2-Butanone (Methyl Ethyl Ketone)	84
cis-1,2-Dichloroethene	98
Tetrahydrofuran	81
Chloroform	105
1,1,1-Trichloroethane	112
Cyclohexane	88
Carbon Tetrachloride	114
2,2,4-Trimethylpentane	81
Benzene	94
1,2-Dichloroethane	120
Heptane	92
Trichloroethene	102
1,2-Dichloropropane	93
1,4-Dioxane	91
Bromodichloromethane	112
cis-1,3-Dichloropropene	97
4-Methyl-2-pentanone	90
Toluene	96
trans-1,3-Dichloropropene	106



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0806248-13A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	t061403	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/14/08 09:55 AM

Compound	%Recovery
1,1,2-Trichloroethane	97
Tetrachloroethene	99
2-Hexanone	90
Dibromochloromethane	108
1,2-Dibromoethane (EDB)	95
Chlorobenzene	98
Ethyl Benzene	93
m,p-Xylene	90
o-Xylene	88
Styrene	92
Bromoform	105
Cumene	93
1,1,2,2-Tetrachloroethane	94
Propylbenzene	89
4-Ethyltoluene	87
1,3,5-Trimethylbenzene	78
1,2,4-Trimethylbenzene	74
1,3-Dichlorobenzene	80
1,4-Dichlorobenzene	79
alpha-Chlorotoluene	83
1,2-Dichlorobenzene	77
1,2,4-Trichlorobenzene	73
Hexachlorobutadiene	75

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130
1,2-Dichloroethane-d4	120	70-130
4-Bromofluorobenzene	100	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0806248-13B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7061404	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/14/08 10:52 AM

Compound	%Recovery
Freon 12	102
Freon 114	105
Chloromethane	128
Vinyl Chloride	109
1,3-Butadiene	107
Bromomethane	106
Chloroethane	92
Freon 11	104
Ethanol	102
Freon 113	112
1,1-Dichloroethene	112
Acetone	89
2-Propanol	102
Carbon Disulfide	92
3-Chloropropene	95
Methylene Chloride	108
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	91
Hexane	95
1,1-Dichloroethane	102
2-Butanone (Methyl Ethyl Ketone)	97
cis-1,2-Dichloroethene	107
Tetrahydrofuran	104
Chloroform	107
1,1,1-Trichloroethane	105
Cyclohexane	95
Carbon Tetrachloride	108
2,2,4-Trimethylpentane	105
Benzene	109
1,2-Dichloroethane	120
Heptane	108
Trichloroethene	108
1,2-Dichloropropane	111
1,4-Dioxane	102
Bromodichloromethane	119
cis-1,3-Dichloropropene	112
4-Methyl-2-pentanone	115
Toluene	108
trans-1,3-Dichloropropene	122



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0806248-13B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7061404	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/14/08 10:52 AM

Compound	%Recovery
1,1,2-Trichloroethane	108
Tetrachloroethene	112
2-Hexanone	121
Dibromochloromethane	122
1,2-Dibromoethane (EDB)	116
Chlorobenzene	108
Ethyl Benzene	102
m,p-Xylene	101
o-Xylene	102
Styrene	107
Bromoform	130
Cumene	103
1,1,2,2-Tetrachloroethane	112
Propylbenzene	106
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	98
1,2,4-Trimethylbenzene	94
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	120
1,2-Dichlorobenzene	97
1,2,4-Trichlorobenzene	64 Q
Hexachlorobutadiene	62 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	109	70-130
4-Bromofluorobenzene	102	70-130

Williams, Elizabeth

From: KBaduTweneboah@Geosyntec.com
Sent: Thursday, July 31, 2008 5:48 PM
To: Lubozynski, Tom; Cheryan, George; Williams, Elizabeth
Cc: mkaiser@wasteservicesinc.com; KWills@Geosyntec.com; SEun@Geosyntec.com; POliver@Geosyntec.com
Subject: RE: JED Landfill Cell 6 CQA Report and Financial Assurance

Thanks. I will bring a check for \$250 made payable to FDEP tomorrow.

From: Lubozynski, Tom [mailto:Tom.Lubozynski@dep.state.fl.us]
Sent: Thursday, July 31, 2008 10:28 AM
To: Kwasi Badu-Tweneboah; Cheryan, George; Williams, Elizabeth
Cc: mkaiser@wasteservicesinc.com; Kirk Wills; Sangho Eun
Subject: RE: JED Landfill Cell 6 CQA Report and Financial Assurance

Kwasi - George says he told Juan yesterday that the \$250 fee is necessary. We did receive the package.

Tom

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on [this link to the DEP Customer Survey](#). Thank you in advance for completing the survey.

From: KBaduTweneboah@Geosyntec.com [mailto:KBaduTweneboah@Geosyntec.com]
Sent: Thursday, July 31, 2008 7:03 AM
To: Lubozynski, Tom; Cheryan, George; Williams, Elizabeth
Cc: mkaiser@wasteservicesinc.com; KWills@Geosyntec.com; SEun@Geosyntec.com
Subject: JED Landfill Cell 6 CQA Report and Financial Assurance

Tom,

On behalf of Omni Waste of Osceola County, Geosyntec submitted two copies of the Cell 6 CQA Final Report and Minor Modification Application to include Cell 6 Financial Assurance Cost Estimate for the JED Solid Waste Facility (JED Landfill) to your Department on 28 July 2008. You should have received the documents by Wednesday July 30.

As in previous cell construction completion reports, we have included the financial assurance cost estimate as part of the CQA final report submittal. However, for Cell 6, the financial cost estimate was submitted as a minor modification permit application. We are therefore not sure if we should have included the permit fee of \$250 for the application.

Please let me know if we need to send in the permit fee and we will make sure to have a check to the Department as soon as possible. Coincidentally, I am scheduled for another meeting with FDEP tomorrow at 1 pm and I could hand deliver the check. Also, let us know if you need additional copies of the application or CQA report.

Regards,
Kwasi

Kwasi Badu-Tweneboah, Ph.D., P.E.
Associate

2258 Riverside Avenue
Jacksonville, FL 32204
Phone: 904.388.8821
Fax: 904.388.8163
Mobile: 904.424.6975
www.geosyntec.com

Geosyntec 
consultants

EXPERIENCE | INTEGRITY | INNOVATION

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Williams, Elizabeth

From: Lubozynski, Tom
Sent: Wednesday, August 06, 2008 11:35 AM
To: Leonard Whitehead (leonard.whitehead@marioncountyfl.org);
'mike.sims@marioncountyfl.org'; 'Judy DeVita'; 'mhadlock@jonesedmunds.com'
Cc: DePradine, Gloria-Jean; Williams, Elizabeth
Subject: Approval of Alternate Procedure for Wweighing Incoming Wasteb at Baseline Landfill OCD-SW-08-0314

TO: Ken Whitehead

Jones Edmunds submitted a letter describing an alternative procedure for weighing incoming waste and reporting the quantities if the main scales become inoperable and a temporary scale is not in place. The letter was dated August 1, 2008. It was received on August 4, 2008.

The Department approves the procedure described in the letter.

Tom Lubozynski

F. Thomas Lubozynski, P.E.
Waste Program Administrator
FDEP Central District
407-893-3328

internal: already placed in Oculus.

28 July 2008

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

RECEIVED
JUL 30 2008
DEP Central Dist.

Subject: Cell 6 Certification Report and Financial Assurance Modification
J.E.D. Solid Waste Management Facility, Waste Services, Inc.
DEP Construction Permit No. SC49-0199726-006 & 007

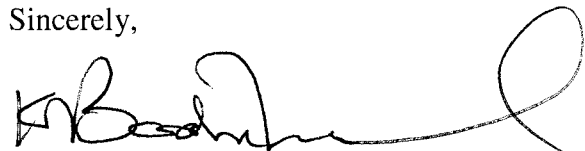
Dear Mr. Lubozynski:

Submitted herewith are two (2) copies of the certification report (including Record Drawings) for construction of Cell 6 at the J.E.D. Solid Waste Management Facility located in Osceola County, Florida. FDEP form #62-701.900(2) titled *Certification of Construction Completion of a Solid Waste Management Facility*, duly completed and signed, is also attached. A compact disk (CD) containing a PDF of Appendices E through R is included in the back cover of the report. Also, included in this submittal are two copies of the Minor Modification Application for Cell 6 Financial Assurance to update the phased financial assurance cost estimate for the JED facility to include Cell 6.

On behalf of Waste Services, Inc. (WSI), Geosyntec Consultants (Geosyntec) is requesting that a site inspection for Cell 6 construction completion be scheduled within two weeks of receipt of this submittal. Please let us know of the date and time of the inspection.

If you have any questions or need additional information, please do not hesitate to contact the undersigned at (904) 388-8821 or Mike Kaiser of WSI at (407) 891-3720.

Sincerely,



Kwasi Badu-Tweneboah, Ph.D., P.E.
CQA Engineer-of-Record

Enclosures

Copies: Mike Kaiser, WSI
Kirk Wills, Geosyntec

G. DePRADINE

Janwadkar, Sandeep

From: Lubozynski, Tom
Sent: Wednesday, July 16, 2008 3:00 PM
To: DePradine, Gloria-Jean
Cc: Janwadkar, Sandeep
Subject: FW: JED Solid Waste Management Facility - Status of Installation of Gas Collection and Control System - Phase 1, Sequence 1

Categories: Red Category

Gloria - your use. Please place in Oculus.

Tom

From: Michael Kaiser [mailto:mkaiser@wasteservicesinc.com]
Sent: Monday, July 14, 2008 9:41 PM
To: Lubozynski, Tom; Bradner, James
Cc: DePradine, Gloria-Jean; Shine, Caroline; Shawn McCash; Matt Orr; David Dee; Dennis Pantano
Subject: JED Solid Waste Management Facility - Status of Installation of Gas Collection and Control System - Phase 1, Sequence 1

Mr. Lubozynski and Mr. Bradner:

Please accept this e-mail as notification of the status of installation of the Phase 1 - Sequence 1 Gas Collection and Control System at the JED Solid Waste Management Facility. A preconstruction meeting was held last week with the Contractor (Shaw Environmental) and Quality Assurance Engineer (Geosyntec). We intend to begin borehole drilling and gas well installation activities in approximately two weeks and header/lateral installation during the next 2-8 weeks. The flare station is scheduled for delivery in the later weeks of August. Based on these timelines, we expect to achieve construction completion and start-up in late October.

Call if you have any questions.

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@wsii.us

CONFIDENTIALITY NOTICE: The information transmitted in this email is intended for the addressee and may contain confidential information of Waste Services Inc. or its affiliated corporations. Any unauthorized review, distribution or use or the taking of any action in reliance on the information contained in this email or



1501 Omni Way, St. Cloud, FL 34773

July 14, 2008

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

Re: **Quarterly Reporting: Period March 1 – June 30, 2008**
J.E.D. Solid Waste Management Facility
Osceola County, Florida
Permit Nos. SC49-0197726-006 and S049-0199726-007

Dear Mr. Lubozynski:

Omni Waste of Osceola County, LLC (Omni) is submitting this Quarterly Report in compliance with the above listed permits for the J.E.D. Solid Waste Management Facility. Provided is Waste Reporting - Specific Condition No. 53, Precipitation Records – Specific Condition No. 36, and Leachate Quantities – Specific Condition No. 35.

Specific Condition 53 – Waste Reporting

Provided below is the waste types listed in Specific Condition 53 and tonnages received during the reporting period.

Waste Type	Quantity (Tons)
Household Waste	16,237.89
Agricultural Waste	0.00
Commercial Waste	116,061.70
Incinerator By-Pass Waste	0.00
Construction & Demolition Debris	45,109.74
Industrial Sludge	0.00
Treated Biomedical Waste	4,471.41
Yard Trash	0.00
Industrial Waste	128,179.65
Ash Residue	0.00
Sewage Sludge	32,641.46
Water/Air Treatment Sludges	0.00
Waste Tires	.31

File copy

Osceola 7/17/08
Sent 7/17/08
WACS 7/17/08

Specific Condition 36 – Precipitation Records

Attached are records of precipitation recorded by site personnel on a daily basis during permitted operating hours. Precipitation is monitored at a rain gauge located near the Administration Office.

Specific Condition 35 – Leachate Quantities

The following monthly leachate quantities were recorded at the leachate sump systems for Cells 1-5.

Volume (gallons)			
Location	April - 2008	May - 2008	June - 2008
Cell 1	180,857	39,546	53,080
Cell 2	41,700	41,100	41,396
Cell 3	76,900	38,400	35,800
Cell 4	88,900	77,300	59,000
Cell 5	331,200	365,300	327,800

If you have any questions or require any additional information, please contact me at (407) 891-3720 or morrr@wsii.us at your earliest convenience.

Sincerely,



Matt Orr
District Manager

Attachments

cc: Mr. Mike Kaiser, WSI
Mr. Shawn McCash, WSI

**J.E.D. Solid Waste Management Facility
Precipitation Records**

Apr-08

Date	Precipitation (inches)
4/1/2008	1
4/2/2008	0
4/3/2008	0
4/4/2008	1
4/5/2008	2
4/6/2008	2
4/7/2008	4.5
4/8/2008	0
4/9/2008	0
4/10/2008	0
4/11/2008	0
4/12/2008	0
4/13/2008	1
4/14/2008	0.5
4/15/2008	0
4/16/2008	0
4/17/2008	0
4/18/2008	0
4/19/2008	0
4/20/2008	0
4/21/2008	0
4/22/2008	0
4/23/2008	0
4/24/2008	1
4/25/2008	0
4/26/2008	0
4/27/2008	0
4/28/2008	0.5
4/29/2008	0
4/30/2008	0
Month Total	13.5

Daily precipitation data recorded by site operations at the gauge located near the Administration Office

**J.E.D. Solid Waste Management Facility
Precipitation Records**

May-08

Date	Precipitation (inches)
5/1/2008	0
5/2/2008	0
5/3/2008	0
5/4/2008	0
5/5/2008	0
5/6/2008	0
5/7/2008	1
5/8/2008	1
5/9/2008	1
5/10/2008	1
5/11/2008	0
5/12/2008	0
5/13/2008	0
5/14/2008	0
5/15/2008	0
5/16/2008	0.5
5/17/2008	0.5
5/18/2008	0.5
5/19/2008	0.5
5/20/2008	0
5/21/2008	0
5/22/2008	0
5/23/2008	0
5/24/2008	0
5/25/2008	1
5/26/2008	1
5/27/2008	1
5/28/2008	0
5/29/2008	0
5/30/2008	0
5/31/2008	0
Month Total	9

Daily precipitation data recorded by site operations at the gauge located near the Administration Office

**J.E.D. Solid Waste Management Facility
Precipitation Records**

Jun-08

Date	Precipitation (inches)
6/1/2008	0
6/2/2008	0
6/3/2008	0
6/4/2008	0
6/5/2008	1
6/6/2008	0.5
6/7/2008	0.5
6/8/2008	0.5
6/9/2008	0.5
6/10/2008	0.5
6/11/2008	0
6/12/2008	0
6/13/2008	0
6/14/2008	0
6/15/2008	0
6/16/2008	0
6/17/2008	0
6/18/2008	0
6/19/2008	0
6/20/2008	1
6/21/2008	1.5
6/22/2008	2
6/23/2008	1
6/24/2008	1
6/25/2008	0
6/26/2008	0
6/27/2008	0
6/28/2008	0
6/29/2008	1
6/30/2008	1
Month Total	12

Daily precipitation data recorded by site operations at the gauge located near the Administration Office

**J.E.D. Solid Waste Management Facility
Precipitation Records**

Year - 2008

Month	Precipitation Total (inches)
January	6
February	6.5
March	7.5
April	13.5
May	9
June	12
July	
August	
September	
October	
November	
December	
Year Total	54.5



1501 Omni Way, St. Cloud, FL 34773

June 12, 2008

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

RECEIVED
JUN 19 2008
DEP Central Dist.

Re: J.E.D. Solid Waste Management Facility
Maintenance Building Construction
Osceola County, Florida
Permit Nos. SC-0197726-004 and S049-0199726-005

Dear Mr. Lubozynski:

For your information, please find attached two sets of drawings for the proposed Maintenance Building to be constructed at the J.E.D. Solid Waste Management Facility. Omni Waste of Osceola County, LLC is obtaining building permits from Osceola County and plans to begin construction in the next few months. The building will be located near the administration office, west of the future leachate holding ponds. I have not included the complete set of architectural drawings (lighting, mechanical and electrical) due to the number of sheets and redundancy. Please let me know if you have any questions or require any additional information. I can be reached at (904) 673-0446, or by e-mail at mkaiser@wsii.us, at your earliest convenience.

Sincerely,

A handwritten signature in cursive script that reads "Mike Kaiser".

Mike Kaiser
Vice President, Environmental Management and Engineering, US
Waste Services, Inc.

Attachments

cc: Mr. Matt Orr, WSI
Mr. Shawn McCash, WSI

COMPLETED JUN 26 2008

RECEIVED

JUN 04 2008

DEP Central District June 2008

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

Re: 8th Semi-Annual Water Quality Sampling Event
J.E.D. Solid Waste Management Facility (JED Facility)
Omni Waste of Osceola County, LLC
Permit Nos. SC49-0199726-006 and SO49-0199726-007
WACS Facility ID 89544

Dear Mr. Lubozynski:

The purpose of this letter is to inform the Florida Department of Environmental Protection (FDEP) that monitoring parameters exceeded the Department's water quality standards in a few of the detection wells at the JED Facility during the 8th semi-annual monitoring event. In accordance with 62-701.510(7)(a) Florida Administrative Code (F.A.C.) the Department is being notified of these findings within 14 days of receipt of the analytical laboratory results. A brief summary of the monitoring parameters exceeded are presented below.

Monitoring well 11A (MW-11A) was initially sampled on 13 May 2008. Laboratory data received on 23 May 2008 showed that the sample collected from MW-11A had to be diluted by the analytical laboratory due to the foaming nature of the sample, resulting in elevated method detection and reporting limits for the volatile organic compounds (VOCs) analyzed. With the dilution, benzene was reported above the regulatory limit. Geosyntec proposes to resample MW-11A for VOCs. To determine if the hydrochloric acid (HCl) preservative had any affect on the foaming of the sample, aliquots will be collected in unpreserved and preserved VOC sample vials for analysis.

MW-9A was initially sampled on 14 May 2008. Laboratory data received on 28 May 2008 showed that benzene and vinyl chloride were detected in MW-9A at concentrations of 2.8 µg/L and 2.4 µg/L, respectively, which are above the regulatory level for both constituents of 1.0 µg/L. A blind duplicate was also collected at this well on 14 May 2008 and the results were comparable to the results presented above. Based upon this information, MW-9A will not be resampled and the initial sample results will be considered as representing current conditions.

Geosyntec[®]
consultants

14055 Riveredge Drive
Suite 300
Tampa, FL 33637

PH 813-558-0990
FAX 813-558-9726

www.geosyntec.com

It is likely that these detections are attributable to residual contamination remaining from the erosion caused by surface water run-off from the landfill in the vicinity of MW-9A as previously discussed in the 6th semi-annual water quality monitoring report, dated June 2007.

Monitoring well 11A will be resampled within the 30 days of receipt of the laboratory data in accordance with 62-701.510(7)(a), F.A.C. The results of this supplemental sampling will be included in the 8th semi-annual water quality report.

If you have any questions or need additional information, please contact the undersigned.

Sincerely,



Kirk Wills
Project Engineer

cc: M. Kaiser, WSI
L. Levin, FDEP



1501 Omni Way, St. Cloud, FL 34773

May 29, 2008

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

RECEIVED

MAY 30 2008

DEP Central Dist.

Re: Soil Gas Monitoring Probe Installation Report
J.E.D. Solid Waste Management Facility
Osceola County, Florida
Permit Nos. SC-0197726-004 and S049-0199726-005

Dear Mr. Lubozynski:

Omni Waste of Osceola County, LLC (Omni) is submitting two copies of the Soil Gas Monitoring Probe Installation Report for the J.E.D. Solid Waste Management Facility (facility). Installation of the probes was completed by Geosyntec Consultant as documented in the report. The results of the first round of probe sampling was reported to your Department under separate cover (letter dated May 19, 2008).

If you have any questions or require additional information, please contact me at (904) 673-0446, mkaiser@wsii.us, at your earliest convenience.

Sincerely,

A handwritten signature in cursive script that reads "Mike Kaiser".

Mike Kaiser
Vice President, Environmental Management and Engineering, US
Waste Services, Inc.

Attachments

Cc: Mr. Matt Orr, WSI
Mr. Shawn McCash, WSI
Mr. Kirk Wills, Geosyntec Consultants
Mr. Kwasi Badu-Tweneboah, Geosyntec Consultants

COMPLETED MAY 30 2008



1501 Omni Way, St. Cloud, FL 34773

May 27, 2008

Jim Bradner, P.E.
Program Administrator, Air Resource Management
Florida Department of Environmental Protection
Central District
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

RECEIVED
MAY 29 2008
DEP Central Dist.

Re: Flare Station Operating Parameters
J.E.D Solid Waste Management Facility
Omni Waste of Osceola County, LLC
Osceola County, Florida
Facility ID: 0090079
Permit Nos. 0970079-003-AV & 0970079-001-AC

Dear Mr. Bradner:

Please find attached the information listed below required of Specific Condition 10, Air Construction Permit 0970079-001-AC, for the J.E.D. Solid Waste Management Facility. The information provided is for the flare station to be installed this year at the facility in the Phase 1 area.

- Type of flare and model number
- Volumetric flow
- Instruments used to measure and monitor the gas flow and the flare flame temperature

If you have any questions or require further information, please contact me at (904) 673-0446, mkaiser@wsii.us, at your earliest convenience.

Sincerely,

A handwritten signature in cursive script that reads "Mike Kaiser".

Mike Kaiser
V.P., Environmental Management and Engineering, US
Waste Services, Inc.

COMPLETED MAY 29 2008

302A

Cc: Mr. Jeff Koerner, DARM FDEP Tallahassee
Mr. Tom Lubozynski, FDEP Solid Waste Group
Mr. Matt Orr, WSI
Mr. Shawn McCash, WSI

RECEIVED

MAY 29 2008

DEP Central Dist.



Shaw® LFG Specialties, L.L.C.

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. 030802R2

Date: April 10, 2008

PRESENTED TO:

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

RECEIVED

MAY 29 2008

DEP Central Dist.

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 CFT1444I12 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 PCFT1444I12
Date: April 10, 2008

Sales Agreement No. 030802R2

- 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

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:

Price for the LFG Specialties Model PCFT1444I12 Utility Flare System as described in Section A, item 1 FOB Findlay, OH, excluding tax, is

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

*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)

ALL PRICING IS FOB — FINDLAY, OHIO

Options:

1. Ten foot extension of the stack height to avoid damage to power lines. Guy wires are included.

PRICE ADDER:

2. 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:

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)

A storage fee of \$100.00 per week may be charged if the site cannot accept delivery of the unit by the scheduled delivery date.

E. Payment Terms:

Terms of payment are 100% net due 30 days from date of invoice. Invoices will be issued on a progress basis according to the following schedule:

<u>Milestone</u>	<u>Amount</u>
Project Award	50% (Invoiced at project award. Unit will not be shipped until payment has been received.)
Equipment Delivery	40% (Invoiced 4 weeks prior to shipment. Start up will not be scheduled until 40% payment has been received.)
Start up Completion	10% (Invoiced after successful completion of start up or 4 months after shipment, whichever occurs first.)

Prices are quoted firm for prompt acceptance and shipment per delivery schedule. Proposals are valid for 45 days from date of issue.

Prices do not include any taxes, duties or assessments.

F. Field Service Rates and Availability:

LFG Specialties can furnish an on site advisor during any aspect of the installation and erection or startup of our equipment deemed necessary by our customers in accordance with our standard "Terms and Conditions of Sales". LFG Specialties recommends 3 days of start up assistance and training for utility flares. Service personnel should be scheduled two weeks in advance for standard installation, erection, start-up or service work. The Customer Installation Checklist must be signed and returned prior to these services being performed.

Additional on site field service time will be charged \$1,000.00 per day, plus travel expenses. Travel expenses to be charged at \$1.50/mile.

Service personnel are available for 48 hour emergency service for \$1,200.00/day plus \$1.50/mile.

G. Technical Data:

1. Gas Composition

- 30-50% CH₄, Remainder – CO₂, Air, Inerts (gas compositions greater than 50% CH₄ will result in a radiation level greater than 500 BTU/ft² at 6 ft. elevation)
- H₂S to be less than 1000 ppm (for concentrations greater than 1000 ppm please contact LFG Specialties concerning design of system)
- O₂ to be less than 5%

- Temp/Pres: 100° F, 12 in. w.c.

2. Flare Size

- 14 in. tip, 44 ft. overall height flare

Note: A minimum distance from power lines and structures of 4 times the stack height must be maintained around the flare. If this distance is not feasible, please contact LFG Specialties engineering.

3. Destruction efficiency at design flow with gas methane content 30 to 50% – 98% overall destruction of total hydrocarbons (per the US EPA AP-42)

- Guaranteed to meet E.P.A. emission standards for landfill gas disposal in utility "candle type" flares.

Note: Flare is designed in accordance with the United States Environmental Protection Agency (EPA) established criteria for open flares, 40 CFR 60.18

4. Minimum methane content required to maintain stable flame and 98% destruction efficiency -- 30%

5. Flow/Emissions (expected) at maximum flow, 50% methane content and 1400°F combustion temperature:

N ₂	73.5	% vol.
O ₂	13.6	% vol.
CO ₂	6.0	% vol.
H ₂ O	6.9	% vol.
NO _x	0.068	lbs./MMBTU *
CO	0.37	lbs./MMBTU *

* Per the US EPA AP-42 Supplement D, Table 13.5-1

6. Pressure loss through the flare, from the inlet flange through the flare stack, will typically be less than 10" w.c.
7. All utility flare units are designed and constructed to meet Seismic zone 4 guidelines and 110-mph wind loading requirements (per ASCE 7-88, Exp. C).
8. LFG Flow Ranges: The flare stack has a flow turndown ratio of 10:1 based on BTU content. The blower has a flow range outlined in Section A.

H. Equipment Warranty:

LFG Specialties guarantees the Equipment as outlined and specified in this Agreement for the period of twelve (12) months from date of shipment.

Along with standard Material, Workmanship and Performance Warranties outlined in the standard "Terms and Conditions of Sales" herein, LFG Specialties guarantees the equipment to meet present E.P.A. emission standards when installed and operated in accordance with specified design conditions.

I. Quality Control Standards:

LFG Specialties follows the Quality Control Procedures as outlined by the applicable national codes and standards adhered to in the design, engineering, manufacture, assembly and test of our equipment, including but not limited to:

Structural Design	-----	AISC
Drawings	-----	ANSI S5.1
Fabrication (welding)	-----	AWS
Electrical (components)	-----	UL
(wiring)	-----	NEC
Painting, Sandblast	-----	SSPL, SP-6

LFG Specialties does on occasion subcontract fabrication of subassemblies for our equipment. All subcontract work is carried out under LFG Specialties direction and inspected in accordance with our quality control standards.

The nondestructive testing of our equipment includes:

Welding	-----	100% visual inspection
Dimensional	-----	All dimensions to drawings, correct position and sizing of all connects
Piping	-----	100% visual inspection (in/out)
Painting	-----	Visual inspection/instrument check using microtest coating thickness gauge
Wiring	-----	Functional Check
Controls	-----	Functional check, process simulation

LFG Specialties also supplies full submittal documentation on the equipment; including mechanical and electrical drawings and component cut sheets. For equipment support, a complete Operation & Maintenance Manual is included with each unit.

J. Scope of Work:

LFG Specialties will furnish all the Equipment and Services as outlined in this Agreement. Equipment will be fully fabricated, painted and tested as described herein at LFG Specialties facility, Findlay, Ohio.

This Agreement only covers the supply of Equipment and installation advisory service as defined. The following items are not included in LFG Specialties scope of supply.

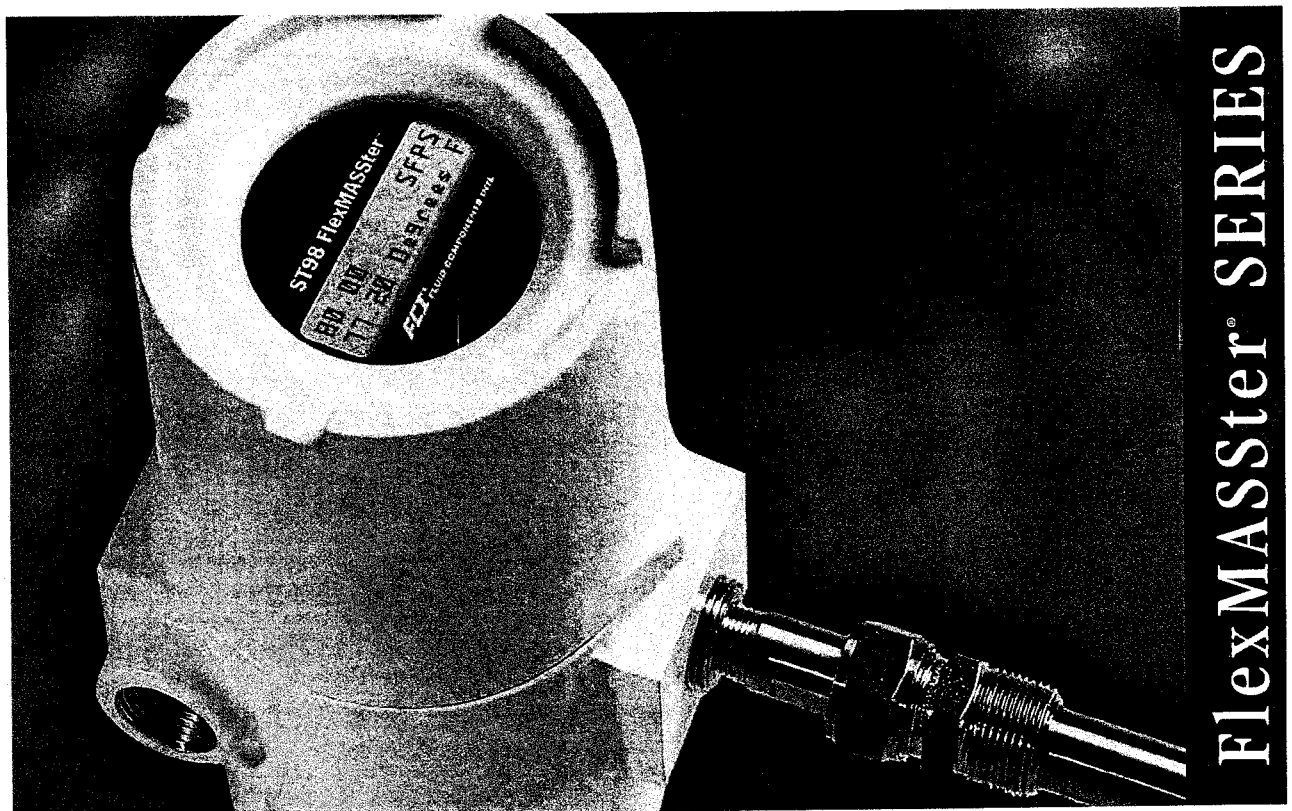
- Construction drawings: All equipment layout, interconnect details and foundations designs are the responsibilities of Purchaser.

Note: LFG Specialties drawings will outline field installation connections (location and size) and loading data.
- All installation and civil work including foundations, equipment erection, main and interconnecting piping and wiring including required equipment and materials are the responsibilities of Purchaser.
- All permits/licenses required for installation and/or operation of the Equipment are the responsibility of Purchaser. LFG Specialties will provide necessary manufacturer's data on the equipment as required for permit/license applications.

FCI FlexMASter® ST98 and ST98-L:

The Best Value in a

High Performance



Thermal Mass Flowmeter

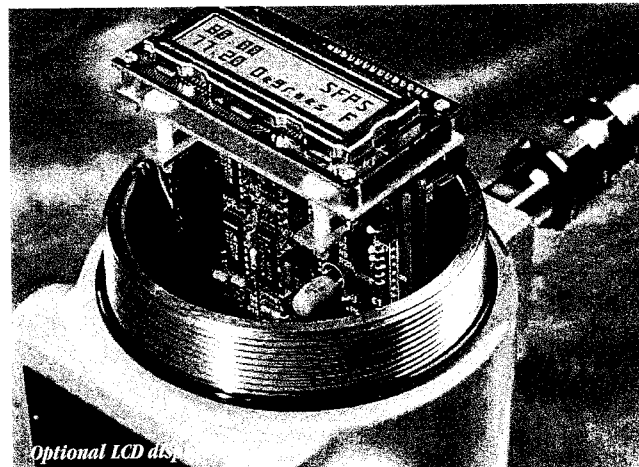
for Gas Applications.

FCI®

FlexMASter® ST98 Flowmeter Series | The new FCI FlexMASter ST98 Flowmeter Series sets the standard for value and performance with smart electronics in a rugged, economical package. The result is superior performance and application versatility for exceptional installed value. In today's complex process environment, where harsh conditions often exist, the FlexMASter Series is the ideal choice for precision gas flow measurement. Over 35 years of FCI experience in Thermal Dispersion flowmeter technology was applied in the development of the FlexMASter Series.

Smart Electronics | With a smart microprocessor-based design, the intelligent FlexMASter ST98 is ideal for a wide range of gas flow measurement applications. The ST98's electronics are housed in a NEMA/CSA Type 4X or optional FM/CSA/CENELEC system approved explosion-proof electrical enclosure that features ready access to wiring terminals in the dual sided design. The electronics accept universal AC (85 to 260 volts) or 24 Vdc input power. The output signal can be field programmed for 4-20mA, 0-5 Vdc, or 0-10 Vdc. An RS-232C serial port provides an interface to FCI's FC88 Pro-programmer, a computer or any ASCII-oriented terminal.

HART® Field Communications Protocol | The industry standard for digitally enhanced 4-20mA communications with smart field instruments is now available as an option with the ST98 FlexMASter Series. HART's enhanced two-way communication significantly improves plant information management by providing solutions to today's business challenges and yielding reported

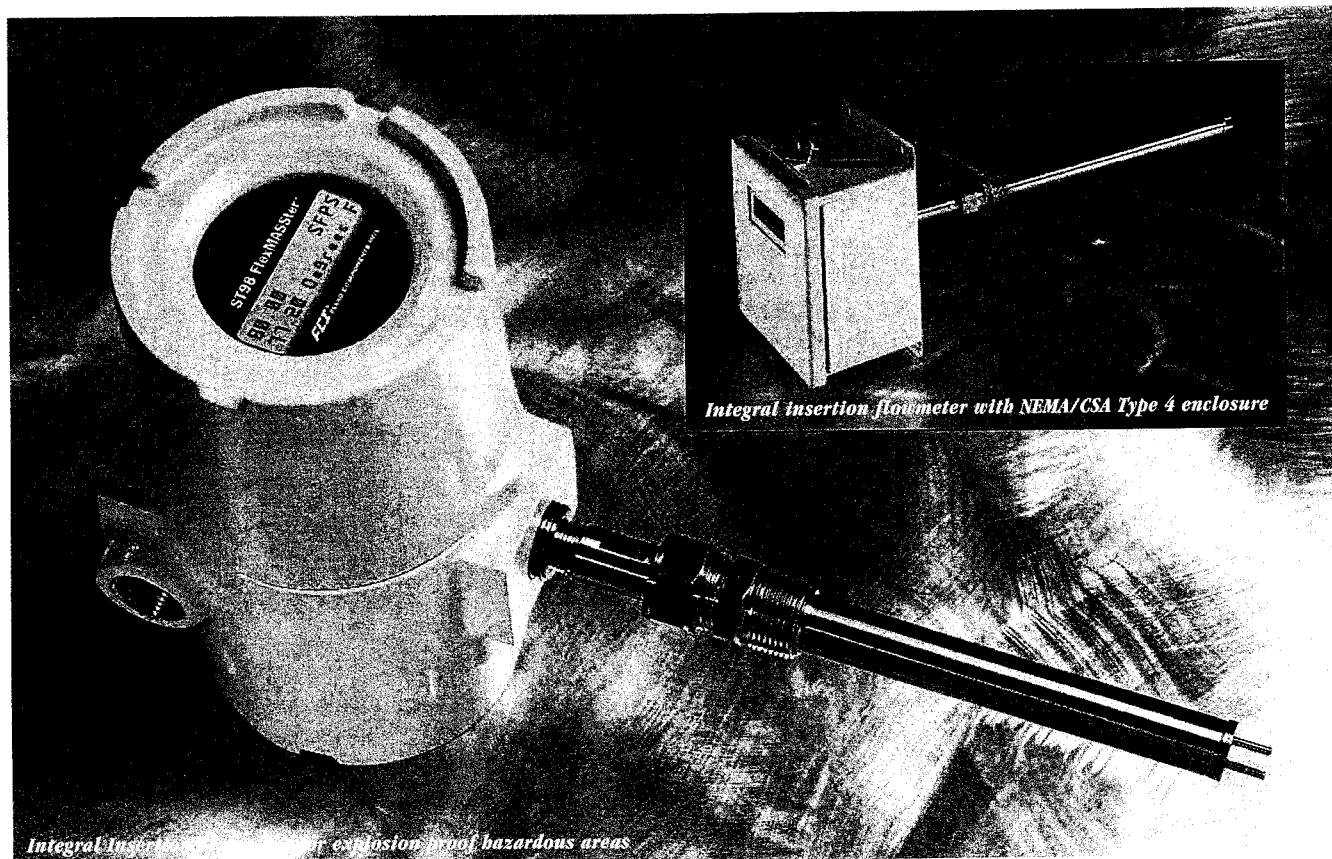


Optional LCD display

substantial cost savings for initial installation/commissioning of \$400 to \$500 per instrument and annual maintenance/operations savings of \$100 to \$200 per instrument.

HART technology benefits include:

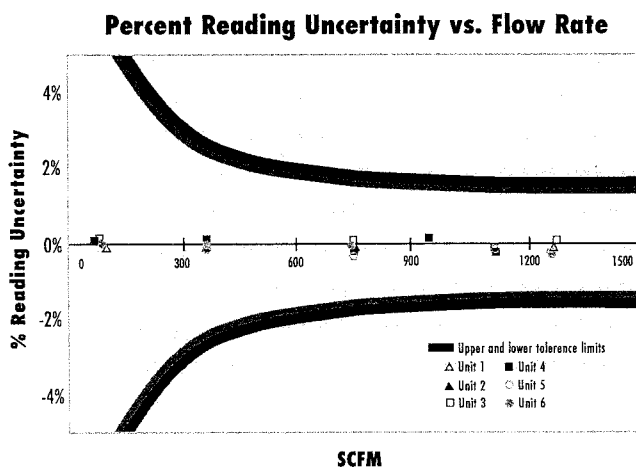
- > The only "open" communications protocol of its type and in "defactor" industry standard
- > Easy access to variables, diagnostics and calibration data
- > No risk solution for maintenance and operations personnel by providing parallel operation of the 4-20 mA instrument signal and HART's enhanced two-way field communication capability
- > Multidrop capability of several field instruments substantially reduces installation costs



Integral insertion flowmeter with NEMA/CSA Type 4 enclosure

Integral Insertion Flowmeter for explosion-proof hazardous areas

Direct Mass Flow Measurement Performance The FlexMASter ST98 Flowmeter Series features FCI's no-moving parts mass flow element design. It simplifies mass flowmetering with a single process penetration, eliminating temperature/pressure transmitters and the density calculation required with other non-mass flowmeter technologies, such as differential pressure, vortex or turbine. This results in superior accuracy, response time, and repeatability. In today's complex process control schemes, accurate gas flow measurement is essential for product consistency and quality and safe operation of process plants. FCI has partnered with VORTAB® to optimize performance and overcome installation effects in short straight runs. The FlexMASter ST98 Series features an accuracy of $\pm 1\%$ of reading plus 0.5% of full scale, and repeatability of 0.5% of reading.



Air flow in 6 inch schedule 40 pipe (typical factory calibration results)

The air flow calibration range of the insertion unit is from 0.75 to 600 SFPS (0.21 to 172 NMPS) at 70°F (21°C) and 14.7 psia [1 bar (a)]. The ST98-L inline unit air-flow calibration range is from 0.006 to 1,850 SCFM (0.01 to 3,140 NCMH) at 70°F (21°C) and 14.7 psia [1 bar (a)]. The turndown ratio is factory preset per application from a minimum of 10:1, to a maximum of 100:1 and is field adjustable within the calibrated range.

Applications Versatility With its innovative design, the FlexMASter Flowmeter Series is ideal for a wide range of rigorous applications in:

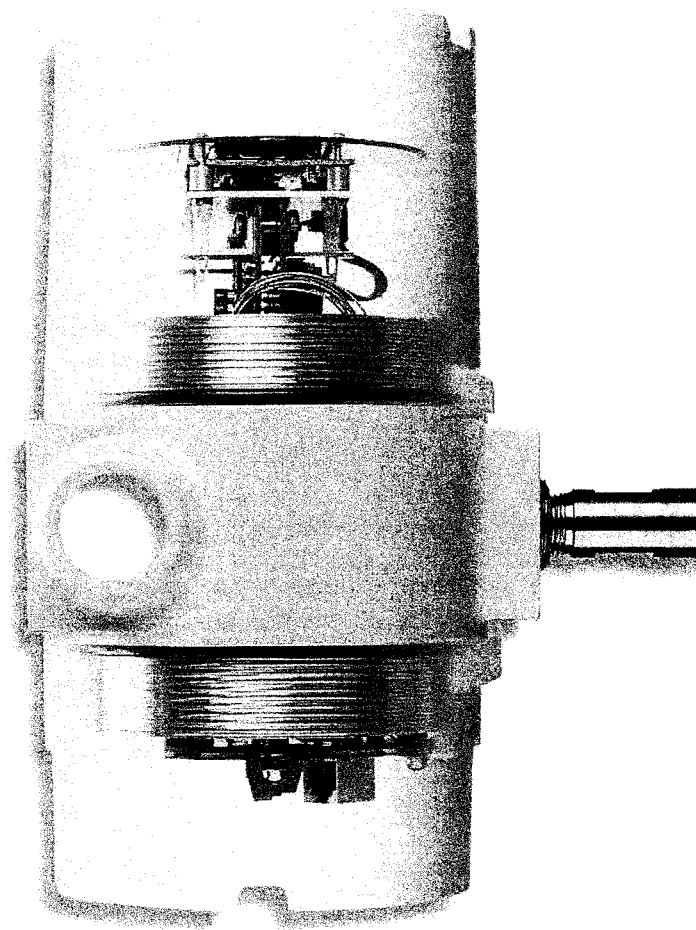
- > Wastewater aeration and digesters
- > Landfill vapor or biogas recovery
- > Natural gas or methane monitoring
- > Compressed air metering
- > Heavy industrial HVAC systems
- > Nitrogen blanketing
- > Combustion air

Easy to install, Easier to Use Field technicians find that the installation of the FlexMASter ST98 Series flowmeter is a simple, rapid process. No special or custom tools are required.

The FlexMASter ST98 Series is factory-calibrated and tested prior to shipment. FCI technicians set the instrument's units of measure and provide precise adjustment of zero and full scale for specific process applications.

By designing the FlexMASter with nonvolatile memory, FCI helps prevent the loss of valuable application and totalized flow data. Power outages or surrounding equipment failures need never again mean a loss of critical flow data. *Your flow data is truly safe with FCI.*

Comprehensive diagnostics, field-adjustable settings and HART protocol are available with the FlexMASter ST98 Series. The FCI FC88 Programmer is quickly connected to the FlexMASter's RS-232C serial port via an RJ11 phone jack. The serial port provides access to the FlexMASter's flow computer. Password protection offers security against unauthorized access. With the FlexMASter ST98 Series, built-in testing and diagnostic capabilities ensure accurate and reliable flowmeter performance. On-command diagnostics include: out-of-range detection, output loop and sensor element continuity verification, and a forced calibration output.



Field wiring terminations (bottom) and circuit board access are in separate enclosure chambers.

Exceptional Reliability | The FlexMASter ST98 and ST98-L system's unique design is based on FCI's advanced Thermal Dispersion technology flow element, which has no moving parts for exceptional reliability, trouble-free operation in the dirtiest of environments and a well-known reputation for long-life. There are hundreds-of-thousands of FCI instruments at work today around the world -- ensuring process quality and protecting valuable equipment.

The FlexMASter ST98 and ST98-L meter's flow element is highly resistant to corrosion. It features an all-welded 316 stainless steel construction. For excessively corrosive applications, Hastelloy C is available as an option for all wetted surfaces.

Explosion-Proof Flowmeter | The FlexMASter ST98 and ST98-L's flow element and transmitter are manufactured with high grade industrial components for use over a wide temperature range and in harsh environments. The standard aluminum enclosure is explosion-proof. It is rated for hazardous location use (Class I and II, Division 1 and 2, Group B, C, D, E, F and G; and EEx d IIB) and resists the effects of weather and corrosion (NEMA/CSA Type 4X and equivalent to IP 66). The flow transmitter can be remotely mounted as an option. FlexMASter is system approved by leading agencies including FM, CENELEC and CSA.

Process Connections | The standard process connection for the ST98 insertion flow element is 3/4 inch male NPT stainless steel compression fitting with either adjustable Teflon ferrule,

rated to 150 psig [10 bar(g)] and 200°F [93°C], or stainless steel ferrule, rated to 250 psig [17 bar(g)] and 500°F [260°C]. Three different field adjustable probe lengths for the insertion flowmeter are available. Male NPT threaded or flanged fixed insertion lengths also can be specified. The standard process connections for the ST98-L inline flow element are 3/4 inch female NPT on the 1 inch diameter tubing assembly and male NPT on the 1 1/2 to 2 inch diameter pipe assemblies (flanged optional).

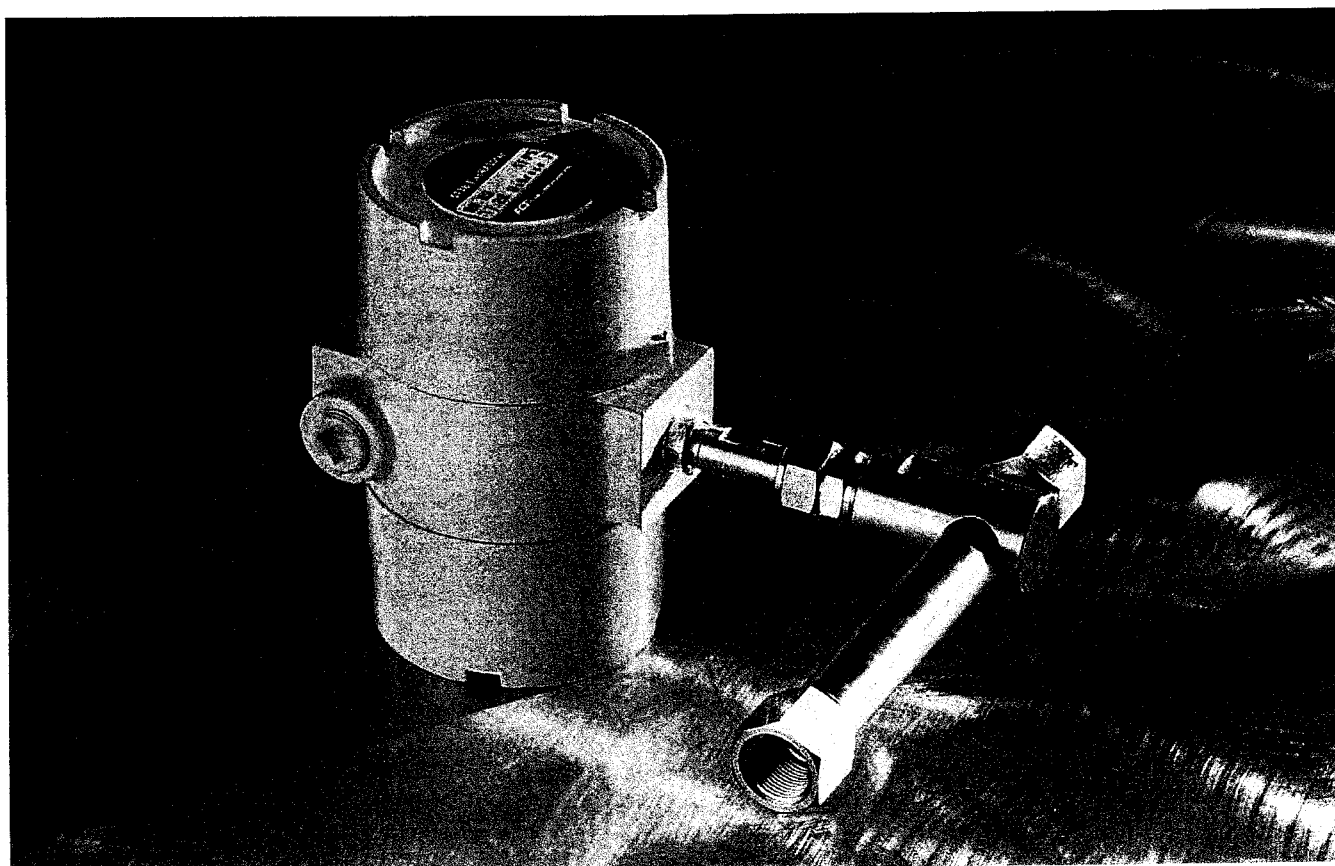
Global Approvals | The FlexMASter ST98 standard enclosure resists the effects of weather and corrosion (NEMA/CSA Type 4X and equivalent to IP66) and is rated for Class I and II, Division 2, areas (pending). An optional aluminum enclosure is explosion-proof and rated for hazardous location use (Class I and II, Division 1 and 2, Groups B, C, D, E, F and G; and EEx d IIB) while resisting the effects of weather and corrosion (NEMA/CSA Type 4X and equivalent to IP 66). Approvals include FM, CENELEC, and CSA, as well as CE Mark.

FCI's Instrument User's Protection Plan

Guaranteed Performance. FCI guarantees the performance of its product line in accepted applications or your money back.

1-Year Warranty. The FCI ST98 Series is warranted against faulty materials and workmanship for one year from the date of delivery.

Customer Service. FCI provides prompt 24-hour customer service including expedited field service, start-up and commissioning assistance, repair support, and toll-free factory service.



FlexMASster ST98 Series Mass Flowmeter General Specifications

Instrument

Flow Range

ST98 Insertion Flow Element: 0.75 to 600 SFPS [0.21 to 172 NMPS]

ST98L Inline Flow Accessory: 0.0062 to 1850 SCFM

[0.01 to 3,140 Nm³/h]

-- Air at standard conditions; 70°F [21.1°C] and 14.7 psia [1.01325 bar (a)].

Media: All gases that are compatible with the flow element material.

Accuracy

Flow: ±1% reading + 0.5% full scale standard accuracy

Temperature: ±2°F (display only, flow rate must be greater than 5 AFPS)

Repeatability

Flow: ±0.5% reading

Temperature: ±1°F (flow rate must be greater than 5 AFPS)

Turndown Ratio:

Standard: Factory set and field adjustable from 10:1 to 100:1 within calibrated flow range.

Temperature Compensation:

Standard: ±30°F [±1°C]

Optional: ±100°F [±38°C]

Agency Approvals: FM, CSA, CENELEC, T4 Rated (System Approval), CE Mark (EMC Directive 89/336/EEC); CPA and INMETRO pending.

Calibration: Performed on NIST traceable equipment.

Flow Element

Material of Construction: All-welded 316 stainless steel; Hastelloy C optional.

Operating Pressure: 0 to 250 psig [0 to 17 bar (g)], derated with Teflon ferrule.

Operating Temperature: Process temperature -40°F to 350°F [-40°C to 177°C]; integral electronics rated to 140°F [60°C].

ST98 Insertion Flow Element

Process Connection: 3/4 inch male NPT stainless steel compression fitting; adjustable Teflon ferrule; 150 psig [10 bar (g)] and 200°F [93°C] max., or metal ferrule; 250 psig [17 bar (g)] and 350°F [177°C] max.; thread-on flange optional.

Insertion Length: Field adjustable lengths: 1 to 6 inch [25 to 152 mm], 1 to 12 inch [25 to 305 mm] or 1 to 21 inch [25 to 533 mm]; custom lengths optional.

ST98L Inline Flow Tube: Insertion flow element is threaded and keyed in an inline flow tube; calibrated and supplied as a unit. Accessories include low flow injection tubes and built-in VORTAB® flow conditioners for optimum low flow rangeability and performance.

Size: 1 inch diameter tubing; 1 inch, 1 1/2 inch or 2 inch schedule 40 pipe.

Length: 9 nominal diameters

Process Connection: Female NPT on 1 inch tubing; male NPT on 1 inch, 1 1/2 inch and 2 inch schedule 40 pipe.

Option: Flanges

Local Enclosure:

Standard: NEMA/CSA Type 4X (equivalent to IP66) and Division 2 (Ex n)

Option: Aluminum rated for hazardous location use Class I and II, Division 1 and 2, Group B, C, D, E, F, G (previously referred to as NEMA 7) and EEx d IIC and resists the effects of weather and corrosion.

Remote Transmitter Configuration: Transmitter may be mounted remotely from flow element using interconnecting cable (up to 500 feet [152 m]).

Flow Transmitter

Operating Temperature: 0 to 140°F [-18 to 60°C]

Input Power: 85 to 265 Vac or 22 to 30 Vdc;

7 watts maximum, 230 mA maximum

Output Signal

Current: 4 to 20 mA, 700 ohms maximum load

Voltage: 0-10 Vdc, 0-5 Vdc, 1-5 Vdc, 100K ohms minimum load

Note: Output signal is isolated from input power on AC powered unit only.

Analog Fault Indication: Per NAMUR NE 43 guideline: Field selectable high (≥ 21.6 mA) or low (≤ 3.75 mA).

Communication Port: EIA-232 [RS-232C]

HART Field Communications Protocol: optional

Display (optional): 2 line/16 character per line, indicating flow rate and process temperature and/or totalized flow.

Programmer (optional): Hand held plug-in interface (model FC88).

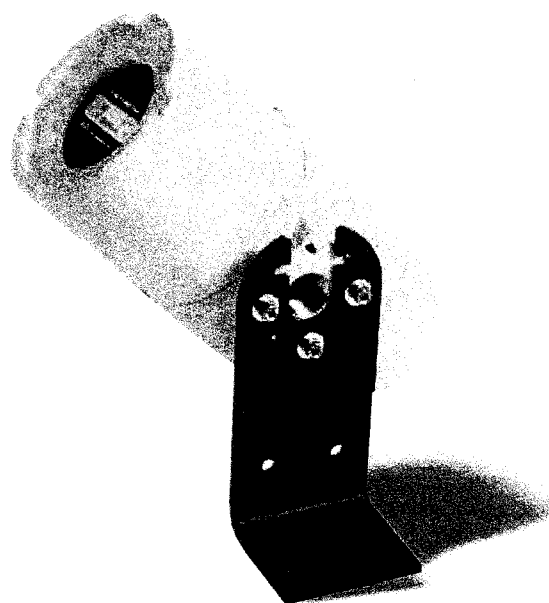
Remote Enclosure (optional):

Standard: NEMA/CSA Type 4X (equivalent to IP66) and Division 2 (Ex n)

Option: Aluminum rated for hazardous location use Class I and II, Division 1 and 2, Group B, C, D, E, F, G (previously referred to as NEMA 7 and EEx d IIC) resists the effects of weather and corrosion.

Flow Conditioning (optional):

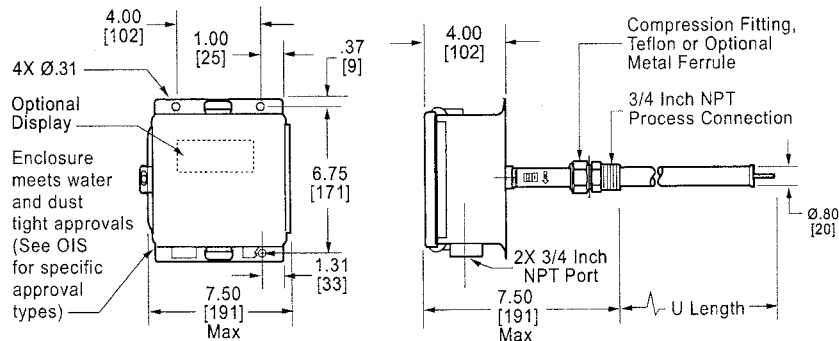
VORTAB® Flow Conditioner: Meter Run (VMR), Insertion Sleeve (VIS) or Field Kit (VFK)



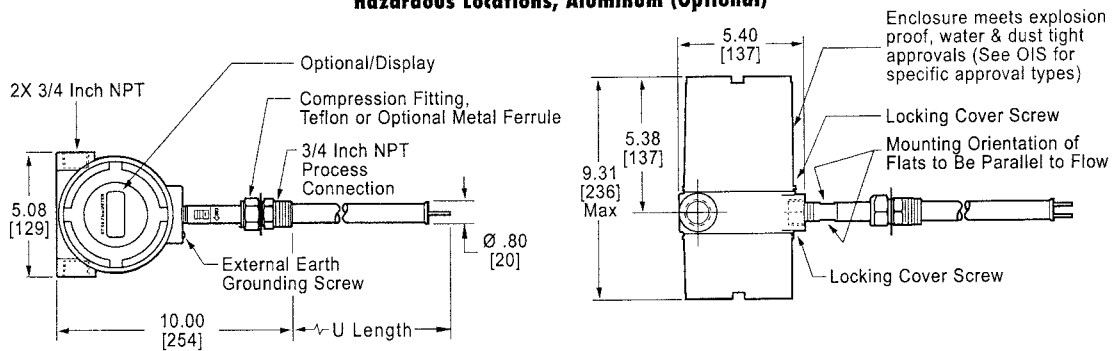
Mounting Bracket: standard feature with remote assemblies.

FlexMASSter Model ST98 Insertion Flowmeters

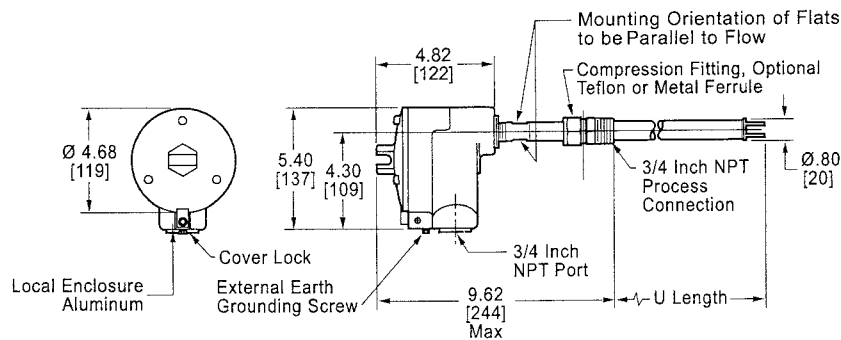
Integral Transmitter NEMA 4 Carbon Steel (Standard) or NEMA 4X, Aluminum (Optional)



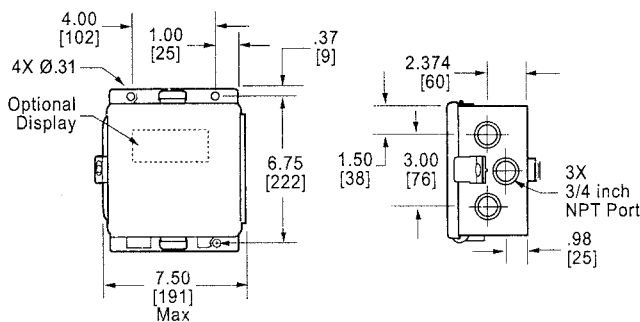
Hazardous Locations, Aluminum (Optional)



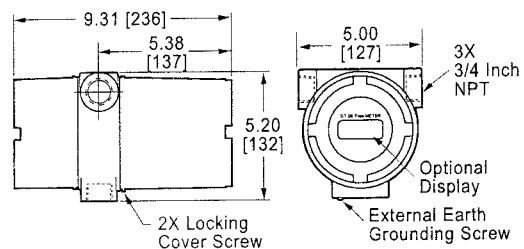
Remote Transmitter Flow Element: Hazardous Locations, Aluminum (Optional)



Enclosure: NEMA 4 Carbon Steel or NEMA 4X Aluminum

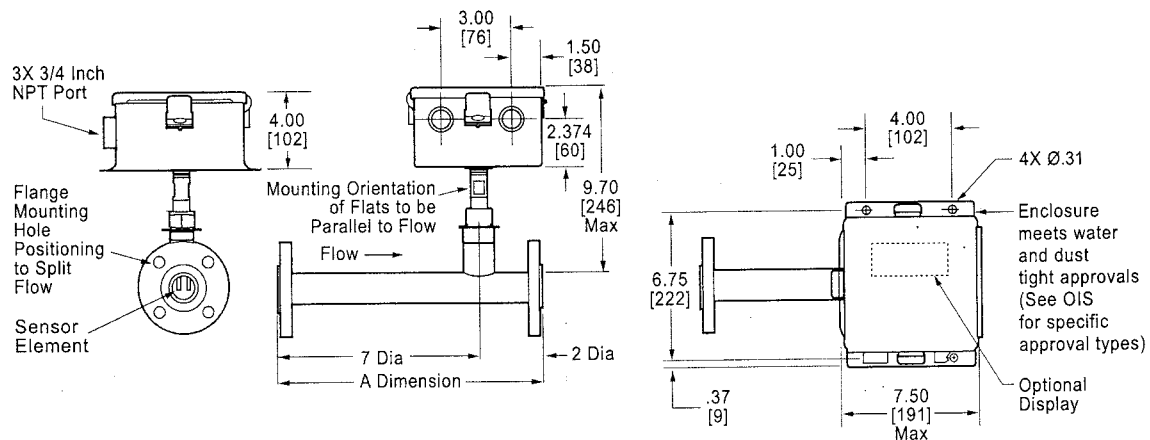


Enclosure: Hazardous Locations

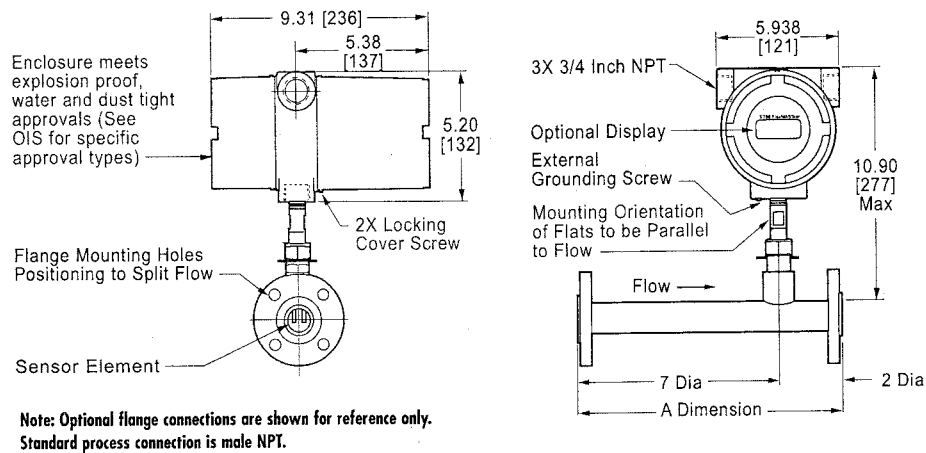


FlexMASster Model ST98L Inline Flowmeters

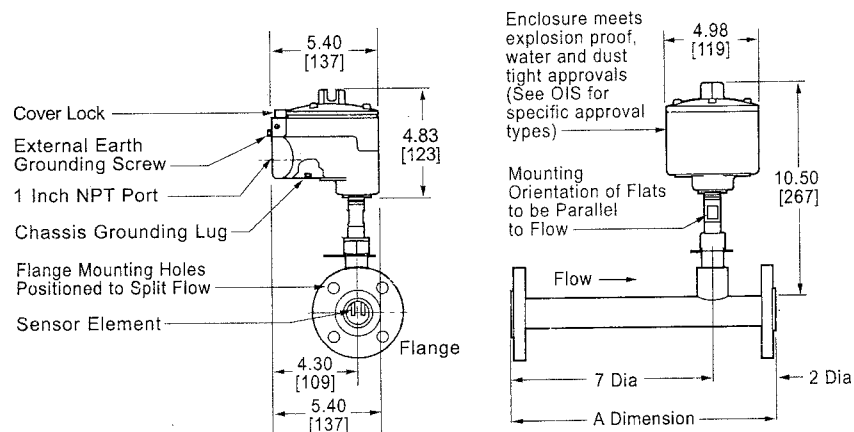
Integral Transmitter NEMA 4 Carbon Steel (Standard) or NEMA 4X, Aluminum (Optional)

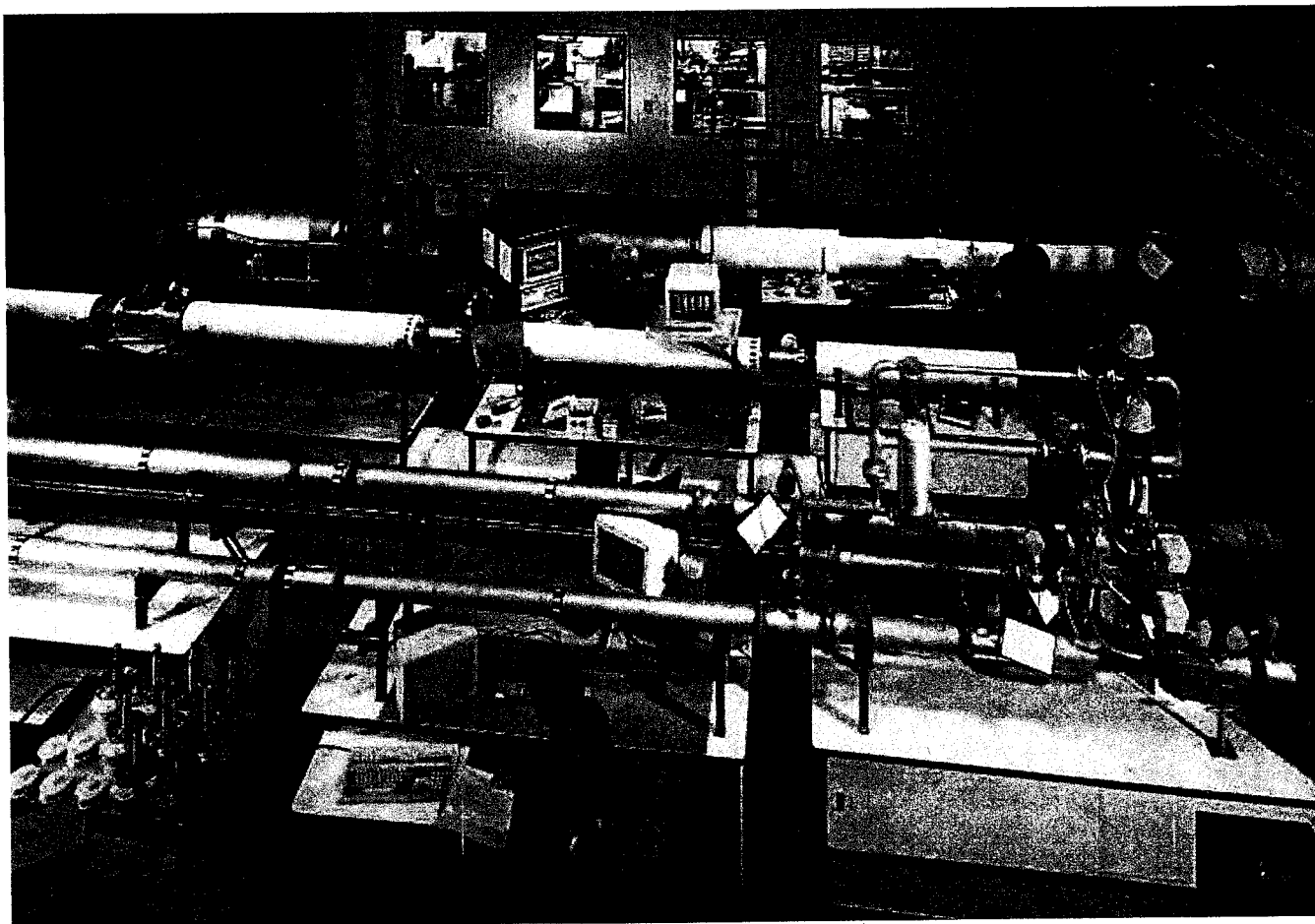


Hazardous Locations, Aluminum (Optional)



Remote Transmitter Flow element: Hazardous Locations, Aluminum (Optional) Transmitter: See Remote Configurations for ST98 Insertion Flowmeter





Test and Calibration Laboratory Fluid Components Intl maintains an extensive, instrument test and calibration laboratory at its headquarters in San Marcos, California. Utilizing the latest in advanced, computerized data acquisition systems and calibration test equipment, this facility permits comprehensive product development, testing, and calibration. Any FCI product can be calibrated in accordance with customer specifications. Laboratory standards are maintained with NIST (National Institute of Standards and Technology) traceable Cavitating Venturis (CVs) and precisely calibrated, pressure and temperature corrected turbine flowmeters.

Combustible and non-combustible gas calibration flow stands allow for the calibration of FCI products in a wide range of gases and gas mixtures from flow stand line sizes as small as 1/8 inch to 30 inches [3 to 760 mm] in diameter. A variety of flow profiles

from laminar to turbulent to conditioned are generated to duplicate actual field conditions. Flow rates from 0 to 20,000+ SCFM [0 to 34,000 Nm³/h], velocities from 0 to 800 SFPS [0 to 240 NMPS], pressures from vacuum to 3000 psig [200 bar(g)], and temperatures from -100° to +900°F [-70° to +480°C] are available.

On-Site Calibration and Training In-situ calibration is available from FCI's Field Service engineers where precise test and calibration is accomplished in actual media conditions.

FCI's Training Department can provide on-site or at the factory Product Knowledge Workshops for our customers. The workshops cover installation, setup, and troubleshooting skills, and include hands-on exercises using real products, under actual operating conditions.

24 Hour Customer Service Access Available

NIST Net

HART
FIELD COMMUNICATIONS PROTOCOL

FCI **FLUID COMPONENTS INTL**
a limited liability company

Web: www.fluidcomponents.com | Email: info@fluidcomponents.com
1755 La Costa Meadows Drive, San Marcos, California 92069 USA | Phone: 760-744-6950 | Toll free: 800-854-1993 | Fax: 760-736-6250
European Office: Persephonestraat 3-01 5047 TT Tilburg, The Netherlands | Phone: 31-13-5159989 | Fax: 31-13-5799036

FCI is ISO 9001 certified/conformance to AS9000

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

Model ST98 Flowmeter

*Firmware Revisions 2.XX
Doc. No. 06EN003291 Rev. A*

US PATENTS PENDING

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1. General Information

Description

The model ST98 is a thermal mass flowmeter for air or gas measuring applications. The ST98 consists of a flow element, a flow transmitter, and an enclosure. An in-line flow element is used for smaller diameter pipe or tubing sizes and, for pipe sizes greater than 2-1/2 inches (40 mm bore), an insertion flow element is used. The flow element's process connections can be threaded or flanged.

The ST98 flow transmitter accepts AC or DC input power and the output signal can be set for either a standard range current or voltage. A display is optional. An RS-232C serial I/O port provides setup, monitoring and troubleshooting access using either *FCI's* model FC88 Programmer or a PC-compatible computer.

The ST98 enclosures provide environmental protection for the flow transmitter. The flow transmitter can be integrally mounted with the flow element or remotely separated from it. Hazardous location local and remote enclosures are optional.

Theory of Operation

The flow element of the model ST98 uses the thermal dispersion operating principle: A low-powered heater produces a temperature differential between two resistance temperature detectors (RTDs) by heating one of the RTDs. Mass flow rate changes cool the heated RTD and cause a proportional change in the temperature differential between the RTDs. The instrument's flow transmitter converts the RTD temperature differential into a scaled output signal and an optional indicated display value.

The signal from the unheated RTD is used to provide an indication of the air or gas temperature on the optional display.

Insertion Sensing Element

The sensing element consists of two thermowells (hollow tubes) that when inserted into the flow process allows an unimpeded flow inside the process line. A heated RTD is inserted into the top thermowell. A reference RTD (with no heater) is inserted into the bottom thermowell. In order to correctly orient the sensing element a flow arrow has been etched onto a machined flat portion of the sensing element. See Figure 1-1 for a view of the sensing element.

The element is inserted into the process media through a hole drilled into the process line.

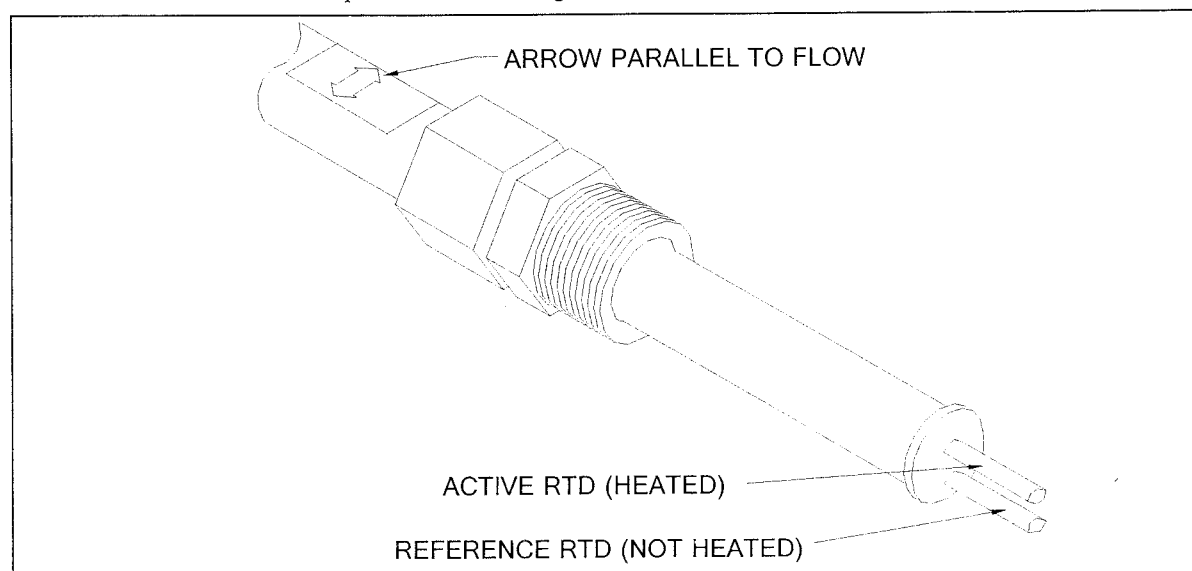


Figure 1-1 View of the Sensing Element

In-Line Sensing Element (Flow Tee)

The in-line sensing element is made in the same way as the insertion type of flow element is. To correctly orient the in-line sensing element, a flow arrow has been etched onto one side of the sensing element.

The in-line flow element is inserted in the process line with the flow arrow pointing in the same direction of flow. See Figure 1-2 for a cutaway view of the in-line element.

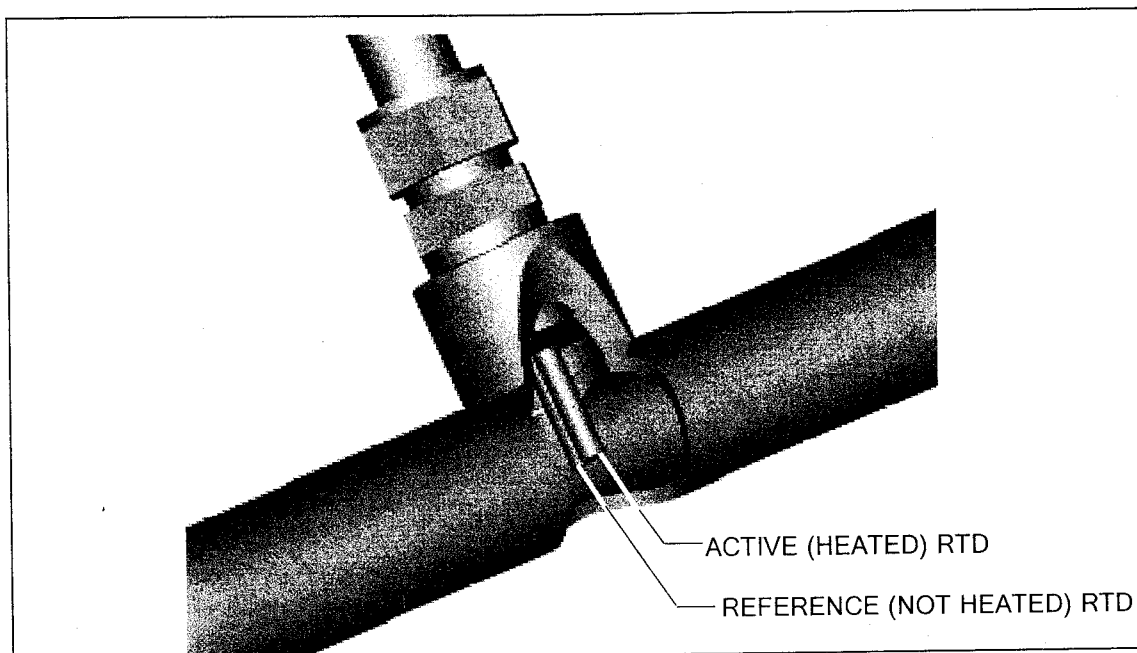


Figure 1-2. Cut-Away View Of The In-Line Flow Element Tube

Transmitter Electronics

The transmitter electronics convert the sensing element's RTD temperature differential into a flow signal that is read on a display. The transmitter also produces an analog output flow signal suitable to interface with process controls. The output is a representation of the amount of flow or temperature present in the process. The flow output is transmitted on a source milliamp output and / or voltage output. Both the flow output and process temperature can be displayed on an optional LCD display.

There are 2 kinds of enclosures available for the electronics:

1. Standard:
Polyester Coated Carbon Steel Rated NEMA/CSA Type 4X (equivalent to IP66) and Division 2 (Ex n), Rating is pending. (This is a 6 X 6 X 4 Inch Square Enclosure.) (152.4 X 152.4 X 101.6 mm)
2. Optional:
Aluminum rated for Hazardous Location use Class I and II, Division 1 and 2, Group B, C, D, E, F, G (previously referred to as NEMA 7 and EEx d IIC) resists the effects of weather and corrosion. (This is a 4.8 X 9.31 Inch Cylindrical Enclosure.) (121.8 X 236.47 mm)

Instrument Configuration

The instrument can be in integral arrangement (the electronics and the sensing element are combined in one enclosure), or the instrument can be in a remote arrangement (the electronics and sensing element are in separate enclosures).

In the case of a remote enclosure, the standard configuration of the sensing element (local) enclosure is an aluminum rated for Hazardous Location use Class I and II, Division 1 and 2, Group B, C, D, E, F, G (previously referred to as NEMA7) and EEx d IIC and resists the effect of weather and corrosion. The dimensions are 4.68 X 4.82 inches (119 X 122 mm) and is cylindrical in nature.

Technical Specifications

- **Process Connection**

Insertion Configuration:

Soft Seal or Metal Ferrule (Can be Stainless Steel or Hastelloy C):

3/4 inch male NPT or Flanged

Inline Configuration:

1.0 inch tubing, 1.0, 1.5 or 2.0 inch SCH 40 pipe,
Female NPT, Male NPT, Butt Weld or Flanged.

- **Insertion U-Length**

Beginning as low as 1.0 inch (25.4 mm) to 21 inches (533 mm).

- **Sensing Element Material**

All wetted surfaces are 316 Stainless Steel, with all-welded construction. Hastelloy C-276 is optionally available.

- **Operating Temperature**

Control circuit:

Ambient temperature configuration:
0 to 140°F (-18 to 60°C).

Sensing element:

Standard temperature configuration:
-40 to 350°F (-40 to 177°C).

- **Operating Pressure**

0 to 250 psig [0 to 17 bar(g)]. (Derated with Teflon ferrule.)

- **Flow Range**

Insertion:

0.75 to 600 SFPS (0.006 to 0.23 NMPS)

Inline:

0.0062 to 1850 SCFM (0.01 to 3140 Nm³/h)

- **Signal Output**

4-20 mA, 700 ohms maximum load

0-5, 1-5 and 0-10 Volts DC 100K ohms minimum load

- **Accuracy**

Flow accuracy:

±1 % reading + 0.5% full scale

Temperature accuracy:

±2°F (display only, flow rate must be greater than 1 SFPS).

- **Repeatability**

±0.5% of reading.

- **Input Power**

A.C. Input: 100-240 VAC 50/60 Hz. 17 Watts
Maximum 120 mA Maximum.

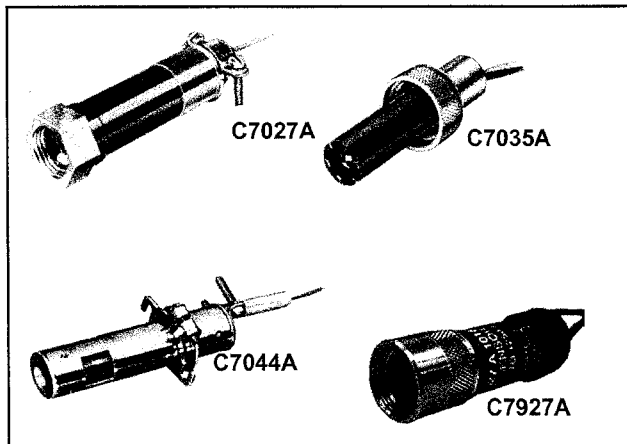
D.C. Input: 22-30 VDC 250 mA Maximum 7.5 Watts
Maximum.

- **Pending Approvals**

FM, CSA, CENELEC, CE Marking
(EMC Directive 89/336/EEC)

C7027A, C7035, C7044A, C7927A Minipeeper® Ultraviolet Flame Detectors

PRODUCT DATA



APPLICATION

The C7027A, C7035A, C7044A and C7927A Minipeeper® Ultraviolet Flame Detectors detect the ultraviolet radiation emitted by combustion flames. The flame detectors are used with Honeywell flame safeguard controls to provide flame supervision for gas, oil, or combination gas-oil burners.

FEATURES

- C7027A, C7035A, and C7044A Flame Detectors are used with RA890G devices or R7249A, R7290A, R7749B and R7849A,B Amplifiers and the appropriate Honeywell controls.

- C7044A may also be used with the following 50 Hz Honeywell combustion controls/amplifiers:
 - R4341/R7323
 - R4343/R7323
 - R4344/R7323
- C7027A has an integral collar threaded (internal 1/2-14 NPSM) for mounting on a one-half-inch sight pipe.
- C7035A has an integral collar threaded (internal 1-11-1/2 NPSM) for mounting on a one-inch sight pipe.
- C7035A housing meets Underwriters Laboratories Inc. requirements for rain tightness and complies with NEMA enclosure standards, types 4 and 4X.
- C7044A mounts with a two screw bracket. The UV sensor tube is enclosed in a stainless steel housing.
- C7044A has the capability of side or end viewing in flame monitoring applications.
- Because of their compact size, the C7027A and C7044A are particularly suitable for blast tube mounting.
- Properly installed, the C7027A, C7035A and C7927 are pressure rated for 5 psi.
- C7035A ultraviolet radiation sensor tube is field replaceable.
- Two C7027A, C7035A or C7044A Flame Detectors can be wired in parallel for difficult flame sighting installations.
- C7927A is used with only the R7851B Flame Amplifier and the 7800 SERIES controls.
- C7927A has an integral collar threaded (internal 1/2-14 NPSM) for mounting on a one-half inch sight pipe.

Contents

Application	1
Features	1
Specifications	2
Ordering Information	2
Wiring (All Models—Fig. 10)	8
Adjustments and Checkout	9
Troubleshooting	12
Maintenance	12



C7035A Minipeeper® Ultraviolet Flame Detector:

Flame Detection: End viewing.

Ambient Operating Temperature Ratings: 0°F to 250°F (-18°C to +121°C), or -40°F to 250°F (-40°C to +121°C), depending on model.

Maximum Pressure Rating: 5 psi (34.5 kPa).

Mounting: Collar with 1-11-1/2 NPSM internal threads for mounting on a 1 in. sight pipe. (The DIN approved C7035A1064 has 1-11 BSP.P1 threads.)

Wiring Connections: Two 6 ft. [1.83 m], color-coded NEC Class 1 leadwires rated for 302°F (150°C). One model is available with 12 ft. (3.66 m) leadwires. Rear of detector has 1/2-14 NPSM internal threads for connecting to a conduit. The DIN-approved C7035A1064 has 1/2-14 BSP-F threads.

C7035A1056 has 12 ft (3.66 m) leadwires.

C7035A1080 leadwire is rated for 600°F (204°C).

Dimensions: See Fig. 2.

Replacement Parts:

129808 Flange Gasket.

129464M Ultraviolet Sensing Tube, 0°F to 250°F (-18°C to +121°C).

129464N Ultraviolet Sensing Tube, -40°F to +250°F (-40°C to 121°C).

C7027A, C7035A AND C7044:

Approvals:

Underwriters Laboratories Inc. listed: File No. MP268.

Canadian Standards Association certified:

Master Report LR 95329-1.

Factory Mutual approved.

Industrial Risk Insurers acceptable.

DIN approved models: C7027A1056, C7035A1049, C7035A1064.

General Accessories:

118367A Swivel Mount; provides adjustable positioning of the C7027A or C7035A.

204342 Ultraviolet mirror, 3/4 in. NPT.

105172C Seal off adapter, 3/4 in. NPT.

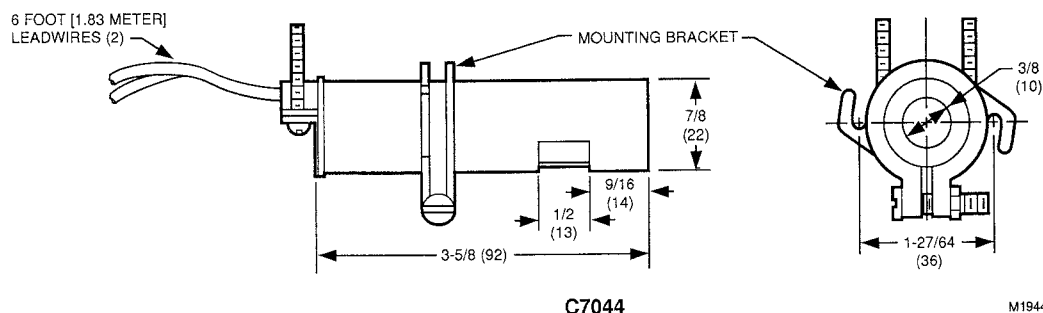


Fig. 3. Installation dimensions of C7044A in in. (mm).

C7044A Minipeeper® Ultraviolet Flame Detector:

Flame Detection: Housing has two openings to permit either side or end viewing. Side viewing is 1/8 as sensitive as end viewing.

Mounting: Bracket (included in 4074BVK Bag Assembly), secured by two 8-32 RHIS (European M-4) screws (not included).

Wiring Connections: Two 6 ft. (1.83 m) color-coded NEC Class 1 leadwires. Rear of detector has a clamp type connector for 1/2 in. flexible metallic conduit.

Dimensions: See Fig. 3.

C7927A Minipeeper® Ultraviolet Flame Detector:

Ambient Operating Temperature Ratings:

C7927A1016 (U.S. Version): -40°F to +200°F (-40°C to +93°C).

C7927A1008 (European Version): -4°F to +140°F (-20°C to +60°C).

Storage Temperature Rating: -20°F to +120°F (-28°C to +49°C).

Maximum Pressure Rating: 5 psi 34.5 kPa).

Mounting: Collar with 1/2-14 NPSM internal threads for mounting on a 1/2 in. (13mm) sight pipe.

Wiring Connections: Two four-foot (1.2 meter) color-coded NEC Class 1 leadwires. Rear of detector has a clamp-type connector for 1/2 in. (13mm) flexible metal conduit.

Dimensions: See Fig. 4 and 5.

Approvals:

Underwriters Laboratories Inc. (cUL), MP268, Volume 30.

Factory Mutual (FM): Pending.

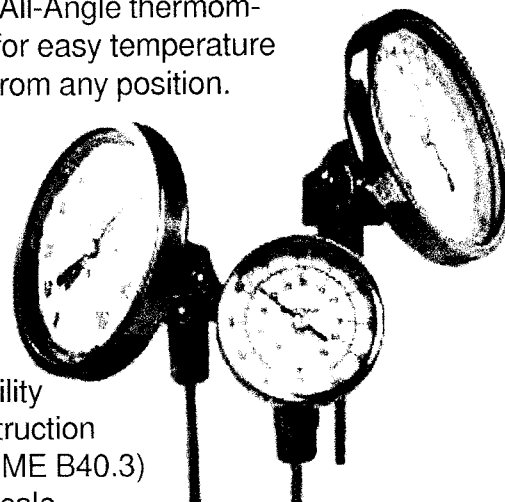
Adjustable Angle

Bimetal Thermometers Industrial 3", 4", 5" Dial



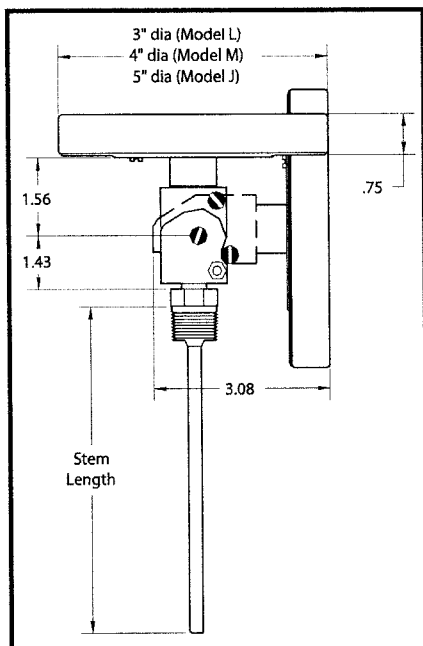
ISO 9002
REGISTERED

REO TEMP All-Angle thermometer allows for easy temperature monitoring from any position.



Standard Features

- Complete 180° Adjustability
- All Stainless Steel Construction
- Hermetically Sealed (ASME B40.3)
- Accurate to 1% of Full Scale
- Standard External Reset
- Silicone Fillable for Vibration
- 360° Case Rotation



How to Order

LL

060

1

F43

SF

Models	Stem Length	Connection	Temperature Ranges See pg.13 for a full list.	Options
Standard Models		Standard Threaded	Fahrenheit Ranges	
LL = Model L (3" dial, reset)	025 = 2.5"	1 = 1/2" NPT (std.)	F23 -40 TO 160°F	PS = Pointed Stem
	040 = 4"	5 = 3/4" NPT adapter	F55* 25 TO 125°F	SF = Silicone Fill (max temp 550°F)
MM = Model M (4" dial, reset)	060 = 6"	U = 1/2" NPT Union	F43 0 TO 200°F	SS = 316 SS Stem
	090 = 9"		F47 0 TO 250°F	F3 = 3/8" dia. Stem
	120 = 12"	Sanitary*	F63 50 TO 300°F	PC = Acrylic Window
	150 = 15"	C = 1-1/2" Tri-Clamp	F67 50 TO 500°F	PY = Polycarbonate Window
	180 = 18"	L = 2" Tri-Clamp	F81 150 TO 750°F	TG = Tempered Glass Window
	240 = 24"	M = 3/4" Tri-Clamp	F85 200 TO 1000°F	MM = Max/Min Pointer
	300 = 30"		Celsius Ranges	
	360 = 36"		C23 -40 TO 70°C	
	-Intermediate lengths available up to 80"		C55* 0 TO 50°C	
	-Specify length in inches + tenths		C43 0 TO 100°C	
			C47 -20 TO 120°C	
			C59 0 TO 150°C	
			C67 0 TO 250°C	
			C81 0 TO 400°C	
			C85 100 TO 500°C	
			Dual F/C Ranges	
			D23 -40 TO 160°F & -40 TO 70°C	
			D55* 25 TO 125°F & 0 TO 50°C	
			D43 0 TO 200°F & 0 TO 100°C	
			D47 0 TO 250°F & -20 TO 120°C	
			D63 50 TO 300°F & 10 TO 150°C	
			D67 50 TO 500°F & 0 TO 250°C	
			D81 150 TO 750°F & 0 TO 400°C	
			D85 200 TO 1000°F & 100 TO 500°C	
				For Thermowells see pg. 14
		For more information on Sanitary Thermometers see page 12		
		*-Other sizes available		
			*-Not available in 2.5" stem.	

ASHCROFT®

YOUR PRESSURE AND
TEMPERATURE SWITCH SOURCE

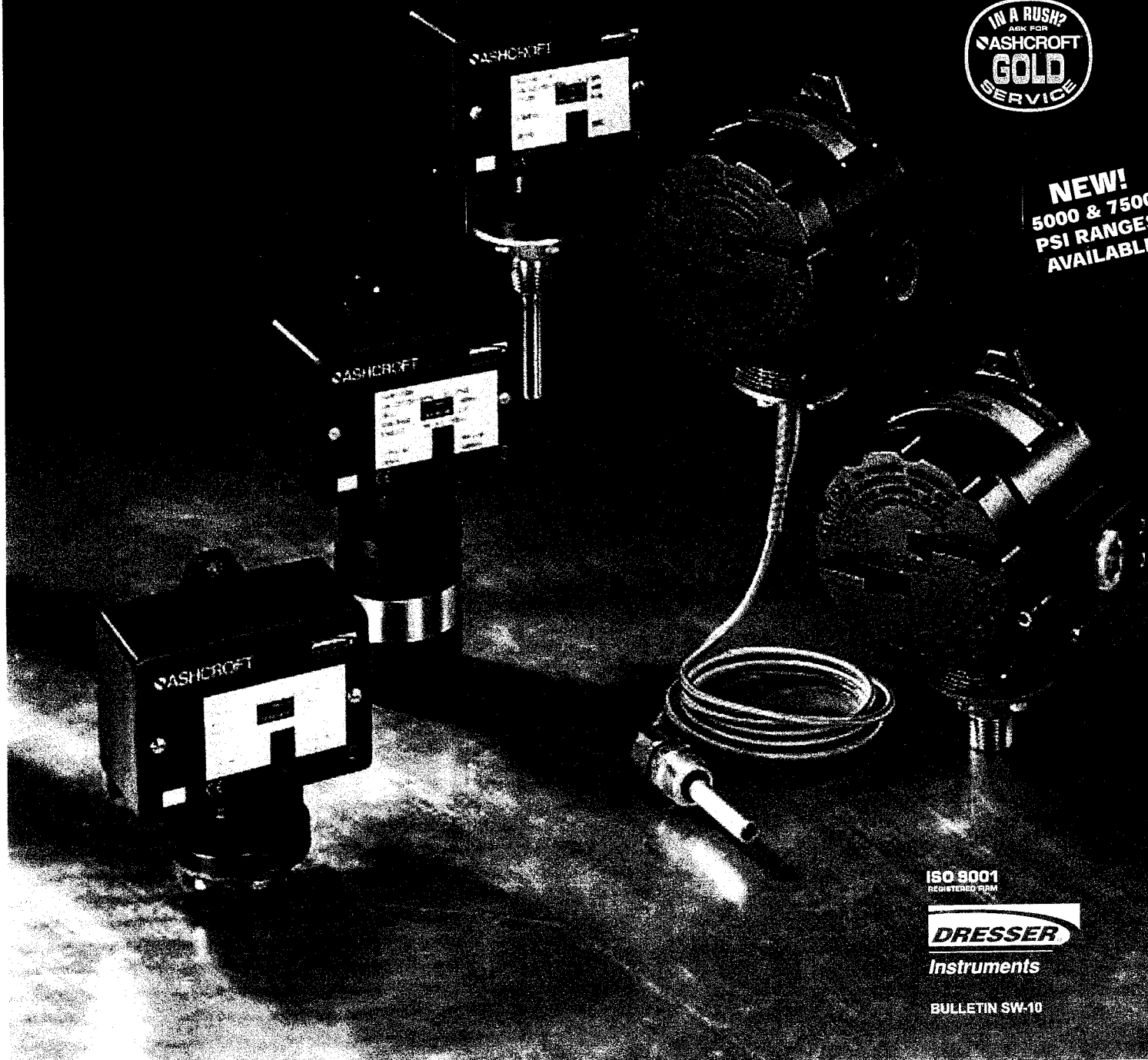
NEW!
ATEX
APPROVAL
AVAILABLE

B-SERIES SWITCHES

**PRESSURE, DIFFERENTIAL
PRESSURE, TEMPERATURE
AND HYDRAULIC**



NEW!
5000 & 7500
PSI RANGES
AVAILABLE



ISO 9001
REGISTERED FIRM

DRESSER
Instruments

BULLETIN SW-10

B-SERIES PRODUCT INFORMATION

The Dresser Control Instrument Operation supplies highly reliable Ashcroft® switches and controls for industrial and process applications. We begin with rock-solid designs, matching the most appropriate technology with the safety and reliability requirements of the applications. The materials of construction are specified to Dresser's exacting standards, and product is built to last in the toughest applications. Our modern, responsive manufacturing facility in Connecticut is supported by an extensive network of stocking distributors and factory sales offices located in virtually every part of the world. Special application assistance is always just a telephone call away.

The Ashcroft B-Series switch line is designed to satisfy most switch requirements. Materials of construction have been selected for long life. A wide variety of precision switch elements are avail-

able to meet every application requirement, including hermetically sealed contacts for added reliability and safety. The actuators we use have been proven in more than 20 years of service in the world's plants and mills. Special designs are available for fire safety, NACE, limit control and other more stringent requirements. Simplicity and ease of use are stressed to improve reliability of the installation.

B-Series switches have proven reliable in such harsh environments as:

- Offshore oil rigs
- Chemical and petrochemical plants
- Pulp and paper mills
- Steel mills
- Power plants
- Water and sewage-treatment plants
- Other corrosive environments

Type 400 Enclosure.

UL and CSA listed instrument quality snap-action switch for reliable operation. Ratings up to 10A dc or 20A ac. Hermetically sealed switch also available.

Epoxy-coated aluminum enclosure for corrosion resistance. Meets NEMA 3, 4, 4X, 13 and IP66 requirements.

Accessible adjustment for convenient switch setting, includes vibration-resistant feature.

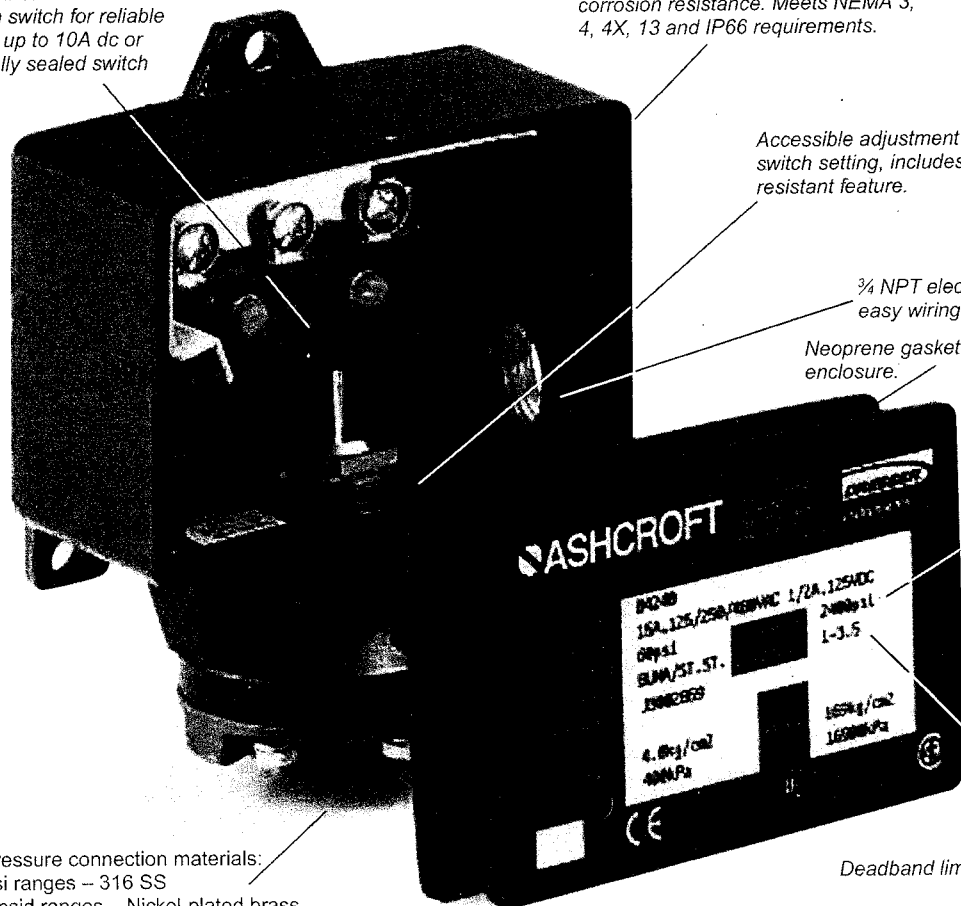
¾ NPT electrical connection for easy wiring.

Neoprene gasket for sealing enclosure.

High proof pressure.

Deadband limits for each switch.

Standard pressure connection materials:
Pressure psi ranges – 316 SS
Differential psid ranges – Nickel-plated brass
Pressure and differential I.W. ranges –
Epoxy-coated carbon steel



Applications include: pumps, compressors, washers, filters, degreasers, evaporators, recovery systems, food processing, ground support equipment, reverse osmosis systems, heat exchangers, hydraulic systems, lubrication systems, marine equipment, textile machinery, heating and air conditioning equipment.

Hermetically Sealed Switch

We recommend hermetically sealed switch elements for improved reliability. The hermetically sealed switch provides uncompromising contact protection in harsh or corrosive environments. The Ashcroft 400 Series is also approved for installation in Division II hazardous areas when supplied with hermetically sealed contacts.



Features:

- UL-recognized component, guide WSQ2, File E85076
- All-stainless steel welded construction

RECOMMENDED PRACTICE:

All controls should be selected considering the media and ambient operating conditions. Improper application can be detrimental to the switch, cause failure and possibly personal injury or property damage.

The information in this catalog is offered as a guide to assist in making the proper selection of Ashcroft controls.

Additional information is available from Dresser Control Instrument Operations Sales. Offices are listed on the back cover.

Type 700 Enclosure

UL and CSA listed instrument quality snap-action switch for reliable operation. Ratings up to 10A dc or 20A ac. Hermetically sealed switch also available. Dual (2 SPDT) shown.

Epoxy-coated aluminum enclosure and cover for corrosion resistance. Class 1, Division 1 & 2, Groups B, C, D, Class 2, Division 1 & 2, Groups E, F, G, NEMA 7 & 9 and IP66.

Buna-N O-ring for sealing enclosure.

Terminal block wiring standard on dual switches. Optional (XK3) on single switches.

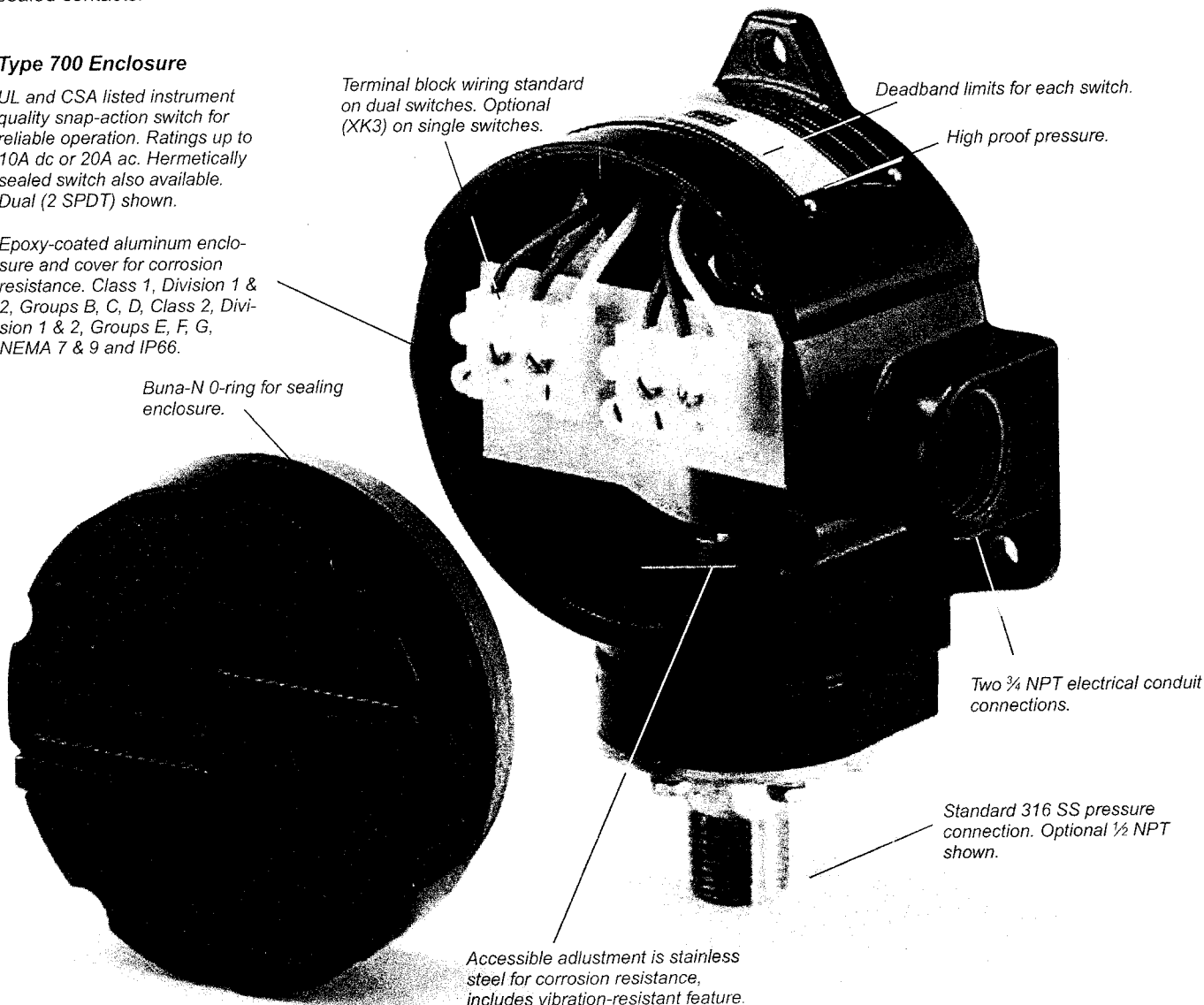
Deadband limits for each switch.

High proof pressure.

Two 3/4 NPT electrical conduit connections.

Standard 316 SS pressure connection. Optional 1/2 NPT shown.

Accessible adjustment is stainless steel for corrosion resistance, includes vibration-resistant feature.



PRESSURE AND DIFFERENTIAL PRESSURE SWITCHES

B-Series pressure, differential pressure and vacuum switches use two different actuators depending on setpoint requirements. For setpoints between 2 and 3000 psi, the simple, rugged diaphragm-sealed piston actuator is used. This design features high reliability and choice of actuator seal materials for virtually every application. An optional welded design is also available for setpoints up to 1000 psi for maximum reliability. This design is available in 316

SS or Monel. Differential pressure models use a unique, dual diaphragm-sealed piston design that features very high static operating pressures and small size.

For setpoints between 4.5 and 150 inches of H₂O, a large diaphragm is used for increased sensitivity in both pressure and differential pressure designs with good choice of materials of construction.

All standard models feature ± 1 percent of range setpoint repeatability and a minimum of 400 percent of range proof pressures.

These standard designs perform well in applications where shock and vibration could be a problem and may be used in conjunction with Ashcroft diaphragm seals in extreme services such as slurries or abrasive process fluids.

PRESSURE/VACUUM SWITCHES

Nominal Range ⁽¹⁾			Overpressure Ratings		Approximate Deadband ⁽²⁾ Switch Element				
			Proof psi	Burst psi	20, 26, 27	21, 24, 31	50	22	32
Vacuum									
-30" Hg	-760mm Hg	-100 kPa	500	1000	0.3-0.7	1.5-3.0	0.5-2.2	0.4-1.5	2.1-4.2
Compound									
-15" H ₂ O/ 15" H ₂ O	-375mm H ₂ O/ 375mm H ₂ O	-3.7 kPa/ 3.7 kPa	20	35	0.15-.75/ 0.15-.75	1.5-2.5/ 1.5-2.5	0.45-2.0/ 0.45-2.0	0.5-1.2/ 0.5-1.2	2.1-3.5/ 2.1-3.5
-30" H ₂ O/ 30" H ₂ O	-760mm H ₂ O/ 760mm H ₂ O	-7.5 kPa/ 7.5 kPa	20	35	0.30-.60/ 0.30-.60	1.5-2.5/ 1.5-2.5	0.45-2.0/ 0.45-2.0	0.5-1.5/ 0.5-1.5	2.1-3.5/ 2.1-3.5
-30" Hg/ 15 psi	-760mm Hg/ 1.0 kg/cm ²	-100 kPa/ 100 kPa	500	1000	0.5-1.0/ 0.3-0.7	2.0-3.0/ 0.5-1.5	0.75-2.5/ 0.5-1.0	0.7-1.8/ 0.7-1.4	2.8-4.2/ 0.7-2.1
-30" Hg/ 30 psi	-760mm Hg/ 2.0 kg/cm ²	-100 kPa/ 200 kPa	500	1000	1.0-1.5/ 0.3-0.8	3.0-6.0/ 1.0-2.0	1.2-4.5/ 0.7-1.5	1.4-2.4/ 0.4-1.3	4.2-8.4/ 1.4-2.8
-30" Hg/ 60 psi	-760mm Hg/ 4.0 kg/cm ²	-100 kPa/ 400 kPa	500	1000	2.0-3.0/ 0.7-1.5	5.0-9.0/ 3.0-5.0	2.5-7.0/ 1.1-4.0	2.8-4.5/ 1.0-2.3	7.0-12.0/ 4.2-7.0
Pressure									
10" H ₂ O	250mm H ₂ O	2.5 kPa	20	35	0.2-0.5	1.0-2.0	0.35-1.5	0.4-1.0	1.4-2.8
30" H ₂ O	750mm H ₂ O	7.5 kPa	20	35	0.3-0.6	1.5-2.5	0.45-2.0	0.5-2.0	2.1-3.5
60" H ₂ O	1500mm H ₂ O	15 kPa	20	35	0.5-1.3	1.5-3.5	0.9-2.5	0.7-3.0	2.1-5.0
100" H ₂ O	2500mm H ₂ O	25 kPa	20	35	0.6-1.6	2.5-5.5	1.1-4.0	1.0-4.0	3.5-7.7
150" H ₂ O	3750mm H ₂ O	37 kPa	20	35	1.0-2.5	4.5-8.5	1.7-6.5	2.0-6.0	6.0-12.0
15 psi	1.0 kg/cm ²	100 kPa	2400	3000	0.1-0.35	0.5-1.5	0.2-1.0	0.4-1.0	0.7-2.1
30 psi	2.0 kg/cm ²	200 kPa	2400	3000	0.1-0.50	0.5-1.5	0.3-1.0	0.4-1.0	0.7-2.1
60 psi	4.0 kg/cm ²	400 kPa	2400	3000	0.3-1.0	1.0-3.5	0.7-2.5	0.6-2.0	1.4-5.0
100 psi	7.0 kg/cm ²	700 kPa	2400	3000	0.5-1.7	1.5-5.0	1.1-3.5	1.0-4.5	2.1-7.0
200 psi	14 kg/cm ²	1400 kPa	2400	3000	1-3	5-13	2-9	3.0-7.5	7.0-18.2
400 psi	28 kg/cm ²	2800 kPa	2400	3000	4-7.5	5-24	5.5-15	4.0-11.0	7.0-33.6
600 psi	42 kg/cm ²	4200 kPa	2400	3000	4-11	9-30	7-20	5.0-23.0	12.6-42
1000 psi	70 kg/cm ²	7000 kPa	12000	18000	7-30	30-110	18-70	15-80	42-154
3000 psi	210 kg/cm ²	2100 kPa	12000	18000	15-60	80-235	37-160	30.0-230	112-329

DIFFERENTIAL PRESSURE SWITCHES

Nominal Range ⁽¹⁾			Pressure Ratings		Approximate Deadband ⁽²⁾ Switch Element				
			Static Working Pressure	Proof psi	20, 26, 27	21, 24, 31	50	22	32
30" H ₂ O	750mm H ₂ O	7.5 kPa	5.4	21.6	0.3-0.6	1.5-2.5	0.45-2.0	0.5-2.0	2.1-3.5
60" H ₂ O	1500mm H ₂ O	15 kPa	5.4	21.6	0.5-1.3	1.5-3.5	0.9-2.5	0.7-3.0	2.1-5.0
100" H ₂ O	2500mm H ₂ O	25 kPa	5.4	21.6	0.6-1.6	2.5-5.5	1.1-4.0	1.0-4.0	3.5-7.7
150" H ₂ O	3750mm H ₂ O	37 kPa	5.4	21.6	1.0-2.5	4.5-8.5	1.8-6.5	2.0-6.0	6.3-12.0
15 psid	1.0 kg/cm ²	100 kPa	500	2000	0.5-1.0	2.0-5.0	0.7-3.5	0.7-1.4	2.8-7.0
30 psid	2.0 kg/cm ²	200 kPa	500	2000	1.0-2.0	2.0-5.0	1.5-3.5	1.4-2.8	2.8-7.0
60 psid	4.0 kg/cm ²	400 kPa	500	2000	2.0-4.0	3.0-6.0	3.0-4.5	2.8-5.6	4.2-8.5
100 psid	7.0 kg/cm ²	700 kPa	1000	4000	4.0-10.0	11.0-20.0	7.0-15.0	6.0-14.0	16.0-28.0
200 psid	14.0 kg/cm ²	1400 kPa	1000	4000	5.0-15.0	12.0-40.0	10.0-26.0	7.0-21.0	17.0-56.0
400 psid	28.0 kg/cm ²	2800 kPa	1000	8000	10.0-20.0	20.0-60.0	15.0-40.0	14.0-28.0	28.0-84.0
600 psid	42.0 kg/cm ²	4200 kPa	1000	8000	20.0-40.0	80.0-150.0	30.0-115.0	30.0-56.0	112.0-210.0

Values shown are for zero static working pressure.

NOTES:

1 Switches may generally be set between 15% and 100% of nominal range on increasing pressure. Consult factory for applications where setpoints must be lower.

2 All deadbands are given in English units as shown in the nominal range column. Deadbands shown are for switches with Buna N diaphragm. Approximate deadbands for optional diaphragms:

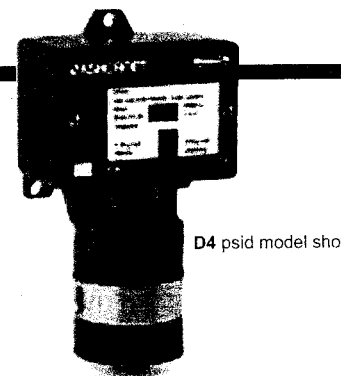
Viton: Multiply Buna N value by 1.4
Teflon: Multiply Buna N value by 1.2
Stainless Steel: Multiply Buna N value by 1.7
Monel: Multiply Buna N value by 1.7
Dual Switch Element: Multiply single switch element value by 1.6 for approximate deadband.

ORDER INFORMATION

B-SERIES PRESSURE AND DIFFERENTIAL PRESSURE SWITCH MODEL NUMBER:

To specify the exact switch desired, select entries from appropriate tables as shown in example below.

1	2	3	4	5
B	4	2 0	B X P K	600 PSI



D4 psid model shown

1 – ENCLOSURE

B4	Pressure switch, Type 400, watertight enclosure meets NEMA 3, 4, 4X, 13 and IP66 requirements.
B7	Pressure switch, Type 700, explosion-proof enclosure meets Div. 1 & 2, NEMA 7, 9 and IP66 requirements.
D4	Differential pressure switch, Type 400, watertight enclosure meets NEMA 3, 4, 4X, 13 and IP66 requirements.
D7	Differential pressure switch, Type 700, explosion-proof enclosure meets Div. 1 & 2, NEMA 7, 9 and IP66 requirements.

3 – ACTUATOR SEAL

Code and Material	Process Temperature Limits °F ⁽⁹⁾	Range			
		Vac. ~ H ₂ O	0-600 psi	1000 psi	3000 psi
B – Buna-N	0 to 150	•	•	•	•
V – Viton	20 to 300	•	•	•	•
T – Teflon	0 to 150	•	•	•	•
S – 316L ⁽⁸⁾	0 to 300	•	•	•	•
P – Monel ⁽⁸⁾	0 to 300	•	•	•	•

4 – OPTIONS

Use table from page 10

5 – RANGE

Select from table on page 4

NOTES:

- Standard switch.
- Not available with psid ranges.
- Dual switches are 2 SPDT snap-action switches, not independently adjustable.
- Wires cannot be terminated inside B400 switch enclosure.
- Not available with type 700 enclosure.
- Estimated dc. rating, 2.5A, 28 Vdc (not UL listed).
- Estimated dc rating, 0.4A, 120 Vdc (not UL listed).
- Available on pressure only.
- Ambient operating temperature limits -20 to 150°F, all styles, setpoint shift of ±1% of range per 50°F temperature change is normal. Switches are calibrated at 70°F reference.

2 – SWITCH ELEMENT SELECTION

Order Code	Switch Elements UL/CSA Listed SPDT	
20⁽⁷⁾	Narrow deadband ac	15A, 125/250 Vac
21	Ammonia service	5A, 125/250 Vac
22⁽⁶⁾	Hermetically sealed switch, narrow deadband	5A, 125/250 Vac
23	Heavy duty ac	22A, 125/250 Vac
24⁽¹⁾	General purpose	15A, 125/250/480 Vac ½A, 125 Vdc ¼A, 250 Vdc; 6A, 30 Vdc
25⁽²⁾	Heavy duty dc	10A, 125 Vac or dc, ½ HP, 125 Vac or dc
26⁽⁷⁾	Sealed environment proof	15A, 125/250 Vac
27	High temperature 300°F	15A, 125/250 Vac
28⁽⁵⁾	Manual reset trip on increasing	15A, 125/250 Vac
29⁽⁵⁾	Manual reset trip on decreasing	15A, 125/250 Vac
31	Low level (gold) contacts	1A, 125 Vac
32	Hermetically sealed switch, general purpose	11A, 125/250 Vac 5A, 30 Vdc
42	Hermetically sealed switch, gold contacts	1A, 125 Vac
50	Variable deadband	15A, 125/250 Vac
UL/CSA Listed Dual (2 SPDT)		
61⁽⁷⁾	Dual narrow deadband	15A, 125/250 Vac
62⁽⁷⁾	Dual sealed environment proof	15A, 125/250 Vac
63	Dual high temp. 300°F	15A, 125/250 Vac
64	Dual general purpose	15A, 125/250/480 Vac ½A, 125 Vdc ¼A, 250 Vdc
65	Dual ammonia service	5A, 125/250 Vac
67^(4,6)	Dual hermetically sealed switch, narrow deadband	5A, 125/250 Vac
68⁽⁴⁾	Dual hermetically sealed switch, general purpose	11A, 125/250 Vac 5A, 30 Vdc
71⁽⁴⁾	Dual hermetically sealed switch, gold contacts	1A, 125 Vac

TEMPERATURE SWITCHES

B-Series temperature switches feature a SAMA Class II vapor pressure thermal system. This system provides quick, accurate response to process temperature changes with negligible ambient temperature effects. This is inherent in the design due to the precise relationship that exists between

temperature and pressure according to the vapor pressure laws. A wide selection of sensing bulb and armored capillary lengths is available. The vapor pressure system design features small bulb sizes, making installation easy and cost-effective.

All models feature $\pm 1.0\%$ percent of

span setpoint repeatability with very high overtemperature ratings.

These standard designs perform well in applications where shock and vibration could be a problem and should be used with Ashcroft thermowells for bulb protection and ease of installation and maintenance.

STANDARD TEMPERATURE RANGE SELECTION

Nominal Range ⁽¹⁾		Maximum Temperature	Approximate Deadband ⁽¹⁾ Switch Element				
°F	°C	°F	20, 26, 27	21, 24, 31	50	22	32
-40 to 60	-40 to 16	400	1.0-2.0	3.0-8.0	1.5-5.5	1.4-6.0	8.0-16.0
0 to 100	-20 to 40	400	1.5-3.0	5.0-12.0	2.2-8.5	1.5-7.5	9.0-20.0
75 to 205	20 to 95	400	1.5-3.5	8.0-16.0	2.5-12.0	2.0-9.0	10.0-24.0
150 to 260	65 to 125	400	1.5-3.0	5.0-12.0	2.2-8.5	2.0-9.0	10.0-24.0
235 to 375	110 to 190	500	1.5-3.5	5.0-12.0	2.5-8.5	2.0-9.0	10.0-24.0
350 to 525 ⁽³⁾	175 to 275	700	2.0-4.5	8.0-16.0	3.2-12.0	2.5-10.0	15.0-34.0
500 to 750 ⁽²⁾	260 to 400	900	4.0-8.0	16.0-30.0	7.2-24.0	5.0-23.0	30.0-50.0

NOTES:

- 1 All deadbands given in °F.
- 2 Available with remote mount thermal systems only.
- 3 Not available with 2 $\frac{3}{4}$ " stem.

- 4 Dual switch element multiply single switch element value by 1.6 for approximate deadband.
- 5 Set and reset points must fall within the adjustable range.

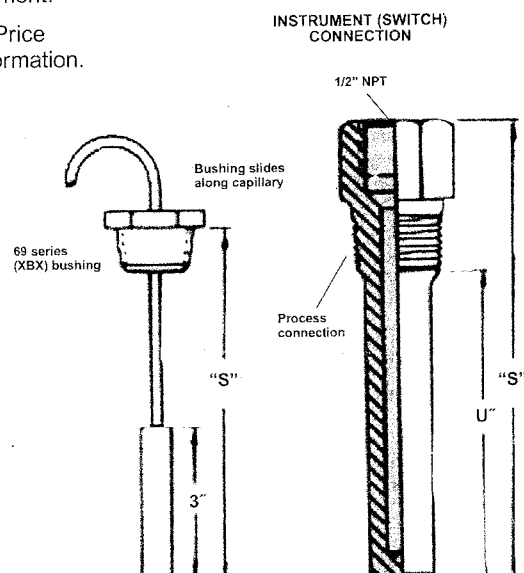
THERMOWELLS

Thermowells must be used on any application where the bulb of the temperature switch may be exposed to pressure, corrosive fluids or high velocity. Additionally, the use of a thermowell permits instrument interchange or calibration check without disturbing or closing down the process.

Ashcroft temperature switches have bulb diameters to match $\frac{3}{8}$ " nominal bore thermowells. The bulbs have a sensitive portion length of 2" which can be used with 2 $\frac{1}{2}$ " "U" dimensioned thermowells or longer. For maximum accuracy a thermowell's "U" dimension should be selected to permit complete immersion of the sensitive portion plus 1" when measuring the temperature of liquids; an extra 3" should be allowed when measuring the temperature of gases.

Thermowell bushings should be used with remote mount temperature switches. We recommend the standard 3" bulb and code 69 Series bushings for use with any thermowell "U" dimension. A split rubber grommet allows easy installation and "S" dimension adjustment.

To order a thermowell, refer to Price Sheet TH/PS-1 for complete information.

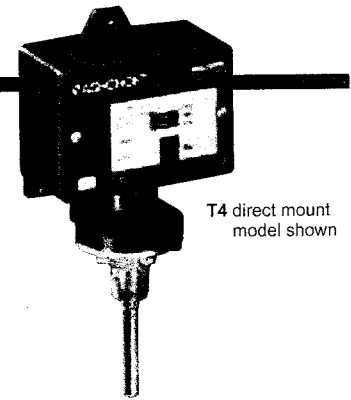


ORDER INFORMATION

B-SERIES TEMPERATURE SWITCH MODEL NUMBER:

To specify the exact switch desired, select entries from appropriate tables as shown in example below.

1	2	3	4	5	6
T	4	2	0	T	0
				5	030
				X	N
				H	150° to 260°F



1 – ENCLOSURE	
T4	Temperature switch, Type 400, watertight enclosure meets NEMA 3, 4, 4X, 13 and IP66 requirements.
T7	Temperature switch, Type 700, explosion-proof enclosure meets Div. 1 & 2, NEMA 7, 9 and IP66 requirements.

2 – SWITCH ELEMENT SELECTION		
Order Code	Switch Elements UL/CSA Listed SPDT	
20 ⁽⁷⁾	Narrow deadband ac	15A, 125/250 Vac
21	Ammonia service	5A, 125/250 Vac
22 ⁽⁶⁾	Hermetically sealed switch, narrow deadband	5A, 125/250 Vac
23	Heavy duty ac	22A, 125/250 Vac
24 ⁽¹⁾	General purpose	15A, 125/250/480 Vac ½A, 125 Vdc ¼A, 250 Vdc; 6A, 30 Vdc
25	Heavy duty dc	10A, 125 Vac or dc, ½ HP, 125 Vac or dc
26 ⁽⁷⁾	Sealed environment proof	15A, 125/250 Vac
27	High temperature 300°F	15A, 125/250 Vac
28 ⁽⁵⁾	Manual reset trip on increasing	15A, 125/250 Vac
29 ⁽⁵⁾	Manual reset trip on decreasing	15A, 125/250 Vac
31	Low level (gold) contacts	1A, 125 Vac
32	Hermetically sealed switch, general purpose	11A, 125/250 Vac 5A, 30 Vdc
50	Variable deadband	15A, 125/250 Vac
UL/CSA Listed Dual (2 SPDT)		
61 ⁽⁷⁾	Dual narrow deadband	15A, 125/250 Vac
62 ⁽⁷⁾	Dual sealed environment proof	15A, 125/250 Vac
63	Dual high temp. 300°F	15A, 125/250 Vac
64	Dual general purpose	15A, 125/250/480 Vac ½A, 125 Vdc ¼A, 250 Vdc
65	Dual ammonia service	5A, 125/250 Vac
67 ^(4,6)	Dual hermetically sealed switch, narrow deadband	5A, 125/250 Vac
68 ⁽⁴⁾	Dual hermetically sealed switch, general purpose	11A, 125/250 Vac 5A, 30 Vdc
71 ⁽⁴⁾	Dual hermetically sealed switch, gold contacts	1A, 125 Vac

3 – THERMAL SYSTEM SELECTION			
Direct Mount			
Order Code	System Material	Style	
TS	316 SS	Rigid	
Remote Mount			
Order Code	System Material	Line Length	Style ⁽⁹⁾
T05	316 SS	5'	Capillary with 302 SS Spring Armor
T10	316 SS	10'	
T15	316 SS	15'	
T20	316 SS	20'	
T25	316 SS	25'	

4 – BULB LENGTH SELECTION		
Direct Mount		
Order Code	"S" Dimension	Minimum Thermowell "U" Dimension
027 ⁽⁸⁾	2¾"	–
040	4"	2½"
060	6"	4½"
090	9"	7½"
120	12"	10½"
Remote Mount		
030 ⁽⁹⁾	3"	2½"

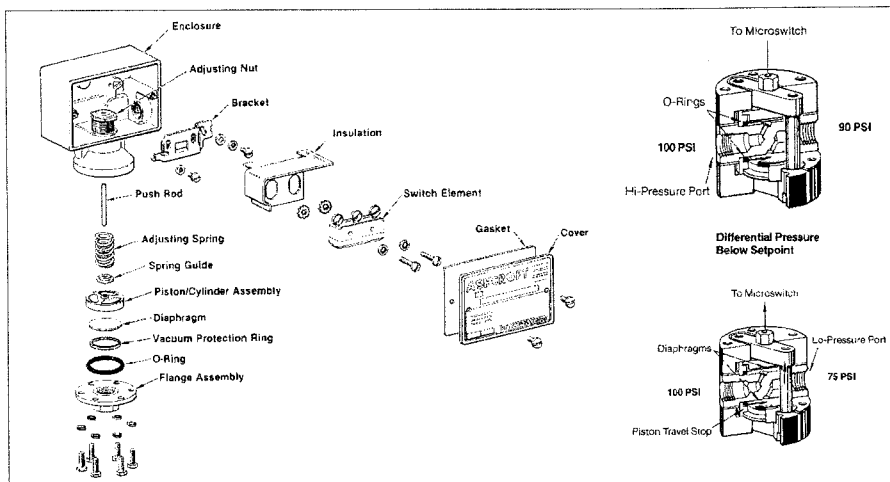
5 – OPTIONS
Use table on page 10

6 – STANDARD TEMPERATURE RANGE SELECTION	
Adjustable Range	
°F	°C
–40 to 60	–40 to 16
0 to 100	–40 to 40
75 to 205	20 to 95
150 to 260	65 to 125
235 to 375	110 to 190
350 to 525	175 to 275
500 to 750 ⁽²⁾	260 to 400

NOTES:

- Standard switch.
- Available with remote mount thermal systems only.
- Dual switches are 2 SPDT snap-action switches, not independently adjustable.
- Wires cannot be terminated inside T400 switch enclosure.
- Not available with Type 700 enclosure.
- Estimated dc rating, 2.5A, 28 Vdc (not UL listed).
- Estimated dc rating, 0.4A, 120 Vdc (not UL listed).
- Not available on 350 to 525°F.
- Consult factory on remote mount for bulb lengths other than 3".

PRODUCT SELECTION INFORMATION



SELECTION

Before making your selection, consider the following:

1. Actuator

The actuator responds to changes in pressure, temperature or differential pressure and operates the switch element in response to these changes.

The actuator is normally exposed to process fluid and must therefore be chemically compatible with it. The following may be used to help select actuator type:

For nominal pressure ranges 0-15 psi through 0-3000 psi, Dresser's standard actuator is a diaphragm-sealed piston. In this actuator, process pressure acting on the piston area causes it to overcome the adjustment spring force and actuate a snap-action switch. A diaphragm and O-ring seal the process media from this mechanism. These are available in various materials, i.e.: Buna N, Teflon and Viton. The standard process connection is stainless steel. Optional Monel pressure connection is available.

For H₂O Pressure and Differential Pressure Ranges, a diaphragm actuator is used. In this design, the standard pressure connections are carbon steel. Diaphragms are available in Viton, Buna N and Teflon. Always review process temperature limits before making seal selections. Optional stainless steel pressure connections are available (option XTA).

For High Differential Pressure Actuator Ranges, 3-15 to 60-600 psid, a Dual Diaphragm-Sealed Piston Actuator is used. This actuator is designed to be for high static-pressure applications. The standard pressure connections are nickel-plated brass. Diaphragms are available in Viton, Buna N and Teflon. Always review process temperature limits before making seal selections. Optional stainless steel pressure connections are available (option XUD).

For all temperature ranges the standard Ashcroft® temperature actuator operates on the vapor pressure principle: the vapor pressure in a sealed thermal system is applied to a sensing element, which in turn actuates a switch. This is known as a SAMA Class II system. Various filling materials are used, including Propane, Butane, Methyl Alcohol, N Propyl Alcohol and Xylene. High overtemperature capability is possible with this type of system. The interface between liquid and vapor is the point at which sensing occurs. This is the "sensitive" portion of the bulb. Bulb extensions and capillary are normally filled with vapor, and have little effect on the setpoint, regardless of ambient temperature variations; therefore, no ambient compensation is required. For best results, the bulb should be mounted within 60 degrees of vertical to assure the liquid remains in the bulb.

2. Enclosure

The enclosure protects the switch element and mechanism from the environment and has provisions for mounting and wiring. All Ashcroft switch enclosures are epoxy-coated aluminum or stainless steel for maximum corrosion resistance. Choose between watertight NEMA 4, 4X for most industrial applications and explosion-proof NEMA 7/9 for most process applications.

Ashcroft enclosures include watertight cover gaskets, external mounting holes and one or two ¼ NPT electrical conduit holes for ease of installation. Pressure switches may also be mounted directly to the process by means of the standard ¼ NPTF or optional ½ NPT pressure connection.

Note: When installing Ashcroft switches, refer to instruction sheets included with each switch, the National Electrical Code, and any other local codes or requirements to assure safety.

3. The Switching Function

Next, consider the switching function. Most applications for alarm

and shutdown are satisfied by single setpoint, fixed deadband models. For high/low or alarm and shutdown, the dual setpoint models may be selected. For pump, compressor, level and other control applications, an adjustable deadband model is often the best choice. Consult your Ashcroft representative for dual setpoint or adjustable-deadband pressure and temperature switches.

4. The Switch Element

Finally, the electrical switching element must be compatible with the electrical load being switched. For ease of selection, all electrical switching elements are snap acting, SPDT (single pole-double throw), or 2 (SPDT). Refer to catalog pages for switch element choices. Select a switch element with electrical rating that exceeds the electrical rating of the device being controlled by the switch. For better reliability and safety, optional Hermetically Sealed switching elements may be specified.

ADDITIONAL SWITCH TERMINOLOGY

Accuracy – (see repeatability) Accuracy normally refers to conformity of an indicated value to an accepted standard value. There is no indication in switch products; thus, instead, the term repeatability is used as the key performance measure. Ashcroft® pressure and temperature switch accuracy is 1% of nominal range.

Automatic Reset Switch – Switch which returns to normal state when actuating variable (pressure or temperature) is reduced.

Adjustable or Operating Range – That part of the nominal range over which the switch setpoint may be adjusted. Normally about 15% to 100% of the nominal range for pressure and differential pressure switches and the full span for temperature switches.

Burst Pressure – The maximum pressure that may be applied to a pressure switch without causing leakage or rupture. This is normally at least 400% of nominal range for Ashcroft switches. Switches subjected to pressures above the nominal range can be permanently damaged. Consult factory for switches that must operate at pressure above nominal range or reference calibration temperature (70°F).

Deadband – The difference between the setpoint and the reset point, normally expressed in units of the actuating variable. Sometimes referred to as differential.

Division 1 – A National Electrical Code Classification of hazardous locations. In Division 1 locations, hazardous concentrations of flammable gases or vapors exist continuously, intermittently or periodically under normal conditions; frequently because of repair or maintenance operation/leakage or due to breakdown or faulty operation of equipment or processes which might also cause simultaneous failure of electrical equipment. Explosion-proof NEMA 7/9 enclosures are required in Division 1 locations.

Division 2 – A National Electrical Code Classification of Hazardous locations. In Division 2 hazardous locations, flammable or volatile liquid or flammable gases are handled, processed or used, but will normally be confined within closed containers or closed systems from which they can escape only in case of accidental rupture or breakdown or in case of abnormal operation of equipment. Either Nema 7/9 explosion-proof enclosures or any enclosure with hermetically sealed switch contacts may be used in Division 2 locations.

Explosion Proof – A term commonly used in industry referring to enclosures capable of withstanding an internal explosion of a specified gas without igniting surrounding gases. Strict installation practices in accordance with the national electrical code are also required for safety.

Fixed Deadband – The difference between the setpoint and the reset point of a pressure or temperature switch. It further signi-

fies that this deadband is a fixed function of the pressure switch and not adjustable.

Hermetically Sealed Switch – A switch element whose contacts are completely sealed from the environment to provide additional safety and reliability. Contact arc cannot cause an explosion, and atmospheric corrosive elements cannot affect the contacts.

Manual Reset Switch – Pressure or Temperature switch in which contacts remain actuated even after the actuating variable returns to normal. On Ashcroft manual reset switches, a button must be pushed to reset the contacts.

National Electrical Manufacturers Association (NEMA) – This group has defined several categories of enclosures, usually referred to as "types." Further, they designate certain features and capabilities each type must include. For example, among other features, a NEMA 4 enclosure must include a threaded conduit connector, external mounting provision and cover gaskets. When selecting a NEMA 4 enclosure from any manufacturer, a buyer is assured of receiving these features.

NEMA 4 – Watertight and dusttight enclosures intended for use indoors or outdoors to protect the equipment against splashing, falling or hose-directed water, external condensation and water seepage. They are also sleet-resistant.

NEMA 4X – Watertight, dusttight and corrosion-resistant enclosures with same qualifications as NEMA 4, but with added corrosion resistance.

NEMA 7 – Enclosures for indoor Class I, Division 1 Hazardous locations with gas or vapor atmospheres.

NEMA 9 – Enclosures for indoor Class II, Division 1 Hazardous locations with combustible dust atmospheres.

Normal Switch Position – Contact position before actuating pressure (or variable) is applied. Normally closed contacts open when the switch is actuated. Normally open contacts close when the switch is actuated.

Normally Closed – Refers to switch contacts that are closed in the normal switch state or position (unactuated). A pressure change opens the contacts.

Normally Open Switch – Refers to the contacts that are open in the normal switch state or position (unactuated). A pressure change closes the contacts.

Overpressure Rating(s) – A nonspecific term that could refer to either burst or proof pressure, or both.

Proof Pressure – The maximum pressure which may be applied without causing damage. This is determined under strict laboratory conditions including controlled rate of change and temperature: This value is for reference only. Consult factory for applications where switch must operate at pressures above nominal range, or reference calibration temperature (70°F).

Repeatability (Accuracy) – The closeness of agreement among a number of consecutive measurements of the output setpoint for the same value of the input under the same operating conditions, approaching from the same direction, for full-range traverses. Ashcroft® pressure and temperature switch repeatability is 1% of nominal range.

Note: It is usually measured as nonrepeatability and expressed as repeatability in percent of span or nominal range. It does not include hysteresis or deadband.

Reset Point – The reset point is the Pressure, Temperature or Differential Pressure Value where the electrical switch contacts will return to their original or normal position after the switch has activated.

Setpoint – The setpoint is the Pressure, Temperature or Differential Pressure value at which the electrical circuit of a switch will change state or actuate. It should be specified either on increase or decrease of that variable. (See also reset point.)

Single-Pole Double Throw (SPDT) Switching Element – A SPDT switching element has one normally open, one normally closed, and one common terminal. The switch can be wired with the circuit either normally open (N/O) or normally closed (N/C). SPDT is standard with most Ashcroft pressure and temperature switches.

Snap Action – In switch terminology, snap action generally refers to the action of contacts in the switch element. These contacts open and close quickly and snap closed with sufficient pressure to firmly establish an electrical circuit. The term distinguishes products from mercury bottle types that were subject to vibration problems.

Static Pressure – For differential pressure switches, static pressure refers to the lower of the two pressures applied to the actuator.

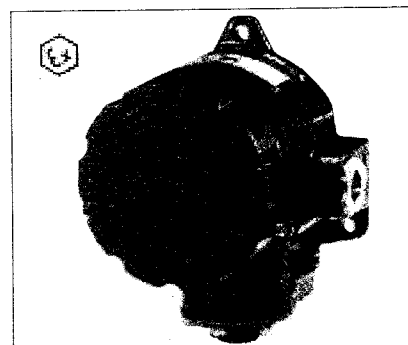
OPTIONAL FEATURES AND ACCESSORIES

B-SERIES SWITCH OPTIONS							
Code	Description	Applicable Switch Series					
		Pressure		Differential Pressure		Temperature	H
		(psi)	(in. H ₂ O)	(psi)	(in. H ₂ O)	All Ranges	Notes
XBP	Wall Mounting Bracket in. H ₂ O		•		•		
XBX	½" Male NPT Bushing					•	
XCH	Chained Cover	•	•	•	•	•	
XC8	CSA Approval	•	•	•	•	•	11
XCN	ATEX Directive 94/9/EC EEx d IIC T6	•	•	•	•	•	
XFM	FM Approval – Single Element	•	•	•	•		17
	FM Approval – Dual Element	•	•	•	•		17
XFP	Fungus Proofing	•	•	•	•	•	
XFS	Factory Adjusted Setpoint	•	•	•	•	•	2
XG3	Belleville Actuator	•					16, 17
XG4	Teflon Actuator and Pressure Conn.	•					8
XG5	UL Limit Control to 150" H ₂ O				•		1, 17
XG6	UL Limit Control to 600 psi	•					1, 17
XG7	Secondary Chamber with Vent	•					13
XG8	Steam Limit Control to 300 psi	•					7
XG9	Fire Safe Welded Actuator	•					7
XHS	High Static Differential Pressure			•			15
HHX	High Pressure, 40 psi, (static) DIP		•		•		
	160 psi (proof) DIP						
	100 psi proof pressure						
XJK	Left Conduit Connection	•	•	•	•	•	9
XJL	¾" to ½" Reducing Bushing	•	•	•	•	•	
XK3	Terminal Block (700 Series only)	•	•	•	•	•	6
XLE	Long Leads on the Micro Switch	•	•	•	•	•	
XL9	Low Hardness SS Press. Conn.	•					12
XNH	Tagging Stainless Steel	•	•	•	•	•	
XNN	Paper Tag	•	•	•	•	•	
XPk	Pilot Light(s) Top Mounted	•	•	•	•	•	4
XPM	¾" Sealed Conduit Connection with 16" Lead Wires	•	•	•	•	•	
XTA	316 Stainless Steel Pressure Connection for in. H ₂ O Range		•		•		
XTM	2" Pipe Mounting Bracket	•	•	•	•	•	
XUD	316 Stainless Steel Pressure Conn.			•			
X06	Pressure Connection: ½ NPT Male, ¼ NPT Female	•	•	•	•		5
	316 Stainless Steel (Combination)						
X07	½ NPTF Press. Conn., 316 SS	•	•	•	•		10
X2B	Breather Drain	•	•	•	•	•	
X6B	Cleaned for Oxygen Service	•	•	•	•		3
	Diaphragm Seal	•	•	•	•		

ATEX Directive 94/9/EC APPROVAL FOR HAZARDOUS LOCATIONS

ATEX is a European designation that deals with standards for equipment and protective systems intended for use in potentially explosive atmospheres. This approval is required for switches intended for use in hazardous locations, especially important to OEMs who export to Europe and contractors specifying or purchasing products for European applications. XCN option adds special features to Ashcroft 700-Series switch enclosures that meet the requirements for the highest levels of security and danger, such as:

- Special locking device requiring an Allen wrench to remove cover
- Special vents that blow out should the diaphragm rupture, thus preventing pressure build-up in the enclosure
- Special conduit plug requiring an Allen wrench for removal
- Available on pressure, temperature and differential pressure models
- Meets Explosion Class EEx d IIC T6



Order option XCN

NOTES:

- 1 Buna N and Viton diaphragm.
- 2 Advise static or working pressure for differential pressure switches.
- 3 Buna N cannot be cleaned for oxygen service.
- 4 N/A on 700 Series.
- 5 Standard with 1000 and 3000 psi ranges. Bottom connection only on DP in H₂O ranges.
- 6 Terminal Blocks standard with 700 dual switches.
- 7 Stainless steel diaphragm only.
- 8 Pressure connection ¼ NPTF.
- 9 Standard on 700 Series. N/A with DPDT element on 400 Series.
- 10 N/A with Monel diaphragm.
- 11 Standard on 400 Series.
- 12 N/A on 3000 psi range. Available with Teflon diaphragm only.
- 13 SS diaphragm required. Teflon diaphragm is the backup. NEMA 7 only.

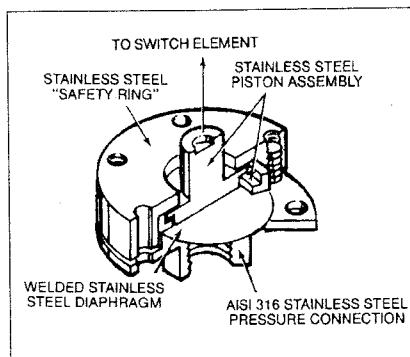
- 14 Available in ranges vacuum to 600 psi. Not available with stainless steel or Monel diaphragm.
- 15 Buna N and Viton diaphragm – 15#D & 30#D only.
- 16 24, 32, 64 or 68 element only.
- 17 N/A on all combinations

OPTIONAL FEATURES AND ACCESSORIES

XG9 – FIRE-SAFE WELDED ACTUATOR

Standard features:

- 3000 psi burst pressure unrestrained at room temperature
- long service life
- all welded – no O-rings
- built-in over range protection
- superior corrosion resistant materials
- interchangeable with current Ashcroft pressure switch actuators
- 15 psi to 600 psi ranges available

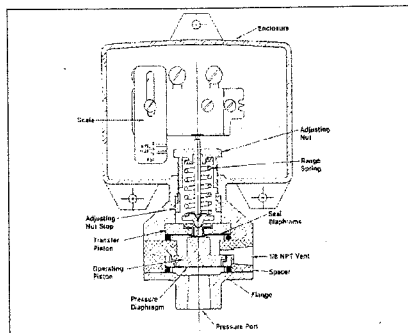


The Ashcroft pressure switch actuator is designed to satisfy most medium range pressure switch applications. It has only two wetted parts; pressure port and diaphragm. No O-rings are required because all joints are welded.

XG6 – U.L. LISTED LIMIT CONTROL SWITCH

Standard features:

- setpoint indicating scale
- adjusting nut stop
- secondary chamber with vent
- optional pilot light for FM requirements

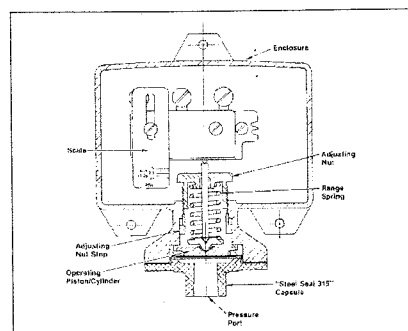


The Ashcroft medium pressure gas and oil limit control switch is designed for use with air, LP gas, natural gas, #1 and #2 fuel oil and #6 oil preheated to 240°F. This limit control is an adjustable pressure operated switch with a secondary chamber to prevent fuel from entering the switch enclosure in the unlikely event that the diaphragm develops a leak. The control shuts down a fuel pump in high or low pressure conditions.

XG8 – U.L. LISTED STEAM LIMIT CONTROL SWITCH

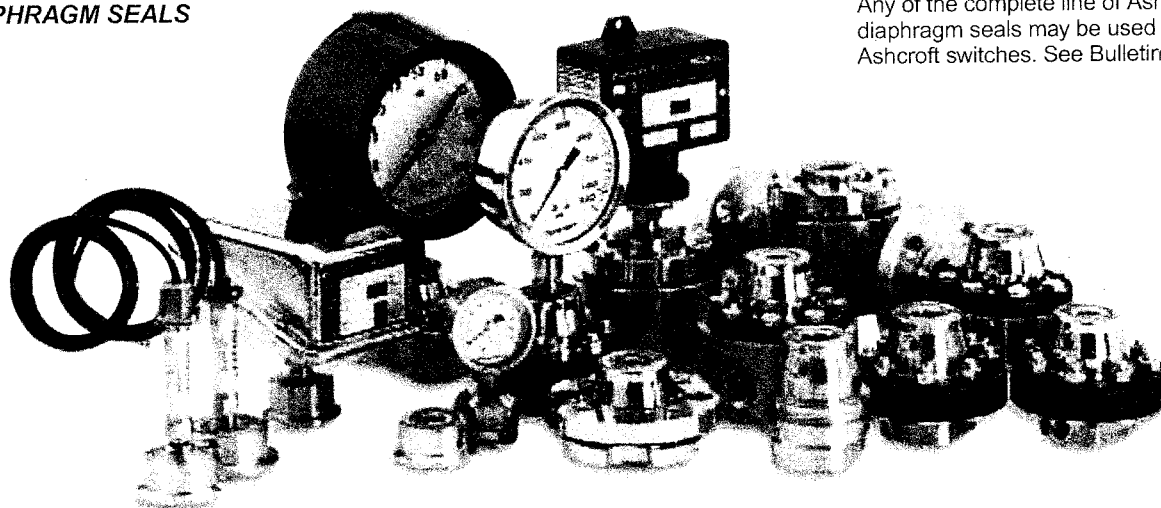
Standard features:

- 316 stainless steel welded diaphragm
- setpoint indicating scale
- adjusting nut stop



The Ashcroft steam limit control switch is designed for use on boilers equipped with electrically operated burners. The limit control is an adjustable pressure operated switch set to stop burner operation when the recommended safe boiler working pressure is exceeded.

DIAPHRAGM SEALS



Any of the complete line of Ashcroft diaphragm seals may be used with most Ashcroft switches. See Bulletin DS-1.

ADDITIONAL PRESSURE AND TEMPERATURE SWITCH APPLICATION INFORMATION

DIFFICULT PROCESS MEDIA

When specifying pressure or temperature switches, the material in contact with media must be compatible with it. Otherwise, failure could occur, resulting in leakage, injury, and loss of life, property or production. The user should review prior experience with materials of construction in the process for guidance in material selection. If this is not appropriate, contact Dresser's Control Instrument Operation for assistance. Relevant information such as process media, concentration of each constituent, temperature, pressure, the presence of contaminants, particulate, vibration or pulsation is necessary to make the best recommendation. Refer also to Product Information Page ASH-PI-14B "Corrosion Data Guide."

Some applications are best handled by adding an Ashcroft diaphragm seal to isolate the fluid media from the pressure or differential pressure switch.

Diaphragm seals are recommended where:

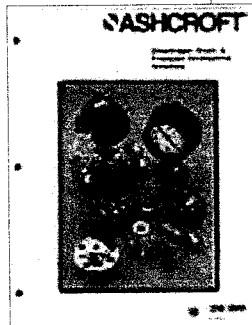
- The process media being sensed could clog the pressure element.
- The process media temperature is above or below the ratings of the actuator seal materials.
- The application calls for a sanitary process connection.

Note: The addition of a diaphragm seal may increase the deadband and response time of the pressure switch to process pressure changes. Please consult the Control Instrument Operation for details.

Refer also to Ashcroft Product Bulletin DS-1 and Product Information Page SW/PI-30B, "Switch, Diaphragm Seal Combination."

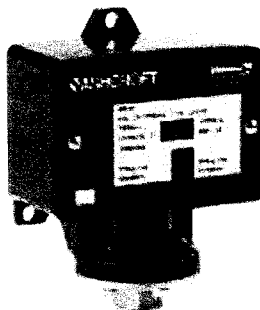
OXIDIZING MEDIA

When specifying a pressure switch for use in oxidizing media, such as chlorine, oxygen and several other chemical compounds, the wetted materials must be compatible with the media, and the switch should be cleaned for oxygen service. This is necessary to remove any residue that might react violently with the oxidizing media. Specify option X6B (clean for oxygen service). Refer also to Product Information Page SW/PI-6B, "Oxygen Cleaning for Ashcroft Switches."



STEAM SERVICE

In order to prevent live steam from coming into contact with the switch actuator, a siphon filled with water should be installed between the switch and the process line. We recommend the optional stainless steel welded process connection and diaphragm even though Viton is rated for use with steam. Experience has shown that in many steam applications, the 300°F high temperature limit of Viton is exceeded by steam under pressure.



In some boiler applications, a special U.L. listing, "MBPR," which requires unique features, is needed. Dresser offers these features with option XG8. Refer also to Product Information Page SW/PI-27A, "Steam Limit Control Switch."

NACE

The National Association of Corrosion Engineers (NACE) publishes a standard covering the requirements of metallic materials in contact with process media containing Hydrogen Sulfide. We recommend the use of Monel (code P) wetted materials for most applications. Other alternatives include adding applicable diaphragm seals or low hardness stainless steel pressure connection (XL9) and teflon diaphragm. Refer also to Product Information Page SW-22A, "Pressure Switches Meeting NACE Standard MR-01-75."

HIGH TEMPERATURE PROCESS

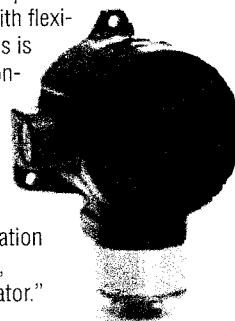
Refer to the actuator seal table for process temperature limits for pressure switch actuators. Pressure switches mounted directly to the process can withstand up to 300°F when equipped with optional Viton, stainless steel or Monel wetted parts. If process temperature exceeds 300°F, four feet of 1/2" tubing between the process and the switch will generally protect the switch from damage.

Alternatively, an Ashcroft diaphragm seal selected from bulletin DS-1 can be used to isolate the switch from the hot process.

VIBRATION

Generally, vibration will not harm Ashcroft pressure switches. However, premature tripping may occur under severe conditions. This tends to be annoying, but repeatable for a given situation and might be in the order of 5% to 10% of switch range from the set-point, i.e. a 100 psi switch set at 50 psi on increasing pressure might trip somewhere between 40 and 45 psi on increasing pressure. This would not reduce the life of the pressure switch.

The best approach in this type of application is to mount the switch remotely, connecting the switch to the process or equipment with flexible tubing. If this is not possible, consider the use of the Belleville actuator, option XG3. Refer also to Product Information Page SW/PI-58, "Belleville Actuator."



PULSATION

Pressure pulsation below the range of the pressure switch will not harm it. However, because the switch can react to pressure pulses less than one-second duration, it might be desirable to include a dampening device. Several Ashcroft accessories such as snubbers address this situation. Refer to the accessory section of Ashcroft Ordering Handbook (OH-1), or consult your Ashcroft representative for more information.

MOUNTING

All Ashcroft pressure, temperature and differential pressure switches with snap acting contacts may be mounted in any position. This includes the sensing bulbs of temperature switches. This is an important advantage of snap acting switch designs.

ADDITIONAL PRESSURE AND TEMPERATURE SWITCH APPLICATION INFORMATION

SWITCH ELEMENT SELECTION

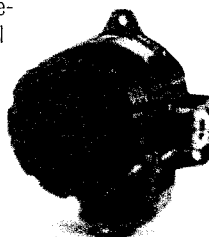
B-Series switches are available with a wide variety of snap acting switch elements to meet most electrical requirements. The standard contact arrangement is single pole, double throw (S.P.D.T.). This includes both normally open and normally closed contacts. Standard contact material is fine silver which generally is suitable for switching 8 volts or more, up to the rating in the Switch Element Selection Table. When switching less than 8 volts, optional Gold Alloy contacts are recommended.

Optional dual, or 2 S.P.D.T. contacts may be supplied in B-Series enclosures for applications requiring two switch functions at the same setpoint. These contacts are technically not double pole, double throw (D.P.D.T.). They are synchronized at the factory to actuate within 1% of nominal range of each other. For simultaneous actuation of 2 S.P.D.T. contacts, option XG3 should be ordered. Refer also to SW/PI-58 "Belleville Actuator."

HAZARDOUS LOCATIONS

a. Division I.

Ashcroft 700 series or other explosion proof enclosures are required to meet the requirements of Division I Hazardous Locations as defined by the National Electrical Code.



ATEX option shown

b. Division II.

These enclosures also meet the less stringent requirements for Division II Hazardous Locations. Alternatively, Ashcroft 400 series or other watertight enclosures with hermetically sealed switch elements are approved for use in Division II hazardous locations.

c. Intrinsic Safety.

Ashcroft 400 and 700 series pressure and temperature switches may be used with approved barriers in most intrinsically safe systems. These switches do not create or store energy and are therefore designated "simple devices" in these systems.

d. ATEX Approval. (optional)

Ashcroft 700 series pressure and temperature switches are approved for ATEX directive 94/9/EC. This European directive is for equipment intended for use in potentially explosive atmospheres. See option XCN on page 10.

INFORMATION & GUIDELINES FOR SETTING ASHCROFT PRESSURE, TEMPERATURE AND DIFFERENTIAL PRESSURE SWITCHES

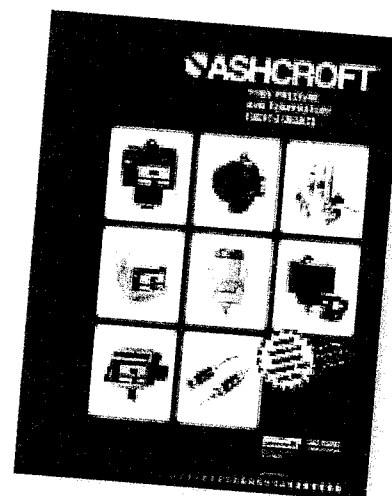
All Ashcroft pressure, temperature and differential pressure switches can be set at any point between about 15% and 100% of the range as designated on the label or the nominal range table.

Ashcroft pressure and temperature switches can be either set in the field or ordered from the factory preset to your requirements. When set at the factory, the specification is $\pm 1\%$ of the nominal range. Factory setting, or XFS, is a very popular option, and as a result, we often receive orders that do not have enough information or have incorrect information.

HOW TO ORDER

When "XFS" is desired:

1. Setpoint must be indicated.
2. Increasing or decreasing pressure must be indicated.
Ex: B424B XFS 100#
Set: 60# decreasing
3. For differential pressure switches, static operating pressure must also be specified.



For other Ashcroft switch models request Ashcroft Bulletin, Switch Quick Guide QG-3. All product information pages mentioned in this bulletin can be downloaded from our web site.

Lubozynski, Tom

From: Michael Kaiser [mkaiser@wasteservicesinc.com]
Sent: Tuesday, May 20, 2008 2:31 PM
To: Lubozynski, Tom
Cc: Bradner, James; Shawn McCash; Matt Orr; Dennis Pantano
Subject: RE: JED Solid Waste Disposal Facility - LFG Collection Sequence 1 OCD-SW-08-0220

Mr. Lubozynski,

Thanks for the e-mail response - we will continue to move forward with the work as proposed for Sequence 1. Your comment regarding the asbestos locations is noted. We did skirt the asbestos locations with the wells because of the vertical depths of drilling. The collection lines (laterals and header piping) will only be buried a few feet in waste. We will confirm through site records that the buried depths of piping will not be within the buried elevation profile of asbestos, although shown as crossing the locations from a plan view.

Thanks again for your review and reply. This helps us move forward and schedule the work.

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@wsii.us

From: Lubozynski, Tom [mailto:Tom.Lubozynski@dep.state.fl.us]
Sent: Tuesday, May 20, 2008 1:10 PM
To: Michael Kaiser
Cc: Shawn McCash; Matt Orr; David Dee; Shine, Caroline; Mead, Eric; Bradner, James
Subject: RE: JED Solid Waste Disposal Facility - LFG Collection Sequence 1 OCD-SW-08-0220

TO: Mike Kaiser

Jim Bradner and I have discussed the submittal. The level of system coverage proposed in Sequence 1 is acceptable. We noticed that some of the collection pipes go across (or through) areas marked as asbestos disposal locations. Note 6 on Drawing 3C of 9 specifically discusses this. The note requires the contractor to mark the indicated asbestos disposal areas in the field "to prevent installation of gas extraction wells in areas where asbestos was disposed."

The construction completion report must include comments about how the collection line and / or well locations were changed to avoid asbestos disposal areas. Quality Control during the installation must document that no gas extraction wells were placed in any asbestos disposal area.

Tom Lubozynski
F. Thomas Lubozynski, P.E.
Waste Program Administrator
FDEP Central District
407-893-3328

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on [this link to the DEP Customer Survey](#). Thank you in advance for completing the survey.

From: Michael Kaiser [mailto:mkaiser@wasteservicesinc.com]

Sent: Thursday, May 15, 2008 3:11 PM

To: Bradner, James; Lubozynski, Tom

Cc: Shawn McCash; Matt Orr; David Dee; Shine, Caroline; Mead, Eric

Subject: JED Solid Waste Disposal Facility - GCCS Construction Bid Estimates

Mr. Bradner and Mr. Lubozynski:

The following is an update regarding the installation of the GCCS at the JED Solid Waste Management Facility. I received three bids for construction of Sequence 1 - Phase 1. I have asked HDR Engineering to update the 3rd Party Engineers Estimate submitted to the FDEP a few months back in support of the air permit compliance issue. They will use an average of the bid unit rates and provide a new estimate that includes Sequences 1-3 of Phase 1. I expect to forward this information to you next Wednesday.

We plan to mobilize a contractor to begin the work in a month or two. We are currently filling and grading sideslope areas in preparation of the header system, executing contracts, and completing electrical permit applications and submittals for the flare station with Osceola County.

Question - Has either of your Departments had a chance to review the Construction Drawings submitted showing the level of system coverage proposed in Sequence 1? We are eager to understand if we are all in agreement on our proposed approach and the system meets with your approval.

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@wsii.us

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J. D. FACILITY File Copy

Janwadkar, Sandeep

From: Janwadkar, Sandeep
Sent: Thursday, May 08, 2008 8:59 AM
To: 'Michael Kaiser'
Cc: Lubozynski, Tom; Bradner, James; Shawn McCash; KWills@Geosyntec.com; DePradine, Gloria-Jean
Subject: RE: OCD-SW-08-0206 - Approval of Response to FDEP Inspection Report Transmittal March 13, 2008

Dear Mr. Kaiser,

The April 22, 2008 submittal is being reviewed and you will get a separate correspondence either approving it or with a request for additional clarifications/comments.

Thanks
Sandeep

From: Michael Kaiser [mailto:mkaiser@wasteservicesinc.com]
Sent: Wednesday, May 07, 2008 4:41 PM
To: Janwadkar, Sandeep
Cc: Lubozynski, Tom; Bradner, James; Shawn McCash; KWills@Geosyntec.com
Subject: RE: OCD-SW-08-0206 - Approval of Response to FDEP Inspection Report Transmittal March 13, 2008

Mr. Janwadkar,

Thanks for the response. Geosyntec Consultants is preparing the installation report and we will submit it shortly. On April 22, 2008, I submitted Construction Drawings to the FDEP outlining our sequence approach to installation of the GCCS system in Phase 1. Should I assume from your e-mail below that the FDEP concurs with what was submitted or is the submittal still under review? I am expecting bids for installation of Sequence 1 early next week and will award the project over the following few weeks. I will gladly keep you updated on the installation.

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@wsii.us

From: Janwadkar, Sandeep [mailto:Sandeep.Janwadkar@dep.state.fl.us]
Sent: Wednesday, May 07, 2008 2:57 PM
To: Michael Kaiser
Cc: Matt Orr; Shawn McCash; Lubozynski, Tom; DePradine, Gloria-Jean; Williams, Elizabeth
Subject: OCD-SW-08-0206 - Approval of Response to FDEP Inspection Report Transmittal March 13, 2008

Dear Mr. Kaiser,

IN OCULUS
5/8/08

The Department has completed the review of the submittal "Response to FDEP Inspection Report Transmittal March 13, 2008" dated April 8, 2008 and received on April 14, 2008. The Department finds the response acceptable. Once the installation of gas probes is completed, please submit to the Department, As-Built Drawings and the installation report.

Additionally, please provide periodic status updates regarding the installation of the Gas Collection and Control System in the Phase I area.

Feel free to call me at 407-893-3328 or email if you have any questions or need clarification.

Sincerely

Sandeep Janwadkar

Engineer

Solid Waste Division

FDEP – Central District

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on [this link to the DEP Customer Survey](#). Thank you in advance for completing the survey.

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1501 Omni Way, St. Cloud, FL 34773

RECEIVED
MAY 07 2008

DEP Central Dist.

May 1, 2008

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

Re: Notification of Repairs to Groundwater Monitoring Wells
J.E.D Solid Waste Management Facility
Omni Waste of Osceola County, LLC
Osceola County, Florida
Permit Nos. SC49-0199726-004 and SO49-0199726-005

Dear Mr. Lubozynski:

This correspondence is intended as notification that Omni Waste of Osceola County, LLC (Omni) plans to complete repairs to several groundwater monitoring wells at the J.E.D. Solid Waste Management Facility (JED facility). Omni has requested the services of Geosyntec Consultants to install new surface protective casings at each monitoring well for well clusters MW-4 through MW-9. The hinges connecting the caps to the existing protective casing risers are rusting, making the caps difficult to open and close, and properly seal. We have reviewed the conditions and propose the following repairs that will provide the least amount of intrusive work that could possibly compromise the integrity of the monitoring wells.

For each monitoring well:

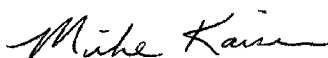
- Cut off the existing cap at the hinge and discard;
- Cut off or bend down the lock hasp on the existing 4-inch square protective casing riser;
- Drill several small self tapping stainless steel screws into the existing protective casing riser to help anchor grout between the new and old casing. The screws will be installed so that the PVC well casing is not damaged;
- Trim the new anodized aluminum 6-inch protective casing to length and position over the existing 4-inch square casing (use uniform height for each well cluster);
- Seal the bottom of the new casing to existing concrete pad with grout or silicone sealant;

*For Oculin
M
5/13*

- Mix and pour a cement grout into the annular space between the existing square casing and the new outer round casing;
- Install a new aluminum locking cap (does not have a hinge);
- Label the well on the outside of the new protective casing with 3-inch adhesive numbers (e.g., 4A, 4B, 4C, etc...); and
- Replace the existing lock.

We intend to complete the repairs during the next water quality sampling event which is scheduled to start the week of May 12, 2008. If you have any concerns with this approach or questions, please contact me at (904) 673-0446 or by e-mail at mkaiser@wsii.us at your earliest convenience.

Sincerely,



Mike Kaiser
V.P., Environmental Management and Engineering, US
Waste Services, Inc.

Cc: Ms. Laxsamee Levin, FDEP
Mr. Kirk Wills, Geosyntec
Mr. Matt Orr, WSI
Mr. Shawn McCash, WSI

Williams, Elizabeth

From: Levin, Laxsamee
Sent: Wednesday, March 26, 2008 2:45 PM
To: Kirk Willis (kwills@geosyntec.com)
Cc: smccash@wasteservices.com
Subject: OCD-SW-08-0143 J.E.D. Calss I Landfill WACS Facility Number 89544

Hi, Kirk:

On March 13, 2008, we received semi-annual monitoring report, dated March 12, 2008 for the facility stated in the subject line above. Included with the report is a compact disk containing Validator electronic data deliverables (EDD). We made a cursory review of the EDD and found several incomplete/deficient items. We were not able to use Validator to evaluate and to transport the data unless the following items are corrected.

1. Some parameters have two analytical results. Please report only one result that has lower detection limits.
2. Sampling Methods, column S were left blank. Please fill in and resubmit.
3. What is MCPP (storet code 38491)? It is not listed on attachment G Annual Leachate Monitoring Parameter .
4. Unit for fecal coliform is written incorrectly. There should be a space between 100 and mL, e.g. #/100 mL.

Please make correction and resubmit. You may submit via electronic mail.

Laxsamee Levin

RECEIVED

APR 14 2008

DEP Central Dist.



1501 Omni Way, St. Cloud, FL 34773

April 8, 2008

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

Re: Response to FDEP Inspection Report Transmittal March 13, 2008
J.E.D. Solid Waste Management Facility
Osceola County, Florida
Permit Nos. SC-0197726-004 and S049-0199726-005

Dear Mr. Lubozynski:

I am providing this response to your letter dated March 13, 2008, to Mr. Shawn McCash regarding the Routine Inspection at the J.E.D. Solid Waste Management Facility on February 7, 2008. Please note the following steps taken by Omni Waste of Osceola County, LLC (Omni) in addressing the comments noted in your letter.

1. At the time of inspection, it was noted that the facility currently does not perform landfill gas monitoring and ambient air monitoring of onsite structures at the site. This exemption was granted by the Department via an e-mail correspondence on May 19, 2004. The exemption was in response to a request from the facility consultant Mr. Ken Cargill from GeoSyntec, Inc. because the facility had recently started accepting waste and the groundwater table was within two feet of land surface. Based on the current landfill operations, the Department has re-evaluated the need for gas monitoring at the facility. We have decided that the requirements of Rules 62-701.500(9) and 62-701.530, Florida Administrative Code (F.A.C.) and Specific Condition #50 of the above referenced permit should be met. Please install the necessary gas probes and begin the quarterly monitoring within 60 days of receipt of this letter.

Omni has contracted the services of Geosyntec Consultants to install the gas probes for Cells 1-10, Phases 1-3, as shown on Drawing No. 29 of the Vertical Expansion Permit Drawings. Further details were noted in the e-mail regarding installation sent to your attention on March 23, 2008 (attached). The probes will be installed and monitored within the 60-days requested in your inspection letter and an installation report will be submitted to the FDEP following completion of installation, survey and initial monitoring.

*S 4/14/08
CST 4/25
O. Cargill
Jm
4/17*

2. *The Application for a Permit to Construct and Operate a Class I Landfill, dated May 2002, states in Section 5.3.1, Landfill Gas Extraction System - Layout, on Page 39, The installation of vertical gas extraction wells at a spacing of approximately 300 ft will begin when the total quantity of the waste disposed reaches approximately 2.75 million tons in compliance with USEPA AP-42 (1998). A similar statement was also made in Section 5.3.1, Landfill Gas Extraction System - Layout, on Page 41 of the Renewal Permit Application to Construct and Operate Phases 2 and 3 of the Oak Hammock Disposal Facility, dated September 2006, submitted to the Department. Both documents were incorporated into your permit by reference (specific condition #1 and Appendix A). The Department estimates the total quantity of waste deposited in the landfill to be approximately 4.4 million tons, based on the review of 2004 through 2007 waste reports for the facility. As of the inspection date, the Department has not received any documentation that vertical gas extraction wells have been installed at the facility. Therefore, the facility is not in compliance with the permit.*

Comment is noted. Omni is presently discussing compliance related issues with FDEP Central District – Air Resources Group regarding installation of the Gas Collection and Control System and is taking steps to install a GCCS in the Phase 1 area.

3. *Please include copies of the leachate quantities in gallons (summarized monthly), and the precipitation records in inches (summarized daily for each month), along with the future quarterly waste quantities reports submitted to the Department.*

Leachate quantities and precipitation records will be submitted to the FDEP with future quarterly waste quantity reports.

4. *During the inspection, it was noted that the Cell #1 leachate totalizer was off-line and was not functional. Please provide status of the repairs performed and when the totalizer would be back online. Furthermore, in future, you must notify this Office immediately regarding any equipment breakdown that occurs at the site which will impact your ability to meet the conditions of the permit. The notification must include a description of the corrective actions.*

The leachate totalizers (meters) originally installed at Cell 1 were damaged in the leachate manhole fire that occurred last summer at Cell 1. Please see attached e-mail notification dated July 2, 2007, to the FDEP regarding this incident. Omni had submitted a final report documenting repairs to the system to the FDEP on February 12, 2007. The new leachate meters were scheduled to be installed the date the report was submitted, however, delivery of the meters was unexpectedly delayed by the manufacturer. The meters were installed on February 21, 2007, and flow readings recorded. The system was not operated on a continuous basis until the meters were installed. A picture of the installed meters is attached along with the Leachate Level Recording form. As noted in the e-mail notification and FDEP inspections performed by Mr. Jeff Waters (dated 8/16/07 and 12/5/07), Omni had notified the FDEP of the incident and provided updates to the FDEP inspector during site visits. We apologize if there has been any confusion in regards to this matter and will continue to keep the FDEP informed of other incidents that impact our ability to meet the conditions of the permit.



GLOBEX

Engineering & Development

Copy

7 February 2008

Mr. Mike Kaiser, P.E.
Vice President
Waste Services, Inc.
3400 Jones Road
Jacksonville, Florida 32220

RECEIVED

FEB 15 2008

Subject: CQA Report for Cell 1 Sump Repairs
The J.E.D. Solid Waste Management Facility
Osceola County, Florida

DEP. Central Dist.

Dear Mr. Kaiser:

Globex Engineering & Development, Inc. (Globex) is pleased to submit this letter report for the construction quality assurance (CQA) services provided by Globex during repairs to the vertical risers at the Cell 1 sump at the J.E.D. Solid Waste Management Facility located in Osceola County, Florida. The remainder of this letter report includes a background, parties involved, description of repair activities monitored by Globex, and certification of the completed work.

BACKGROUND

Globex was contacted by Waste Services, Inc. (WSI) for monitoring repair activities on the two primary vertical risers located in the primary sump of Cell 1. The two vertical risers were damaged by lightening and burned down several feet into the ground surface. Globex was tasked to monitor excavation of soils around the risers, installation of new risers over the existing risers, backfilling of excavation, installation of a geomembrane flap around the risers at the perimeter berm level, and placement of soil over the flap. Globex inspected operation of the risers following completion of the concrete work around the risers and connection of electrical lines to make the sump operational again.

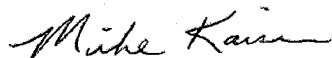
Please note that the damage to the primary vertical risers was reported to the Florida Department of Environmental Protection (FDEP) on 6 July 2007, shortly after the damage was discovered. General excavation work was performed by Comanco Environmental Corporation and necessary materials were ordered for the repair work during the period of July 2007 and November 2007, when Globex arrived at the site to document repairs.

2043/F080065

Ini Oculum

I believe this addresses all of the areas of concern in your letter. If you have any questions or require any additional information, please contact me at (904) 673-0446 or mkaiser@wsii.us at your earliest convenience.

Sincerely,

A handwritten signature in cursive script that reads "Mike Kaiser".

Mike Kaiser
Vice President, Environmental Management and Engineering
Waste Services, Inc.

Attachments

cc: Mr. Matt Orr, WSI
Mr. Shawn McCash, WSI

Michael Kaiser

From: KWills@Geosyntec.com
Sent: Sunday, March 23, 2008 10:59 PM
To: tom.lubozynski@dep.state.fl.us
Cc: Michael Kaiser; AGupta@Geosyntec.com; Matt Orr
Subject: Installation of Soil Monitoring Probes at the Oak Hammock (JED) Facility

Tom,

On behalf of Omni Waste of Osceola County, LLC (WSI), I wanted to let you know that we will be installing the soil monitoring probes (gas probes) GW-7 through GW-22 starting Tuesday or Wednesday (25th or 26th) of this week. We estimate that the probes will be installed over a 3-4 day period. Soil monitoring probes GW-7 through GW-22 will provide coverage for all cells constructed (or to be constructed) for Phases 1, 2 and 3. If you should have any questions, please feel free to contact me directly.

Sincerely,

Kirk Wills

Kirk Wills
Project Engineer

14055 Riveredge Drive
Suite 300
Tampa, Florida 33637
Phone: (813) 558-0990
Fax: (813) 558-9726
Mobile: (813) 918-4732
kwills@geosyntec.com

Geosyntec
consultants

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4/8/2008

Michael Kaiser

From: Michael Kaiser [mailto:mkaiser@wasteservicesinc.com]

Sent: Monday, July 02, 2007 5:14 PM

To: Lubozynski, Tom

Cc: gloria.depradine@dep.state.fl.us; Matt Orr; Shawn McCash; Dennis Pantano; Mike Rowley; Ayushman Gupta

Subject: Notification of Incident - Oak Hammock Landfill

Mr. Lubozynski:

This e-mail is intended as notification of an incident that occurred in the past 24-hrs at the Oak Hammock Landfill. This afternoon site personnel were conducting a routine inspection of the perimeter area of the landfill property and discovered that lightning appears to have struck the leachate manhole riser system at the Cell 1 disposal unit. The aboveground piping, electrical system and top sections of the manhole risers for the primary leachate collection system have sustained fire damage. We are investigating the extent of the damage and will forward additional information to the FDEP as it becomes available. Please feel free to contact me if you have any questions.

Thanks,

Mike Kaiser

Mike Kaiser

Vice President, Environmental Management & Engineering, U.S.
Waste Services, Inc.
Jones Road Landfill
3400 Jones Road
Jacksonville, Florida 32220
(904) 673-0446 [Cell]
(904) 781-2407 [Office]
(904) 695-2567 [Fax]
mkaiser@wsii.us

4/8/2008



GLOBEX

Engineering & Development

C. J. King

7 February 2008

Mr. Mike Kaiser, P.E.
Vice President
Waste Services, Inc.
3400 Jones Road
Jacksonville, Florida 32220

RECEIVED

FEB 15 2008

Subject: CQA Report for Cell 1 Sump Repairs
The J.E.D. Solid Waste Management Facility
Osceola County, Florida

DEP. Central Dist.

Dear Mr. Kaiser:

Globex Engineering & Development, Inc. (Globex) is pleased to submit this letter report for the construction quality assurance (CQA) services provided by Globex during repairs to the vertical risers at the Cell 1 sump at the J.E.D. Solid Waste Management Facility located in Osceola County, Florida. The remainder of this letter report includes a background, parties involved, description of repair activities monitored by Globex, and certification of the completed work.

BACKGROUND

Globex was contacted by Waste Services, Inc. (WSI) for monitoring repair activities on the two primary vertical risers located in the primary sump of Cell 1. The two vertical risers were damaged by lightening and burned down several feet into the ground surface. Globex was tasked to monitor excavation of soils around the risers, installation of new risers over the existing risers, backfilling of excavation, installation of a geomembrane flap around the risers at the perimeter berm level, and placement of soil over the flap. Globex inspected operation of the risers following completion of the concrete work around the risers and connection of electrical lines to make the sump operational again.

Please note that the damage to the primary vertical risers was reported to the Florida Department of Environmental Protection (FDEP) on 6 July 2007, shortly after the damage was discovered. General excavation work was performed by Comanco Environmental Corporation and necessary materials were ordered for the repair work during the period of July 2007 and November 2007, when Globex arrived at the site to document repairs.

2043/F080065

Travis Ocarroll

Mr. Mike Kaiser, P.E.
7 February 2008
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PARTIES INVOLVED

The parties involved during repairs to the risers were, as follows:

- Waste Services, Inc., Owner
- G4 Land & Cattle, Earthwork and Concrete Contractor, Pipe Installer
- Comanco Environmental Corporation, Liner Installer
- Johns Electric Co., Electrical Contractor
- Sligo Systems, Pumps and Controls Contractor
- Globex Engineering & Development, Inc., CQA Monitor

DESCRIPTION OF REPAIRS

The following activities took place during repair of the risers:

- Soil around the primary and secondary risers was excavated to approximately 2 ft below the burned surface of primary risers. (approximately 8 ft below the perimeter berm level);
- The uneven portion of the top of the risers were sawed to level the top of risers;
- More soil excavation was performed to approximately 4 ft below the even top of the risers;
- The inside of the primary risers were cleaned using a vacuum truck;
- An 8-inch thick layer of non-calcareous gravel was placed around the primary risers on top of the graded soil platform;
- Two new 53-inch diameter risers were placed over the existing risers with an approximately 3-ft overlap between the new and existing risers;
- The new risers were plumbed and secured in position;
- Soil was placed back into the excavation in 1-ft lifts and compacted to 95 percent of the maximum dry density of the soil material measured in accordance with the Standard Proctor procedures;
- After backfilling of the excavation, a geomembrane flap was installed over the filled area and welded on three sides to the primary liner at the top of the perimeter berm; and also welded to the secondary and primary risers (note that the flap is not part of the liner system, but it only prevents precipitation from entering the sump);
- A 2-ft thick layer of soil was placed over the geomembrane flap;

Mr. Mike Kaiser, P.E.

7 February 2008

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- A concrete slab was poured around the secondary and primary risers;
- A concrete block wall was constructed on the back side of the slab;
- Piping was completed to connect the secondary and primary risers to the existing leachate force main;
- Pumps were installed inside the primary risers; and
- Electrical conduits and control panels were installed to make the pumps operational.

The repair operation began in early November 2007. Globex was present on site from 5 November 2007 through 16 November 2007, until completion of the 2-ft thick layer of soil above the geomembrane flap. According to WSI, repair activities were completed on 8 January 2008. On 9 January 2008, Globex performed a site visit and verified that the construction of the concrete slab, concrete block wall, piping, pump installation, and electrical work were completed. Globex also observed and verified that pumps installed in the primary riser were operational at the completion of the project.

It should be emphasized that the integrity of the base liner was not compromised by the melt down of vertical risers, excavation work, and repair activities (other than the minor repair made at the anchor trench).

CERTIFICATION

The CQA monitoring services provided by Globex were carried out under direct supervision of Ali Khatami, Ph.D., P.E., a Professional Engineer registered in the State of Florida. Dr. Khatami was present on site on 9 November 2007 to observe the on-going repair activities in the field. Dr. Khatami observed the latter part of the soil excavation, placement of gravel, and installation of new risers over the existing risers. Dr. Khatami reviewed field logs prepared by the Globex personnel in the field. Copies of the daily logs are presented in Attachment A.

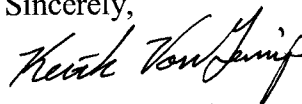
Mr. Mike Kaiser, P.E.

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Globex appreciated the opportunity of providing CQA monitoring services to WSI during repairs to the risers. Please contact either of the undersigned at 954-571-9200 if you have any questions.

Sincerely,



Keith VanGennip
Field Services Manager



Ali Khatami, Ph.D., P.E.
Principal

ATTACHMENT A

DAILY LOGS



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Site: WSI Oak Hammock

Project No.: 2043

Date: 11/05/07

Daily Report Log

CQA PERSONNEL: Jorge Barrantes

Page 1 of 13

Arrive at job site at 8:00 am meet with Matt we went to brief job description

- CQA on excavation and dewatering in order to install of two 50" Ø HDPE Primary Sump Risers to cover the two 48" Ø HDPE Primary Sump Risers damaged by lightning.
- Air monitoring the excavation area for gases that in high levels are hazard as:
 - H₂S – hydroxide sulfide,
 - CO – carbon monoxide,
 - O₂ – oxygen in high levels is flammable combustible,
 - CO₂ – carbon dioxide,
 - Methane, flammable combustible, and
 - LEL – Lower Explosion Level.
- Time and personnel tracking in the job area
- G-4 Land & Cattle, Inc. will be the contractor responsible for the installation of two 50" Ø HDPE Primary Sump Risers.
 - Robbie Rowley – Construction Manager
 - Wesley – Superintendent
 - 4 helpers
- Comanco Environmental will cap the leachate sump with 60 mil HDPE textured liner.
 - Crew not on site

G-4 crew was on site at 7:00 am report Superintendent and operations were standing by.

At 9:30 am Matt gave ok to start cutting the burn remaining sections of the two 48" Ø HDPE Primary Sump Risers damaged by lightning; to perform this operation used air pressure powered saw. I constantly was monitoring the air using biosystems four gas PHD-Lite gas sensor recording readings every half hour.

At 10:04am after setting the equipment and air blower two G4 members went down to the excavation area wearing taxipro H₂O personal sensors to cutting the #1 sump riser.

At 13:30am G4 using a 330LC excavator move the 50" Ø HDPE Primary Sump Risers to the excavation area.

At 11:00am they start cutting the #2 sump riser.

At 11:30am G4 stop for lunch break.

At 12:50pm G4 re-start operations again.

At 13:05pm Mike Kaiser (engineer) shows up to the excavation area to over look the operation progress.



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Engineering & Development

Site: WSI Oak Hammock

Project No.: 2043

Date: 11/05/07

Daily Report Log

CQA PERSONNEL: Jorge Barrantes

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At 13:20 pm Robbie Rowley G4 Construction Manager took measurements of the position of the two 48" Ø HDPE Primary Sump Risers damaged by lightning to figure out how more has to be excavated to set the 50" Ø HDPE Primary Sump Risers; taking the top of the # 2 sump riser Mike Kaiser estimated a clearance of 3' from the top of the ground.

At 13:30pm G4 finish cut the two sump risers

At 13:40pm G4 start chip the sludge inside the sump risers.

At 13:50pm G4 change the hydraulic 12" pump to the second sump riser to pump leachate out of the sump.

At 14:20pm G4 cut a section of the base of one of the 50" Ø HDPE Primary Sump Risers.

At 14:50pm G4 Superintendent shuts down operations.

At 15:00pm G4 left the premises.

After that went to the main office to meet with Mike Kaiser

Air testing data

GASES/TIME	9:30AM	10:00AM	10:30AM	11:00AM	12:50PM	1:30PM	2:00PM	2:30PM
O ₂	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9
CO	7	7	12	0	6	32	8	9
H ₂ S	2	2	2	6	11	8	3	4
LEL	0	0	3	0	0	3	0	2

Tomorrow a vacuum truck will be used to clean the two 48" Ø HDPE Primary Sump Risers damaged by lightning and G4 will try to set the two 50" Ø HDPE Primary Sump Risers.



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Site: WSI Oak Hammock

Project No.: 2043

Date: 11/06/07

Daily Report Log

CQA PERSONNEL: Jorge Barrantes

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At 7:10am G4 crew start excavating with shovels around the sump risers to reach the 3' feet level point.

At 8:40am vacuum truck arrive at the facility.

At 8:45am G4 crew start wearing green vests and hard heads and continued working.

At 9:20am vacuum truck reach the excavation area.

At 9:35am start vacuuming inside #2 sump riser.

Using one G4 member to help one of the vacuum truck operators clean inside the sump riser and another G4 member to hold still the hoist on to top of the excavation, the second member of the vacuum truck was next to the truck operating the vacuum.

At 9:48am vacuum stops to change the 3"hoist by 6" hoist

At 10:48am re-started vacuuming inside #2 sump riser.

At 11:26am CO gas concentration went up to 42 and LEL up to 15 in my sensor device and the vacuum truck operator had these reading in his device: H2S - 24, CO - 9 and LEL - 17. We evacuate the area letting the gases dissipate.

At 11:40am we re-enter to the excavated area re-set the air blower close to the sump riser and continued with the cleaning inside #2 sump riser.

At 12:00pm gas concentration went to high CO-39, H2S-27AND LEL-19. We evacuate the area and G4 superintendent and vacuum truck operator in charge re evaluate work conditions at the excavated area and conclude that it was to dangerous to continued operations and more safety equipment will be needed.

At 14:00pm G4 Superintendent shouts down operations and left job site.

I went to the main office and inform to Matt and Mike Kaiser about the situation. Me and Mike Kaiser return to the excavate area to check work progress.

Vacuum truck will be re-scheduled to Thursday 11/08/07.

Tomorrow will be no work at the excavated area.



Site: WSI Oak Hammock

Project No.: 2043

Date: 11/06/07

Daily Report Log

CQA PERSONNEL: Jorge Barrantes

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Site: WSI Oak Hammock

Project No.: 2043

Date: 11/08/07

Daily Report Log

CQA PERSONNEL: Jorge Barrantes

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Last night 4" hydraulic pump run out of diesel and the leachate inside the risers were high.



At 7:00am G4 show up.

At 7:30am FECC (vacuum truck) show up.

The 4" hydraulic pump was refuel at 8:00am and start pumping leachate out riser #1 at 8:05am.

At 8:11am pumping leachate out side the risers.

At 8:20am start pumping riser #2.

At 8:29 am FECC start setting air ventilation system.

From 9:00 am FECC start working on clean riser #2 having some difficulties due to the high level of leachate by 10:05 am riser #2 was clean.

At 10:40 am FECC was done with the clean up of riser #1 and left.



At 10:45 am G4 start working on dewatering the excavation area.

At 11:05am dewatering was done and G4 start digging around the risers to set the new manholes.

At 12:00pm take ½ hour lunch.

At 1:00pm the 3' were rich.

At 1:30pm the 10" rock bed was in place.



3'



Site: WSI Oak Hammock

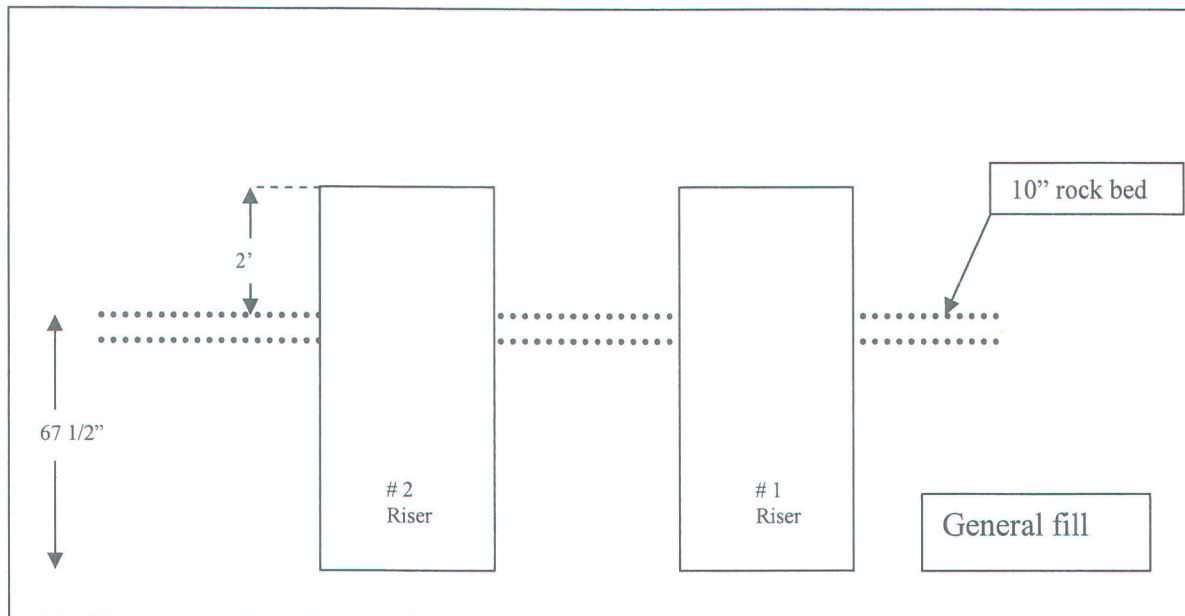
Project No.: 2043

Date: 11/08/07

Daily Report Log

CQA PERSONNEL: Jorge Barrantes

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At 1:35pm G4 start welding the 2" inside pipes



At 3:20pm G4 cut the last portion of the risers that melt getting the two risers at the same level.

At 4:30pm done for today.





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Site: WSI Oak Hammock

Project No.: 2043

Date: 11/08/07

Daily Report Log

CQA PERSONNEL: Jorge Barrantes

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Air testing data

GASES/TIME	8:00AM	8:30AM	9:00AM	9:30AM	9:44AM	10:15AM	12:30PM	1:00PM
<i>O2</i>	20.9	20.9	20.9	20.9	20.9	20.9	21.2	20.9
<i>CO</i>	0	2	2	0	4	0	1	5
<i>H2S</i>	0	0	0	0	9	3	2	0
<i>LEL</i>	3	0	0	0	3	0	3	0

Air testing data

GASES/TIME	1:30PM	8:30AM	9:00AM	9:30AM	9:44AM	10:15AM	12:30PM	1:00PM
<i>O2</i>	20.9	20.9	20.9	20.9	20.9	20.9	21.2	20.9
<i>CO</i>	0	2	2	0	4	0	1	5
<i>H2S</i>	0	0	0	0	9	3	2	0
<i>LEL</i>	3	0	0	0	3	0	3	0



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Site: WSI Oak Hammock

Project No.: 2043

Date: 11/09/07

Daily Report Log

CQA PERSONNEL: Jorge Barrantes

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At 7:00m G4 crew was on site

At 7:20am G4 crew start excavating around the two 48" Ø HDPE Primary Sump Risers damaged by lightning to make room to set the two 50" Ø HDPE Primary Sump Risers.

At 8:15am G4 crew start setting the 50" Ø HDPE Primary Sump Risers. 50" Ø HDPE Primary Sump Riser # 2 was set first while the pump was running on Sump Riser #1 to keep leachate level down. After setting 50" Ø HDPE Primary Sump Riser # 2 hydraulic pump was removed from Sump Riser #1 and proceed to set 50" Ø HDPE Primary Sump Riser #1



At 9:12am After re-check elevations the 50" Ø HDPE Primary Sump Risers were 2' higher than the Secondary Sump Riser, the 50" Ø HDPE Primary Sump Risers were removed and the 10" bed rock too and G4 dug 12" more and set 4" bed rock living 3' sleeve of 48" Ø HDPE inside the two 50" Ø HDPE Primary Sump Risers after being re-installed; elevations were checked and the 50" Ø HDPE Primary Sump Risers were 1' higher than the Secondary Riser as required.



At 11:34 am G4 started setting the first lift of soil around the 50" Ø HDPE Primary Sump Risers

At 4:00 pm G4 completed 3rd lift and called the day, G4 won't work over the weekend and will restart operations Tuesday 13 at 7:00 am



Site: WSI Oak Hammock

Project No.: 2043

Date: 11/13/07

Daily Report Log

CQA PERSONNEL: Jorge Barrantes

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At 7:00 am G4 was on site.

At 7:10 am G4 start working on 4th lift

At 9:30 am 4th lift pass compaction test

At 11:07am 5th lift pass compaction test.

At 12:30 pm lunch break.

At 12:56 pm 6th lift pass compaction test.

At 2:13 pm 7th lift pass compaction test.

At 4:15 pm 8th lift pass compaction test.

At 4:30 pm G4 end the day.





Site: WSI Oak Hammock

Project No.: 2043

Date: 11/14/07

Daily Report Log

CQA PERSONNEL: Jorge Barrantes

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At 7:00 am G4 was on site.

At 7:40 am G4 start working on 9th lift

At 8:05 am G4 complete 9th lift passing compaction test.

Before G4 start working on 10th lift G4 decides exposes liner limits.

At 2:30pm 10th lift compaction pass compaction test.

While G4 was cleaning the area around the sump found a repair, a hole was made in the liner going thru the 6 layer in the east corner of the sump.

G4 clean the area to Comanco could repair it to morrow.

At 4:30 pm G4 end the day, Comanco will start tomorrow at 9:00 am.





Site: WSI Oak Hammock

Project No.: 2043

Date: 11/15/07

Daily Report Log

CQA PERSONNEL: Jorge Barrantes

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At 8:30 am arrive to job site and Comanco was on site with Comanco trailer and Skytrak 10k forklift.
At 9:30 am Comanco start working on repair of the 6 layer patch and the liner cap of the Sump.



At 3:30 pm Comanco finish repair and G4 complete 10th lift
at 4:00 pm passing compaction test.

At 4:30 pm Comanco stop operations and will continued tomorrow.



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Site: WSI Oak Hammock

Project No.: 2043

Date: 11/16/07

Daily Report Log

CQA PERSONNEL: Jorge Barrantes

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At 8:30 am arrive to job site and Comanco was on site.

At 11:00 am Comanco finish Sump cover liner and start vacuum testing, all good.

At 11:30 am G4 start working on 11th lift, this lift will cover the liner with 1' of dirt.

At 11:45 am Comanco Left the premises.

At 12:00 pm lunch break.

At 1:40 pm G4 complete 11th lift by passing compaction test.



At 3:30 pm G4 complete 12th lift finish the dirt face and the area is ready to concrete and electrical work.

At 4:00 pm G4 left.

At 4:15 pm call Mike Kaiser and left the premises.



Site: WSI Oak Hammock

Project No.: 2043

Date: 01/09/08

Daily Report Log

CQA PERSONNEL: Jorge Barrantes

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At 9:00 am arrive to job site and call Mike Kaiser.

Went to work area and concrete, electrical and pipe connections were done took pictures start pumps to verify they are in operating conditions.

At 9:30 am left the premises.

