Prepared By: EA Engineering, Science, and Technology, Inc.
Final Prepared: 8/12/10

GUDE LANDFILL REMEDIATION

GLCC/DEP MEETING NO. 10

DATE: June 10, 2010
TIME: 7:30 PM to 9:00 PM
LOCATION: Montgomery County Transfer Station

ATTENDANCE:

Name	Organization	Designation
Bob Day	Gude Landfill Concerned Citizens (GLCC)	Member
Dean Dozier	Gude Landfill Concerned Citizens (GLCC)	Member
Laszlo Harsyani	Gude Landfill Concerned Citizens (GLCC)	Member
Keith Ligon	Gude Landfill Concerned Citizens (GLCC)	Member
Dave Peterson	Gude Landfill Concerned Citizens (GLCC)	Member
Nick Radonic	Gude Landfill Concerned Citizens (GLCC)	Member
Julia Tillery	Gude Landfill Concerned Citizens (GLCC)	Member
Ronda Funchess	Derwood Resident	---
Peter Karasik	Montgomery County Dept. of Env. Protection (DEP)	Section Chief
Steve Lezinski	Montgomery County Dept. of Env. Protection (DEP)	Engineer III
John Kumm	EA Engineering, Science, and Technology, Inc. (EA)	DEP Consultant

The Meeting Agenda is included as Attachment 1.
Contact information for attendees is included as Attachment 2.
Other Attachments are referenced within the text.

MINUTES:

1) Steve Lezinski of DEP requested approval of the minutes from GLCC/DEP Meeting No. 9 (April 22, 2010). GLCC approved the meeting minutes.

2) Steve Lezinski reviewed site work currently in progress:
   - New infiltration trenches are being installed below the locations of leachate seeps on the northwest side slopes and at the north end to direct leachate downward into the waste mass and off the slopes.
   - Installation of new landfill gas monitoring wells began on June 7th. 12 new wells will be installed along the northwest perimeter and 12 new wells will be installed along the northeast perimeter adjacent to the M-NCPPC land (at a later date to be determined).
   - Groundwater is being purged from gas extraction wells to improve collection system efficiency and reduce landfill gas detections in the gas monitoring wells. The results will be reviewed cooperatively with MDE to determine if other measures will be required.

3) Steve Lezinski stated that surface water sampling for chemical oxygen demand (COD) analysis at four selected locations had been completed on 4/29. John Kumm of EA summarized EA's Technical Memorandum (copy attached for reference as Attachment 3) summarizing the sampling, analysis, and results. The COD values are consistent with values previously found in surface water at similar landfills. Dean Dozier commented that the results may have future implications for the Rock Creek total daily maximum loads (TMDLs).

4) Steve Lezinski discussed the new groundwater monitoring wells:
- DEP received M-NCPPC approval on 5/11/2010
- DEP received County DPS approval on 5/25 and 5/26/2010
- DEP received Right-of-Way access approvals in late May 2010
- Well locations in the field were adjusted as required and construction began on M-NCPPC land (MW1-A/1-B) on June 3, 2010
- John Kumm advised that ground water was not encountered at shallow depth at MW-1 so rather than being a shallow/deep well pair as originally planned, MW-1 will just be a single deep well. Shallow well MW-2A is complete and drilling of the deep well at the MW-2B location is in progress.
- DEP will provide notice to the HOAs and individual residents for construction initiation in Derwood Station. Drilling in the community is not expected to commence before June 23-24.

5) Dean Dozier of GLCC requested that the monitoring well drilling logs be made available so that the stratigraphy can be viewed by GLCC. Steve Lezinski agreed that DEP would make the logs available once the drilling was completed.

6) Steve Lezinski reviewed the planned M-NCPPC/County land exchange. The County will exchange parcels of approximately 17 acres at the northwest and southeast end of the landfill site for a parcel of approximately 16.5 acres along the northeast border with M-NCPPC land, where the waste delineation study revealed waste encroachment on Park land. The proposed land swap is presented as Attachment 4.

7) Steve Lezinski reviewed the dioxin/furan testing at Oaks and Gude landfills:
- The testing of the engines and flares was completed during November 2009 and March 2010
- Analysis of emission conducted by SCS concluded that emissions are below EPA thresholds by several orders of magnitude. The summary of analysis is included as Attachment 5.
- EA's peer review of the SCS analysis concluded that there is no danger to public health. EA will provide a Maryland Toxic Air Pollutant regulation compliance demonstration.

8) Julia Tillary of GLCC stated that regardless of determinations about the dioxin/furan emissions not representing a public health hazard, health impacts are cumulative and any emissions are undesirable. Keith Ligon of GLCC asked about possible additional controls on the sources. Steve Lezinski and Peter Karasik stated that, unlike the Dickerson Resource Recovery Facility, the flares and engines are not regulated directly for this pollutant.

9) Steve Lezinski requested discussion of options for ultimate reuse of the site after remediation.
- Steve mentioned the idea of an "energy park" that is being implemented at other closed landfills.
- It was agreed that a passive end use plan was appropriate for the site.
- Dean Dozier commented that if solar collectors were installed the energy should accrue to the benefit of Derwood Station residents.
- Keith Ligon commented that a guiding principal of the remediation and end use design should be to mitigate the disamenities of having the landfill adjacent to the community. GLCC members agreed.
- Dean Dozier affirmed the interdependence between corrective action and end use.
- Steve Lezinski pointed out the MDE's focus on the corrective action plan will be in the context of regulatory compliance and will not necessarily consider the preferred end use plan.
- Peter Karasik stated that early decision about end use will aid in planning, since final corrective action design will need to conform to planned use.
- Dean Dozier stated that GLCC should request a public hearing with MDE about the corrective action plan. Steve Lezinski confirmed that MDE/County will honor this request.
- Peter Karasik stated that DEP would still like to move the yard waste management process to the South Lawn lane side of the site.
- Keith Ligon asked about the formal decision process. Peter Karasik stated that the corrective action plan would require County Council approval of the expenditure and that it would also be subject to the Mandatory Referral process.
- Bob Day of GLCC stated that it would be important for DEP and GLCC to be proactive in marrying the corrective action plans and end use plans before MDE makes a decision on corrective action.
- Bob Day suggested that with more high-density housing planned for the area, setting aside some land for community gardens should be considered.
- Bob Day stated that it would be important of GLCC, DEP, and EA to work cooperatively on integration of end use options with recommended corrective actions.
- DEP confirmed that the County has no mandate that the site end use plan produce revenue for the County.
- Bob Day proposed that GLCC meet independently and propose a process for integrating end use planning with corrective action to DEP at the next monthly meeting.

10) Steve Lezinski proposed that Action Items 7-01, 7-03, and 9-01 be closed. Action Items 8-01, and 9-02 remain open. GLCC agreed with this.

11) The next DEP/GLCC meeting is scheduled for Thursday July 8, 2010.

Action and Follow-up Items

5-01 DEP and EA to research the existence of a comprehensive database for closed landfill reuse options.
Status: Closed. EA provided a list of landfill reuse resources, which was attached to the minutes for Meeting No. 7.

5-02 GLCC to schedule next Derwood Community Meeting; second quarter 2010.
Status: Closed. GLCC noted that the Community will continue to be welcome at the monthly meetings, and these will be included in the DEP letter to the HOAs and the residents. Therefore, GLCC does not plan to schedule another community meeting at this time.

5-03 DEP to contact MDE regarding the spring and northwest slope surface water sampling, and leachate seep repairs on northwest slope.
Status: Closed. DEP and MDE met on December 21, 2009 and discussed these issues. The outcome was summarized in Attachment No. 4 of the Meeting No. 7 minutes.

5-04 DEP to post the recent aerial survey of the Gude Landfill on the remediation project website.
Status: Closed. The image has been posted on the website.

5-05 DEP to evaluate if Biochemical and Chemical Oxygen Demand (BOD/COD) can be included for analysis purposes in surface water samples.
Status: Closed. After further discussion, GLCC agreed that BOD sampling would not be conducted, since it would be difficult to discern whether the results were affected by the landfill. DEP agreed to collect samples for COD analysis. The objectives and plan for COD sampling was and agreed to between DEP and GLCC.

5-06 DEP to reschedule the dioxin/furan testing of the Gude Landfill gas-to-energy engine.
Status: Closed. The testing was conducted in early March 2010 but the results have not yet been reported.

5-07 EA to provide a list of the chemical analytes that were detected in the Gude Landfill groundwater/surface water sampling that are carcinogens.
Status: Closed. EA provided a summary of risk and carcinogenic effects for chemical analytes, which is included as Attachment No. 6 to the Meeting No. 7 minutes.

6-01 DEP and EA to create a list of open agenda items (i.e., action and follow-up items).
Status: Closed. This list is included in the meeting minutes and will be carried into subsequent minutes.

6-02 DEP and EA to finalize more precise locations of the new monitoring wells. Follow-up work with permitting agencies, utility locators, and adjoining property owners will be conducted.
Status: Closed. Additional location information finalized.

6-03 GLCC/DEP/EA to finalize an approach to communicate all aspects of the expanded monitoring well program to the Derwood Community.
Status: Closed. Initial letters to be sent to the HOAs, with follow-up letters to residents in the immediate area of proposed intrusive activities.

7-01 DEP to complete interim measures for leachate redirection at seep locations.
Status: Closed. Completed May/June 2010.

7-02 DEP to finalize and send letter to HOAs regarding the landfill remediation project and proposed groundwater monitoring well locations within the Community.
Status: Closed. DEP prepared the Community notification letter dated 2-26-10 for distribution to the residents via the HOA presidents.

7-03 DEP to obtain dioxin/furan test results for flare and engine.
Status: Closed. Results provided to GLCC June 2010.

8-01 EA will provide DEP with a full version of the Draft Study Plan as a PDF for posting on the website and an abbreviated PDF version for distribution to GLCC members.
Status: Open.

8-02 GLCC will distribute the DEP Community Letter in a special edition of each of the three HOA newsletters, both by e-mail and standard mail, by the end of March.
Status: Closed.

9-01 DEP and EA will provide a list of milestones and dates to include as a schedule update with minutes from each meeting.
Status: Closed.

9-02 DEP and EA will identify special instructions for residents and the driller to be used during the actual well drilling for inclusion in the individual resident notification letters.
Status: Open.

New Action and Follow-up Items

10-1 EA will prepare a Maryland Toxic Air Pollutant regulation compliance demonstration for dioxin/furan emissions from the flares and engines at Oaks and Gude.
Status: Open.

10-2 GLCC will meet independently on June 20, 2010 to discuss the process of early integration of end use objectives into the corrective action planning process and will propose a pathway and procedure to DEP at the July 8, 2010 DEP/GLCC meeting.
Status: Open.

The above summation is the writer's interpretation of the items discussed at the meeting. Comments involving differences in understanding of any of the meeting items will be received for a period of thirty (30) days from the date of these meeting minutes. Clarifications will be made, as deemed necessary. If no comments are received within the specified time period, the minutes will remain as written.

Remaining Project Milestones After May 1, 2010

Monitoring well drilling permits issued by Montgomery County: 2 to 3 weeks

Mobilize well drilling contractor: within 2 weeks of permit issuance (start at end of May)

Install wells: 3 to 4 weeks after mobilization (start in early June)

Develop wells: 1 week after well installation (early July)

Waiting period: 2 weeks after well development (mid-July)

Sampling: 1 week after waiting period (late July)

Analytical results available: 2 weeks after sampling (mid-August)

Draft Nature and Extent Study Report: September

Final Nature and Extent Study Report: October

ATTACHMENT 1

Gude Landfill Remediation
Gude Landfill Concerned Citizens
Monthly Meeting No. 10

Meeting Agenda

1. **Review and Approval of GLCC/DEP Meeting Minutes (Meeting No. 9)**

2. **On-going Site Work**
   a. Leachate seep/stormwater corrective measures (May –June 2010)
   b. Landfill gas monitoring well installations (6/7/10)
   c. Mitigation of Landfill Gas Migration at W-05 and W-06
      - Purged groundwater pumping from nearby gas extraction wells (Late-May 2010)
      - Continue pumping next week
      - Evaluate conditions and discuss options with MDE – stormwater improvements, waste excavation, long-term pumping

3. **Surface Water Monitoring (COD Sampling)**
   a. Completed 4-29; EA to present Memo on sampling results

4. **Groundwater Monitoring Wells**
   a. DEP received M-NCPPC approval (5/11/10)
   b. DEP received County DPS approval (5/25 and 5/26/10)
   c. DEP received Right-of-Way access approvals (Late-May 2010)
   d. Well locations were adjusted in the field as appropriate and construction on M-NCPPC land was initiated (6/3/10)
   e. DEP to provide notice to HOA and individual residents for construction initiation in Derwood Station

5. **M-NCPPC/County Land Exchange**
   a. M-NCPPC impacted land = ~16.5 acres
   b. County exchange land = ~17.0 acres

6. **Dioxin/Furan Testing**
   a. Completed during November 2009 and March 2010
   b. Analysis by SCS concludes emissions are below EPA thresholds by several orders of magnitude
   c. EA peer review concludes there is no danger to public health. EA to provide a compliance demonstration report.

7. **Braining Storming for Landfill Reuse Preferences**

Gude Landfill Remediation
Gude Landfill Concerned Citizens
Monthly Meeting No. 10

Meeting Agenda

8. Next Meeting/Action Items

a. To Close
- 7-01
- 7-03
- 9-01

b. Remain Open
- 8-01
- 9-02

ATTACHMENT 2

Date	June 10, 2010	Meeting No. 10
Time	7:30 -9:00 PM	
Meeting	Gude Landfill Remediation: GLCC/DEP	

Name	Affiliation	Phone	Email	Address
Stephen Lezinski	DEP/DSWS	240-777-6590	—	—
LASZLO HARSANYI	DSHOA 2	301-240-4504	LASZLOH@COMCAST.NET	7228 Titonka
KENT LIGON	DSSHOA	301 340-3358	KLIGONFAMILY@VERIZON.NET	15301 MORAVIA
Peter Karasik	DEP/DSWS	240-777-6569	peter.karasik@montgomerycountymd.gov	16101 Frederick Rd. Derwood, MD 20855
DAVE PETERSON	DERWOOD STATION HOA 1	301-921-0357	kmpdhp@hotmail.com	7612 ANAMOSA WAY DERWOOD, MD 20855
DEAN DOZIER	DS I	301 9189181	DZSPIKE1@Aol.Com	2613 ANAMOSA WAY Derwood MD
John Kumm	EA Engineering	410-329-5141	jkumm@eacsb.com	15 Loudon Circle Sparks, MD 21152
BOB DAY	DSSHOA	301-294-3272	bobcarol day@yahoo.com	7128 Grinnell Dr.
Julia Tillery	GLCC	202-329-8740	julia@Tilleryoffice.com	15461 Indianola Dr.
Ronda Funchess	observer	(303) 941-8317	rscholting@msn.com	17065 Opal Hill Drive Parker, CO. 80134
Nick Rodonis	GLCC	240 888 9990	hoa-nick-rodonis@comcast.net	15408 Indianola Dr.

ATTACHMENT 3

EA Engineering, Science, and Technology

TECHNICAL MEMORANDUM

Topic: **Surface Water Sample Collection – Chemical Oxygen Demand**
Gude Landfill, Montgomery County
Date: 9 June 2010

PURPOSE

EA Engineering, Science, and Technology, Inc. (EA) prepared this Technical Memorandum to summarize surface water sampling conducted in the vicinity of Gude Landfill. On 29 April 2010, EA collected four (4) surface water samples from Crabbs Branch, northwest and northeast of the Gude Landfill. These samples were analyzed at an offsite laboratory for Chemical Oxygen Demand (COD). A summary of the sampling procedures and results are included below.

SAMPLING PROCEDURE

Surface water samples were collected from the four locations (COD-1 through COD-4) indicated on the COD Sampling Location Map included as Attachment A. The surface water samples were collected deliberately and methodically to minimize disturbance of bottom sediments, yet as quickly as possible to ensure a representative sample. The samples were collected using a decontaminated, long-handled sampler to collect the surface water from Crabbs Branch. The sampling procedure at each of the four locations included the following steps:

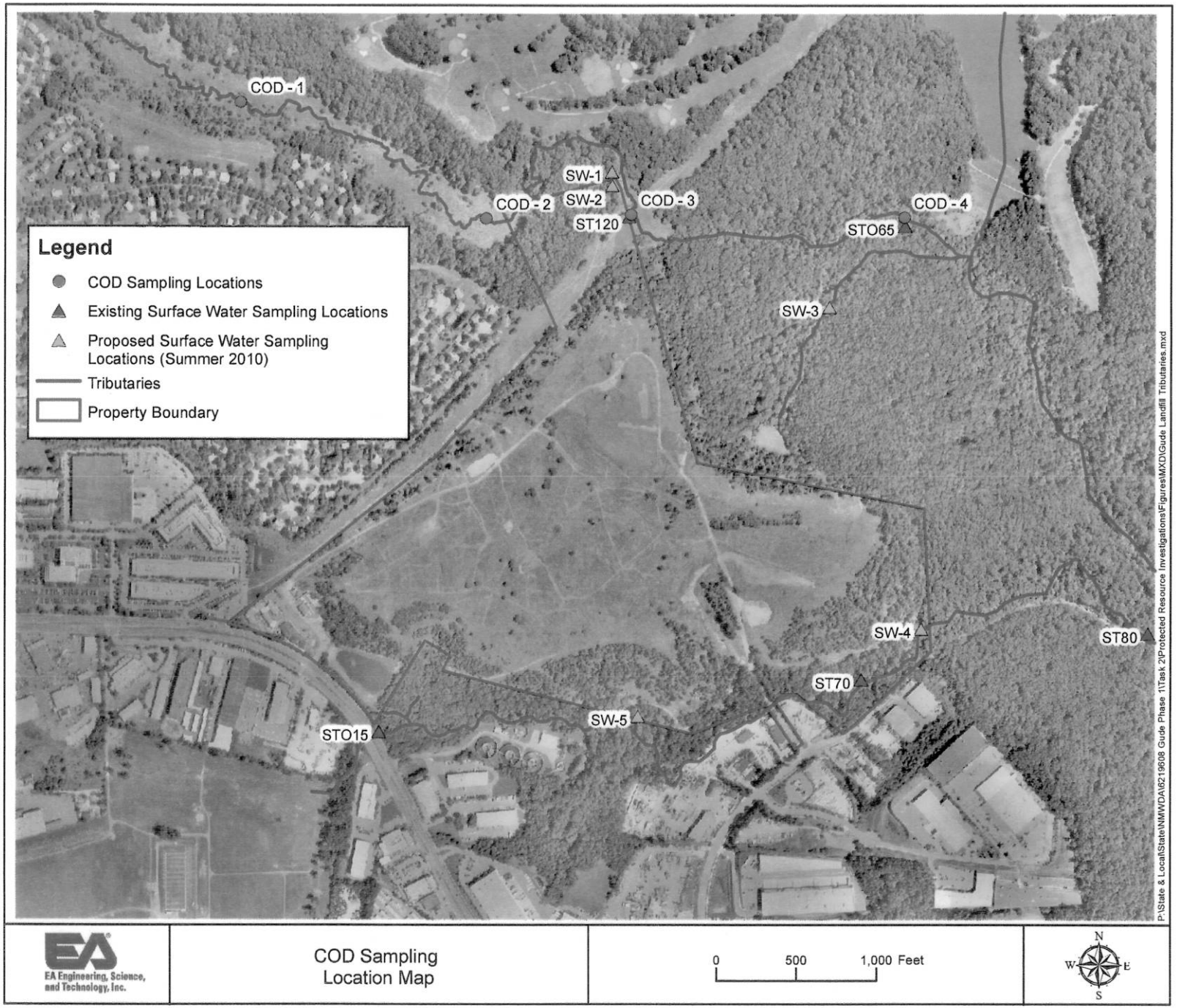
- Removing the cap from the sample bottle;
- Collecting a sample of surface water using the long-handled sampler;
- Tilting the sample bottle to gently pour the sample from the sampler into the laboratory glassware. Aeration of the samples was avoided; and,
- Securing the laboratory glassware caps, labeling and immediately placing the samples on ice.

The samples were analyzed by Phase Separation Science in Baltimore, Maryland for Chemical Oxygen Demand by U.S. Environmental Protection Agency (EPA) Method 410.4.

RESULTS

COD results for the four surface water samples ranged from 14.3 milligrams per liter (mg/L) at COD-2 to 16.6 mg/L at COD-1. These levels are consistent with COD levels detected in other surface water bodies in Maryland. The analytical results are included as Attachment 2.

ATTACHMENT A



EA Engineering, Science, and Technology, Inc.

COD Sampling Location Map

0 500 1,000 Feet

N W E S

ATTACHMENT B

Analytical Report for

EA Engineering

Certificate of Analysis No.: 10051024

Project Manager: Pete Lekas
Project Name : Gude Landfill
Project Location: Rockville, MD

May 17, 2010

Phase Separation Science, Inc.
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047

PHASE SEPARATION SCIENCE, INC.

May 17, 2010

Pete Lekas
EA Engineering
15 Loveton Circle
Sparks, MD 21152

Reference: PSS Work Order No: **10051024**
Project Name : Gude Landfill
Project Location: Rockville, MD

Dear Pete Lekas :

The attached Analytical and QC Summary lists the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order numbered **10051024**.

All work reported herein has been performed in accordance with referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on June 3, 2010. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 10 years, after which time it will be disposed without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Dan Prucnal

Dan Prucnal
Laboratory Manager

Case Narrative Summary
Client Name: EA Engineering
Project Name: Gude Landfill

Project ID: N/A **Work Order Number: 10051024**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 04/29/2010 at 01:15 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
10051024-001	COD 1	SURFACE WATER	04/29/2010 10:40
10051024-002	COD 2	SURFACE WATER	04/29/2010 10:24
10051024-003	COD 3	SURFACE WATER	04/29/2010 10:16
10051024-004	COD 4	SURFACE WATER	04/29/2010 09:20

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in the Sample Receipt Checklist.

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Narrative Comments:

Analyses associated with analyst code 4005 were performed by Enviro-Chem Laboratories, Inc.

Refer to previous LID 10042910-001 to 004 and email attached.

Notes:

1. The presence of common laboratory contaminants such as acetone, methylene chloride and phthalates, may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. The following analytical results are never reported on a dry weight basis: pH, flashpoint, moisture and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].

Standard Flags/Abbreviations:

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- J The target analyte was positively identified below the reporting limit but greater than one-half of the reporting limit.
- LOD Limit of Detection. An estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte and matrix specific.
- ND Not Detected at or above the reporting limit.
- RL PSS Reporting Limit.
- U Not detected.

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 10051024

EA Engineering, Sparks, MD

May 17, 2010

Project Name: Gude Landfill
Project Location: Rockville, MD

Sample ID: COD 1 **Date/Time Sampled: 04/29/2010 10:40** **PSS Sample ID: 10051024-001**
Matrix: SURFACE WATER **Date/Time Received: 04/29/2010 13:15**

Chemical Oxygen Demand — Analytical Method: EPA 410.4

	Result	Units	RL	Flag	Prepared	Analyzed	Analyst
Chemical Oxygen Demand	**16.6**	mg/L	5.0		05/14/10	05/14/10 13:30	4005

Sample ID: COD 2 **Date/Time Sampled: 04/29/2010 10:24** **PSS Sample ID: 10051024-002**
Matrix: SURFACE WATER **Date/Time Received: 04/29/2010 13:15**

Chemical Oxygen Demand — Analytical Method: EPA 410.4

	Result	Units	RL	Flag	Prepared	Analyzed	Analyst
Chemical Oxygen Demand	**14.3**	mg/L	5.0		05/14/10	05/14/10 13:30	4005

Sample ID: COD 3 **Date/Time Sampled: 04/29/2010 10:16** **PSS Sample ID: 10051024-003**
Matrix: SURFACE WATER **Date/Time Received: 04/29/2010 13:15**

Chemical Oxygen Demand — Analytical Method: EPA 410.4

	Result	Units	RL	Flag	Prepared	Analyzed	Analyst
Chemical Oxygen Demand	**15.7**	mg/L	5.0		05/14/10	05/14/10 13:30	4005

Sample ID: COD 4 **Date/Time Sampled: 04/29/2010 09:20** **PSS Sample ID: 10051024-004**
Matrix: SURFACE WATER **Date/Time Received: 04/29/2010 13:15**

Chemical Oxygen Demand — Analytical Method: EPA 410.4

	Result	Units	RL	Flag	Prepared	Analyzed	Analyst
Chemical Oxygen Demand	**15.7**	mg/L	5.0		05/14/10	05/14/10 13:30	4005

100510 24

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1) CLIENT: EA Engineering OFFICE LOC.: Sparks, MD
PROJECT MGR: Peter Lekas PHONE NO.: (410) 771-4950
EMAIL: plekas@eaest.com FAX NO.: (410) 771-4804
PROJECT NAME: Gude Landfill PROJECT NO.:
SITE LOCATION: Rockville, MD P.O. NO.:
SAMPLERS: Joseph Sawicki

PSS Work Order #: 1004290 PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Preservatives Used	Analysis/ Method Required (3) COD 410.4	REMARKS
1	COD 1	4/29/10	1040	SW	1	G		X	
2	COD 2	"	1024	SW	1	G		X	
3	COD 3	"	1016	SW	1	G		X	
4	COD 4	"	0920	SW	1	G		X	

(5)

	Date	Time	
Relinquished By: (1)	4/29/10	1315	Received By:
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4) Requested Turnaround Time
☒ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required:

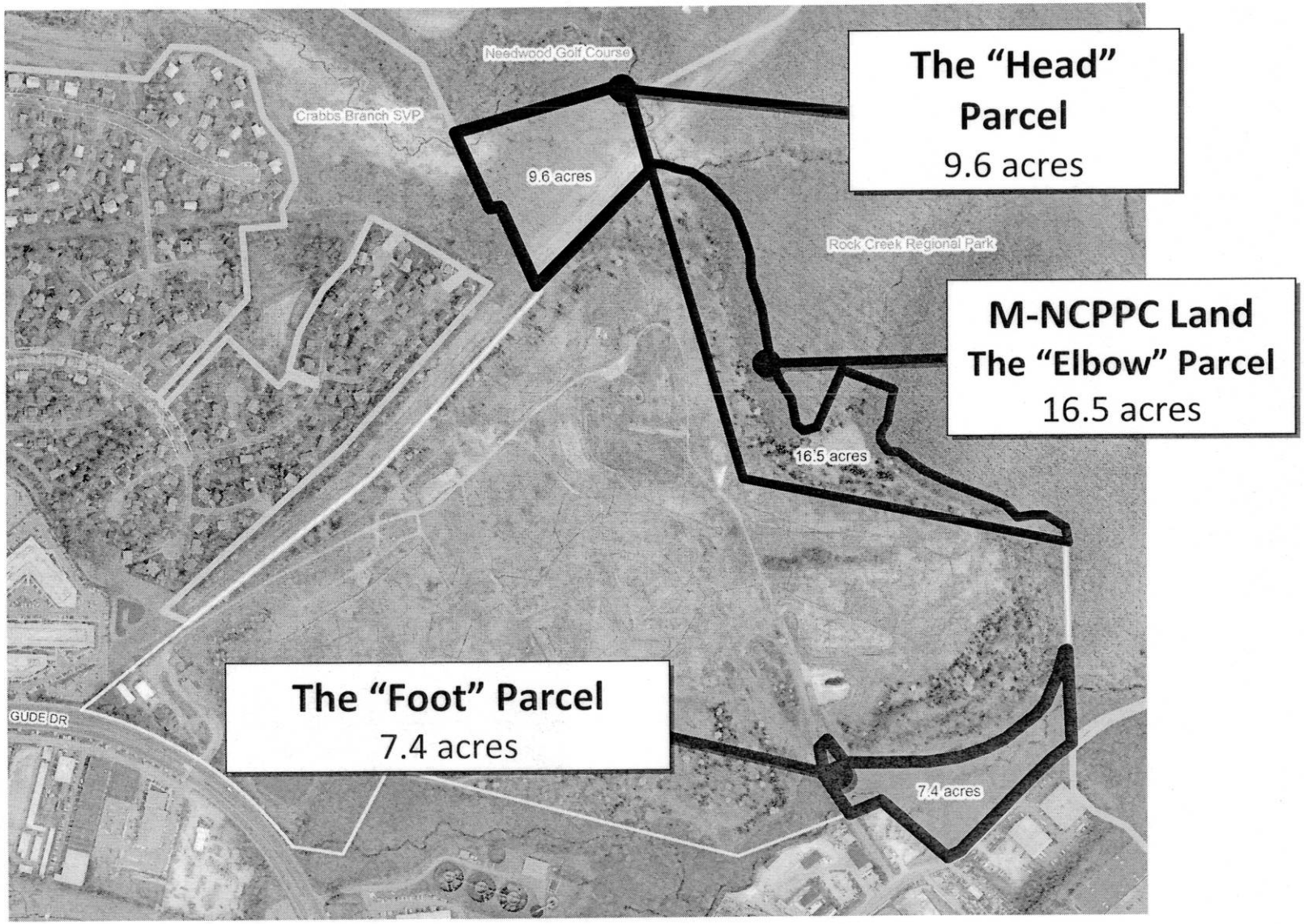
# of Coolers: 1
Custody Seal: ABS
Ice Present: Yes Temp: 12c
Shipping Carrier: CLIENT

Special Instructions:

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

ATTACHMENT 4

Proposed Land-swap



ATTACHMENT 5

Environmental Consultants

11260 Roger Bacon Drive
Suite 300
Reston, VA 20190-5282

703 471-6150
FAX 703 471-6676
www.scsengineers.com

SCS ENGINEERS

May 13, 2010
File No. 02203039.07

Mr. Steve Lezinski
Montgomery County DEP/DSWS
16101 Frederick Road
Derwood, MD 20855

Subject: Analysis of Emissions of Dioxins and Furans;
Enclosed Flare and Jenbacher Engine – Gude Landfill
Caterpillar Engine – Oaks Landfill

Dear Steve:

SCS Engineers (SCS) is pleased to submit the enclosed report regarding the analysis of the emissions of dioxins and furans from the enclosed flare and Jenbacher Engine at the Gude Landfill and the Caterpillar engine at the Oaks Landfill.

This analysis was carried out using the emission of dioxins and furans expressed as total toxic equivalents of 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) according to the results of the informational testing performed by Avogadro Environmental at Gude Landfill on November 3 - 4, 2009 and March 3, 2010 and at Oaks Landfill on November 10 - 11, 2009. The annual emissions of dioxins and furans as total toxic equivalents of 2,3,7,8-TCDD can be seen in Table 1.

As there were no screening levels for 2,3,7,8-TCDD in the Tox-a-matic spreadsheet, available from the MDE website, the annual screening level and allowable emission rate for 2,3,7,8-TCDD were calculated based on the EPA inhalation unit risk factor for 2,3,7,8-TCDD of 3.3×10^{-5} m^3/pg. The Tox-a-matic spreadsheet was run with these values.

Table 1 – Annual Emissions

Source	**Annual emissions of dioxins and furans as total toxic equivalents of 2,3,7,8-TCDD (lb/yr)**
Gude Landfill – Enclosed Flare	5.93×10^{-7}
Gude Landfill – Jenbacher Engine	1.25×10^{-7}
Oaks Landfill – Caterpillar Engine	3.61×10^{-7}

From table 1, it can be observed that the emissions from all of the sources is significantly smaller than the calculated allowable emission rate of **1.11×10^{-4}** lb/yr for 2,3,7,8-TCDD as documented in the Tox-a-matic spreadsheet.

In addition to this screening analysis, we have included a reference paper titled "Dioxin and Furan Emissions from Landfill Gas-Fired Combustion Units" by the County Sanitation Districts of Los Angeles County.

If you have any questions regarding this report, please do not hesitate to contact either of us at 703-471-6150.

Sincerely,

Raquel Henriques Flinker

Raquel H. Flinker
Staff Professional
SCS ENGINEERS

Michael Kalish

Michael Kalish, P.E.
Project Manager
SCS ENGINEERS