Prepared By: EA Engineering, Science, and Technology, Inc.
Final Prepared: 12/7/10

GUDE LANDFILL REMEDIATION

GLCC/DEP MEETING NO. 13

DATE: October 28, 2010
TIME: 7:30 PM to 9:30 PM
LOCATION: Montgomery County Transfer Station

ATTENDANCE:

Name	Organization	Designation
Bob Day	Gude Landfill Concerned Citizens (GLCC)	Member
Laszlo Harsanyi	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
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	DEP Consultant
Barb Roeper	EA Engineering, Science, and Technology, Inc.	DEP Consultant
Cynthia Cheatwood	EA Engineering, Science, and Technology, Inc.	DEP Consultant

The Meeting Agenda is included as Attachment 1.
Contact information for attendees is included as Attachment 2.
Chronology of Closed Action and Follow-up Items is included as Attachment 3.
Other Attachments are referenced within the text.

MINUTES:

1) Steve Lezinski of DEP requested approval of the minutes from GLCC/DEP Meetings No. 11 and No. 12. Julia Tillery of GLCC stated that the minutes for Meeting No. 11 are acceptable but that in her view there is no level of dioxin/furan emissions that does not have a potential health effect. Keith Ligon also requested that the last two sentences in paragraph 5) of the minutes for Meeting No. 12 be clarified. With these two qualifications GLCC accepted the minutes for both meetings.

2) EA presented the preliminary findings of the nature and extent study (included as Attachment 4). John Kumm of EA stated that the information presented in the September 2010 GLCC/DEP Meeting was revised with additional explanations and clarifications to address GLCC questions. Barb Roeper of EA explained that the measured depths to groundwater during the County semi-annual sampling conducted in September 2010 were similar to the results during EA's sampling in July 2010, so the groundwater gradient map prepared previously was still representative. Barb also explained that the groundwater analytical results from both sampling events were similar but that iso-concentration diagrams were prepared for both events to provide a graphical representation of constituent concentrations.

3) Bob Day of GLCC asked EA about the methodology used to prepare the delineation curves that separate varying (higher or lower) constituent concentrations on the iso-concentration diagrams. Barb Roeper explained that the reported concentrations for volatile organic compounds (VOCs) were totaled and are noted on the figures. The curves were drawn by mathematical triangulation and logarithmic interpolation between the constituent concentration values. The spacing of the iso-lines was based on the amount of increase/decrease in concentration, spaced over the distance to the higher/lower concentration. For example, a greater increase in concentration over a shorter distance resulted in iso-lines that were closer together.

4) Several GLCC members asked if the number of data points were sufficient to determine the extent of contamination in the Derwood Station Community. Keith Ligon stated that he thought the plan had been to install groundwater monitoring wells moving away from the landfill until only non-detects were observed. Barb Roeper stated that the addition of more groundwater wells and subsequent sampling events would probably not change the findings of the Nature and Extent Study appreciably, given the currently detected levels of constituent concentrations in the Community. However, MDE might request additional groundwater monitoring wells following the review of the Nature and Extent Study Report.

5) Dave Peterson of GLCC asked about the differences between the two iso-concentration diagrams (one based on the July sampling event and one from the September sampling event). Barb Roeper explained that slight differences in the reported concentrations resulted in slight changes in the iso-concentration lines. It was noted that both diagrams represent interpreted results, based on the reported concentrations at those particular points in time.

6) Julia Tillery of GLCC asked about the risk of landfill gas migration. John Kumm explained that the risk evaluation was focused only on the toxicity of chemicals, not the explosive hazard of landfill gas. DEP handles landfill gas migration on an on-going basis in accordance with the MDE approved Landfill Gas Monitoring Plan.

7) John Kumm pointed out that the reported concentrations from the two sampling events are summarized in the MCL exceedance table provided with the iso-concentration diagrams.

8) Julia Tillery asked why only VOC concentrations were included in the iso-concentration diagrams and metals were not included. Barb Roeper explained that there were much fewer locations where metals were reported in concentrations exceeding MCLs, so that an iso-concentration diagram would not be an effective way to represent the data. In addition, the VOCs are most representative of waste decomposition products.

9) Bob Day asked if additional flow direction arrows could be added to the groundwater gradient diagram to show the minor flow components. Nick Radonic of GLCC pointed out that, as with topographical contour lines, the separation between groundwater gradient lines indicates the steepness of the gradient. It was agreed that the additional flow component arrows would be added to the diagram.

10) Keith Ligon of GLCC commented that the preliminary findings handout contained a statement that the results of the most recent sampling events were consistent with historical data. Given that there

is an apparent upward trend in some of the earlier data, he asked whether any inferences could be made about historical and future data trends within the Derwood Station Community area. Barb Roeper explained that the previous data's variability has been in a fairly narrow band within relatively the same order of magnitude of constituent concentrations. Therefore, it is likely that the concentrations within the Community have also been within the same relative order of magnitude of the current data. In the future, a similar magnitude of data variability is expected to continue.

11) Cynthia Cheatwood of EA explained the risk evaluation procedures performed by EA, including the central fact that there is only potential risk for complete exposure pathways. She reviewed the Human Health and Ecological Risk Screening Results (as provided in Attachment 5) and reiterated the conclusion that based on the data that have been gathered and EA's analysis; there are no concerns for human health and ecological receptors from the landfill.

12) Bob Day asked about EA's final conclusions. John Kumm replied that the health risk conclusions presented with the preliminary findings are essentially final.

13) Julia Tillery pointed out that with the known underground contamination, Derwood Station residents will never be able to drill groundwater wells on their property. Peter Karasik of DEP pointed out that permits would not be issued for installation of private groundwater wells within the service territory of the Washington Suburban Sanitary Commission (WSSC), regardless of groundwater quality.

14) Keith Ligon asked about the limits on land use in Derwood Station based on the findings. Cynthia Cheatwood reviewed the different exposure scenarios in the risk evaluation and how they related to different types of activities.

15) Keith Ligon commented that the news about no significant risk to the Derwood Station Community is good.

16) Julia Tillery commented that she is still concerned that the County has caused contamination of the groundwater under the Derwood Station Community.

17) Keith Ligon asked whether EA could estimate property value impact of this contamination. John Kumm stated that EA could not provide legal or commercial opinions on the matter. He stated that EA's role was to provide objective analysis to the County and GLCC concerning the impacts of the landfill, and that with the results obtained EA had no professional or ethical obligation to report the findings outside of the DEP/GLCC meetings.

18) Keith Ligon asked about the possible remediation alternatives. John Kumm stated that in addition to MDE's presumptive remedy of capping the landfill, there could be more targeted or localized approaches.

19) Bob Day asked about the possibility of a partial cap on the Derwood Station side of the landfill. Steve Lezinski commented that focusing on the northwest slope of the landfill is likelihood for several remedial alternatives.

20) Barb Roeper commented that the construction associated with any remedial action would significantly impact the existing topography, resources, and the landfill gas collection system.

21) John Kumm commented that the current situation is in itself a remedial action with respect to waste decomposition and landfill gas in that, without a cap, precipitation infiltrates the landfill and accelerates waste decomposition. The resulting landfill gas is being actively extracted and burned. Capping the landfill may retard this process. Leachate is also generated with the infiltration of precipitation into the waste mass.

22) Bob Day asked about the assessment of a particular remedial action with respect to the action achieving its intended goals. Barb Roeper explained that post-remedial action monitoring is a required part of this type of project.

23) Keith Ligon requested that EA prepare a summary of the project, including background, current status, and future activities to complete the nature and extent study, to be distributed to Derwood Station residents by the HOA Presidents. Steve Lezinski agreed that EA would prepare a draft summary for DEP to review and forward to GLCC. Peter Karasik acknowledged that full disclosure of all investigation findings will be shared with MDE and the Community.

24) Dave Peterson asked about the applicability of 40 CFR Part 258 Subpart E. EA agreed to review this citation and advise DEP.

25) Steve Lezinski advised the group that MDE had approved the emergency storm debris management and leaf transport operations at the landfill, if capacity at the Shady Grove Transfer Station is exceeded. Documentation is provided in Attachment 6. Bob Day noted that there are time restrictions for these operations.

26) Following the meeting, Steve Lezinski provided Julia Tillery an update on the methane mitigation plan on the N.W. Slope of the landfill. Documentation is provided in Attachment 7.

27) The next DEP/GLCC meeting is scheduled for Thursday, November 18, 2010.

Open Action and Follow-up Items

11-2 GLCC inquired if the County had investigated the potential for a Brownfields Grant for the Remediation/Land Reuse project. The County has not to date.
Status: Open

Recently Closed Action and Follow-up Items

12-1 Using the risk evaluation methodology, EA will back calculate contaminant concentrations that would represent a human risk concern for vapor intrusion from groundwater into indoor air.

Status: Closed

New Action and Follow-up Items

13-1 EA will revise the last two sentences in paragraph 5) of the minutes for Meeting No. 12 to clarify the concept.
Status: Open

13-2 EA will prepare and submit to DEP for review a summary of the project status including background, status, and the remaining activities to complete the project. The HOA Presidents will distribute this summary to Derwood Station residents.
Status: Open

13-3 EA will research the applicability of 40 CFR Part 258 Subpart E and report back to DEP and GLCC.
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.

ATTACHMENT 1

Gude Landfill Remediation
Gude Landfill Concerned Citizens
Monthly Meeting No. 13

Meeting Agenda

1. **Review and Approval of GLCC/DEP Meeting Minutes (Meeting No. 11)**

2. **Review and Approval of GLCC/DEP Meeting Minutes (Meeting No. 12)**

3. **Nature and Extent Study**
   a. Groundwater, Surface Water and Soil Monitoring
      - Summary Handout – incorporates EA (July 2010) and County (September 2010) groundwater sampling events, sampling methodology, MCL exceedences, and surface water/surface soil/subsurface soil monitoring is also presented. etc.
      - Trend Plots of MCL exceedences will be provided on CD
      - Comparison to historical results and to each sampling event is presented
      - Groundwater Contour (Flow) Map is presented
      - Groundwater Total VOC Isoconcentration Map of contaminants is presented

   b. Risk Evaluation
      - Summary Handout – incorporates risk evaluation methodology, industry standards and human health/ecological risk screening values and results as they pertain to groundwater, surface water, surface soil and subsurface soil
      - Back calculation of groundwater contaminant concentrations that would present human health risks are also presented
      - Human Health Conceptual Site Model is presented
      - Ecological Risk Conceptual Site Model is presented

4. **Current Gude Landfill Operations**
   a. Operational Updates, Page 2 of Agenda:
      - Leaf Collection/Storm Debris Management
      - Landfill Gas Monitoring
   b. Post-Closure Care Operations as necessary – landfill gas & stormwater management, leachate seep repair, perched groundwater pumping, cover system repairs, etc.

5. **Next Meeting/Action Items**
   a. To Close
      - 12-1 – EA back calculation of contaminant concentrations that would present human health risk
   b. New Actions Items from Meeting
      -
      -

Gude Landfill Remediation
Gude Landfill Concerned Citizens
Monthly Meeting No. 13

Meeting Agenda

Leaf Collection/Storm Debris Management (see summary handout)

a. MDE Approval 10/22/10 Letter – use of the 0.5 acre concrete pad area at the Gude Landfill is permitted during the 8-12 week period of leaf collection and during severe storm events.
b. MDE Approved Transfer Station Operations Plan 10/7/10 rev., Pgs. 9-11 – operational hours at the Gude Landfill for referenced activities are 7:00 am to 8:00 pm (Mon-Fri) with some Saturdays envisioned. Sunday operations are not typical.
c. No night time operations will occur at the Gude Landfill except in emergency situations with MDE approval.
d. Stormwater – standard stormwater inlet protection measures will be implemented for inlets on the concrete pad and along incinerator lane. Such measures include the placement of filter fabric and stone at the entry point to the inlet to filter out any sediment material that is carried within the surface runoff.

Landfill Gas Monitoring (see summary handout)

a. The Gude Landfill has seventeen (17) landfill gas monitoring wells that are located along the northwest and southern property boundaries. The regulatory threshold for methane concentrations at the property boundary is 5.00% by volume.
b. Landfill Gas Monitoring is performed weekly by DEP (since 2005) and weekly to monthly by SCS Engineers with a portable gas analyzer (Landtec Gem) that has an internal pump. The analyzer is attached to the monitoring probe, the pump is activated, gas is drawn from the probe on a continuous interval and analyzed for % methane, carbon dioxide and oxygen. The pump is active for ~1 minute to obtain an initial gas reading (peak) and up to ~3 minutes to obtain a stable gas reading (level), which is the recorded value.
c. Monitoring Results – many of the monitoring wells have no detections of methane. However, there are some wells that have consistently had methane exceedences over the last 9 months. Exceedences are noted at W-02, W-05, W-06 and W-26.
d. Well field adjustments (increased vacuum) and small scale dewatering efforts (pumping of perched groundwater) have helped, but only in localized areas for periods of time.
e. Pumping of perched groundwater may continue all winter on a larger scale with MDE approval including the installation of permanent dewatering sumps and additional gas extraction wells. Other corrective measures may also be evaluated.

ATTACHMENT 2

Date	October 28, 2010	Meeting No. 13
Time	7:30 -9:00 PM	
Meeting	Gude Landfill Remediation: GLCC/DEP	

Name	Affiliation	Phone	Email	Address
Stephen Lezinski	DEP	240-777-6590	Steve.Lezinski@montgomerycountymd.gov	16101 Frederick Rd Derwood, MD 20855
Peter Karasik	DEP	240-777-6569	peter.karasik@montgomerycountymd.gov	16101 Frederick Rd. Derwood, MD 20855
DAVE PETERSON	GLCC	301-921-6357	kmpdhp@comcast.net	7612 Anamosa Way Derwood, MD 20855
Cynthia Cheadwood	EA	410 771 4950	ccheadwood@eaest.com	
Barb Roeper	EA	410 329 5150	broeper@eaest.com	
John Kumm	EA	410-329-5141	jkumm@eaest.com	15 Layton Circle Sparks, MD 21152
KEITH LUGUN	GLCC	301 340 3358	KLUGUNFAMILY@verizon.net	15701 MONTANA CT
LASZLO HARSANYI	DS2/GLCC	301-651-7596	LASZLOH@COMCAST.NET	7228 TITONKA WAY
Julia Tillery	GLCC	202.329.8740	julia@tilleryoffice.com	15461 Indianola Dr.
Dick Radcliffe	"	240-888-9990	big.rad@gmail.com	15408 Indianola Dr.
BOB DAY	GLCC	301-294-3272	bobcarolday@yahoo.com	128 GRINNELL DRIVE

ATTACHMENT 3

Chronology of Closed Action and Follow-up Items
as of
GLCC/DEP Meeting No. 13

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.

Chronology of Closed Action and Follow-up Items
as of
GLCC/DEP Meeting No. 13

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: Closed. Received by County on August 6, 2010. County to post on remediation webpage.

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: Closed. Completed June 2010.

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: Closed. DEP will post on the Remediation webpage.

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: Closed. During Meeting No. 11, GLCC provided the County guidance on preferred end uses from the Community for the Gude Landfill site.

Chronology of Closed Action and Follow-up Items
as of
GLCC/DEP Meeting No. 13

11-1 GLCC requested Bob Hoyt, Director of DEP to attend the next GLCC/DEP monthly meeting on September 15, 2010 to discuss the Request for Expression of Interest (REOI).
Status: Closed.

12-1 Using the risk evaluation methodology, EA will back calculate contaminant concentrations that would represent a human risk concern for vapor intrusion from groundwater into indoor air.
Status: Closed

ATTACHMENT 4

Gude Landfill Nature and Extent Study
28 October 2010 - GLCC Meeting

SAMPLING AND ANALYSIS – PRELIMINARY FINDINGS

Sampling Methodology

- Permitting for new monitoring wells: May 3 – May 28, 2010
  Drilling, installation and development of new monitoring wells: June 3 – July 16, 2010
  Full round (new and existing wells) of groundwater sampling: July 26 – August 2, 2010
- During completion of the monitoring well boreholes, soil sampling was conducted via continuous split-spoon samples. One sample from each of the 16 new monitoring well borings was submitted for laboratory analysis.
- Following installation and development of the wells, groundwater sampling was conducted at the 16 new monitoring wells and 20 existing monitoring wells.
- Ten surface water samples, including five existing surface water sampling locations and five new surface water sampling locations, were collected from offsite streams around the perimeter of the Landfill.
- Eleven surface soil samples were collected to assess the surface soil along the Derwood Station South property boundary, in the northern portion of the site, near the men's shelter, and near the model airplane flying area.
- In accordance with the MDE-approved monitoring plan, DEP conducted the second annual sampling event for 2010 in September. Groundwater samples were collected from the 20 existing monitoring wells, as well as the 16 new monitoring wells. Surface water samples were collected at 5 locations.

Regulatory Standards

- U.S. Environmental Protection Agency (EPA) Safe Drinking Water Act Maximum Contaminant Levels (MCLs) were established by the MDE as the appropriate regulatory guidance for Gude Landfill.
- The regulatory applicability of MCLs to this site is contained in Code of Maryland Regulations (COMAR) 26.08.02, which establishes the MCLs listed in COMAR 26.04.01 as the groundwater quality criteria for Maryland.

Groundwater

- Groundwater elevation data collected during the two sampling events indicate an easterly flow direction with flow components to the northeast in the northeast portion of the site and to the southeast in the southeast portion of the site. A minor radial flow component to the north was noted along the northwest landfill boundary, in the vicinity of MW-7 and MW-8. There is an inferred groundwater divide along the eastern property boundary (near airplane park). A groundwater contour map was prepared based on the July 2010 sampling event and is included for reference.
- The reported concentrations in groundwater samples that exceeded U.S. EPA MCLs were consistent with historical concentrations from existing wells.
- MCL exceedances were reported in groundwater samples from the following new wells:
  - MW-6 – vinyl chloride, beryllium (September only), cadmium (September only)
  - MW-7 – vinyl chloride (July only)

  - MW-9 – chromium (July only), tetrachloroethene (PCE)
  - MW-10 – chromium (September only)
  - MW-11A – chromium (September only)
  - MW-13A – 1,2-dichloropropane (July only), cis-1,2-dichloroethene, methylene chloride, PCE, trichloroethene (TCE), vinyl chloride
  - MW-13B – 1,2-dichloropropane, benzene, cis-1,2-dichloroethene, methylene chloride, PCE, TCE, vinyl chloride
- MCL exceedances in the new wells were consistent with historical data from nearby existing wells. An MCL comparison table was prepared for the July 2010 sampling event and the DEP's September 2010 sampling event.
- A Total VOC (volatile organic compound) Isoconcentration Map is provided for each of the two referenced sampling events. The areas of highest VOC concentrations are located in the northern tip of the landfill property (east of Derwood Station) and along the southern property boundary near wells OB-11, OB-11A and OB-12.
- Updated MCL trend graphs, for each well with an MCL exceedance, are provided. The trends vary between decreasing, stable and increasing, depending on the well and constituent. Based on the consistency of historical data collected to date, the trends are expected to remain generally the same for future sampling events.

Surface Water (July 2010)

- Reported concentrations in surface water samples generally did not exceed the MDE residential groundwater cleanup standard. The reported concentration of cobalt exceeded the residential cleanup standard at SW-3; however, the risk evaluation indicates no human health concerns for contact with surface water at this location and other surface water sampling locations.

Surface Soil (July 2010)

- Reported concentrations in surface soil samples generally did not exceed the residential soil cleanup standards other than metals, which were consistent with background levels published by MDE. The reported concentration of PCBs exceeded the residential cleanup standard at SS-3; however, the risk evaluation indicates no human health concerns for contact with surface soil at this location and other surface soil sampling locations.

Subsurface Soil (July 2010)

- Reported concentrations in subsurface soil samples generally did not exceed Maryland Department of the Environment (MDE) residential soil cleanup standards other than metals, which were consistent with background levels published by MDE (*State of Maryland, Department of the Environment, Cleanup Standards for Soil and Groundwater*, June 2008). Polychlorinated biphenyls (PCB) were reported in concentrations exceeding the residential cleanup standard in MW-4; however, the risk evaluation indicates no human health concerns for contact with subsurface soil at this location and other subsurface soil sampling locations.

GUDE LANDFILL MCL COMPARISON TABLE
28 October 2010 - GLCC Meeting

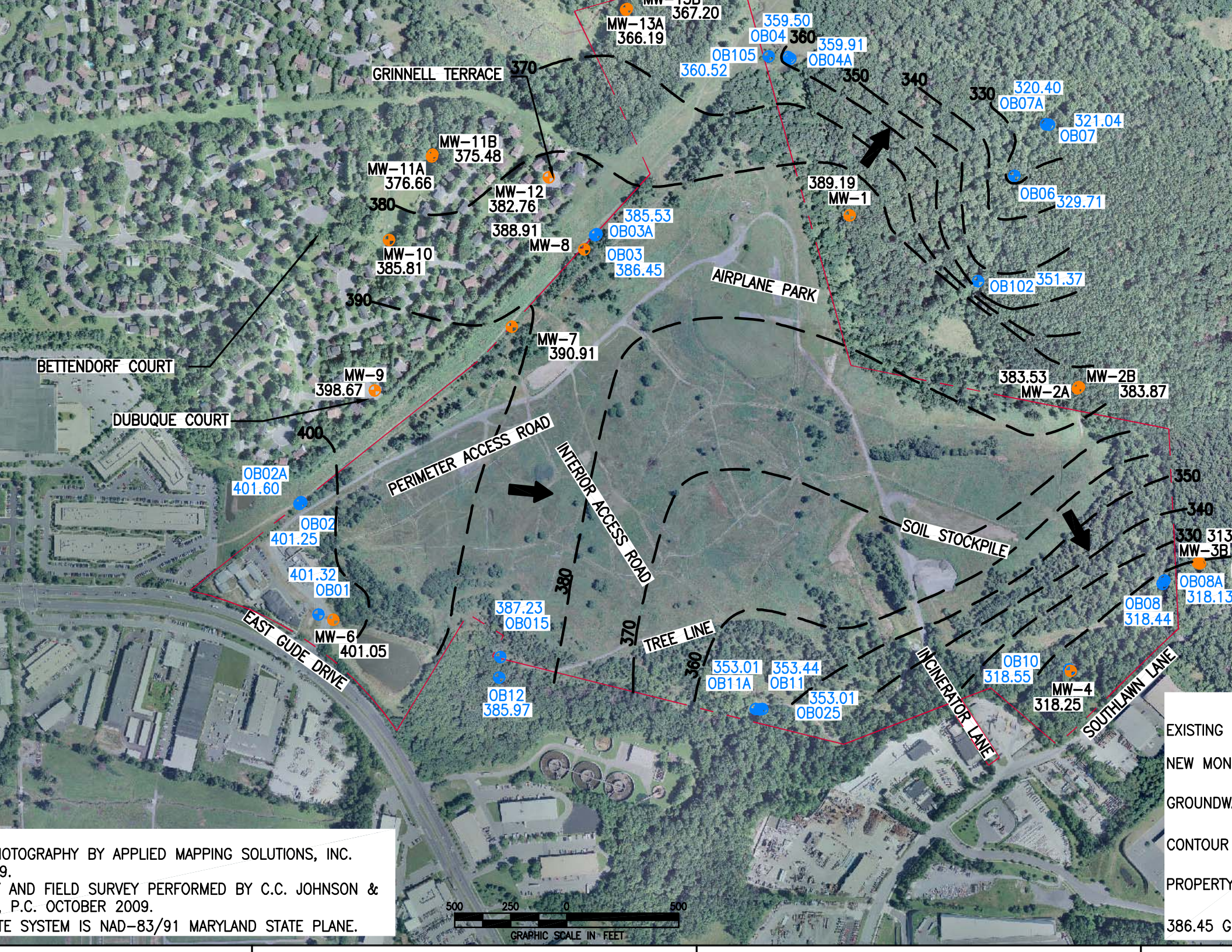
			Reported Concentration		
Location	Parameter	*MCL*	July 2010	September 2010	Units
MW-6	Beryllium, total	*0.004*	0.001 U	**0.007**	mg/L
MW-6	Cadmium, total	*0.005*	0.001 U	**0.008**	mg/L
MW-6	Vinyl Chloride	*2*	**7**	2 U	µg/L
MW-7	Vinyl Chloride	*2*	**5**	2 U	µg/L
MW-9	Chromium, total	*0.1*	**0.140**	0.059	mg/L
MW-9	Tetrachloroethene	*5*	**14**	**9**	µg/L
MW-10	Chromium, total	*0.1*	0.007	**0.125**	mg/L
MW-11A	Chromium, total	*0.1*	0.021	**0.144**	mg/L
MW-13A	1,2-Dichloropropane	*5*	**6**	2 U	µg/L
MW-13A	cis-1,2-Dichloroethene	*70*	**100**	**77**	µg/L
MW-13A	Methylene Chloride	*5*	**10**	**8**	µg/L
MW-13A	Tetrachloroethene	*5*	**35**	**22**	µg/L
MW-13A	Trichloroethene	*5*	**33**	**27**	µg/L
MW-13A	Vinyl Chloride	*2*	**8**	**11**	µg/L
MW-13B	1,2-Dichloropropane	*5*	**9**	**7**	µg/L
MW-13B	Benzene	*5*	**6**	**6**	µg/L
MW-13B	cis-1,2-Dichloroethene	*70*	**140**	**101**	µg/L
MW-13B	Methylene Chloride	*5*	**11**	**9**	µg/L
MW-13B	Tetrachloroethene	*5*	**38**	**23**	µg/L
MW-13B	Trichloroethene	*5*	**38**	**32**	µg/L
MW-13B	Vinyl Chloride	*2*	**13**	**17**	µg/L
OB01	Vinyl Chloride	*2*	**4**	**5**	µg/L
OB015	Vinyl Chloride	*2*	**3**	**10**	µg/L
OB025	1,2-Dibromo-3-chloropropane	*0.2*	10 U	**143**	µg/L
OB025	Vinyl Chloride	*2*	**3**	**4**	µg/L
OB03	1,2-Dibromo-3-chloropropane	*0.2*	10 U	**1.5 J**	µg/L
OB03	1,2-Dichloropropane	*5*	**13**	**10**	µg/L
OB03	Benzene	*5*	**6**	**4.24**	µg/L
OB03	cis-1,2-Dichloroethene	*70*	**160**	**117**	µg/L
OB03	Tetrachloroethene	*5*	**28**	**11**	µg/L
OB03	Trichloroethene	*5*	**92**	**82**	µg/L
OB03	Vinyl Chloride	*2*	**23**	**28**	µg/L
OB03A	1,2-Dichloropropane	*5*	**10**	**11**	µg/L
OB03A	cis-1,2-Dichloroethene	*70*	**110**	**98**	µg/L
OB03A	Tetrachloroethene	*5*	**15**	**18**	µg/L
OB03A	Trichloroethene	*5*	**70**	**19**	µg/L
OB03A	Vinyl Chloride	*2*	**18**	**24**	µg/L

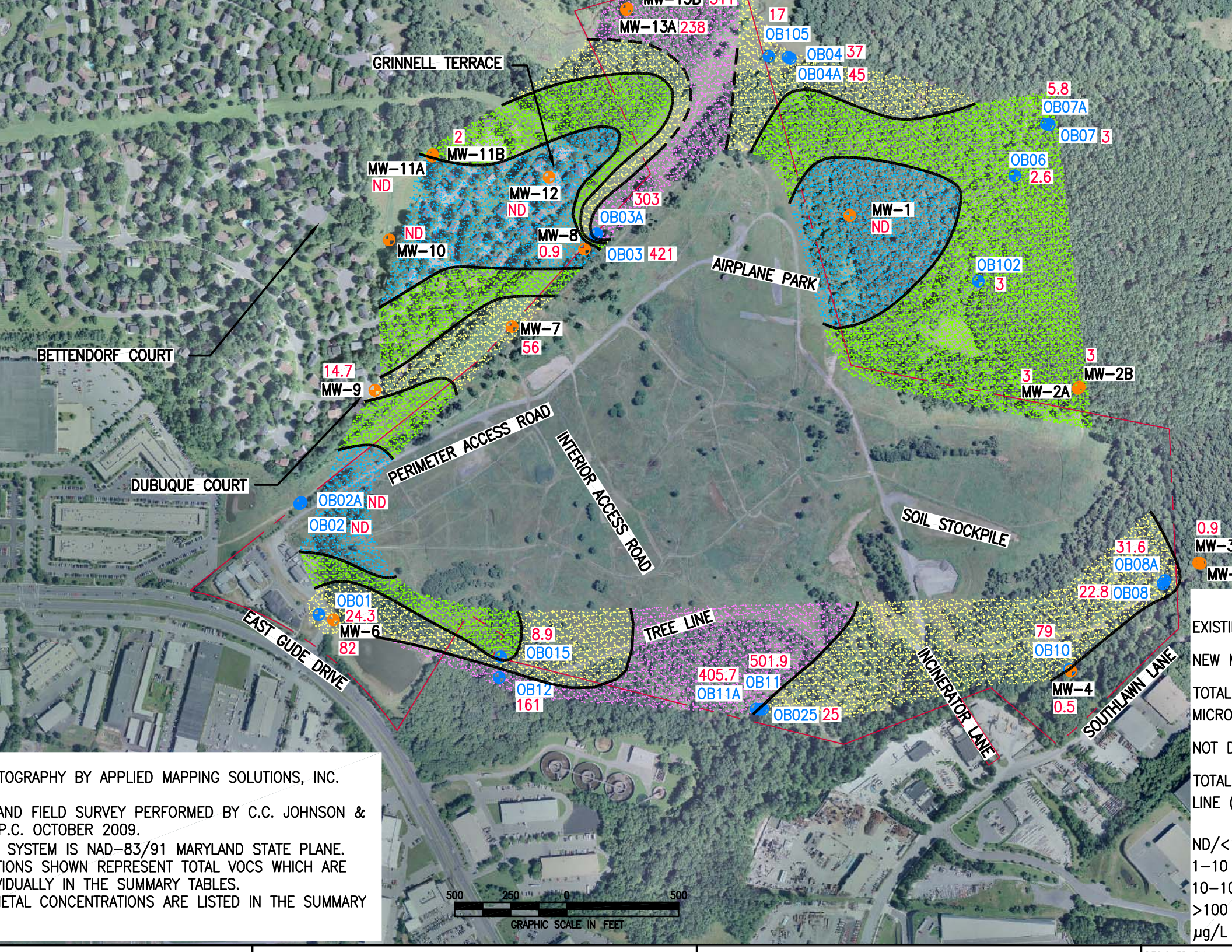
Notes:
µg/L equivalent to ppb
mg/L equivalent to ppm
U = not detected
J = detected below laboratory practical quantitation limit

GUDE LANDFILL MCL COMPARISON TABLE
28 October 2010 - GLCC Meeting

			Reported Concentration		
Location	Parameter	*MCL*	July 2010	September 2010	Units
OB04	Vinyl Chloride	*2*	2	**2.2**	µg/L
OB04A	Vinyl Chloride	*2*	2	**3**	µg/L
OB06	Chromium, total	*0.1*	0.025	**0.127**	mg/L
OB08	Vinyl Chloride	*2*	**3**	**3**	µg/L
OB08A	Vinyl Chloride	*2*	**3**	**5**	µg/L
OB10	Trichloroethene	*5*	**16**	**13**	µg/L
OB10	Vinyl Chloride	*2*	**7**	**12**	µg/L
OB105	Arsenic, total	*0.01*	0.0052	**0.0109**	mg/L
OB105	Mercury, total	*0.002*	0.0013	**0.0031**	mg/L
OB105	Vinyl Chloride	*2*	1 U	**3.03**	µg/L
OB11	1,2-Dichloropropane	*5*	**8**	**6**	µg/L
OB11	Benzene	*5*	**8**	**8**	µg/L
OB11	Cadmium, total	*0.005*	**0.010**	**0.009**	mg/L
OB11	cis-1,2-Dichloroethene	*70*	**210**	**74**	µg/L
OB11	Mercury, total	*0.002*	**0.0035**	**0.0025**	mg/L
OB11	Methylene Chloride	*5*	**28**	**24**	µg/L
OB11	Tetrachloroethene	*5*	**58**	**20**	µg/L
OB11	Trichloroethene	*5*	**48**	**34**	µg/L
OB11	Vinyl Chloride	*2*	**13**	**21**	µg/L
OB11A	1,2-Dichloropropane	*5*	**7**	4	µg/L
OB11A	Benzene	*5*	**7**	4	µg/L
OB11A	cis-1,2-Dichloroethene	*70*	**180**	**82**	µg/L
OB11A	Methylene Chloride	*5*	3	**5.5**	µg/L
OB11A	Tetrachloroethene	*5*	**46**	**11**	µg/L
OB11A	Trichloroethene	*5*	**41**	**22**	µg/L
OB11A	Vinyl Chloride	*2*	**15**	**32**	µg/L
OB12	1,2-Dichloropropane	*5*	**7**	**6**	µg/L
OB12	Methylene Chloride	*5*	**9**	**8**	µg/L
OB12	Tetrachloroethene	*5*	**29**	**17**	µg/L
OB12	Trichloroethene	*5*	**22**	**20**	µg/L
OB12	Vinyl Chloride	*2*	**4**	**6**	µg/L

Notes:
µg/L equivalent to ppb
mg/L equivalent to ppm
U = not detected
J = detected below laboratory practical quantitation limit


MW-13A
366.19
367.20
359.50
OB04
360
359.91
OB04A
OB105
360.52
GRINNELL TERRACE
370
350
340
330
320.40
OB07A
321.04
OB07
MW-11B
375.48
MW-11A
376.66
MW-12
382.76
380
389.19
MW-1
OB06
329.71
385.53
OB03A
388.91
MW-8
MW-10
385.81
OB03
386.45
AIRPLANE PARK
OB102
351.37
390
MW-7
390.91
BETTENDORF COURT
MW-9
398.67
383.53
MW-2A
MW-2B
383.87
DUBUQUE COURT
400
PERIMETER ACCESS ROAD
INTERIOR ACCESS ROAD
OB02A
401.60
350
340
SOIL STOCKPILE
OB02
401.25
330
313
MW-3B
401.32
OB01
OB08A
318.13
OB08
318.44
387.23
OB015
380
370
TREE LINE
EAST GUDE DRIVE
MW-6
401.05
360
353.01
OB11A
353.44
OB11
OB10
318.55
INCINERATOR LANE
MW-4
318.25
SOUTHLAWN LANE
OB12
385.97
353.01
OB025
EXISTING
NEW MON
GROUNDW
CONTOUR
PROPERTY
386.45 G
IOTOGRAPHY BY APPLIED MAPPING SOLUTIONS, INC.
9.
AND FIELD SURVEY PERFORMED BY C.C. JOHNSON &
P.C. OCTOBER 2009.
TE SYSTEM IS NAD-83/91 MARYLAND STATE PLANE.
500
250
0
500
GRAPHIC SCALE IN FEET



TOGRAPHY BY APPLIED MAPPING SOLUTIONS, INC.

AND FIELD SURVEY PERFORMED BY C.C. JOHNSON & P.C. OCTOBER 2009.

SYSTEM IS NAD-83/91 MARYLAND STATE PLANE.

TIONS SHOWN REPRESENT TOTAL VOCS WHICH ARE VIDUALLY IN THE SUMMARY TABLES.

ETAL CONCENTRATIONS ARE LISTED IN THE SUMMARY

EXISTI

NEW

TOTAL

MICRO

NOT D

TOTAL

LINE

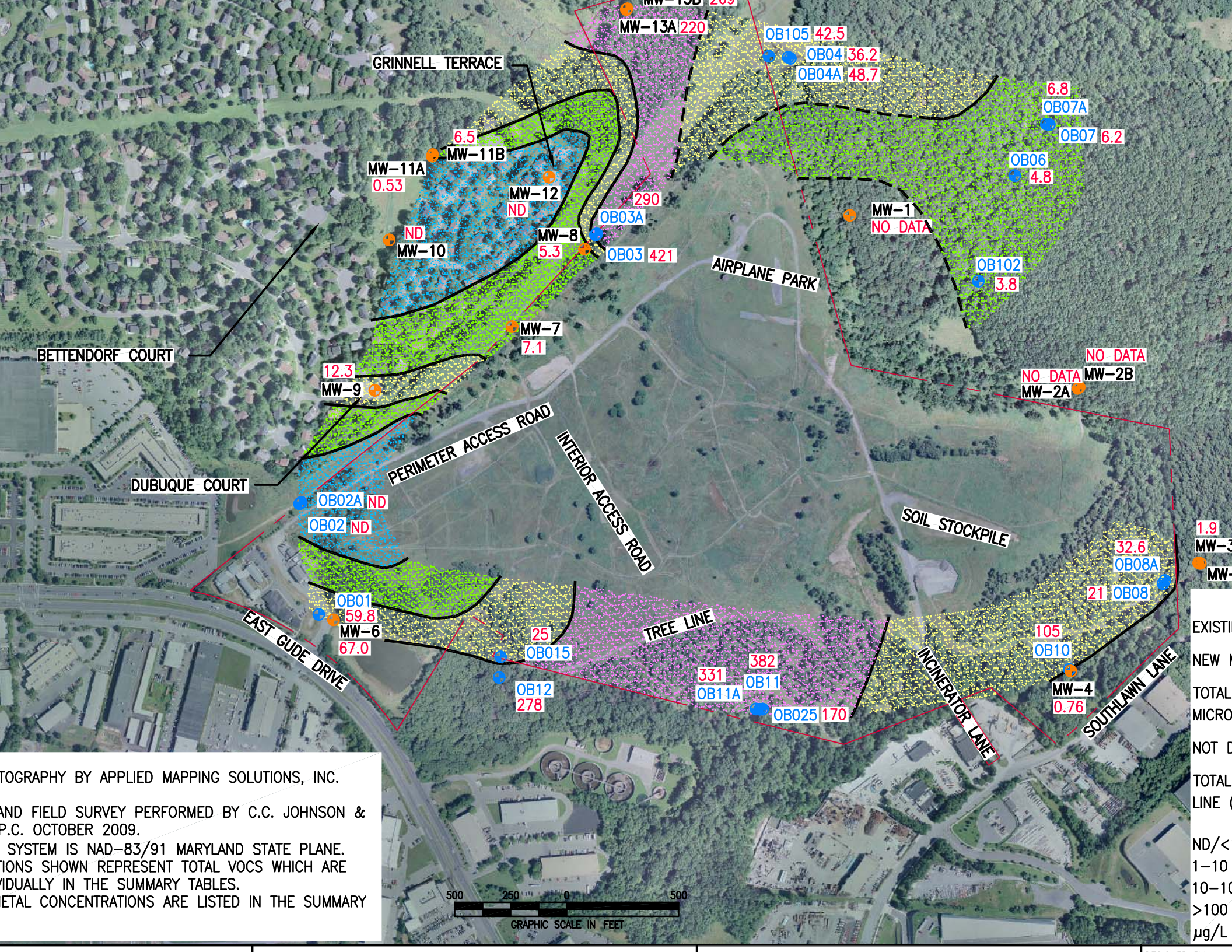
ND/<

1-10

10-10

>100

µg/L



TOGRAPHY BY APPLIED MAPPING SOLUTIONS, INC.

AND FIELD SURVEY PERFORMED BY C.C. JOHNSON & P.C. OCTOBER 2009.

SYSTEM IS NAD-83/91 MARYLAND STATE PLANE.

TIONS SHOWN REPRESENT TOTAL VOCS WHICH ARE VIDUALLY IN THE SUMMARY TABLES.

METAL CONCENTRATIONS ARE LISTED IN THE SUMMARY

EXISTI

NEW M

TOTAL MICRO

NOT D

TOTAL LINE (

ND/<
1-10
10-10
>100
µg/L

ATTACHMENT 5

Gude Landfill Nature and Extent Study
28 October 2010 - GLCC Meeting

HUMAN AND ECOLOGICAL RISK EVALUATION – PRELIMINARY FINDINGS

Risk Screening Methodology

- Identify media of concern and potential receptors.
- Formulate complete exposure pathways. A complete exposure pathway requires the following four components:
    - a source and mechanism of chemical release to the environment,
    - a transport medium for the released chemical,
    - a point of potential contact with a medium containing chemicals, and
    - an exposure route (e.g., ingestion or dermal absorption) at the point of exposure.
- These steps are presented in the Human Health and Ecological Conceptual Site Models (CSMs).
- The following are identified as complete exposure pathways:
    - Groundwater - the inhalation of volatiles that migrate into indoor air spaces (i.e., basements or slabs) for residents living in Derwood Station or the men's shelter.
    - Surface water – recreational user incidental ingestion and dermal (skin) contact with surface water. Ecological receptors (aquatic organisms, birds, and mammals) biouptake of, and dermal contact with, surface water.
    - Surface soil – recreational user, site worker, and residents of men's shelter incidental ingestion, dermal (skin) contact with, and inhalation of, particulates from soil. Ecological receptors (terrestrial invertebrates, birds, and mammals) ingestion and dermal contact with soil.
    - Subsurface soil – site worker and residents within Derwood Station incidental ingestion, dermal (skin) contact with, and inhalation of particulates from soil.
    - Surface soil/surface water – ecological receptors (birds and mammals) ingestion of prey/vegetation within surface soil and surface water.
- Based upon complete exposure pathways, maximum reported concentrations of detected chemicals within each media of concern are compared to selected screening values.
- Screening values are set forth by either Maryland Department of the Environment (MDE) or the U.S. Environmental Protection Agency (EPA) and are meant to be conservative values for which no concerns exist for chemicals below these values.
- If the screening comparison revealed a potential concern, the site would be evaluated further in a risk assessment. The risk assessment would take into account site-specific exposures and a mean chemical concentration in the evaluation.

Regulatory Standards

- For human health, the MDE has set forth Cleanup Standards for Soil and Groundwater (available at the following website: http://www.mde.state.md.us/assets/document/Final%20Update%20No%202.1%20dated%205-20-08(1).pdf).

- For ecological receptors, surface water ecological screening values are set forth by the U.S. EPA Region 3 Biological Technical Advisory Group (BTAG) (available at: http://www.epa.gov/reg3hwmd/risk/eco/btag/sbv/fw/R3_BTAG_FW_Benchmarks_07-06.pdf).
- For ecological receptors exposure to surface soil, the U.S. EPA EcoSSL (Ecological Soil Screening Levels) are used (available online at http://www.epa.gov/medecotx/ecossl/).

Human Health Risk-Based Screening

- Based upon the Human Health CSM, media of concern include surface soil, subsurface soil, groundwater, and surface water.
- Receptors of concern include recreational users, site workers, residents of the men's shelter, and Derwood Station residents.
- MDE presents two types of receptors for soil: residential and non-residential.
- Residential clean-up soil standards represent a person (child or adult) living in the area where samples are collected for an average of 30 years. This receptor represents recreational users and residents of the men's shelter. These criteria provide a conservative risk screening for residents within the Derwood Station development, whose use of the site would be limited to recreational purposes.
- Non-residential clean-up soil standards represent site workers (e.g., County employees or contractors) who maintain the facility or perform other functions. These criteria apply to full-time workers who work at the site year round.
- The soil clean-up standards assume a person would ingest soil, have dermal (skin) contact with soil, and inhale soil particulates.
- MDE also provides typical concentrations of metals in Maryland soils that are representative of "background" concentrations.
- Groundwater clean-up standards assume that groundwater is used as a potable water supply, including drinking, cooking, and potential inhalation of volatiles present in the water supply. Note that the Derwood Station Community is supplied with municipal water.
- MDE clean-up standards are calculated using U.S. EPA methodology.
- Direct contact screening values are not available for surface water.
- Typical industry standard methodology includes use of groundwater screening values for surface water.
- The MDE Cleanup Standards for groundwater are a conservative risk screen for surface water because exposure to surface water is significantly less than a potable water supply.

Human Health Risk Screening Results

- Groundwater samples – detected concentrations represent a potential human health concern if used as a potable water supply.
- Groundwater samples – detected volatile organic compound (VOC) concentrations in the Derwood Station monitoring wells do not represent a human health concern from indoor air (vapor intrusion) inhalation.

- Groundwater samples – detected VOC concentrations in the monitoring wells closest to the men's shelter do not represent a human health concern from indoor air (vapor intrusion) inhalation.
- Surface water samples - detected concentrations do not present human health concerns for contact with surface water.
- Surface and subsurface soil samples - reported concentrations are consistent with MDE-published background levels.
- Surface soil samples - reported concentrations do not present human health concerns for contact with surface soil.
- Subsurface Soil samples - reported concentrations do not present human health concerns for contact with subsurface soil.

Human Health Risk-Based Concentrations

- The only complete human health exposure pathway for contact with groundwater is the inhalation of VOCs within indoor air (i.e., basements, crawl spaces).
- The indoor air pathway is evaluated through the use of the U.S. EPA Johnson and Ettinger Model (available at: http://www.epa.gov/oswer/riskassessment/airmodel/johnson_ettinger.htm).
- The model evaluates potential vapor intrusion from wells within the Derwood Station community and evaluates long-term effects.
- The following groundwater concentrations are calculated that may present a concern for this pathway:

Chemical	Groundwater Concentration (µg/L or ppb)
Benzene	118
Cis-1,2-Dichloroethene	2,000
1,2-Dichloropropane	191
Methylene Chloride	3,850
Tetrachloroethene	68
Trichloroethene	298
Vinyl Chloride	16

- The groundwater concentrations in the table above represent a level at which additional evaluation would be needed, not necessarily an immediate concern for human health.

Ecological Screening Values

- Based upon the Ecological CSM, media of concern include two media, surface soil and surface water.
- For surface soil, the maximum reported concentrations of chemicals are compared to the U.S. EPA EcoSSL for the protection of ecological receptors (birds, mammals, plants, and soil invertebrates) that live in or on soil from chronic effects to reproduction or growth.
- For surface water, the maximum reported concentrations of chemicals are compared to U.S. EPA BTAG ecological screening values. These values are consistent with MDE water quality standards. These screening values are used for the protection of ecological organisms that live in surface water from long-term chronic effects.

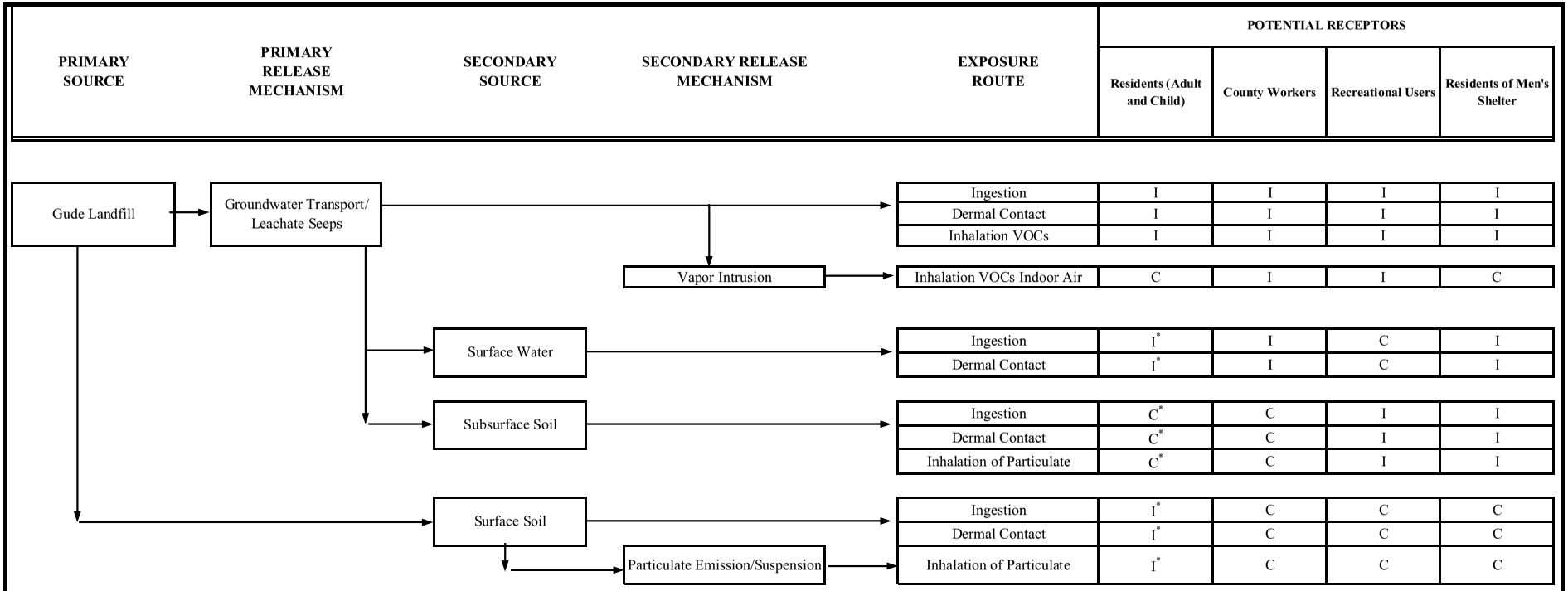
Ecological Risk Screening Results

- Surface Soil samples – The reported concentrations of seven metals (Cr, Co, Cu, Pb, Ni, V, Zn) and High molecular weight Polycyclic Aromatic Hydrocarbons (HPAH, defined as PAHs with 4 or more rings) exceeded the EcoSSL screening values. The measured concentrations tend to be consistent in surface soil samples across the site, particularly for the seven metals. The consistency of metal concentrations across the site is indicative of background levels. Populations of organisms exposed to this soil are not at risk because of the ability for ecological organisms to adapt to a variety of conditions.
- Surface Water samples – The only reported concentration that exceeded U.S. EPA Region 3 BTAG screening values was cobalt (SW-3). The cobalt concentration detected in SW-3 is within 40 micrograms per liter of the screening value and is the only compound detected over the screening value in ten surface water samples. Consequently, it is not expected that ecological receptors are at risk from exposure to cobalt, or any of the reported concentrations detected in surface water.

HUMAN HEALTH CONCEPTUAL SITE MODEL
GUDE LANDFILL

Summary: The risk evaluation determined no potential concerns for human contact with complete exposure pathways. Only complete exposure pathways are evaluated in the risk evaluation. A complete exposure pathway requires the following four components: a source of chemicals, a transport/release mechanism for chemicals, a point for potential human contact, and a route of human exposure. Potential risk to humans from chemicals requires a complete exposure pathway. Incomplete exposure pathways do result in a risk to human receptors.

References: U.S. EPA, 1989. *Risk Assessment Guidance for Superfund, Volume 1 Human Health Evaluation Manual (Part A)* . EPA/540/1-89/002, December.
U.S. EPA, 2010. *Regional Screening Levels, User's Guide* . May. Available at http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/usersguide.htm.
MDE. 2008. *Cleanup Standards for Soil and Groundwater* . Interim Final Guidance (Update 2.1). June.



PRIMARY SOURCE	PRIMARY RELEASE MECHANISM	SECONDARY SOURCE	SECONDARY RELEASE MECHANISM	EXPOSURE ROUTE	POTENTIAL RECEPTORS			
					Residents (Adult and Child)	County Workers	Recreational Users	Residents of Men's Shelter
Gude Landfill	Groundwater Transport/ Leachate Seeps			Ingestion	I	I	I	I
				Dermal Contact	I	I	I	I
				Inhalation VOCs	I	I	I	I
			Vapor Intrusion	Inhalation VOCs Indoor Air	C	I	I	C
		Surface Water		Ingestion	I*	I	C	I
				Dermal Contact	I*	I	C	I
		Subsurface Soil		Ingestion	C*	C	I	I
				Dermal Contact	C*	C	I	I
				Inhalation of Particulate	C*	C	I	I
		Surface Soil		Ingestion	I*	C	C	C
				Dermal Contact	I*	C	C	C
			Particulate Emission/Suspension	Inhalation of Particulate	I*	C	C	C

LEGEND

I	Incomplete or not significant exposure pathway
I*	Incomplete pathway for a residential scenario, evaluated as part of the recreational user scenario
C	Potentially complete exposure pathway
C*	Potentially complete exposure pathway only at subsurface sample locations MW-9, MW-10, MW-11A, MW-11B, and MW-12

ECOLOGICAL CONCEPTUAL SITE MODEL
GUDE LANDFILL

Summary: The risk evaluation determined no potential concerns for ecological receptors contact with complete exposure pathways. Only complete exposure pathways are evaluated in the risk evaluation. A complete exposure pathway requires the following four components: a source of chemicals, a transport/release mechanism for chemicals, a point for potential ecological contact, and a route of ecological exposure. Potential risk to ecological receptors from chemicals requires a complete exposure pathway. Incomplete exposure pathways do result in a risk to ecological receptors.

References: U.S. EPA, 1998. *Guidelines for Ecological Risk Assessment*. EPA/630/R-95/002F, April.

PRIMARY SOURCE	PRIMARY RELEASE MECHANISM	SECONDARY SOURCE	EXPOSURE MEDIA	EXPOSURE PATHWAYS	POTENTIAL RECEPTORS				
					Aquatic Organisms	Terrestrial Plants	Terrestrial Invertebrates	Birds	Mammals
Gude Landfill		Surface Soil	Surface Soil	Ingestion	I	I	C*	C	C
				Direct/Dermal Contact*	I	C	C	C*	C*
	Groundwater Transport/ Leachate Seeps	Surface Water	Surface Water	Biouptake	C	I	I	C	C
				Direct/Dermal Contact*	C	I	I	C*	C*
		Terrestrial food chain	Terrestrial food chain	Ingestion of prey/vegetation	I	I	I	C	C

LEGEND

C	Complete Pathway
C*	Complete Pathway, but not significant
I	Incomplete Pathway

* Direct contact is identified as a complete pathway for higher tropic level wildlife. However, example calculations and information provided in EPA guidance demonstrates that this pathway is insignificant compared to ingestion (USEPA 2003).

ATTACHMENT 6

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard, Suite 605 • Baltimore MD 21230 - 1719
MDE 410-537-3000 • 1-800-633-6101

October 22, 2010

Mr. Peter R. Karasik, P.E., Chief
Central Operations Section
Division of Solid Waste Services
Montgomery County
Department of Environmental Protection
16101 Frederick Road
Derwood MD 20855

Dear Mr. Karasik:

The Maryland Department of the Environment (the "Department") has completed the review of your October 7, 2010 submittal, updating the Operations Plan for the Shady Grove Processing Facility and Transfer Station in Montgomery County. You request to use a 0.5-acre concrete pad at the closed Gude Landfill to provide supplemental receiving, processing and transfer space during the fall leaf collection season and periods after storm events due to the limited space available at the Shady Grove facility. You state that the Gude Landfill will only be used for an 8 to 12 week period during fall leaf collection season and after severe storm events if the Shady Grove facility runs out of capacity.

Based on the review of your submittal and a site visit conducted by Mr. Andy Moghadam of my staff on October 7, 2010, the Department hereby approves the revised Operations Plan and incorporates it into the Shady Grove facility's Refuse Disposal Permit No. 2006-WPT-0617. Please insert the revised Part I – Page 1 of 1 in place of the existing page. If you have any questions regarding this matter, please call Mr. Andy Moghadam, Project Manager at (410) 537- 3375.

Sincerely,

Martha Hynson

Martha Hynson, Chief
Solid Waste Operations Division

MH:AM:am

cc: Mr. Horacio Tablada
Mr. Brian Coblentz

Part I: Referenced Documents:

1. A letter and a revised Operations Plan for the Shady Grove Processing Facility and Transfer Station, dated October 7, 2010 and received on October 12, 2010. The revisions were to update Section VIII and add Section VIIIA to use the Gude Landfill for seasonal yard waste operations and processing of natural wood waste after storm events.

2. A November 2, 2009 letter from Montgomery County Division of Solid Waste Services requesting to extend the Envion Inc. demonstration project at the Shady Grove Processing Facility and Transfer Station until May 1, 2010.

3. A letter and a revised Operations Plan for the Shady Grove Processing Facility and Transfer Station, dated June 17, 2009 and received on June 22, 2009. The revision was to include the Envion Pilot Project.

4. A letter and 12 sets of engineering documents, entitled "Montgomery County Processing Facility and Transfer Station MDE Permit Application", dated April 13, 2006 and received on April 14, 2006.

5. A letter and revised engineering documents, dated September 15 and October 20, 2006 and received on September 15 and October 23, 2006.

6. A Refuse Disposal Permit Application submitted by SCS Engineers, on behalf of the Montgomery County Division of Solid Waste Services, dated January 2, 2006 and received on January 4, 2006.

asphalt for recycling or mixed loads of rubble materials for the landfill. All materials received at this facility are piled up as needed under the enclosure and loaded out as quickly as possible. Materials are nonputrescible and free of litter, so they do not create any environmental or health concerns while they are in storage.

Some DOT Type nonprocessible waste is loaded by County personnel into the County contractor's trailers at County Highway Services depots. If temporary scales are not available at the depots, the trucks come to the facility just to be weighed and then leave to the designated recycling or disposal locations.

VIII. YARD WASTE RECYCLING

The management of yard waste is the second largest activity at the facility after the management of mixed municipal solid waste. Since the County and the State banned the disposal of yard waste in landfills and other disposal facilities in 1994, over 50,000 tons per year of yard waste has been managed as a separate recyclable commodity through the facility. Yard waste is received and processed through grinders. Ground leaves and/or grass and brush are shipped out via truck and rail to the County's Dickerson Compost Facility. Ground brush and bulky wood waste (mulch) is given away to the general public and sold to commercial venders.

Most of the yard waste collected in the County is brought to the facility by recycling trucks operated by or under contract to the Montgomery County Department of Transportation. Yard waste collected by County contractors is commingled (brush combined with grass or leaves depending upon the season). Private landscaping contractors also bring clean, segregated yard waste to the facility at a discounted tip fee. In addition, these materials are also brought in by the general public.

Yard waste is received at an open paved area on the upper lot of the facility property. The yard waste is loaded using a front-end loader into grinding equipment. There is a loadout ramp for loading tractor-trailers and open top rail containers with mulch or yard waste at the upper lot of the facility. There are piles of mulch for the general public at the Recycling Center which is next to the facility and at a few satellite locations around the County referred to as mulch preserves.

Yard waste volumes fluctuate on a seasonal basis. Large quantities of leaves are collected in the fall, mostly in November and December, and large quantities of brush and grass are collected in the growing season in the spring and early summer. Collection services and facilities for receipt of yard waste are available year-round, so some brush, leaves and grass arrive at the facility throughout the year.

At times, when there are large surges of material such as after storms or during fall leaf collection, the amount of natural wood waste material arriving at the site may exceed the rate at which it can be processed and transported. Loose tree limbs can be placed in stockpiles up to 20 feet high. Leaves and ground wood (mulch) or ground yard trim are stored in piles up to 18 feet high. The stockpiles are situated on paved areas and

are no wider than 50 feet. A 12-foot wide fire lane is maintained around the entire perimeter of work areas. Stockpiles are isolated from buildings, fuel and equipment and separated from adjacent piles. In addition, if ground material piles exceed 10 feet in height or are stored for more than three days, daily temperature readings are taken to assure that pile temperatures do not exceed 140 degrees F. If temperatures are above this level, piles must be turned, and efforts to move out the oldest material will be accelerated.

There are approximately 50 open top rail containers in use to assist in yard waste transportation operations. These containers are used to transport leaves and grass or ground leaves and grass from the Shady Grove Processing Facility and Transfer Station to the County's compost facility in Dickerson, MD. Loaded rail containers are taken by a yard tractor to be tarped at a permanent tarping station on the south side of the main transfer building and then taken up to the rail yard to be loaded onto the same train that transports MSW to the RRF. The Dickerson Composting Facility is a mile from the RRF rail yard and is accessible via internal industrial roads that service these facilities. Tractor trailers are also used to transported natural wood waste on an as needed basis.

XVIIIA. SATELLITE YARD WASTE, LEAF, AND STORM DEBRIS FACILITIES

Seasonal fluctuations such as leaf season in the fall and storm events that generate large volumes of natural wood waste sometimes result in massive volumes of material that cannot all be handled in the limited space at the Shady Grove Processing Facility and Transfer Station. An existing approximately 0.5 acre concrete pad at the closed Gude Landfill is currently used to provide supplemental receiving, processing and transfer space during leaf haul (the fall leaf collection season) and during periods after storm events that generate large volumes of tree limbs. Leaf haul operations typically last from November through December with a potential to extend up to four additional weeks into January if unfavorable weather conditions interfere with leaf collection. Storms that generate large volumes of tree limbs can occur at any time of the year. All material storage takes place on the concrete pad. Blowing leaf debris is naturally controlled because the pad is in a low area that is sheltered by the rising topography of the landfill on much of the perimeter and stands of trees on the rest. Other natural wood waste such as grass clippings would only be directed to the Gude Landfill pad in rare situations if the Shady Grove Processing Facility and Transfer Station ran out of space for receiving material. The County has three wood grinders and can either move one to Gude Landfill or hire a contractor to place a grinder and front end loader at that site to process tree limbs and other natural wood waste brought to the site. Ground material is loaded into tractor trailers at Gude Landfill. Mulch is loaded into contractor vehicles for sale and leaves and grass, either ground or unground, are loaded into tractor trailers which transport the material to the County's compost facility in Dickerson, MD. Once the material is processed and loaded for transport from the site, the grinder and associated loading equipment will be removed from Gude Landfill. The satellite operation at Gude Landfill follows the same natural wood waste management practices as are used at the Shady Grove Processing Facility and Transfer Station. However, operating hours at Gude Landfill will be limited to 7:00 a.m. to 8:00 p.m. to minimize the potential for nuisance

noise levels at night with the exception of emergency situations such as delivering tree limbs removed from public roads in the period immediately after a storm or moving out stored material to reduce a fire hazard. MDE will receive notification within 24 hours when extended hours due to emergency situations are necessary.

IX. CONTAINER, EQUIPMENT AND BUILDING MAINTENANCE

The principal contractors associated with site operations are responsible for maintaining all equipment in accordance with manufacturer recommendations and maintaining all building systems including lighting, HVAC, fire suppression, plumbing, electrical, roofs, exterior surfaces, etc. Buildings and equipment are on a programmed preventive maintenance schedule that is designed to minimize unexpected repairs. On-site contractors are staffed to handle most routine repairs but use specialized subcontractors as needed. Spare parts for most common repairs and critical container and equipment systems are kept on-site to minimize the amount of time containers and equipment are out of service when maintenance is required.

X. NEW TRAFFIC FLOW PATTERNS

The recycling drop-off area was expanded in the fall of 2000 to provide more efficient facilities for citizen recycling and waste disposal. Containers for most recyclable materials are pulled from this area using a service road, so the flow of citizen traffic is rarely interrupted. The redesign of this area also improved pedestrian safety by enabling citizens to access all recycling and disposal containers without crossing the flow of traffic. An additional bay for staging walking floor trailers for waste disposal was added to the PUF in 2007, bringing the total to six. The expansion of the tipping floor at the transfer building and the addition of two new scales are supported by a new road branching off just below the truck scales and routing a portion of traffic to the new tipping area. Similarly, a new exit road was built from the new tipping area that merges back into the existing flow of exit-bound traffic. A figure showing the redesigned traffic flow at the site is provided as Figure 1.

XI. SCRAP METAL RECYCLING

The County accepts scrap metal, principally large appliances, for recycling. Commercial trucks, County curbside recycling contractors and other vehicles bring in scrap metal Monday through Saturday during regular operating hours through the truck entrance on Shady Grove Road. Citizens using the entrance on Route 355 can also bring in scrap metal seven days a week during the recycling drop-off area operating hours. The County has a licensed contractor remove and collect refrigerants from white goods before the scrap metal is loaded for transport to a scrap metal recycling facility.

XII. BUILDING MATERIALS RECYCLING (Don't Dump Donate)

The County has a program called Don't Dump Donate to encourage the recycling of unused and used building materials in good condition such as lumber, cinderblocks,

ATTACHMENT 7

4 METHANE MITIGATION PLAN (REVISED)

As a result of continued methane exceedences measured in monitoring wells W-02, W-05, W-06, and W-26, the County is implementing the revised Methane Mitigation Plan presented below and in Figures 2 through 4. The mitigation plan has several phases of implementation and monitoring:

on-going/ Continuous

1) Phase 1 – DEP and SCSFS will monitor methane gas concentrations and measure for increased water infiltration (via water level measurements) in the existing extraction wells. The monitoring will occur on a weekly basis, during DEP regularly scheduled gas monitoring activities (of all existing monitoring wells) and through SCSFS site visits.

on-going

2) Phase 2 – Depending on the monitoring results of Phase 1, if there is evidence of elevated water levels and impediment of gas flow into the new and existing extractions wells, DEP and SCSFS will attempt to dewater the new and existing extraction wells. Any water (which will be considered leachate) found in the extraction wells will be pumped, contained and transported off-site where it can be treated at the Oaks Landfill Leachate Pretreatment Plant and then discharged into the WSSC sanitary sewer system at the County Shady Grove Transfer Station. DEP and SCSFS will dewater measured water in the extraction wells for a period of time to determine the recharge rate and subsequently perform continued dewatering activities as needed to enable continuous gas flow into the extraction wells, in the event gas flow is impeded. This work continues and varying locations of pumping are being implemented.

Plan Submitted to MDE 10/27/10

3) Phase 3 – DEP and SCSFS will evaluate the potential benefits to installing large diameter HDPE collection sumps for perched groundwater in the vicinity of W-05 and W-06. A proposed plan for these sumps is presented in the attached Figures 2 and 3.

Same as Item #3

4) Phase 4 - The installation a series of landfill gas extraction wells that will be drilled to the bottom of waste and tied into the existing landfill gas collection system on the Northwest slope of the Gude Landfill and along the southern slope. The extraction wells will be placed in the vicinity of monitoring wells W-02, W-05, and W-26 in an effort to collect LFG in areas not currently influenced by existing extraction wells. A proposed LFG extraction system expansion plan is presented in the attached Figure 4. The final well locations will be determined in the field.

5) Phase 5 – Should continued monitoring and operations prove to not be successful; the next phase will be the addition of a series of wells located outside of the waste mass, but prior to the monitoring wells. The design of these wells will be determined after field work is performed on the installation of groundwater and gas monitoring wells. This field work will provide site specific soils information that will be used in the design of the soil gas extraction wells.

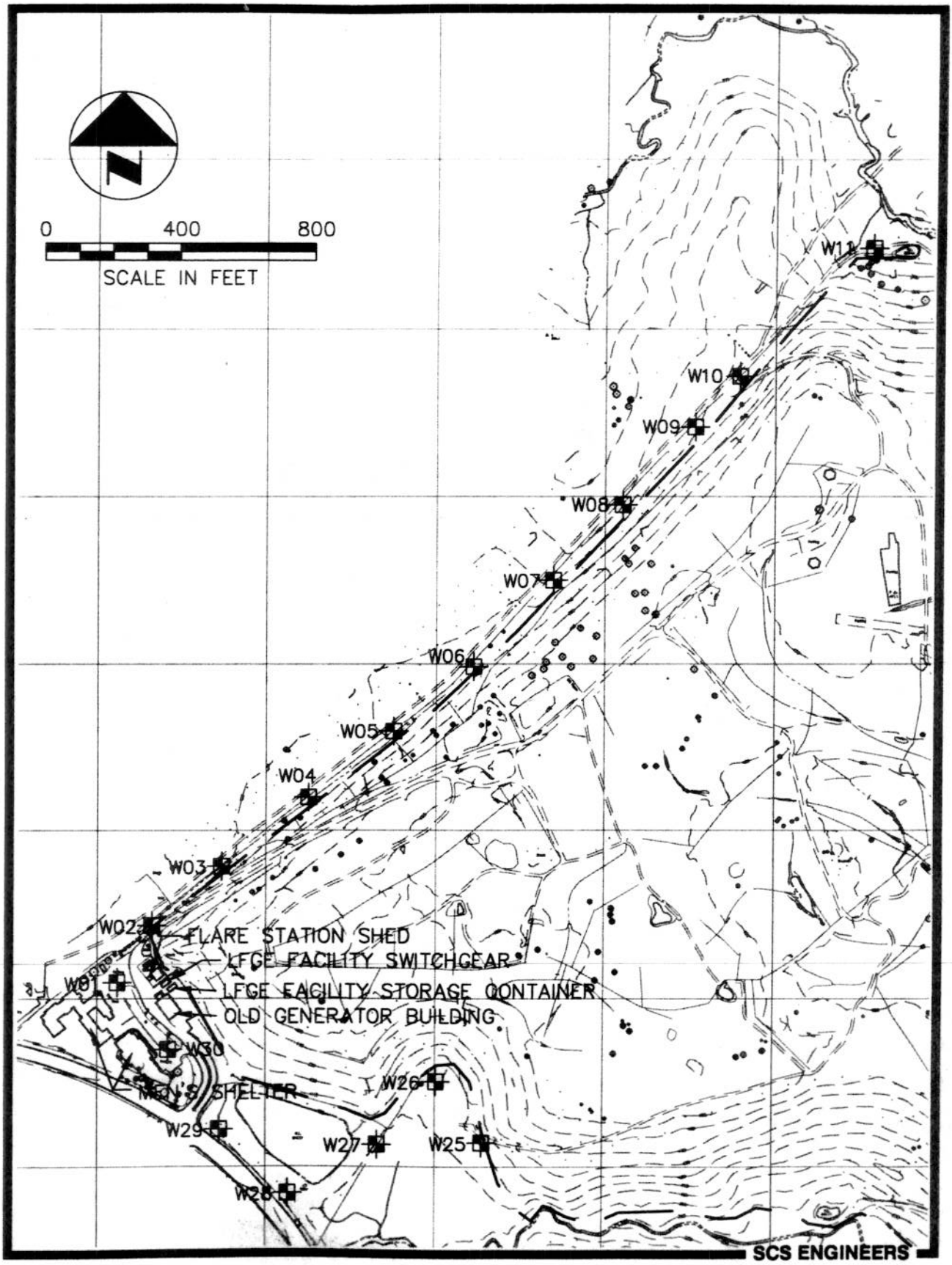


FIGURE 1 - METHANE MONITORING LOCATIONS

TABLE 1: GUDE LANDFILL
MONITORING WELL TESTING RESULTS
SEPTEMBER 23, 2010

Gem ID	Date Time	CH4	CO2	O2	Bal	Rel Press
GUDEW01S	9/23/2010 15:11	0.0	0.0	21.0	79.0	0.0
GUDEW02S	9/23/2010 16:53	9.1	1.5	14.9	74.5	0.0
GUDEW03S	9/23/2010 14:04	0.0	0.0	20.4	79.6	0.0
GUDEW03I	9/23/2010 14:05	0.0	0.0	20.5	79.5	0.0
GUDEW03D	9/23/2010 14:06	0.0	0.0	20.6	79.4	0.0
GUDEW04S	9/23/2010 13:56	0.0	0.0	20.5	79.5	-2.1
GUDEW04I	9/23/2010 13:57	0.0	0.0	20.6	79.4	0.0
GUDEW04D	9/23/2010 13:58	0.0	0.0	20.6	79.4	0.0
GUDEW05S	9/23/2010 17:08	6.6	10.8	11.8	70.8	0.0
GUDEW05I	9/23/2010 17:09	2.6	1.8	18.9	76.7	0.1
GUDEW05D	9/23/2010 17:11	0.0	2.0	17.7	80.3	0.3
GUDEW06S	9/23/2010 17:05	0.0	0.3	19.7	80.0	0.0
GUDEW06I	9/23/2010 17:03	12.4	10.0	16.0	61.6	0.0
GUDEW06D	9/23/2010 17:02	31.8	28.0	6.9	33.3	0.1
GUDEW07S	9/23/2010 13:27	0.0	0.0	20.6	79.4	0.0
GUDEW07I	9/23/2010 13:28	0.0	0.0	20.5	79.5	0.0
GUDEW08S	9/23/2010 13:20	0.0	0.0	20.6	79.4	0.0
GUDEW08I	9/23/2010 13:21	0.0	0.0	20.5	79.5	0.0
GUDEW08D	9/23/2010 13:22	0.0	0.0	20.6	79.4	0.0
GUDEW09S	9/23/2010 13:12	0.0	0.0	20.8	79.2	0.0
GUDEW09I	9/23/2010 13:13	0.0	0.0	20.8	79.2	0.0
GUDEW09D	9/23/2010 13:14	0.0	0.0	20.8	79.2	0.0
GUDEW10S	9/23/2010 12:44	0.0	0.0	20.8	79.2	0.0
GUDEW10I	9/23/2010 12:45	0.0	0.0	20.9	79.1	0.0
GUDEW10D	9/23/2010 12:46	0.0	0.0	20.9	79.1	0.0
GUDEW11	9/23/2010 12:59	0.0	0.0	20.6	79.4	0.0
GUDEW25S	9/23/2010 15:39	0.0	0.0	20.9	79.1	0.0
GUDEW25I	9/23/2010 15:42	0.0	14.1	15.9	70.0	0.0
GUDEW26S	9/23/2010 17:49	36.0	32.8	2.9	28.3	0.0
GUDEW27S	9/23/2010 15:24	0.0	0.0	20.8	79.2	0.0
GUDEW28S	9/23/2010 15:30	0.0	0.0	20.8	79.2	0.0
GUDEW29S	9/23/2010 15:33	0.0	0.0	21.1	78.9	0.0
GUDEW30S	9/23/2010 14:58	0.0	0.0	21.2	78.8	0.0

Monitoring Well	Potential Reason For Exceedance	Mitigation Measure
W-02	Lack of gas Extraction wells	Install wells
W-05	Lack of gas Extraction wells water saturation (subsurface)	Install wells Install dewatering Sumps
W-06	Water saturation (subsurface)	Install dewatering Sumps
W-26	Lack of gas Extraction Wells	Install Wells

Methane Mitigation Plan

Phase 2 - EFForts

TABLE 2: GUDE WATER LEVEL READINGS*

EXTRACTION WELL NAME	BOTTOM DEPTH	WATER LEVEL (ft) BELOW GROUND SURFACE														
		5/4/2010	6/7/2010	6/11/2010	6/18/2010	7/1/2010	7/9/2010	7/16/2010	7/30/2010	8/25/2010	8/30/2010	8/31/2010	9/1/2010	9/2/2010	9/14/2010	Change
107	43.0	25.0	24.8	26.4	26.5	27.5	27.6	28.1	28.2		28.6				31.0	6.0
108	34.5	25.3	25.4	25.5	25.4	25.5	25.5	25.6	25.5		26.0				26.0	0.7
124	20.5						15.2	16.3	18.3						18	2.8
125	40.0	25.1	25.6	26.8	28.4	29.7	28.5	28.5	28.5	28.0	28.5	29.0	28.0	36.0	29	3.9
126	34.6	25.4	27.9	28.9	32.3	32.0	31.8	32.5	31.1		32.0				32.5	7.1
127	34.5	16.7	19.0	19.6	20.0	22.2	20.1	20.6	20.1		23.0				20	3.3
128	44.0	23.6	28.7	33.9	35.2	36.1	35.2	32.0	34.4		34.0				35	11.4
129	41.2	18.3	NA	NA	18.9	19.1	18.9	18.8	19.2		19.0				19	0.1

Average Drop in Water Level 4.41 feet *

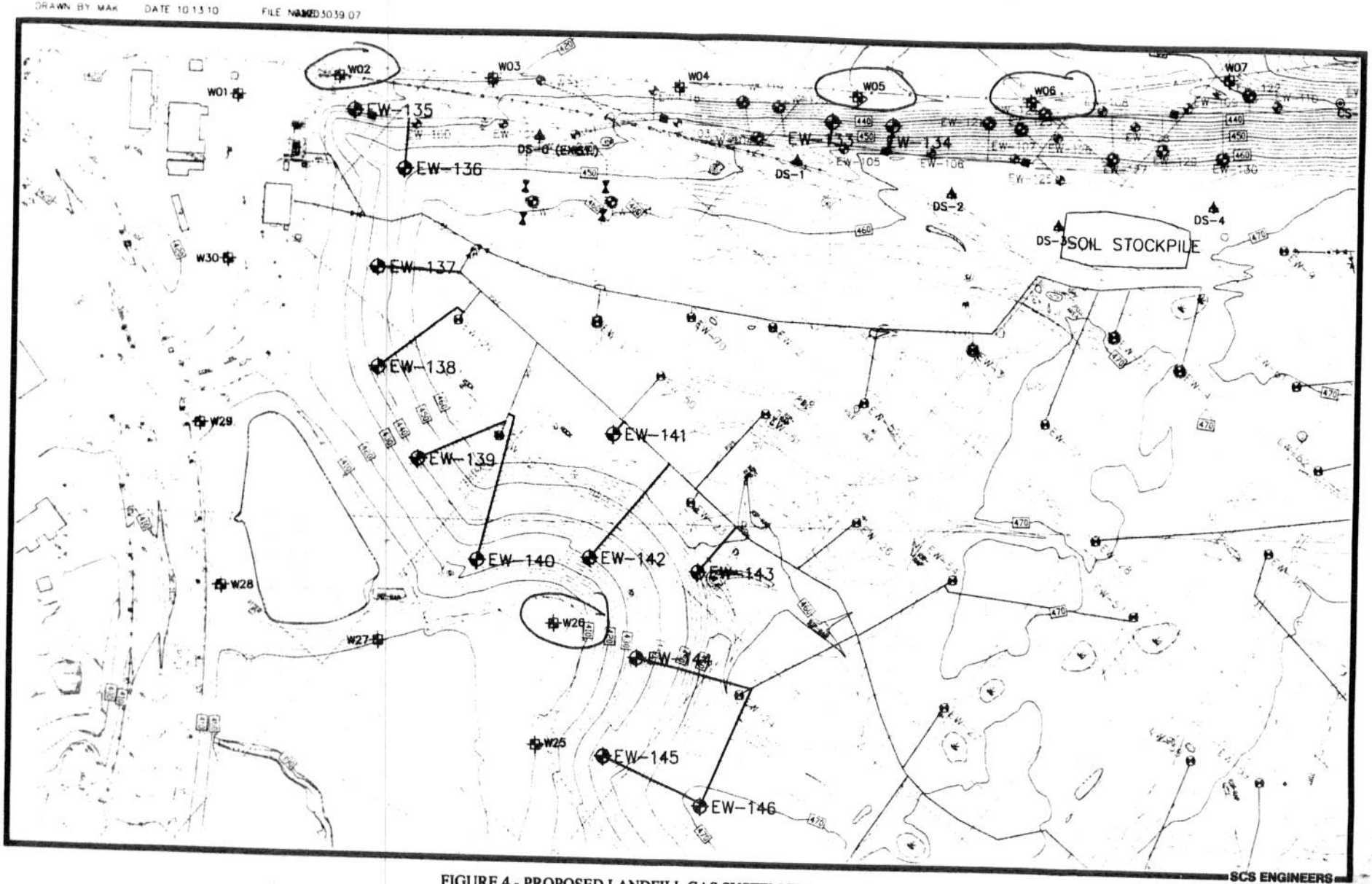


FIGURE 4 - PROPOSED LANDFILL GAS SYSTEM EXPANSION PLAN