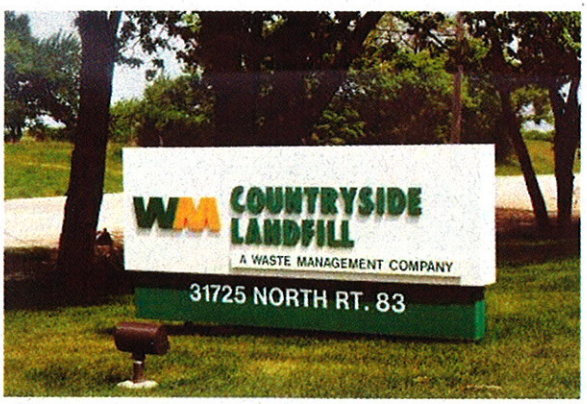
CDM

SWALCO

SOLID WASTE AGENCY OF LAKE COUNTY, IL

2005/2006 Annual Audit (June 2005 - May 2006) Waste Management Countryside Landfill Lake County, Illinois



July 28, 2006 – FINAL REPORT

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Final Report

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Executive Summary

Countryside Landfill is located in unincorporated Lake County, Illinois on Illinois Route 83 approximately one mile south of Illinois Route 120. The operational landfill site is located on an approximately 201-acre parcel of land near the Village of Grayslake. Countryside Landfill is a solid waste landfill that has accepted waste since 1978. On September 27, 1995, the Illinois Environmental Protection Agency (IEPA) approved a lateral and vertical expansion of the landfill. This expansion increased the disposal capacity of the landfill by 14.4 million in-place cubic yards, for an estimated 30 years of operating life. The landfill is permitted to dispose municipal and non-hazardous special waste.

The Solid Waste Agency of Lake County (SWALCO) entered into a disposal agreement with Countryside Landfill, Inc (CLI) on June 23, 1994 that was later amended on November 20, 1998. This agreement guaranteed disposal for 14.4 million gate cubic yards of Lake County waste at CLI for approximately 20 years from January 1997 to January 2017. In accordance with Section 4.10 of the waste disposal agreement, Camp Dresser & McKee Inc. (CDM) was contracted by SWALCO to conduct an audit of CLI. The audit is divided into five major tasks. These include a review of each of the following:

Task 1 - Compliance with Illinois EPA Operating Permit

Task 2 - Compliance with Lake County Siting and Operation Criteria

Task 3 - Site Hydrogeology/Groundwater and Leachate Monitoring

Task 4 - Site Operations

Task 5 - Closure and Post-Closure Activities and Funding

The following is a summary of the findings and recommendations of this investigation. The detailed results are provided in the various sections of the report.

Based on CDM's scope of work, its actual observations during site visits, and the information provided by SWALCO and CLI, which CDM has relied upon the accuracy and completeness thereof, it is CDM's professional opinion that the Countryside Landfill is in compliance with its permit obligations under its IEPA Operating Permit (No. 1994-479-LF) with the exception of any items noted henceforth. CDM's opinion in this matter is based upon CDM's knowledge, information, and belief, formulated in accordance with applicable standards of practice, and as such does not constitute a guaranty or warranty, either expressed or implied, nor does it represent the direct views of the IEPA or any other regulatory agency that may have regulatory jurisdiction over the facility.

Task 1 – IEPA Bureau of Land Operating Permit

CDM has reviewed the Illinois Environmental Protection Agency (IEPA) Bureau of Land (BOL) Operating Permit (henceforth referred to as the "Permit") as last

amended on May 10, 2006 per Modification No. 72 to the original permit No. 1994-479-LF.

Based on CDM's review, CLI was not in compliance with the following five conditions of the Permit during the audit period (June 1, 2005 through May 31, 2006). A summary of the regulation and the apparent violation follows.

Condition II.2 - The operator of this solid waste facility shall not conduct the operation in a manner which results in any of the following…

i. deposition of refuse in any unpermitted (i.e., without an Illinois EPA approved significant modification authorizing operation) portion of the landfill;…

Status: During the June 5, 2006 site visit, it was observed that clean construction and demolition (C&D) debris (predominantly concrete and brick) was being utilized as a road base material for the South Expansion perimeter road (outside of the permitted limit of waste). On June 20, 2006, CDM staff spoke to the IEPA regarding the placement of clean C&D outside the permitted limits of waste at a landfill facility. IEPA indicated that the material should be considered a "waste" under Section 3.160(B) of the Illinois Environmental Protection Act, since the following criteria do not apply:

"(i) used as fill material outside of a setback zone if the fill is placed no higher than the highest point of elevation existing prior to the filling immediately adjacent to the fill area, and if covered by sufficient uncontaminated soil to support vegetation within 30 days of the completion of filling or if covered by a road or structure, or

(ii) separated or processed and returned to the economic mainstream in the form of raw materials or products, if it is not speculatively accumulated and, if used as a fill material, it is used in accordance with item (i) within 30 days of its generation, or

(iii) solely broken concrete without protruding metal bars used for erosion control, or

(iv) generated from the construction or demolition of a building, road, or other structure and used to construct, on the site where the construction or demolition has taken place, a manmade functional structure not to exceed 20 feet above the highest point of elevation of the property immediately adjacent to the new manmade functional structure as that elevation existed prior to the creation of that new structure, provided that the structure shall be covered with sufficient soil materials to sustain vegetation or by a road or structure, and further provided that

no such structure shall be constructed within a home rule municipality with a population over 500,000 without the consent of the municipality."

As the observed material does not satisfy any of the aforementioned criteria, the IEPA stated that this situation appeared to constitute a violation of Section 3.160(B) of the Illinois Environmental Protection Act. They stated that the debris should be considered a waste material and should not be stored at the site without proper authorization and permitting from the IEPA. This is an apparent violation of Section II(2)(i) of the Permit. The placement of clean C&D debris in an unpermitted portion of the landfill requires a permit modification. CDM recommends that CLI contact the IEPA to determine the appropriate course of action to resolve this issue.

The placement of this material without a permit is also an apparent violation of the following sections of the Illinois Environmental Protection Act:

Section 21(a) - "No person shall cause or allow for the dumping of waste."

Section 21(d)(1) - "No person shall conduct any waste-storage, waste-treatment, or waste disposal without permit by the Agency.

Section 21(d)(2) - "No person shall conduct any waste-storage, waste-treatment, or waste disposal in violation of any regulations or standards adopted by the Board under this Act…"

Condition VII.6 – The schedule for leachate sample collection and submission of monitoring results is as follows:

Sampling Quarter	Sampling Due	Report Due Date
Jan. – Feb. (1st)	All leachate analysis points, List L1	April 15
April – May (2nd)	Leachate analysis points L105 and L106, List L1	July 15
July – Aug. (3rd)	All leachate analysis points, Lists L1 & L2	October 15
	LREP List 3	October 15
Oct – Nov (4th)	Leachate analysis points L105 and L106, List L1	January 15

L1 – Routine Leachate Parameters
L2 – Annual Leachate Parameters
L3 – Annual TCLP Leachate Parameters
LREP – Representative Leachate Sample

The leachate monitoring data alluded to above as well as that required by Condition VII.8 below, must be submitted in an electronic format. Additional guidance regarding the submittal of the information in an electronic format can be found at www.epa.state.il.us/land/waste-mgmt/groundwater-monitoring.html.

Status: The table below shows CLI's leachate sampling and submission dates for this audit period.

Sampling Quarter	Sampling Collection Date	Date Report Submitted	Report Due Date
Jan. – Feb. (1st)	02/21/2006	04/14/2006	April 15
April – May (2nd)	06/01/2005	07/14/2005	July 15
July – Aug. (3rd)	09/15/2005	10/14/2005	October 15
Oct – Nov (4th)	11/16/2005	01/13/2006	January 15

The reports were submitted in electronic format and in accordance with the Permit schedule. The leachate sampling was conducted in accordance with the aforementioned permit schedule with the exception of the following:

The 2nd Quarter 2005 leachate sampling was conducted on June 1, 2005 and the 3rd Quarter 2005 leachate sampling was conducted on September 15, 2005. This is an apparent violation of the leachate sampling schedule in Condition VII.6 of the Permit.

Condition VIII.4 – Within 60 days of installation of any groundwater monitoring well, boring logs prepared by a qualified geologist, well development data and as-built diagrams shall be submitted to the Illinois EPA utilizing the enclosed "Well Completion Report" form. For each well installed pursuant to this permit, one form must be completed.

Status: Three groundwater monitoring wells were installed during the current audit period. Wells R27U and R55D were installed to replace wells G27U and G55D, respectively. These wells were completed on November 11, 2005 and soil boring logs, Illinois EPA well completion reports, and hydraulic conductivity test results were submitted to the Illinois EPA on January 5, 2006, which was within the 60 day limit. Well development records for the replacement wells R27U and R55D were not included in the submittal to the Illinois EPA dated January 5, 2006 which is an apparent violation of Condition VIII.4 of the Permit. CLI submitted the missing information to the IEPA on June 30, 2006.

Condition VIII.14 – For each round of sampling described in Condition VIII.10 of this Section, the operator must determine if an observed increase has occurred within 45 days of the date the samples were collected. If an observed increase is identified, the operator must also notify the Illinois EPA in writing within ten days and follow the confirmation procedures of 35 IAC, Section, 811.319(a)(4)(B). Furthermore, the operator must complete the confirmation procedures within 90 days of the initial sampling event.

Status: CLI has notified the Illinois EPA of the observed increases and confirmed increases found in 2nd, 3rd, and 4th quarters of 2005 and in the 1st quarter of 2006, with the following exceptions:

The 4th Quarter 2005 sampling event result for manganese (d) at well G22U was 99 ug/L, which was a fourth consecutive increase. This result was not identified as an observed increase and confirmation procedures were not initiated. This is an apparent violation of Condition VIII.14 of the Permit.

The 1st Quarter 2006 sampling event result for boron (d) at well G53D was 580 ug/L, which was a fourth consecutive increase. This result was not identified as an observed increase and confirmation procedures were not initiated. This is an apparent violation of Condition VIII.14 of the Permit.

All other confirmation sampling was conducted within the required time frame of 90 days, however, the confirmation sampling for the observed increase of phenol at G10U in the 1st Quarter 2006 was conducted but the results were not included in the confirmation sampling notification letter dated May 16, 2006. CDM recommends that CLI consistently report the results of all confirmation sampling to the IEPA regardless of whether the confirmation sampling indicates a confirmed increase. This will provide quality assurance that all observed increases have been adequately addressed.

Condition VIII.15 – Within 90 days of confirmation of any monitored increase, the operator shall submit a permit application for a significant modification to begin an assessment monitoring program in order to determine whether the solid waste disposal facility is the source of the contamination and to provide information needed to carry out a groundwater impact assessment in accordance with 35 IAC, Section 811.319(b).

Status: Significant Modification No. 69 (Log No. 2005-328, submitted August 17, 2005) approved assessment monitoring plans for 1st Quarter 2005 confirmed increases. Modification No. 70 (Log No. 2005-456, submitted November 18, 2005) approved assessment monitoring plans for 2nd Quarter 2005 confirmed increases. Modification No. 72 (Log No. 2006-056, submitted February 13, 2006) approved assessment monitoring plans for 3rd Quarter 2005 confirmed increases. Permit application log number 2006-174, submitted May 17, 2006 proposed assessment monitoring plans for 4th Quarter 2005 confirmed increases and is currently pending. A notice of 1st Quarter 2006 confirmed increases was submitted to the IEPA on May 16, 2006. The deadline for submittal of an assessment monitoring plan for these confirmed increases does not fall within the current audit period.

The assessment monitoring plans were submitted as part of permit applications for significant modification within the required time frame of 90 days and in accordance with the permit with the following exceptions:

During the 3rd Quarter 2005 sampling event, a fourth consecutive increase of manganese (d) was detected at well G222U with a concentration of 85 ug/L. The result of confirmation sampling was 81 ug/L, which is still greater than the result of the previous quarter (51 ug/L in the 2nd Quarter 2005). This confirmed increase was not reported by CLI in the 3rd Quarter 2005 Groundwater Monitoring Assessment Proposal (Log No. 2006-056) which is an apparent violation of Condition VIII.15 of the Permit.

During the 4th Quarter 2005 sampling event, a fourth consecutive increase of boron (d) was detected at well G53D with a concentration of 570 ug/L. The result of confirmation sampling was also 570 ug/L. This confirmed increase was not included in the 4th Quarter 2005 Groundwater Monitoring Assessment Proposal (Log No. 2006-174) which is an apparent violation of Condition VIII.15 of the Permit.

Condition IX.4 – All buildings within the facility boundaries shall be monitored continuously for methane.

Status: Continuous methane monitoring devices (Sierra Monitoring Corporation Model 2001 Combustible Gas Monitors) are located in all buildings on the site including the Main office, North Garage, East Garage, Scale House, Compressor building and the Truck Wash. The monitoring device located in the truck wash building has been inoperable and subsequently removed between March 2006 and June 14, 2006. This is an apparent violation of Condition IX.4 of the Permit. In order to prevent methane gas build up in the truck wash the entrance and exit doors are left open to promote air circulation.

Permit Modifications

Since the last audit, eight modifications to the permit (No. 65 through No. 72) have been approved by the IEPA. These are summarized as follows.

- Significant Modification No. 65 - Application Log No. 2004-452
- Significant Modification No. 66 - Application Log No. 2005-144
- Significant Modification No. 67 - Application Log No. 2005-192
- Significant Modification No. 68 - Application Log No. 2005-295
- Significant Modification No. 69 - Application Log No. 2005-328
- Significant Modification No. 70 - Application Log No. 2005-327 and 2005-456
- Significant Modification No. 71 - Application Log No. 2006-019
- Significant Modification No. 72 - Application Log No. 2005-363 and 2006-056
- Pending Modification - Application Log No. 2006-110
- Pending Modification - Application Log No. 2006-148
- Pending Modification - Application Log No. 2006-174
- Pending Modification - Application Log No. 2006-189

Task 2 – Local/State Agreement Compliance

Local Siting Criteria

CDM has reviewed the nine criteria established by Lake County ordinance and Section 39.2 of the Illinois Environmental Protection Act that must be met in order for local siting approval to be granted. Based on CDM's scope of work, its actual observations during site visits, Lake County Health Department inspection reports, and the information provided by SWALCO and CLI, it is CDM's professional opinion that the Countryside Landfill is in compliance with its obligations under the Lake County Local Siting Criteria.

Lake County Health Department Inspections

The Lake County Health Department (LCHD) conducts random inspections at CLI two to three times per month. The resulting inspection reports include a brief overview of the construction activities at the time of the inspection, and a review of compliance with the IEPA requirements. CDM reviewed the 29 inspection reports from inspections conducted between June 1, 2005 and May 18, 2006. CLI did not receive any non-compliance advisory letters or notices of violation from the LCHD during the audit period related to these inspections.

Village of Grayslake Host Village Agreement

The Village of Grayslake Host Village Agreement was executed by the Village of Grayslake and USA Waste Services, Inc. on May 3, 1994. Based on site visits and the information provided by SWALCO and CLI, it is CDM's professional opinion that the Countryside Landfill is currently in compliance with its obligations under its Host Village Agreement, except as otherwise noted in this report and as described below.

CDM found CLI to be in violation of one condition of the Village of Grayslake Host Village Agreement as follows:

Condition 15.A - . . . Countryside shall operate the Countryside Landfill in accordance with all applicable substantive legal requirements and regulations and in accordance with the plans set forth in all permits and permit applications now and hereafter approved by the Illinois Environmental Protection Agency ("IEPA"). Countryside shall at all times solely be responsible for the submission and acquisition of any and all permits, whether they be local, state, federal, or regulatory agency permits for the operation of the landfill.

Status: As noted in this report, CDM identified various issues that could result in a notice of violation of their IEPA Operating Permit. This is an apparent violation of Condition 15.A of the Village of Grayslake Village Host Agreement.

Task 3 – Site Hydrogeology/Groundwater and Leachate Monitoring

Groundwater Monitoring

The groundwater monitoring program at the Countryside Landfill monitors three zones, the Weathered Till, Unweathered Till, and the Uppermost Aquifer on a quarterly basis. Wells designated with a "U" are completed in the weathered till, "M" wells are completed in the unweathered till, and "D" wells are completed in the Uppermost Aquifer. Each monitoring zone contains three types of monitoring wells: background or upgradient wells, wells within the zone of attenuation, and compliance boundary wells. The groundwater monitoring program is conducted in accordance with Significant Modification No. 72 (issued May 10, 2006).

For the current audit period, CDM reviewed quarterly groundwater sampling results for 2nd Quarter 2005, 3rd Quarter 2005, 4th Quarter 2005, and 1st Quarter 2006. The results of the monitoring program were compared to the applicable groundwater quality standards (AGQS) and the maximum allowable predicted concentrations (MAPC) that have been established for the background and compliance wells and the zone of attenuation wells, respectively.

Exceedances and observed increases were identified for a several parameters in the four sampling quarters during the audit period. Confirmation sampling was conducted within the required timeframes to verify the observed increases, and the IEPA was notified of both the observed and confirmed increases, with the exception of those listed in VIII.14 of the Permit located in Section 2. Assessment activities were initiated within the required timeframes to determine the source of the confirmed increases, with the exception of those listed in VIII.15 of the Permit located in Section 2.

Leachate Monitoring

CLI continues to dispose leachate at the Kenosha Water Utility (KWU) in Kenosha, Wisconsin. During the audit period, 4,376,554 gallons of leachate were collected and disposed off-site, an approximate 34% decrease compared to last audit period. This decrease is attributed to below average rainfall during the previous year, the closure of Cells 2 and 3, and intermediate cover placed on Cell 4.

Leachate monitoring was conducted on both a semi-annual basis and an annual basis at the CLI, in accordance with the requirements in Condition VII.6 of IEPA Permit. The schedule for leachate sampling and reporting coincides with the 1st and 3rd Quarter schedule for the groundwater monitoring program. In addition, CLI is in compliance with their Kenosha Wastewater Utility discharge permit.

Leachate recirculation is currently not being conducted at CLI. CLI has indicated that a request for a permit modification for leachate recirculation is targeted for submittal to IEPA in late fall 2006.

Task 4 – Site Operations

Site Operations

The following individuals are responsible for the engineering and operational aspects for the Countryside Landfill:

- **Chris Rubak, P.E. –** Senior Engineer responsible for technical aspects of site operations including overseeing modifications to and maintaining compliance with site permits, and conducting SWPPP inspections.

- **Michael Hey –** District Manager responsible for overseeing financial matters and operational aspects of the facility.

Waste Quantities/Remaining Operating Life

Volume and weight-based waste quantity data for the audit period was reviewed by CDM. During the audit period, 482,433 tons of waste was accepted, with an average gate density of 540 pounds per cubic yard (lb/cy). Approximately 74% of the waste received at CLI originated in Lake County. The average monthly waste quantity received at CLI during this time period was approximately 40,203 tons, or 9,278 tons per week. The average daily waste quantity during the audit period was 1,546 tons per day, a 6% decrease from last audit period.

CDM has reviewed waste quantity data including annual Solid Waste Landfill Capacity Certifications from April 1, 1992 through December 31, 2005 and monthly waste totals compiled by CLI from June 2005 to May 2006 provided by CLI. Based on the information reviewed, as of January 1, 2006, Countryside Landfill had approximately 7.8 million cubic yards of total available air space remaining. Assuming that the annual rate of waste received remains constant through the facility closure date, the remaining operating life of the landfill is between 10.9 and 12.8 years for a final closure date sometime between November 2015 and October 2017. This range corresponds to a compaction ratio between 2.48 and 2.92, respectively. For comparison purposes, it was estimated in last year's report that CLI's closure date was between July 2016 and October 2017. While the annual waste quantity has decreased this year, the average compaction ratio for the waste accepted during the audit period was 2.56 rather than the 2.87 estimated last year, therefore consuming more airspace than anticipated. This results in no significant net difference between the estimated closure dates from last year to this year.

Due to the disposal of Lake County waste in excess of the contractually obligated quantity of 700,000 gate cubic yards per year, the CLI guaranteed disposal capacity is shortened from January 2017 to approximately July 2009. Therefore, CLI is in compliance with the requirements of the disposal agreement between CLI and SWALCO.

CDM has also reviewed CLI's Quarterly Solid Waste Summary forms for 2nd quarter 2005, 3rd quarter 2005, 4th quarter 2005, and 1st quarter 2006. CLI incorrectly reported the quantity of solid waste permanently disposed of at the landfill that is exempt from the fee payment provisions. This is an apparent violation of 35 IAC 858.207. Per CLI's discussion with IEPA, Quarterly Solid Waste Summary forms submitted to IEPA in 2006 will be revised and corrected to include this information.

Construction Activities

Major construction projects completed during the audit period include the following:

- Completion of Subcell 5A,
- Excavation of Subcell 5B,
- Excavation of Subcell 4C, and
- Construction of Gas Management System improvements.

Gas Management System

Currently, landfill gas (LFG) is collected from the Existing Unit, the North Expansion area (Cells 2 and 3) and the South Expansion area (Cell 1) from a total of 81 vertical gas extraction wells and six connections to other collection devices (e.g., leachate collection components, etc.). Since the last audit, CLI installed one gas well (W-152) in the Existing Unit and four wells in Cell 4 in the South Expansion Area (W-111, W-127, W-128, and W-129). One gas well (W-36R) was abandoned and one gas well was replaced (W-140 replaced by W-140R). The new wells in Cell 4 are currently in start-up phase, and are tentatively scheduled to receive authorization to operate in August 2006.

Total gas flow from the well field has typically varied between 1,500 cfm and 2,750 cfm. LFG flow to the flare during the audit varied between no flow (during shut down periods when the gas-to-energy plant accepted all of the gas) and 1,900 cfm. During the audit period the power plant produced 52,616,085 kilowatt-hours (kWh) of electricity, or equal to approximately 30,699 barrels of oil (based on 1 kWh of electricity = 3,412 BTU; 1 barrel of crude oil = 5,848,000 BTU). Assuming a national average power usage of 27.6 kWh per household per day, the power generated by the plant during the audit period is equivalent to the energy needs of 5,355 homes.

A review of monitoring records indicates the gas management system is functioning and controlling gas migration from the expansion cells. However, exceedances of greater than 2.5% methane (50% of the lower explosive limit (LEL) of methane) frequently occurred during the audit period at gas monitoring probes CL08Dand CL01S. Exceedances also occurred at gas probe CL01D in October 2005 and at piezometer P32D in June and July 2005. In response, CLI expanded the landfill gas management system and continue to monitor gas migration.

Gas probes CL01S and CL01D are located on the eastern side of the Existing Unit. Methane migration was detected in these gas probes. As a result, CLI installed one in-refuse gas extraction well (W-152) near CL01S and CL01D to alleviate the exceedances. Well installation occurred on June 28, 2005 and the associate lateral pipe was installed on July 11, 2005.

As of May 15, 2003, CLI operates the landfill emissions sources under a Title V Clean Air Act Permit Program (CAAPP) Permit #97040110. Unlike previous air permits assigned to specific emission sources at the landfill, this permit evaluates all emissions from the landfill facility. The permit sets forth special conditions to be followed during operations at the facility including requirements for operating, monitoring, reporting and recordkeeping.

Based on CDM's review, CLI was not in compliance with the following four conditions of the CAAPP Permit during the audit period (June 1, 2005 through May 31, 2006). A summary of the regulation and the apparent violation follows.

Condition 7.1.7(a)(ii) – Operate the collection system with negative pressure at each wellhead except under conditions shown 40 CFR 60.753(b).

Status: According to the NSPS Monthly Gas Well Monitoring Data provided in **Appendix F**, the collection system generally operated at a negative pressure throughout the system. On April 10, 2006, gas well W-51 had a positive pressure of 0.4 inches of water column.

Condition 7.1.7(a)(vii) – If monitoring demonstrates that the operational requirements in 40 CFR 60.753(b), (c), or (d) are not met, corrective action shall be taken as specified in 40 CFR 60.755(a) (3) through (5) or 40 CFR 60.755(c). If corrective actions are taken as specified in 40 CFR 60.755, the monitored exceedance is not a violation of the operational requirements in 40 CFR 60.753. [40 CFR 60.753 (g)]

Status: On April 10, 2006, gas well W-51 had a positive pressure of 0.4 inches of water column, therefore a deviation from the operational requirements of 40 CFR 60.753 (b). Per 40 CFR 60.755 (a)(3), if a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. No corrective actions were taken by CLI within 5 or 15 calendar days as required. This is an apparent violation of this Condition 7.1.7(a)(vii) of the IEPA CAAPP Permit. CLI has until August 8, 2006 to address the exceedances by expanding the gas system.

Condition 7.1.11(c)(iii)(A) – The Permittee shall submit, to the Illinois EPA, annual reports of the recorded…value and length of time for exceedance of applicable parameters monitored under 40 CFR 60.756(a), (b), (c), and (d).

Status: CLI did not document all exceedances of monitored parameters in the NSPS semi-annual reports. There was one instance where the flare temperature fell below the permitted value of 1718° F (82° F below the most recent performance test value of 1800° F) and CLI did not report in the NSPS semi-annual report dated January 27, 2006 on July 28, 2005 for a period of 3.5 hours. This is an apparent violation of Condition 7.1.11(c)(iii)(A) of the IEPA CAAPP Permit. CLI amended the January 27, 2006 semi-annual report to reflect this exceedance on July 12, 2006

Condition 9.8(a), (b), and (c) – Requirements for Compliance Certification - The Permittee shall submit annual compliance certifications. The compliance certification shall be submitted no later than May 1 or more frequently as specified in the applicable requirements or by permit condition. The certification shall include…the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source…

Status: CLI submitted an annual compliance certification on April 28, 2006. Since CLI did not document all exceedances of monitored parameters in the NSPS semi-annual reports, as required by Condition 7.1.11(c)(iii), CLI submitted incorrect compliance status for Condition 7.1.11. There was one instance where the flare temperature fell below the permitted value of 1718° F (82° F below the most recent performance test value of 1800° F) and CLI did not report in the NSPS semi-annual report dated January 27, 2006. CLI did not identify this noncompliance item in their April 28, 2006 annual compliance certification. This is an apparent violation of Condition 9.8 of the IEPA CAAPP Permit.

Water Resources

Permits have been obtained for the landfill expansion that cover water resources issues such as control of storm water runoff, floodplain filling and construction of compensatory storage, dam safety, drainage work in the highway right of way, soil erosion and sediment control and mitigation of wetland impacts. During the audit period, the following permits and associated conditions continue to be applicable to the site.

- Lake County Watershed Development Permit
- National Pollutant Discharge Elimination System (NPDES) Permit for Industrial Storm Water
- United States Corps of Engineers Section 404 Permit
- Illinois Environmental Protection Agency Section 401 Authorization
- Earthmoving approval for the Soil Stockpile Area
- National Pollutant Discharge Elimination System (NPDES) Permit - Construction Storm Water

On June 14, 2006, CDM conducted an inspection of the storm water management facilities at the site. Based on observations made during the inspection, CDM believes that the storm water management system is generally in compliance with the permits related to water resources issues at the site except where noted in the Recommendations section below. There are several areas on the site where ongoing monitoring or routine maintenance activities are needed including slope stabilization. These efforts are currently underway or programmed into the management plan for the site.

The Illinois Environmental Protection Agency (IEPA) authorized the landfill expansion under Section 401 of the Clean Water Act on October 12, 1995 based on six conditions. CDM reviewed the status of compliance with each of the six conditions based on the August 2005 Annual Inspection Report prepared by CLI and the June 5, 2006 and June 14, 2006 site inspection completed by CDM.

Task 5 – Closure and Post-Closure Activities

The landfill has been designed to operate in seven phases. At the end of each phase of the landfill's life, an IEPA approved final cover system will be placed that conforms to the approved permit regulations. Since the last annual audit, no closure activities have been conducted.

CDM has reviewed CLI's closure and post-closure care cost estimate and funding status. The currently approved closure and post-closure cost estimate is $8,022,503. This cost estimate includes closure of the Existing Unit and the North and South Expansion Areas. CLI maintains the required financial assurance.

Recommendations

As a result of the 2004 to 2005 Annual Audit of CLI's facility, CDM made six recommendations related to the facility's operations. Four of these recommendations were completed, while two of these were partially completed. These recommendations and the corresponding status follows:

2. Along the west side slope of the landfill, where the Existing Unit ends and Cell 2 begins, remains unvegetated from the last audit period. Final cover has not been applied to this area to date and it remains unvegetated. CDM continues to recommend that CLI implement temporary stormwater control measures to minimize erosion from the disturbed areas.

Status: Final cover has not been applied to this area to date and it remains unvegetated. CDM continues to recommend that CLI implement temporary stormwater control measures to minimize erosion from the disturbed areas.

6. CDM recommends CLI abandon all inactive subsurface monitoring devices in order to minimize potential sampling/monitoring errors.

Status: During the current audit period CLI abandoned three inactive groundwater piezometers. CLI abandoned the piezometers P301, P302, P304 in accordance with the Permit, however a fourth inactive piezometer, P303, could not be located and was not abandoned.

Based on a review of information collected during this audit period, CDM proposes the following recommendations be considered for implementation by CLI:

Water Resource Management

1. The base of the side slopes of the North Expansion Area remains unvegetated from the last audit period. For an extended period over the audit period, this area was left unvegetated and susceptible to erosion. CDM recommends that CLI implement temporary stormwater control measures to minimize erosion from the disturbed areas if any future delays arise prior to completion of the final cover installation.

Groundwater Monitoring

2. CDM recommends that CLI consistently report the results of all confirmation sampling to the IEPA regardless of whether the confirmation sampling indicates a confirmed increase. This will provide assurance that all observed increases have been adequately addressed.

Miscellaneous

3. CDM recommends that CLI abandon all inactive subsurface monitoring devices in order to minimize potential sampling/monitoring errors. This includes locating and abandoning piezometer P303 in accordance with the Permit.

4. CDM recommends that CLI repair the falling bollards surrounding groundwater monitoring well G51D.

5. CDM recommends CLI more evenly distribute the collection of semi-annual samples in the future.

6. During the June 5, 2006 site visit, it was observed that clean C&D debris was being utilized as a road base material for the South Expansion perimeter road (outside of the permitted limit of waste). CDM recommends that CLI contact IEPA to determine the appropriate course of action to resolve this issue.

7. CDM recommends that additional quality assurance be performed on gas monitoring results to ensure that necessary responses are completed in accordance with the applicable permits. Internal (i.e., WMI) or external (e.g., SWANA) training should continue to be reinforced to gas monitoring personnel to ensure an understanding of the applicable regulations.

8. CDM recommends that CLI supplement their existing Complaint Log to document mud tracking and other road quality related complaints in addition to odor complaints.

Section 1
Introduction

1.1 Purpose

The Solid Waste Agency of Lake County (SWALCO) entered into a disposal agreement with Countryside Landfill, Inc. (CLI) on June 23, 1994. This agreement guaranteed waste disposal of 14,000,000 cubic yards of Lake County waste at CLI for 20 years from January 1997 to January 2017. In accordance with Section 4.10 in the waste disposal agreement, Camp Dresser & McKee, Inc. (CDM) has been contracted by SWALCO to conduct an audit of CLI. The audit is divided into five major tasks. These include a review of each of the following:

Task 1 - Compliance with Illinois EPA Operating Permit

Task 2 - Compliance with Lake County and Village of Grayslake Siting and Operation Criteria

Task 3 - Site Hydrogeology/Groundwater and Leachate Monitoring

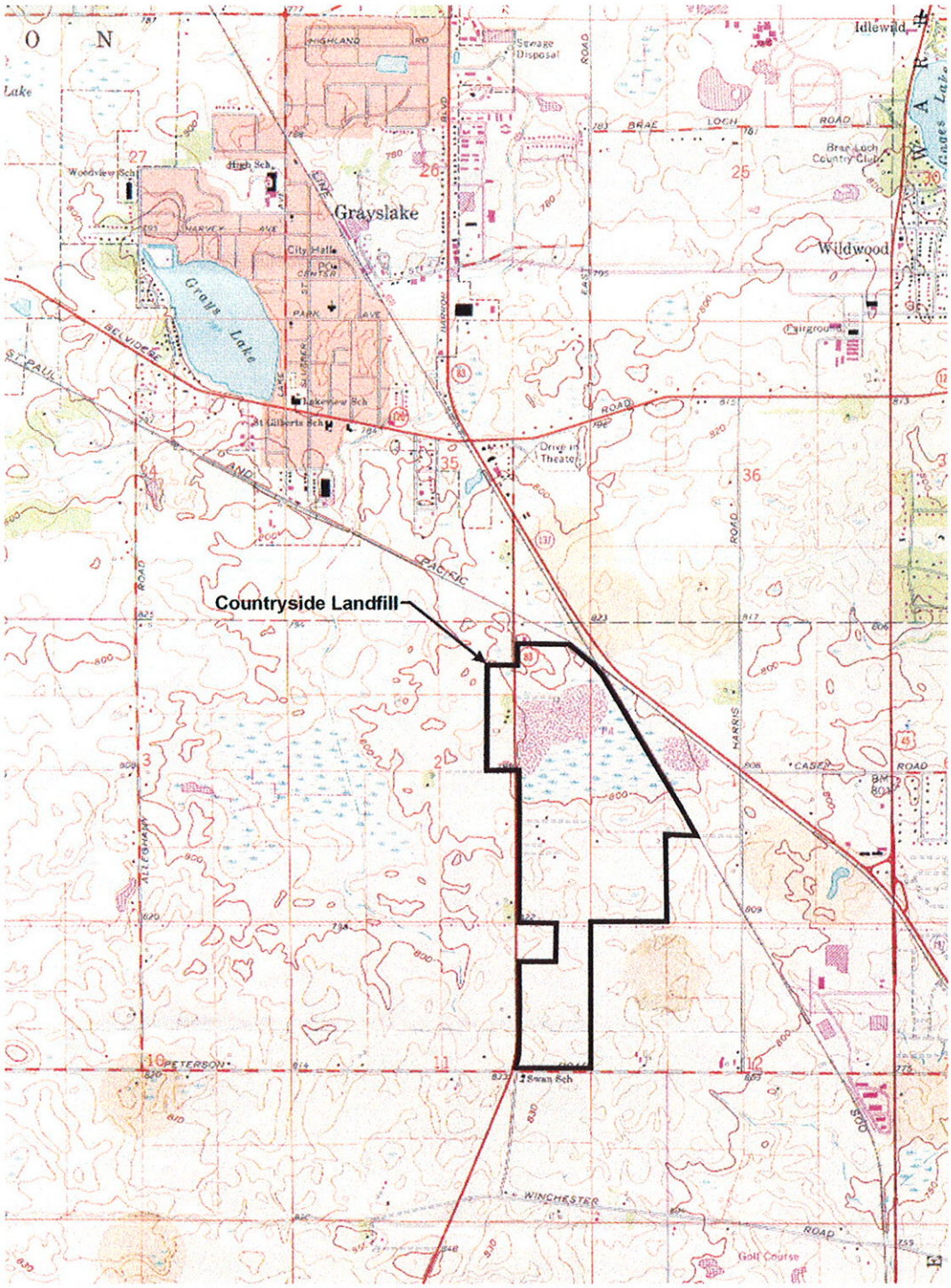
Task 4 - Site Operations

Task 5 - Closure and Post-Closure Activities and Funding

The audit was completed using several sources of data. Materials prepared by CLI, regulatory agencies, and consultants to CLI, were obtained and reviewed by CDM. These materials included permit applications, permits, plan sets, inspection reports, and monitoring data. A complete list of the information reviewed is provided in Section 8 of the report. In addition to the previously prepared materials, CDM visited Countryside Landfill on June 5 and June 14, 2006 to observe and inspect the physical and operational characteristics of the site. Observations concentrated on daily operations related to waste acceptance, waste placement, and cover soil management; surface water diversion ditches, storm water detention facilities, and erosion and sediment control measures; landfill gas collection and disposal; groundwater monitoring and leachate monitoring/management. The detailed results of the audit are provided in this report.

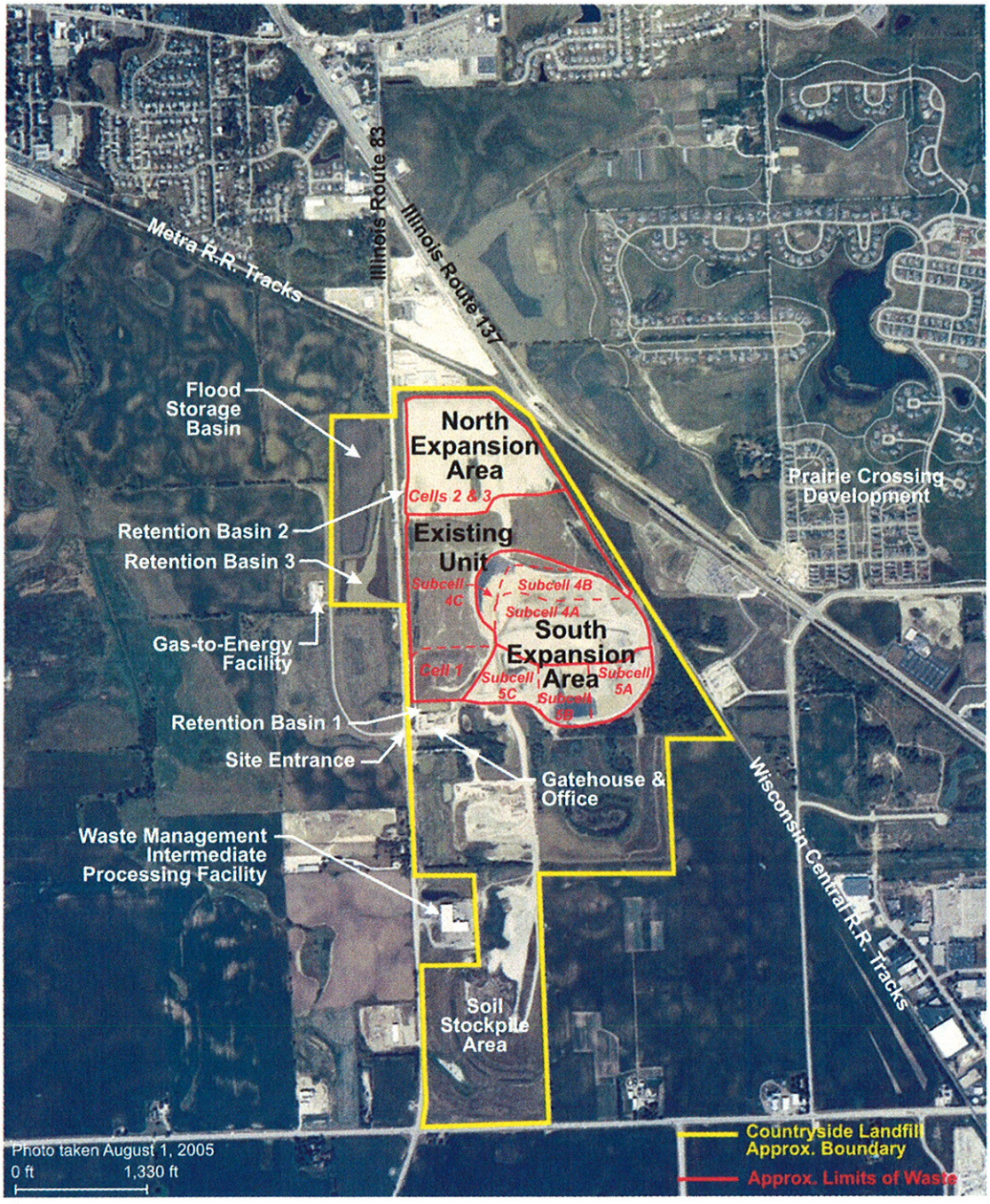
1.2 Site Location and Description

Countryside Landfill is located in unincorporated Lake County, Illinois on Illinois Route 83 approximately one mile south of Illinois Route 120. **Figure 1-1** shows the location of the landfill on the Grayslake USGS quad map, and **Figure 1-2** shows the general layout of the landfill. As shown, the permitted landfill is located on an approximately 201-acre parcel of land near the Village of Grayslake. South of the landfill operations and located on 142-acres are ancillary operations. Sixty-four acres of the 142-acres are referred to as the Material Recovery Facility (MRF) property. The MRF property is located within the Village of Grayslake.



Source: USGS Grayslake Quadrangle Topographic Map dated 1980
Scale: 1:24,000

Figure 1-1
Site Location
Waste Management Countryside Landfill
Lake County, Illinois



Source: Aerial photograph taken on June 28, 2004 by Aero-Metric, Inc.

Figure 1-2
Site Plan
Waste Management Countryside Landfill
Lake County, Illinois

The facility, previously known as the ARF Landfill, was first permitted as a solid waste landfill in 1976. Subsequently, the facility was purchased by USA Waste Services, Inc. in 1991, and was renamed Countryside Landfill. In 1998 USA Waste Services, Inc. merged with Waste Management, Inc. (WMI) and WMI is the current owner and operator of the facility.

On September 27, 1995, the Illinois Environmental Protection Agency (IEPA) approved a lateral and vertical expansion of the existing landfill (referred to as the Existing Unit). The expansion includes 21.8 acres immediately north of the Existing Unit (referred to as the North Expansion Area), and 41.6 acres immediately south of the Existing Unit (referred to as the South Expansion Area). The 70.2-acre Existing Unit has also been expanded vertically. The landfill is permitted to dispose of municipal and non-hazardous special waste.

It is estimated that the expansion increased the disposal capacity of the landfill by 14.4 million in-place cubic yards, for a minimum of 21 years (30 years expected) of operating life. Construction of the expansion is being conducted in seven phases. The first phase of the landfill expansion (Cell 1), located southwest of the Existing Unit, was permitted to accept waste in February 1997. No waste has been placed in Cell 1 since December 1997 and an intermediate cover is currently in-place. Waste placement in Cell 2 and Cell 3 began in November 1997 and August 1998, respectively. No waste was placed in Cells 2 or # during the audit period and an intermediate cover is currently in place. During the audit period, waste was disposed of in Cell 4 and Subcell 5A of the South Expansion Area. Cell 5 consists of three subcells, named A, B and C. Subcell 5A was permitted to accept waste in December 2004. The construction acceptance report for Subcell 5B was approved through Significant Modification No. 72, however, refuse disposal has not occurred to date. A map of the landfill cell locations is provided in **Appendix A.**

Section 2
IEPA Operating Permit

2.1 IEPA Operating Permit Criteria

CDM has reviewed the Illinois Environmental Protection Agency (IEPA) Bureau of Land (BOL) Operating Permit (provided in **Appendix B** - hence forth referred to as the "Permit") as last amended on May 10, 2006 per Modification No. 72 to the original Permit No. 1994-479-LF, and commented on the status of the 129 criteria specified in the Permit. These comments are shown below.

Based on CDM's scope of work, its actual observations during site visits, and the information provided by SWALCO and CLI, which CDM has relied upon the accuracy and completeness thereof, it is CDM's professional opinion that the Countryside Landfill is in compliance with its Permit during the audit period except for the items noted henceforth. CDM's opinion in this matter is based upon CDM's knowledge, information and belief, formulated in accordance with applicable standards of practice, and as such does not constitute a guaranty or warranty, either expressed or implied, nor does it represent the direct views of the IEPA and any other regulatory agency that may have regulatory jurisdiction over the facility.

2.1.1 Summary of Apparent Violations

CDM has reviewed the Permit as last amended on May 10, 2006 per Modification No. 72 to the original Permit No. 1994-479-LF.

Based on CDM's review, CLI was also not in compliance with the following five conditions of the Permit during the audit period (June 1, 2005 through May 31, 2006). A summary of the regulation and the apparent violation follows.

Condition II.2 - The operator of this solid waste facility shall not conduct the operation in a manner which results in any of the following...

i. deposition of refuse in any unpermitted (i.e., without an Illinois EPA approved significant modification authorizing operation) portion of the landfill;...

Status: During the June 5, 2006 site visit, it was observed that clean construction and demolition (C&D) debris (predominantly concrete and brick) was being utilized as a road base material for the South Expansion perimeter road (outside of the permitted limit of waste). On June 20, 2006, CDM staff spoke to the IEPA regarding the placement of clean C&D outside the permitted limits of waste at a landfill facility. IEPA indicated that the material should be considered a "waste" under Section 3.160(B) of the Illinois Environmental Protection Act, since the following criteria do not apply:

"(i) used as fill material outside of a setback zone if the fill is placed no higher than the highest point of elevation existing prior to the filling immediately adjacent to the fill area, and if covered by sufficient uncontaminated soil to support vegetation within 30 days of the completion of filling or if covered by a road or structure, or

(ii) separated or processed and returned to the economic mainstream in the form of raw materials or products, if it is not speculatively accumulated and, if used as a fill material, it is used in accordance with item (i) within 30 days of its generation, or

(iii) solely broken concrete without protruding metal bars used for erosion control, or

(iv) generated from the construction or demolition of a building, road, or other structure and used to construct, on the site where the construction or demolition has taken place, a manmade functional structure not to exceed 20 feet above the highest point of elevation of the property immediately adjacent to the new manmade functional structure as that elevation existed prior to the creation of that new structure, provided that the structure shall be covered with sufficient soil materials to sustain vegetation or by a road or structure, and further provided that no such structure shall be constructed within a home rule municipality with a population over 500,000 without the consent of the municipality."

As the observed material does not satisfy any of the aforementioned criteria, the IEPA stated that this situation appeared to constitute a violation of Section 3.160(B) of the Illinois Environmental Protection Act. They stated that the debris should be considered a waste material and should not be stored at the site without proper authorization and permitting from the IEPA. This is an apparent violation of Section II(2)(i) of the Permit. The placement of clean C&D debris in an unpermitted portion of the landfill requires a permit modification. CDM recommends that CLI contact the IEPA to determine the appropriate course of action to resolve this issue.

The placement of this material without a permit is also an apparent violation of the following sections of the Illinois Environmental Protection Act:

Section 21(a) - "No person shall cause or allow for the dumping of waste."

Section 21(d)(1) - "No person shall conduct any waste-storage, waste-treatment, or waste disposal without permit by the Agency.

Section 21(d)(2) - "No person shall conduct any waste-storage, waste-treatment, or waste disposal in violation of any regulations or standards adopted by the Board under this Act..."

Condition VII.6 – The schedule for leachate sample collection and submission of monitoring results is as follows:

Sampling Quarter	Sampling Due	Report Due Date
Jan. – Feb. (1st)	All leachate analysis points, List L1	April 15

April – May (2nd)	Leachate analysis points L105 and L106, List L1	July 15
July – Aug. (3rd)	All leachate analysis points, Lists L1 & L2	October 15
	LREP List 3	October 15
Oct – Nov (4th)	Leachate analysis points L105 and L106, List L1	January 15

L1 – Routine Leachate Parameters
L2 – Annual Leachate Parameters
L3 – Annual TCLP Leachate Parameters
LREP – Representative Leachate Sample

The leachate monitoring data alluded to above as well as that required by Condition VII.8 below, must be submitted in an electronic format. Additional guidance regarding the submittal of the information in an electronic format can be found at www.epa.state.il.us/land/waste-mgmt/groundwater-monitoring.html.

Status: The table below shows the leachate sampling and submission dates for this audit period.

Sampling Quarter	Sampling Collection Date	Date Report Submitted	Report Due Date
Jan. – Feb. (1st)	02/21/2006	04/14/2006	April 15
April – May (2nd)	06/01/2005	07/14/2005	July 15
July – Aug. (3rd)	09/15/2005	10/14/2005	October 15
Oct – Nov (4th)	11/16/2005	01/13/2006	January 15

The reports were submitted in electronic format and in accordance with the Permit schedule. The leachate sampling was conducted in accordance with the Permit schedule with the exception of the following:

The 2nd Quarter 2005 leachate sampling was conducted on June 1, 2005 and the 3rd Quarter 2005 leachate sampling was conducted on September 15, 2005. This is an apparent violation of the leachate sampling schedule in Condition VII.6 of the Permit.

Condition VIII.4 – Within 60 days of installation of any groundwater monitoring well, boring logs prepared by a qualified geologist, well development data and as-built diagrams shall be submitted to the Illinois EPA utilizing the enclosed "Well Completion Report" form. For each well installed pursuant to this permit, one form must be completed.

Status: Three groundwater monitoring wells were installed during the current audit period. Wells R27U and R55D were installed to replace wells G27U and G55D, respectively. These wells were completed on November 11, 2005 and soil boring logs, Illinois EPA well completion reports, and hydraulic conductivity test results were submitted to the Illinois EPA on January 5, 2006, which was within the 60 day limit. Well development records for the replacement wells R27U and R55D were not included in the submittal to the Illinois EPA dated January 5, 2006 which is an

apparent violation of Condition VIII.4 of the Permit. CLI submitted the missing information to the IEPA on June 30, 2006.

Condition VIII.14 – For each round of sampling described in Condition VIII.10 of this Section, the operator must determine if an observed increase has occurred within 45 days of the date the samples were collected. If an observed increase is identified, the operator must also notify the Illinois EPA in writing within ten days and follow the confirmation procedures of 35 IAC, Section, 811.319(a)(4)(B). Furthermore, the operator must complete the confirmation procedures within 90 days of the initial sampling event.

Status: CLI has notified the Illinois EPA of the observed increases and confirmed increases found in 2nd, 3rd, and 4th quarters of 2005 and in the 1st quarter of 2006, with the following exceptions:

The 4th Quarter 2005 sampling event result for manganese (d) at well G22U was 99 ug/L, which was a fourth consecutive increase. This result was not identified as an observed increase and confirmation procedures were not initiated. This is an apparent violation of Condition VIII.14 of the Permit.

The 1st Quarter 2006 sampling event result for boron (d) at well G53D was 580 ug/L, which was a fourth consecutive increase. This result was not identified as an observed increase and confirmation procedures were not initiated. This is an apparent violation of Condition VIII.14 of the Permit.

All other confirmation sampling was conducted within the required time frame of 90 days, however, the confirmation sampling for the observed increase of phenol at G10U in the 1st Quarter 2006 was conducted but the results were not included in the confirmation sampling notification letter dated May 16, 2006. CDM recommends that CLI consistently report the results of all confirmation sampling to the IEPA regardless of whether the confirmation sampling indicates a confirmed increase. This will provide quality assurance that all observed increases have been adequately addressed.

Condition VIII.15 – Within 90 days of confirmation of any monitored increase, the operator shall submit a permit application for a significant modification to begin an assessment monitoring program in order to determine whether the solid waste disposal facility is the source of the contamination and to provide information needed to carry out a groundwater impact assessment in accordance with 35 IAC, Section 811.319(b).

Status: Significant Modification No. 69 (Log No. 2005-328, submitted August 17, 2005) approved assessment monitoring plans for 1st Quarter 2005 confirmed increases. Modification No. 70 (Log No. 2005-456, submitted November 18, 2005) approved assessment monitoring plans for 2nd Quarter 2005 confirmed increases. Modification No. 72 (Log No. 2006-056, submitted February 13, 2006) approved assessment monitoring plans for 3rd Quarter 2005 confirmed increases. Permit application log number 2006-174, submitted May 17, 2006 proposed assessment

monitoring plans for 4th Quarter 2005 confirmed increases and is currently pending. A notice of 1st Quarter 2006 confirmed increases was submitted to the IEPA on May 16, 2006. The deadline for submittal of an assessment monitoring plan for these confirmed increases does not fall within the current audit period.

The assessment monitoring plans were submitted as part of permit applications for significant modification within the required time frame of 90 days and in accordance with the permit with the following exceptions:

During the 3rd Quarter 2005 sampling event, a fourth consecutive increase of manganese (d) was detected at well G222U with a concentration of 85 ug/L. The result of confirmation sampling was 81 ug/L, which is still greater than the result of the previous quarter (51 ug/L in the 2nd Quarter 2005). This confirmed increase was not reported by CLI in the 3rd Quarter 2005 Groundwater Monitoring Assessment Proposal (Log No. 2006-056) which is an apparent violation of Condition VIII.15 of the Permit.

During the 4th Quarter 2005 sampling event, a fourth consecutive increase of boron (d) was detected at well G53D with a concentration of 570 ug/L. The result of confirmation sampling was also 570 ug/L. This confirmed increase was not included in the 4th Quarter 2005 Groundwater Monitoring Assessment Proposal (Log No. 2006-174) which is an apparent violation of Condition VIII.15 of the Permit.

Condition IX.4 – All buildings within the facility boundaries shall be monitored continuously for methane.

Status: Continuous methane monitoring devices (Sierra Monitoring Corporation Model 2001 Combustible Gas Monitors) are located in all buildings on the site including the Main office, North Garage, East Garage, Scale House, Compressor building and the Truck Wash. The monitoring device located in the truck wash building has been inoperable and subsequently removed between March 2006 and June 14, 2006. This is an apparent violation of Condition IX.4 of the Permit. In order to prevent methane gas build up in the truck wash the entrance and exit doors are left open to promote air circulation.

2.1.2 Status of Criteria

The current status of the Permit requirements, as well as CDM's comments, are shown below. The numbering system employed is in conjunction with the requirements of the Permit.

I. CONSTRUCTION QUALITY ASSURANCE

1. All necessary surface drainage control facilities shall be constructed prior to other disturbance in any area.

Status: The storm water management system and control facilities were originally constructed as required prior to operation of the landfill. During the last audit, the surface at the southeast perimeter of the landfill, near the active portions near Subcell

4A, was not vegetated and no silt fencing had been installed here. At that time, CDM recommended that silt fencing be installed at this area to minimize the impact of silt to the adjacent perimeter ditch. During the June 14, 2006 inspection, the slope had been seeded and was covered with straw matting to keep the seeding in place and maintain moisture. This vegetation should help reduce the impacts to the adjacent perimeter ditch.

2. No part of the new unit shall be placed into service or accept waste until an acceptance report for all the activities listed below has been submitted to and approved by the Illinois EPA as a significant modification pursuant to 35 IAC, Sections 811.505(d) and 813.203. The CQA plan approved by the original permit is replaced by the revised CQA plan of Log 2000-197.

    a. Compaction of the subgrade and foundation to design parameters;
    b. Installation of the compacted earth/synthetic liner and final cover system;
    c. Installation of the leachate drainage, collection and management systems;
    d. Construction of ponds, ditches, lagoons and berms; and
    e. Installation of gas control facilities.

Status: Permit Modification No. 68 (Log No. 2005-295) approved the Construction Acceptance Report for the 4C construction activities on November 4, 2005. Modification No. 70 dated February 15, 2006, approved the *Construction Acceptance Report Gas Management System Construction Expansion No. 6*, including the installation and operation of two gas wells (W-152 and W-140R). The Construction Acceptance Report for the Subcell 5B construction activities was submitted to the IEPA on September 20, 2005 and approved on May 10, 2006 via Permit Modification No. 72 (Log No. 2005-363).

3. The permittee shall designate an independent third party contractor as the Construction Quality Assurance (CQA) Officer(s). The CQA Officer(s) shall be an Illinois Certified Professional Engineer who is independent from and not under the control or influence of the operator, any employee of the operator, or any other corporation, company or legal entity that is a subsidiary, affiliate, parent corporation or holding corporation associated with the operator.

Status: Mr. Sam L. Efein, P.E. of Earth Tech, Inc. served as the CQA Officer, and Ken Medhi, Dipal Chodhary, and Hasan (Sid) Damra served as the CQA Officers-in-Abstentia for the construction of Subcell 4C. Mr. Sam Efein of Earth Tech, Inc. served as the CQA Officer and Ken Medhi served as the CQA Monitor/CQA Officer-in-Absentia for the construction of modifications to the gas management system, Construction Expansion No. 6. Mr. Sam L. Efein, P.E. of Earth Tech, Inc. served as the CQA Officer, and Chirag Nanavati, Ken Medhi, and Hasan (Sid) Damra served as the CQA Officers-in-Abstentia for the construction of Subcell 5B.

4. The CQA Officer(s) designated pursuant to Condition I.3 shall personally be present during all construction and testing that is subject to CQA certification pursuant to 35 IAC, Section 811.503(a). If the CQA Officer(s) is unable to be present as required, then a written explanation and signed statement must be provided for each absence pursuant to 35 IAC, Section 811.503(b).

Status: The CQA Officer, Mr. Efein, was on-site periodically throughout all major construction activities that required CQA monitoring for the construction of Subcells 4C and 5B, and modifications to the gas management system. For the majority of the construction period when the CQA Officer was not present at the site, CQA Officers-in-Absentia, Chirag Nanavati, Dipal Chodhary, Hasan (Sid) Damra, and/or Ken Medhi were present.

5. The clay liner shall be tested for density and moisture content at the average of one test per 10,000 ft^2 per lift.

Status: This condition is not applicable to the construction of Subcell 4C, as there is no compacted clay component in the liner system. According to Earth Tech, Inc. *Construction Acceptance Report, Subcell 5B, Countryside Landfill* moisture/density tests were performed at intervals of 6-inches with a Troxler 3440 nuclear density gauge in accordance with ASTM Procedures D2922 and D3017. A total of 262 tests were performed over the 24,000 cubic yards of material placed, this is approximately one test per 92 cubic yards. Field/density test results were all within the calculated acceptable zone and satisfied the minimum requirement for 90 percent of the Standard Proctor maximum dry density. The clay liner was applied in six inch lifts for a total height of three feet. Therefore, six lifts were applied at 217,800 square feet each for a total of 1,306,800 square feet. Also according to the CQA report, the clay soil was tested 262 times for in-situ density/moisture content. Therefore, the clay liner was tested on average every 4,989 square feet per lift, thus meeting this requirement.

6. A minimum of one laboratory permeability test shall be performed per three acres of liner soil placed.

Status: This condition is not applicable to the construction of Subcell 4C, as there is no compacted clay component in the liner system. According to Earth Tech, Inc. *Construction Acceptance Report, Subcell 5B,* the subcell is 5 acres (217,800 square feet). Three samples were obtained from the clay liner, exceeding the requirement of one test per three acres of liner soil.

7. If the clay portion of the liner is exposed to freezing conditions, it must be certified or recertified by the CQA officer designated pursuant to 35 IAC, Section 811.502 pursuant to 35 IAC, Section 811.321 (b)(4). This certification must be provided to the Illinois EPA prior to disposal of waste on the subject portion of the liner. If operating authorization has not yet been issued for that area, the recertification shall be included in the application for Significant Modification of Permit to Obtain Operating Authorization for that area.

Status: This condition is not applicable to the construction of Subcell 4C, as there is no compacted clay component in the liner system. Mr. Sam Efein, the CQA Officer from Earth Tech, recertified the clay portion of the Subcell 5B liner on December 27, 2005. The IEPA approved the certification through Permit Modification No. 72 dated May 10, 2006.

8. Pursuant to 35 IAC, Section 811.505(d), upon completion of construction of each major phase, the CQA Officer(s) shall submit an acceptance report to the Illinois EPA. The acceptance report shall be submitted before the structure is placed into service and shall contain the following:

    a. A certification by the CQA Officer(s) that the construction has been prepared and constructed in accordance with the engineering design;
    b. As-built drawings; and
    c. All daily summary reports.

Status: The necessary information was provided in the Construction Acceptance Reports for Subcell 4C, Subcell 5B and the Gas Management System Construction, Expansion No. 6.

9. The following procedure may be used for the completion of the drainage layer over a sidewall liner that has been previously approved by a significant modification to operate (Modification No. 20).

    a. The operator shall maintain a minimum "freeboard" of one (1) foot between the top edge of the drainage layer and waste.
    b. Just prior to the incremental drainage layer installation, the sidewall liner in that area shall be inspected. Any damaged areas shall be reconstructed in accordance with the Construction Quality Assurance program approved by this permit.
    c. After each increment of the drainage layer up the sidewall is completed, the operator shall provide written notification and documentation to the Illinois EPA's Des Plaines Regional Office and the Lake County Health Department. Upon receipt of the notification, the inspector shall be allowed fifteen (15) days to examine the construction. The Illinois EPA is not obligated to approve the construction or certification. The operator may dispose of refuse against the new increment of drainage layer after the fifteen day period if, having complied with the terms of this condition, the operator is not informed of the problem by the Illinois EPA or its agents.

    d. At the same time the Des Plaines Regional Office and the Lake County Health Department is given a notification that an increment of the sidewall drainage layer has been completed, the Permit Section shall be provided with the information required in an acceptance report pursuant to 35 IAC 811.505(d) on its construction.

Status: CLI submitted the construction acceptance report prepared by Earth Tech, Inc. regarding the incremental sand placement in Subcell 5A to both the IEPA and Lake County Health Department on June 24, 2005. The reports indicated that there was a minimum of one foot of freeboard between the top edge of the existing drainage layer and the top of waste, complying with subsection (a) of this requirement. The reports also indicated that the HDPE liner of Subcell 5A was inspected by Earth Tech, Inc. prior to the incremental sand placement thereby complying with subsection (b) of this requirement. The inspection noted the liner was intact with no visible signs of any damage prior to material placement.

10. Applications for operating authorization shall not be made for areas of less than 1.5 acre increments.

Status: All expansion cells are larger than 1.5 acres. Subcell 3C, currently the smallest active subcell, covers approximately 2.0 acres. Subcell 4C covers approximately 4.5 acres. Subcell 5B covers approximately 5 acres.

11. All stakes and monuments marking property boundaries and the permit area shall be maintained, inspected annually and surveyed no less frequently than once in five years by a professional land surveyor.

Status: R.E. Allen is currently under contract to maintain and survey the property monuments on at least an annual basis. The monuments are also inspected throughout the year as they are in constant use. The last inspection was conducted in June 2005. The last property boundary survey was conducted in May 2005.

12. All standards for testing the characteristics and performance of materials, products, systems and services shall be those established by the American Society for Testing and Materials (ASTM) unless otherwise stated in the permit application.

Status: CLI's Construction Quality Assurance Program ensures compliance with this requirement.

13. The design modification to the leachate drainage layer is approved in accordance with Log 1997-004, and shall exhibit hydraulic conductivity of 1×10^{-2} cm/sec or greater. The granular layer in the leachate drainage layer shall be a minimum thickness of 1.0 foot.

Status: According to the Earth Tech, Inc. *Construction Acceptance Report Subcell 4C*, the leachate drainage layer has a tested hydraulic conductivity of 1.18×10^{-2} cm/sec. According to the Earth Tech, Inc. *Construction Acceptance Report Subcell 5B*, the leachate drainage layer has a tested hydraulic conductivity of 1.19×10^{-2} cm/sec. Also, the CQA Officer verified that the minimum thickness was being achieved.

14. Application for significant modification for operating authorization for the gas-to-energy plant shall be submitted to Illinois EPA, Bureau of Land, Permit Section by the end of the ninth month of the one-year shakedown period.

Status: The Construction Quality Assurance report was submitted to the IEPA on September 7, 2001 (Log No. 2001-348), prior to the November 1, 2001 deadline.

15. Sixty-mil geomembranes used at this facility for bottom liner systems in compliance with 35 IAC, Section 811.306(d)(5)(A) shall have a minimum thickness of 57 mil and an average thickness no less than 60 mil. The thickness of geomembranes shall not be determined using ASTM D 1593.

Status: This condition only applies to construction performed after January 1, 2002 and therefore applies to Subcell 4C and 5B. According to the Earth Tech, Inc. *Construction Acceptance Report Subcell 4C*, the geomembrane for Subcell 4C has an average thickness of no less than 62 mil and a minimum thickness of no less than 57 mil. The thickness of the geomembrane was determined using ASTM D 5994. According to the Earth Tech, Inc. *Construction Acceptance Report Subcell 5B*, the bottom liner system of Subcell 5B has an average thickness of no less than 60 mil and a minimum thickness of no less than 57 mil. The thickness of the geomembrane was determined using ASTM D 5994.

16. Construction Specifications in Volume V, Part VII-A of Log 1994-479 do not apply for construction activities implemented after issuance of Modification No. 33, in accordance with Application Log No. 2001-052.

Status: According to the construction acceptance reports for Subcell 4C and Subcell 5B, the lining system of Subcell 4C and Subcell 5B were constructed according to the Construction Quality Assurance Plan approved by Permit Modification No. 31 in March 2001 and revised by Permit Modification 36 in December 2001.

17. The placement of refuse on the Subcell 5B base liner outside of the shaded area shown on Drawing No. 3 titled "Record Top of Liner Grades" submitted in the addendum dated April 26, 2006 to application Log No. 2005-363 is subject to the following conditions:

    a. Refuse disposal in the above referenced base liner areas shall only commence upon completion of placement of the drainage layer.

    b. The above referenced areas of the base liner shall be inspected and all damaged areas reconstructed in accordance with the construction quality assurance plan;

    c. The inspection and placement of the drainage layer shall be completed within sixty (60) days of the issuance of this permit;

    d. Upon completion of placement of drainage layer on the bottom liner, the operator shall provide written notification and documentation to the Illinois EPA's Des Plaines Regional Office and the Lake County Health Department. Upon receipt of notification, the inspector shall be allowed fifteen (15) working days to examine the construction. The Illinois EPA is not obligated to approve the construction or

certification. The operator may dispose refuse in the above referenced areas of the base liner after the fifteen day period if, having complied with the terms of the condition, the operator is not informed of a problem by the Illinois EPA or its agents; and

e. At the same time the Des Plaines Regional Office and the Lake County Health Department is given a notification that the drainage layer in the above referenced areas of the base liner has been completed, the Permit Section shall be provided with the information required in an acceptance report pursuant to 35 Ill. Adm. Code 811.505(d).

(Modification No. 72)

Status: Permit Modification No. 72 was approved on May 10, 2006, therefore, the inspection and placement period of sixty (60) days has not been reached. In order to be in compliance with this condition, CLI needs to provide written notification and documentation of the completion of placement of drainage layer on the bottom liner to the Illinois EPA's Des Plaines Regional Office and the Lake County Health Department by July 9, 2006.

II. OPERATING CONDITIONS

1. Pursuant to 35 IAC, Section 811.107(a) and 811.107(b), throughout the operating life of this landfill, waste shall not be placed in a manner or at a rate which results in unstable internal or external slopes or interference with construction, operation or monitoring activities.

Status: CLI did not experience a slope failure during the audit period. No slope failures have occurred at the landfill to date. Waste is currently being placed in accordance with the general intent of 35 IAC Section 811.107 according to CDM's observations of landfill operations observations and LCHD site inspection reports.

2. The operator of this solid waste facility shall not conduct the operation in a manner which results in any of the following:

   a. refuse in standing or flowing waters;
   b. leachate flows entering waters of the State;
   c. leachate flows exiting the landfill confines (i.e., the facility boundaries established for the landfill in a permit or permits issued by the Illinois EPA);
   d. open burning of refuse in violation of Section 9 of the Environmental Protection Act;
   e. uncovered refuse remaining from any previous operating day or at the conclusion of any operating day, unless authorized by permit;
   f. failure to provide final cover within time limits established by Board regulations;
   g. acceptance of wastes without necessary permits;

h. scavenging as defined by Board regulations;

i. deposition of refuse in any unpermitted (i.e., without an Illinois EPA approved significant modification authorizing operation) portion of the landfill;

j. acceptance of a special waste without a required manifest and identification record;

k. failure to submit reports required by permits or Board regulations;

l. failure to collect and contain litter from the site by the end of each operating day;

m. failure to submit any cost estimate or any financial assurance mechanism for the facility as required by Section 21.o.13 of the Act.

Status: Based on CDM's observations of operations during various site visits, Lake County Health Department Inspection Reports, and the information in the Lake County Health Department annual local siting criteria review report, CLI has generally taken the appropriate measures to comply with the conditions specified with the following exception.

During the June 5, 2006 site visit, it was observed that clean construction and demolition (C&D) debris (predominantly concrete and brick) was being utilized as a road base material for the South Expansion perimeter road (outside of the permitted limit of waste). On June 20, 2006, CDM staff spoke to the IEPA regarding the placement of clean C&D outside the permitted limits of waste at a landfill facility. IEPA indicated that the material should be considered a "waste" under Section 3.160(B) of the Illinois Environmental Protection Act, since the following criteria do not apply:

> "(i) used as fill material outside of a setback zone if the fill is placed no higher than the highest point of elevation existing prior to the filling immediately adjacent to the fill area, and if covered by sufficient uncontaminated soil to support vegetation within 30 days of the completion of filling or if covered by a road or structure, or
>
> (ii) separated or processed and returned to the economic mainstream in the form of raw materials or products, if it is not speculatively accumulated and, if used as a fill material, it is used in accordance with item (i) within 30 days of its generation, or
>
> (iii) solely broken concrete without protruding metal bars used for erosion control, or
>
> (iv) generated from the construction or demolition of a building, road, or other structure and used to construct, on the site where the construction or demolition has taken place, a manmade functional structure not to exceed 20 feet above the highest point of elevation of the property immediately adjacent to the new manmade functional structure as that elevation existed prior to the creation of that new structure, provided that the structure shall be covered

with sufficient soil materials to sustain vegetation or by a road or structure, and further provided that no such structure shall be constructed within a home rule municipality with a population over 500,000 without the consent of the municipality."

As the observed material does not satisfy any of the aforementioned criteria, the IEPA stated that this situation appeared to constitute a violation of Section 3.160(B) of the Illinois Environmental Protection Act. They stated that the debris should be considered a waste material and should not be stored at the site without proper authorization and permitting from the IEPA. This is an apparent violation of Section II(2)(i) of the Permit. The placement of clean C&D debris in an unpermitted portion of the landfill requires a permit modification. CDM recommends that CLI contact IEPA to determine the appropriate course of action to resolve this issue.

The placement of this material without a permit is also an apparent violation of the following sections of the Illinois Environmental Protection Act:

Section 21(a) - "No person shall cause or allow for the dumping of waste."

Section 21(d)(1) - "No person shall conduct any waste-storage, waste-treatment, or waste disposal without permit by the Agency.

Section 21(d)(2) - "No person shall conduct any waste-storage, waste-treatment, or waste disposal in violation of any regulations or standards adopted by the Board under this Act..."

3. Moveable, temporary fencing shall be used to prevent blowing litter when the refuse is above the natural ground line. The revised litter control plan contained in Application Log 1999-239 is approved. Notwithstanding the revised litter control plan, failure to collect and contain blowing litter and/or debris from the site at the end of each operating day is a violation of the Act, at Section 21(o)(12) and of the regulations, at 35 IAC 811.106(a and b) and 811.107(k).

Status: To control blowing litter, CLI utilized 18 portable wind fences in the area of the active face and perimeter wire fencing during the current audit period.

4. At the end of each day of operation all exposed waste shall be covered with:

   a. Clean soil at least six (6) inches thick (i.e., conventional daily cover);
   b. A geotextile fabric (Fabrisoil)
   c. Woodchips (6 inch layer) in accordance with Log 1997-009;
   d. Shredded tires (6 inch layer) in accordance with Log 1997-009;
   e. Petroleum-contaminated soil (6 inch layer) in accordance with Log 1997-009; or
   f. Four mil plastic panels in accordance with Log 1999-032.

Status: Four mil plastic panels were primarily used as ADC. According to CLI's ADC log, no petroleum-contaminated soil was used as ADC during the audit period. Clean soil was used on August 13, 2005, October 29, 2005, November 9, 2005, December 10, 2005, December 17, 2005, January 14, 2006, January 24, 2006, February 4, 2006, February 11, 2006, February 18, 2006, March 4, 2006, March 13, 2006, March 31, 2006, and April 1, 2006. Geotextile fabric, woodchips, and shredded tires were not utilized as ADC during the audit period.

5. The alternate daily covers (ADC) described above are approved materials pursuant to 35 IAC, Sections 811.106(b) and 812.111(b), and shall be subject to the following conditions:

   a. If any alternate materials other than those approved by this permit are to be used, their use must be approved by the Illinois EPA through the permit process.

   b. At any one time, the total area, using alternate materials as daily cover, shall be no more than 6,000 square yards. Beyond this maximum, conventional daily cover shall be used on all areas in which waste has been disposed and to which intermediate or final cover has not been applied.

   c. Areas upon which alternate daily cover has been used must be covered with either conventional cover or additional waste within six days.

   d. Conventional daily cover in accordance with 35 IAC 811.106(a) shall be used if weather or other conditions adversely affect the ability of the alternate cover materials to prevent problems with blowing litter, fire, odors, or vectors.

   e. Alternate daily covers shall be anchored adequately to prevent wind damage. If the panels are torn during or after placement they must be repaired immediately or the damaged area must be covered with six inches (6") of daily cover soil. If tires are used as weights for the alternate daily cover, they shall be converted tires, in accordance with 35 IAC, Part 848: Management of Used and Waste Tires.

   f. When an alternate daily cover is applied, the operator shall keep a record including a description of the weather conditions, the type of alternate cover used and its performance. A summary of this information shall be provided with this facility's annual reports.

   g. Alternate daily covers may not be reused for any purpose (including road underlayment and erosion control) outside of permitted disposal boundaries.

   h. If the Illinois EPA's Field Operations Section determines that an alternate material is not performing satisfactorily as daily cover, the operator shall cease using it as daily cover immediately upon receipt of written notification of such determination.

Status: According to CLI's ADC log, only materials approved by Condition II.4 were used as ADC and ADC was not applied to an area greater than 6,000 square yards

(54,000 sq ft) during the audit period. According to CLI, conventional cover is used during inclement weather to prevent blowing litter. Areas on which daily cover was used were covered with conventional waste or additional waste within six days. Soil, rather than used tires, was used to anchor the four mil plastic panels during the audit period. CDM reviewed the ADC log for CLI, and found it to contain the needed information per criteria II.5.f. Based on CLI's ADC log and Lake County Health Department Inspection Reports reviewed by CDM, CLI is in compliance with the conditions specified.

6. Foundry sand shall not be used as alternate daily cover.

Status: According to CLI and CLI's ADC Information Log, foundry sand was not utilized as an ADC during the audit period.

7. When woodchips are used as alternate daily cover, keep records; use only on areas that drain to the active leachate drainage and collection system; no stockpile; once disposed, woodchips shall not be removed; and, if this alternate cover fails to fulfill the requirements of 35 Ill. Adm. Code, 811.106(b), another approved alternate cover or soil shall be used.

Status: According to CLI and CLI's ADC Information Log, woodchips were not used for ADC during the audit period.

8. When shredded tires are used as an alternate daily cover, keep records; use only on areas that drain to the active leachate drainage and collection system; no stockpile; once disposed, shredded tires shall not be removed; and, if this alternate cover fails to fulfill the requirements of 35 Ill. Adm. Code 811.106(b), another approved alternate cover or soil shall be used.

Status: According to CLI and CLI's ADC Information Log, shredded tires were not utilized as ADC during the audit period.

9. When petroleum-contaminated soil is used as an alternate daily cover, the following conditions apply:

    a. The petroleum contaminated soil must be non-hazardous.
    b. Each load of petroleum contaminated soil to be used as daily cover shall be inspected to ensure that its use will not generate odors and will minimize the threat of fire. The operator shall maintain a log of these inspections including, but not limited to, the date, a description of the soil contaminant, the generator name, number, and the amount of soil cubic yards. The logs shall be maintained in the operating record for the facility and shall be available for Illinois EPA inspection upon request.
    c. The petroleum contaminated soil must only be used in areas of a landfill where any leachate flowing off the petroleum contaminated soil cover (rainfall in contact with petroleum contaminated soil is leachate) would drain into the leachate management system and not to

surface water, e.g., never place petroleum contaminated soil as an ADC on outside slopes.

d. Petroleum contaminated soil with obnoxious odors or soil with debris shall not be used as alternate daily cover.

e. No stockpile of petroleum contaminated soil will be allowed. All petroleum contaminated soil received each day must be used as daily cover or disposed at the active face.

f. Once placed as daily cover or disposed, petroleum contaminated soil shall not be removed.

g. The requirements of 35 Ill. Adm. Code 811.106(b)(1-4) shall be met at all times.

h. It should be noted that this project includes air emissions sources which may require a construction permit from the Division of Air Pollution Control. You may apply for a construction permit by completing the attached application forms. Submit them to the Bureau of Air, Permit Section #11 at the address above.

Status: According to CLI's ADC Log, contaminated soil was not utilized as ADC during the audit period.

10. No later than 60 days after placement of the final lift of waste in any area, the area shall receive a final cover system meeting the design specifications approved in this permit application. The low permeability layer shall consist of a layer of minimum 40 mils thick overlain by a final protective layer as described in Application Log No. 1994-479. The total thickness of the final protective layer shall not be less than three feet. The description and specifications of the final protective layer of the final cover system are those approved by Modification No. 33, proposed in Application Log No. 2001-052.

Status: A portion of the final cover system was installed along the base of the sideslopes of the Northern Expansion Area during the audit period. The lower portions on the east and west sides of the Existing Unit have received final cover.

11. All waste not covered within 60 days of placement with additional waste or final cover shall have an intermediate cover of compacted clean soil with a minimum thickness of one (1) foot applied to it.

Status: Currently, intermediate cover is placed on the entire Cell 1, Cell 2, Cell 3, Existing Unit and a portion of Cell 4. The placement of the intermediate cover on Cell 1 was finalized in November 1997. Additional intermediate cover was placed on Cells 2 and 3 during the previous audit period.

12. The operator shall implement a load checking program that meets the requirements of 35 IAC, Section 811.323. If regulated hazardous waste or other unacceptable wastes are discovered, the Illinois EPA shall be notified no later than 5:00 p.m. the next business day after the day it is detected. The load checker shall prepare a report describing the results of each inspection. A

summary of these reports shall be submitted to the Illinois EPA as part of this facility's annual report.

Status: CLI trains its operators and active face workers on a continual basis to identify unacceptable waste. This training prevents CLI from having to dispose of unacceptable waste themselves after the truck hauling the waste leaves the landfill. CLI also conducts random load inspections on three loads per week. The landfill personnel conducting the random load inspection then completes a random load inspection form. CDM reviewed the 156 random load inspection reports between June 3, 2005 and May 22, 2006 and found that no loads inspected randomly were found to contain prohibited waste.

13. Management of Unauthorized Waste:

    a. Landscape waste found to be mixed with municipal waste will be removed the same day and transported to a facility that is operating in accordance with the Act, Title V, Section 21 and 35 IAC, Parts 830-832.
    b. Lead-acid batteries will be removed the same day and transported either to a drop-off center handling such waste, or to a lead-acid battery retailer.
    c. Potentially infectious medical waste (PIMW) found to be mixed with municipal waste shall be managed in accordance with 35 IAC, Subtitle M.
    d. Asbestos debris from construction-demolition shall be managed in accordance with the National Emission Standards for Hazardous Air Pollutants (NESHAPS) regulations.
    e. Tires found to be mixed with municipal waste shall be removed and managed in accordance with 35 Ill. Adm. Code Part 848.
    f. White good components mixed with municipal waste shall be removed and managed in accordance with Section 22.28 of the Act.
    g. This facility is prohibited from disposing any waste containing polychlorinated bi-phenyls (PCB's) in concentration greater than allowed, pursuant to the Toxic Substance Control Act (TSCA).
    h. After the unauthorized waste has been removed, a thorough cleanup of the affected area will be made according to the type of unauthorized waste managed. Records shall be kept for three years and will be made available to the Illinois EPA.

Status: According to CLI, any unacceptable materials identified by CLI staff are returned to the hauling vehicle and transported off-site. In the event that unacceptable materials are discovered after the hauling vehicle has left the site, the unauthorized waste is removed from the active face by CLI operators and properly disposed or recycled off-site. CLI maintains a record of these said unauthorized waste management activities which includes information such as the date the unauthorized waste was identified, the type of unauthorized waste, the generator/customer and the corrective action taken. During the audit period, there

were eight occurrences of rejected waste (six times were for white goods and twice for yard waste). In all cases, the rejected waste was returned to the customer for appropriate disposal.

14. Operating hours are those hours during which waste may be accepted. For this facility, the operating hours shall be limited to 6:00 a.m. to 4:00 p.m., Monday through Friday, Saturday 7:00 a.m. to 12:00 noon, and 7:00 a.m. to 2:00 p.m. on a Saturday on a holiday week.

Status: CLI currently accepts waste between 6:00 AM and 4:00 PM, Monday through Friday, Saturday 7:00 AM to 11:30 AM, and 7:00 AM to 1:00 PM on a Saturday after a holiday. Security fencing is in place at the site to insure no after hours delivery.

15. If it is required for the facility to be open beyond normal operating hours to respond to emergency situations, a written record of the date(s), times and reason the facility was open shall be made part of the operating record for the facility. The Illinois EPA-FOS Regional Office, and when applicable, the county authority responsible for inspections of this facility per a delegation agreement with the Illinois EPA shall be notified no later than 5:00 p.m. the next business day following the acceptance of waste outside the specified operating hours.

Status: CLI requested to operate extended hours to 1:00 PM on the following Saturdays: June 3, 2005, July 8, 2005, September 9, 2005, and November 25, 2005. The purpose of these extended hours was to accommodate area haulers "catching up" from the holidays. The Village of Grayslake was notified of the circumstances requiring extended hours of operation on January 16, 2006 pursuant to Section 15A of the Village's Host Agreement.

16. Adequate lighting shall be provided for outdoor activities at the landfill occurring before sunrise or after sunset.

Status: CLI currently owns one portable lighting unit and rents one portable lighting unit to provide adequate lighting of the active face during the morning hours of the winter months.

17. Road building materials may be stockpiled on-site in the amount estimated to be needed within the next construction season provided they are managed in accordance with 35 IAC, Section 811.108(c)(1).

Status: Road-building materials, such as broken concrete, brick, asphalt pieces, and woodchips, are stockpiled on-site. According to CLI, the quantities stockpiled at any given time, are less than the maximum volume allowed.

18. Equipment shall be maintained and available for use at the facility during all hours of operation to allow proper operation of the landfill. If breakdowns occur that would prevent proper facility operation, back-up equipment shall be brought into the site.

Status: CLI has stated that operating machinery is available for use at the landfill at all times.

19. All utilities, including but not limited to heat, lights, power, communications equipment and sanitary facilities necessary for safe, efficient and proper operation of the landfill shall be available at the facility at all times.

Status: During the audit period, no power outages were experienced at the landfill. CLI has a portable generator for electricity back-up at the active face, the office building, and the gatehouse if needed. The generator is available to operate the flare, also, though it was not utilized during the audit period.

20. Waste shall be deposited at the fill face and compacted upward into the till face unless precluded by extreme weather conditions or for reasons of safety.

Status: Based on CDM's operations observations and Lake County Health Department Inspection Reports, CLI uses acceptable landfill operation procedures for the placement of waste.

21. The operator shall implement methods for controlling dust so as to prevent wind dispersal of particulate matter off-site.

Status: For interior landfill roads, CLI utilizes a water truck for dust control. CLI also contracts for daily vacuum sweeping of Route 83. During periods of construction the earthwork contractor provides a second water truck to aid in dust control of interior landfill roads. In addition, as required by the Title V permit, CLI has implemented a *Wind Erosion/Fugitive Particulate Matter Monitoring & Control Plan* dated May 2003.

22. The facility shall be constructed and operated to minimize the level of equipment noise audible outside the facility. The facility shall not cause or contribute to a violation of 35 IAC, Parts 900 through 905.

Status: CDM's observations and Lake County Health Department Inspection Reports indicate noise created from activities within the landfill is considered typical of landfill operations. CLI did not receive a noise complaint during the audit period.

23. The operator shall implement measures to control the population of disease and nuisance vectors.

Status: In order to deter birds and other disease vectors, CLI utilizes daily cover of the active face, noisemakers, propane cannon, and fireworks.

24. The operator shall institute fire protection measures in accordance with the proposed fire safety plan.

Status: Fire protection at CLI is conducted in accordance with the site's fire safety plan, which was last updated on August 4, 2004.

25. The facility shall implement methods to prevent tracking of mud by hauling vehicles onto public roadways.

Status: To prevent mud from exiting the landfill, CLI utilizes a tire wash facility (as approved by the IEPA per Significant Modification No. 6) on rainy or wet days. In addition, CLI contracts for daily vacuum sweeping of Route 83 and the entrance to the facility. CDM recommends that CLI maintain a log documenting dates and times that the truck wash is operated.

26. Access to the active area and all other areas within the boundaries of the facility shall be controlled by use of fences, gates and natural barriers to prevent unauthorized entry at all times.

Status: Access to the landfill is currently limited to the main entrance gate and other maintenance gates, all of which are locked during non-operating hours. Also, fencing surrounds the landfill property to prevent unauthorized entry.

27. A permanent sign shall be maintained at the facility entrance containing the information required under 35 IAC, Section 811.109(b)(1-5).

Status: CDM reviewed the sign located at the facility entrance during a site visit and have verified the sign contains the required information.

28. This permit approves construction and operation of a tire wash unit at the facility in accordance with Log 1997-009.

Status: The tire wash unit was installed and is operated in accordance with Modification No. 6.

29. Washing of landfill operating equipment with a low volume, high-pressure washer as proposed in application Log No. 2004-195 is hereby approved, subject to the following conditions:

    a. The spent spray from washing landfill operating equipment is leachate, as defined in 35 Ill. Adm. Code, 810.103 and shall be managed as such; and

    b. This activity shall be limited to the active disposal areas of the landfill.

Status: During the audit period, CLI regularly washed dozers and compactors at the active face. Light washing of landfill equipment, such as engines, occurred in the maintenance facilities, which drains to the septic system.

III. ACCEPTANCE OF SPECIAL WASTE

1. The permittee is authorized to accept non-hazardous special waste that meets the definition of industrial process waste or pollution control waste as found in Section 3.235 and 3.335, respectively, of the Act, provided the generator complies with the following requirements:

   a. The waste is analyzed in accordance with the requirements of Conditions III.3 and complies with the acceptance criteria in the approved waste analysis plan;

   b. The waste is delivered by an Illinois licensed special waste hauler or an exempt hauler as defined in 35 IAC, Section 809.211; and

   c. The waste is accompanied by a manifest, if required.

Status: For each of the special waste loads received from October 10 through October 14, 2005 and April 10 through April 14, 2006, CDM reviewed the special waste documentation (waste profile/pre-acceptance form, gate ticket, and laboratory analysis) associated with each load. CLI accepted 95 special waste loads between October 10 and October 14, 2005 and 58 special waste loads between April 10 and April 14, 2006. Based on the reviewed data, CLI accepts special waste in accordance with this condition. All special waste loads reviewed by CDM were accompanied by a manifest, all special waste loads were hauled to CLI by a licensed special waste hauler and all required documentation was on file at the CLI premises including pre-acceptance form, associated laboratory analytical data, and manifest copies.

In addition to accepting special waste, CLI is allowed to accept certified non-special waste per the Illinois Environmental Protection Act Section 22.48. According to Section 22.48 of the Act, certified non-special waste must be analyzed similar to special waste to determine its categorization as non-special waste. The following documentation is to accompany the non-special waste certification (excerpt from Section 22.48 of the Act):

- The means by which the generator has determined the waste is non-hazardous;
- The means by which the generator has determined the waste is not a liquid;
- If the waste undergoes testing, the analytical results obtained from testing, signed and dated by the person responsible for completing the analysis;
- If the waste does not undergo testing, an explanation as to why no testing is needed;
- A description of the process generating the waste; and
- Relevant Material Safety Data Sheets.

Between October 10 and October 14, 2005 and between April 10 and April 14, 2006, CLI accepted certified non-special waste from 8 generators. The certified non-special

waste included 71 loads of contaminated soil from BP/Amoco. The documentation on file at CLI includes the generator certification sheets and waste profile sheets with accompanied analytical results.

2. The permittee shall obtain a completed Special Waste Pre-acceptance form and a pre-acceptance analysis from each generator. In addition, the annual Generator Recertification form, which certifies the waste has not changed since the last analysis, must be completed and included in the operating record. A complete lab analysis must be provided with the exceptions listed below.

   Analysis shall be conducted using SW-846 test methods. The waste shall be reanalyzed at least every five years and must identify the actual concentration of each chemical constituent and state of each physical parameter. In all cases a copy of the lab analysis (on lab letterhead and signed by a responsible party such as the person conducting the analysis or his supervisor) must be included in the operating record with the special waste pre-acceptance form (Profile Identification Sheet). The analysis may not be greater than one year old at the time it is received by the landfill operator. A new analysis is required if the composition of the waste changes (normal variations in waste composition are expected and are not included in this requirement). All waste must be analyzed as follows:

   a. The permittee shall obtain the following lab analyses to determine the concentrations of the following parameters: Paint Filter Test, Flash Point, Sulfide (reactive), Cyanide (reactive), Phenol (total), pH, and Toxicity Characteristic Constituents

   b. The following conditions are applicable to any waste streams containing a liquid phase(s) (fails paint filter):

      i. Each phase must be analyzed for total organic halogen (TOX) using the test method specified in 35 Ill. Adm. Code, Part 729. Any waste containing 10,000 PPM or greater of TOX must be analyzed to determine the specific constituents, and their concentrations, that make up TOX. These constituents and their concentration should be reported on the lab analysis report. Any liquid containing multiple phases must include individual analyses for each phase.

      ii. For liquids that do not meet the liquid disposal criteria in Condition II.9, the pre-acceptance documentation must include a description of the solidification method used at the generating site (or off-site permitted treatment facility) with test results demonstrating that the solidified waste passes the paint filter test.

      iii. If a waste is used to solidify the liquid (i.e., two or more wastes are mixed) all required testing must be performed on the

solidified product. Otherwise, all testing (except paint filter) may be performed on the waste before solidification and a statement from the generator may be accepted certifying that the additives used have been evaluated and there is no reason to believe they would cause the waste to become hazardous.

c. The permittee shall obtain analysis for reactive sulfides and cyanides. For waste containing 250 ppm or greater reactive cyanide or 500 ppm or greater reactive sulfide it is presumed hazardous pursuant to 35 Ill. Adm. Code, Section 721.123(a)(5) unless specific information to show it does not present danger to human health or the environment is provided. Analysis for total sulfide and/or cyanide may be substituted for reactive concentrations if they are equal to or less than 10 ppm. For wastes containing greater than 10 ppm reactive cyanide or reactive sulfide, the permittee shall not accept the waste unless the generator provides a signed and dated statement indicating that none of the following have occurred:

   i. The waste has never caused injury to a worker because of H2S and/or HCN generation;

   ii. That the OSHA work place air concentration limits for H2S and/or HCN have not been exceeded in areas where the waste is generated, stored or otherwise handled; or

   iii. That air concentrations of H2S and/or HCN, above 10 ppm, have not been encountered in areas where the waste is generated, stored or otherwise handled.

d. The Permittee shall obtain analysis for phenols. If the total phenol concentration is greater than 1000 ppm, the waste will be required to be drummed and labeled, unless justification that this precaution is not necessary is provided. The justification must demonstrate skin contact is unlikely during transport or disposal.

e. The Permittee shall obtain metals and organics analysis. You may utilize either procedure (i.e., total or TCLP), but any constituent whose total concentration exceeds the TCLP limit specified in 35 Ill. Adm. Code, Section 721.124 must be analyzed using the TCLP test and the results reported, unless an alternative test has been approved by the Illinois EPA. TCLP methods must be in accordance with SW 846-1311.

f. Pursuant to 35 IAC 722.111, the generator of a solid waste is required to determine if the waste is hazardous and comply with all applicable hazardous waste regulations. For any waste that has been determined to be hazardous, the results of quality assurance testing for the treatment program, taken at an appropriate frequency to demonstrate the waste is no longer hazardous must be obtained. Verification that

the waste meets the land disposal restrictions must also be documented. These requirements are in addition to the other standard special waste test requirements.

g. EXCEPTIONS:

i. The generator may certify that the eight pesticides (D012, D013, D014, D015, D016, D017, D020 and D031) would not reasonably be expected to be present in their waste based on the nature of the generator's business.

ii. Petroleum contaminated media and debris from LUST sites subject to corrective action regulation under 35 IAC, Part 731 are temporarily exempt from complete TCLP analysis and the generator may limit analyses to flashpoint, paint filter test and TCLP lead.

iii. For off-specification, unused or discarded commercial or chemical products, an MSDS to determine the hazardous constituents present may be used in lieu of analytical results.

h. CLARIFICATIONS:

Notwithstanding the exception for manufactured gas plant waste contained in 35 IAC 721.124(a), no manufactured gas plant waste shall be disposed in a non-hazardous waste landfill, unless the waste: i) has been tested in accordance with subsection (e) of this special condition, and ii) the analysis has demonstrated that the waste does not exceed the regulatory levels for any contaminant given in the table contained in 35 IAC 721.124(b).

Status: CDM reviewed the special waste profile/pre-acceptance form and laboratory analysis for 153 special waste loads received by CLI during the periods of October 10 through October 14, 2005 and April 10 through April 14, 2006. The pre-acceptance of these special waste loads was found by CDM to meet the requirements of this condition. Also, WMI special waste technical manager, Joseph Kash, reviews all special wastes prior to acceptance. According to CLI, Mr. Kash reviews all required laboratory analysis to determine its compliance with this Permit. CLI did not receive any manufactured gas plant waste during the audit period.

3. Special waste generated due to an emergency situation may be disposed without complete TCLP analysis if:

a. The disposal facility ensures that the generator has received an incident number from the Illinois Emergency Management Agency at 1/800/782-7860 within Illinois or 1/217/782-7860 outside of Illinois and,

b. The disposal facility receives authorization from the Emergency Response Unit at 1/217/782-3637 and,

c. The waste is analyzed for the required chemical constituents.

Status: According to CLI, no special waste was accepted due to an emergency situation during the audit period.

4. The Special Waste Pre-acceptance format shall be utilized for the special waste profile identification requirements of 35 IAC, Section 811.404(a).

Status: The Special Waste Pre-acceptance format required by 35 IAC 811.404(a) requires the following information: generator's name and address, transporter's name and telephone number, name of waste, processing generating waste, physical characteristics of waste, chemical characteristics of waste, metals content of waste, hazardous characteristics, presence of PCBs, and any other testing information. The WMI special waste pre-acceptance form requests the required data.

5. The Annual Generator Recertification for Disposal Special Waste form shall be utilized for the special waste recertification requirements of 35 IAC, Section 811.404(b).

Status: One recertified special waste was reviewed by CDM that was accepted by CLI between April 10 and April 14, 2006. The recertification form utilized for the reviewed waste contained the information required by 35 IAC 811.404(b).

6. An individual waste stream permit is no longer required by the Illinois EPA for this facility. Therefore, a waste stream permit number will no longer be required on the manifest when shipping waste to this facility as authorized by this permit.

Status: No action needed.

7. The operator shall retain all special waste records until the end of the post-closure period in accordance with 35 IAC, 811.405.

Status: CLI maintains all of their special waste records at the CLI landfill office in accordance with 35 IAC 811.405.

8. No liquid waste as determined by the Paint Filter Test shall be disposed unless the waste is from a household or is in a small container similar in size to that normally found in household waste and the container was designed for use other than storage. The prohibition applies to on-site generated wastes except for leachate or gas condensate that is specifically approved for recirculation into the landfill by permit. However, minor amounts of liquid resulting from precipitation (rain, sleet, hail or snow) during transport and disposal operations shall not be constructed as a violation of this condition.

Status: According to CLI, liquid waste was not accepted during the audit period.

IV. RECORDKEEPING

1. Information developed by the operator but not yet forwarded to the Illinois EPA in a quarterly or annual report shall be kept at or near the facility for inspection by the Illinois EPA upon request during normal working hours.

Status: The information that will be compiled into a quarterly and/or annual report is maintained at the CLI landfill office.

2. Information and observations derived from load checking inspections shall be recorded in writing and retained at the facility for at least 3 years.

Status: A minimum of three years of random load checking reports are maintained at the CLI landfill. CDM inspected random load inspection reports dated from June 3, 2005 through May 22, 2006.

3. Every person who delivers special waste to a special waste hauler, every person who accepts special waste from a special waste hauler and every special waste hauler shall retain a copy of the special waste transportation record as a record of each special waste transaction. These copies shall be retained for 3 years and shall be made available at reasonable times for inspection and photocopying by the Illinois EPA pursuant to Section 4(d) of the Act.

Status: CLI retains a minimum of three years of manifests at the landfill office, as verified by CDM.

4. The operator of the solid waste management facility shall retain copies of any special waste profile identification sheets, special waste recertifications, certifications of representative samples, special waste laboratory analyses, special waste analysis plans, and any waivers of requirements, at the facility until the end of the closure period and thereafter at the Site Office until the end of the post-closure care period.

Status: The required special waste information is retained at the CLI landfill office.

5. Inspections of the closed landfill shall be conducted in accordance with the approved post-closure care plan. Records of field investigations, inspections, sampling and corrective action taken are to be maintained at the site and made available to Illinois EPA personnel. During the post-closure care period, those records are to be maintained at the office of the site operator.

Status: Not applicable during the current audit period as the landfill is still active.

6. The owner or operator shall record and retain near the facility in an operating record or in some alternative location specified by the Illinois EPA, the information submitted to the Illinois EPA pursuant to 35 IAC, Parts 812 and 813, as it becomes available. At a minimum, the operating record shall contain

the following information, even if such information is not required by 35 IAC, Part 812 or 813:

a. Any location restriction demonstration required by 35 IAC, Sections 811.302, 812.109, 812.110, 812.303, and 812.305;

b. Inspection records, training procedures, and notification procedures required by 35 IAC, Section 811.323;

c. Gas monitoring results and any remediation plans required by 35 IAC, Sections 811.310 and 811.311;

d. Any MSWLF unit design documentation for placement of leachate or gas condensate in a MSWLF unit required by 35 IAC, Section 811.107 (m);

e. Any demonstration, certification, monitoring results, testing, or analytical data relating to the groundwater monitoring program required by 35 IAC, Sections 811.319, 811.324, 811.325, 811.326, 812.317, 813.501 and 813.502;

f. Closure and post-closure care plans and any monitoring, testing, or analytical data required by 35 IAC, Sections 811.110, 811.111, 812.114(h), 812.115 and 812.313; and

g. Any cost estimates and financial assurance documentation required by 35 IAC Part 811, Subpart G.

Status: CLI maintains the records required by this condition either on-site or at Iron Mountain, a document storage service. According to CLI, documents can be obtained from Iron Mountain within 24 hours of a request.

V. GENERAL CONDITIONS

1. This permit is issued with the expressed understanding that no process discharge to Waters of the State or to a sanitary sewer will occur from these facilities except as authorized by a permit issued by the Bureau of Water Pollution Control.

Status: CLI does not discharge any process wastes other than sanitary waste to the sanitary sewer nor does CLI discharge any process waste to a body of water. Therefore, CLI does not require a permit issued by the Bureau of Water Pollution Control.

2. If changes occur which modify any of the information the Permittee has used in obtaining a permit for this facility, the Permittee shall notify the Illinois EPA. Such changes would include but not be limited to any changes in the names or addresses of both beneficial and legal titleholders to the herein-permitted site. The notification shall be submitted to the Illinois EPA within fifteen (15) days of the change and shall include the name or names of any parties in interest and the address of their place of abode; or, if a corporation, the name and address of its registered agent.

Status: No changes were made to this information during the audit period.

3. Pursuant to 35 IAC, Section 813.201(a), any modifications to this permit shall be proposed in the form of a permit application and submitted to the Illinois EPA.

Status: Requested permit modifications have been submitted to the IEPA in the form of a permit application as required by this condition.

4. Pursuant to 35 IAC, Section 813.301, an application for permit renewal shall be filed with the Illinois EPA at least 90 days prior to the expiration date of this permit.

Status: No action required during the audit period. The Permit will expire on September 15, 2010. CLI is to submit a permit renewal no later than June 17, 2010.

5. Enclosures referenced in this permit have not been changed and remain valid.

Status: No action required.

6. Current, valid Prior Conduct Certification pursuant to 35 Ill. Adm. Code Part 745 is required for all operators of landfills that require a permit.

Status: Mr. Michael Hey is the operator of Countryside Landfill, and therefore requires Prior Conduct Certification. On April 22, 2005, CLI received notice from the IEPA that the Prior Conduct Certification Annual Update report for Mr. Hey was received. As required, the next update was submitted by April 22, 2006. CLI had not received notice from the IEPA as of July 7, 2006.

7. Landfill Operator Certification pursuant to 68 IAC Part 870 is required for operation of a landfill.

Status: Based on CDM's review of certification documents, Mr. Hey is currently certified by the IEPA as a Class A/Special Waste Endorsement Landfill Operator. Mr. Hey's most recent certification was issued on September 11, 2002, and will expire on July 24, 2006.

VI. SURFACE WATER CONTROL

1. Runoff from disturbed areas to waters of the State shall be permitted by the Illinois EPA in accordance with 35 IAC, Part 309, and meet the requirements of 35 IAC, Part 304 unless permitted otherwise.

Status: CDM's findings and observations indicate that CLI has obtained all required permits for the site in accordance with 35 IAC Part 309. There is no evidence that runoff (effluent) from the site is in violation of the standards set forth in 35 IAC Part 304.

2. All surface water control structures other than temporary diversions for intermediate phases shall be operated until the final cover is placed and erosional stability is provided by the final protective layer of the final cover system.

Status: Surface water control structures were constructed and have not been removed.

3. Runoff from undisturbed areas resulting from precipitation events less than or equal to the 25-yr., 24-hour precipitation event shall be diverted around disturbed areas where possible and not commingled with runoff from disturbed areas.

Status: The east and west ditches were designed and constructed to direct runoff from the facility. The southern portion of the perimeter run-on ditch was constructed in May 2005. The purpose of this ditch is to divert and transport stormwater from around Cell 5 to the existing run-on ditch east of the landfill.

4. Site surface drainage, during development, during operation and after the site is closed, shall be managed in accordance with the approved drainage control plan detailed in Permit Application Log Nos. 1994-479 and 1996-081, minor design changes and construction documented in Permit Application Log No. 1997-383, and surface water run-on management modification proposed in Log No. 2004-294 (Modification No. 61).

Status: The approved drainage plan was implemented as per the Permit, Modification No. 2 and Modification No. 12. The system is currently managed as designed and approved.

VII. LEACHATE MANAGEMENT/MONITORING

1. Pursuant to 35 IAC, Section 811.309(h)(1), leachate from this landfill shall be collected and disposed beginning as soon as it is first produced and continuing for at least thirty (30) years after closure. Collection and disposal of leachate may cease only when the conditions described in 35 IAC, Section 811.309(h)(3) have been achieved. Leachate generated in the North and in the South Disposal Areas may be recirculated in the North and South Disposal Areas in accordance with Application Log No. 1994-479. Leachate removed from this landfill shall be treated at an Illinois EPA permitted facility in accordance with the leachate management plan proposed in Permit Application Log No. 1994-479, as modified by Permit Application Log No. 1998-047 and Permit Application Log No. 1998-223.

    a. The revised design of the permit leachate storage tanks and secondary containment liner is approved in accordance with Permit Application Log 1998-223.

    b. Removal of the compacted clay barrier in the leachate control trench and changing the leachate collection pipe in the leachate control trench

to a 4-inch corrugated polyethylene pipe are approved in accordance with Application Log No. 1997-425.

c. When leachate is sampled per the schedule in Condition VII.6 below, the temporary leachate storage tanks shall also be sampled. If a tank has no leachate stored, report "No leachate" for that tank. Report each tank for each sampling event.

Status: CDM has reviewed CLI's agreement for offsite disposal of leachate at the Kenosha Water Utility Plant in Kenosha, Wisconsin. CDM has verified that sampling of the leachate storage tanks is in accordance with the schedule in Condition VII.6.

2. Pursuant to 35 IAC, Section 811.307(a) and (b), 811.308(a) and (h), and 811.309(a), leachate shall be pumped from the side slope riser sump(s) before the level of leachate rises above the invert of the collection pipe(s) at its lowest point(s). Leachate removal as such shall be performed throughout the period that the leachate collection/management system must be operated in accordance with Permit Application Log Nos. 1994-479 and 1996-081, and 2000-026.

   a. The operator shall measure the leachate head level quarterly in the existing (old) fill area throughout the 30-year post-closure period. The schedule for head level measurement is specified at Condition VII.8.

   b. The operator shall maintain the leachate elevation at least 1 ft. below the groundwater phreatic surface in the existing (old) fill area. The elevation of leachate at L112 shall be provided to the Illinois EPA in the Annual Report.

Status: Leachate head levels for the existing (old) fill area are recorded quarterly and submitted in the IEPA Bureau of Land Annual Report as specified. Leachate head levels for the existing (old) fill area are monitored at monitoring point at R112. Based on the current language of the Permit, the groundwater elevation in R02U should be used to determine the phreatic surface. The minimum recorded groundwater elevation at R02U during the audit period was 791.23 feet above mean sea level (AMSL). The leachate elevation at R112 was at least one foot below the groundwater phreatic surface during each quarter of the current audit period. The maximum recorded leachate elevation at R112 during the audit period was 779.68 feet AMSL.

3. In the event that the leachate monitoring program detects a constituent in the leachate that is not already in the parameter lists for the groundwater monitoring program, the operator shall, within 90 days of such detection, submit to the Illinois EPA a permit application which either:
   a. Proposes to add the constituent to the groundwater monitoring program; or
   b. Demonstrates why adding the constituent to the groundwater monitoring program is not necessary or appropriate.

Status: Leachate monitoring data from 2nd Quarter through 4th Quarter 2005 and 1st Quarter 2006 was provided for review. During the 3rd Quarter 2005, the organic constituent beta-BHC (storet no. 39338) was detected at leachate monitoring points L101, L102, and L103. This constituent was not on the parameter lists for the groundwater monitoring program. As part of the permit application (Log No. 2006-019), CLI proposed adding this constituent to the G2 list for groundwater monitoring. This application was approved by Modification 71 and groundwater monitoring for beta-BHC will begin in the 2nd Quarter 2006.

4. The following monitoring points are to be used in the Leachate Monitoring Program for this facility.

Leachate Monitoring Points

Applicant Designation	Illinois EPA Designation
North Fill Area	
Sump No. 1	L101
Sump No. 2	L102
Leachate Tanks	L118
Existing (Old) Fill Area	
Lift Station 3	L103
Lift Station 4	L104
South Fill Area	
Sump No. 3	L105
Sump No. 4	L106

Leachate Head Level Monitoring Points

North Area Point	L111
Existing (Old) Area Point	L112
South Area Point	L113

Status: Leachate is currently monitored at L101, L102, L103, L104, L105, L106, L111 (head level only), R112 (Replacement of L112; head level only), and L118. L113 is scheduled for installation at the time Subcell 5C is placed into service, which is expected to occur in 2007.

5. Pursuant to 35 IAC, Sections 811.309(g), 811.319(a)(1)(C)(ii), 810.103, 722.111 and 721, Subpart C, leachate monitoring (i.e., sampling, measurements and analysis) must be started at each leachate monitoring point when that device accumulates a measurable quantity of leachate for the first time. The concentrations or values for the parameters contained in List L1 shall be determined on a semi-annual basis for each "producing" monitoring point and submitted with the quarterly groundwater reports.

The concentrations for the parameters contained in List L2 shall be determined annually. Each year, the permittee shall collect a representative leachate sample and have it tested for the parameters contained in List L3. Condition VII.6 presents the sampling, testing and reporting schedules in tabular form. Leachate monitoring at

each monitoring point shall continue as long as groundwater monitoring at this landfill is necessary pursuant to 35 IAC, Section 811.319 (a)(1)(C).

Notes for all leachate monitoring parameters:

a. Flashpoint shall be reported in degrees Fahrenheit. The parameters for reactivity and toxicity shall be reported in parts per million.

b. The permittee shall obtain metals and organics analysis. Either procedure may be utilized (i.e., total or TCLP), but any constituent whose total concentration exceeds the TCLP limit specified in 35 IAC, Section 721.124 must be analyzed using the TCLP test and the results reported, unless an alternative test has been approved by the Illinois EPA. TCLP test methods must be in accordance with SW 846-1311.

c. The test methods for leachate monitoring shall be those approved in the USEPA's Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846), Third Edition or the equivalent thereof.

d. All parameters shall be determined from unfiltered samples.

e. The monitoring results shall be reported in ug/l unless otherwise indicated.

Status: Leachate monitoring is conducted in accordance with the Permit with the following exceptions; a sample could not be collected form monitoring point L105 during the 2nd Quarter 2005, 4th Quarter 2005, and 1st Quarter 2005 sampling event, as the leachate sump was dry, a sample also could not be collected from monitoring point L106 during the 4th Quarter 2005, as the leachate sump was dry.

6. The schedule for leachate sample collection and submission of monitoring results is as follows:

Sampling Quarter	Sampling Due	Report Due Date
Jan. – Feb. (1st)	All leachate analysis points, List L1	April 15
April – May (2nd)	Leachate analysis points L105 and L106, List L1	July 15
July – Aug. (3rd)	All leachate analysis points, Lists L1 & L2	October 15
	LREP List 3	October 15
Oct – Nov (4th)	Leachate analysis points L105 and L106, List L1	January 15

L1 – Routine Leachate Parameters
L2 – Annual Leachate Parameters
L3 – Annual TCLP Leachate Parameters
LREP – Representative Leachate Sample

The leachate monitoring data alluded to above as well as that required by Condition VII.8 below, must be submitted in an electronic format. Additional guidance regarding the submittal of the information in an electronic format

can be found at www.epa.state.il.us/land/waste-mgmt/groundwater-monitoring.html.

Status: The table below shows the leachate sampling and submission dates for this audit period.

Sampling Quarter	Sampling Collection Date	Date Report Submitted	Report Due Date
Jan. – Feb. (1st)	02/21/2006	04/14/2006	April 15
April – May (2nd)	06/01/2005	07/14/2005	July 15
July – Aug. (3rd)	09/15/2005	10/14/2005	October 15
Oct – Nov (4th)	11/16/2005	01/13/2006	January 15

The reports were submitted in electronic format and in accordance with the Permit schedule. The leachate sampling was conducted in accordance with the Permit schedule with the exception of the following:

The 2nd Quarter 2005 leachate sampling was conducted on June 1, 2005 and the 3rd Quarter 2005 leachate sampling was conducted on September 15, 2005. This is an apparent violation of the leachate sampling schedule in Condition VII.6 of the Permit.

7. The leachate monitoring frequency is revised to semi-annually, in accordance with Application Log No. 2001-358 and the regulations.

Status: Application Log No. 2001-358, approved in Significant Modification No. 36, revised the leachate monitoring for the existing wells L101, L102, L103, and L104 to semi-annual sampling. Leachate samples at these wells were collected during 3rd Quarter 2005 and 1st Quarter 2006 with the next scheduled sampling event in the 3rd Quarter 2006. Leachate monitoring points L105 and L106 were installed after Significant Modification No. 36 and were sampled quarterly.

8. Parameters in List L4 below shall be measured quarterly at the three leachate head level monitoring points (L111, L112 and L113) in accordance with the schedule following:

LIST L4

Leachate Head Level Monitoring Parameters	**STORET**
Elevation Leachate Surface	71993
BTM of Well Elevation	72020
Leachate Level from Measuring Point ft.	72109
Sampling Quarter	**Report Due Date**
Jan-Feb (1st)	April 15
April-May (2nd)	July 15
July-Aug (3rd)	October 15
Oct-Nov (4th)	January 15

Status: Leachate head monitoring data from the current audit period was reviewed. Depth to leachate (storet no. 72109) is measured from a known datum elevation. Based on data reviewed, monitoring and reporting of List L4 parameters at L111 and R112 were conducted as required during the audit period. Monitoring point L111 was described as dry for each of the monitoring events reviewed. Monitoring point L113 will located in the southern expansion and has not been installed.

VIII. GROUNDWATER MONITORING

1. The groundwater monitoring program must be capable of determining background groundwater quality hydraulically upgradient of and unaffected by the units and to detect, from all potential sources of discharge, any releases to groundwater within the facility. The Illinois EPA reserves the right to require installation of additional monitoring wells as may be necessary to satisfy the requirements of this permit.

Status: Currently, wells G22U, G25U, R27U, R33D, G38M, and G45D serve as background wells.

2. The groundwater monitoring wells shall be constructed and maintained in accordance with the requirements of 35 IAC, Section 811.318(d) and designs approved by the Illinois EPA.

Status: The installation and construction methods of all monitoring wells and piezometers has been approved by the Illinois EPA. Wells that were observed by CDM during site visits were padlocked to protect against tampering and damage in accordance with this condition.

3. Groundwater monitoring wells shall be installed and maintained in the locations shown in Figure 1 of Attachment 2 of the permit application Log - No. 1997-270 addendum dated December 19, 1997 and screened in the hydrogeologic unit(s) identified as potential contaminant pathways(s) within the zone of attenuation. All wells as listed in Condition VIII.9 must be installed so that samples may be taken during the months of April-May, 1998 and the results submitted to the Illinois EPA by July 15, 1998.

Status: Wells G51D, G52D, G53D, and G54D were previously installed in 1997 in accordance with Log No-1997-270. Wells have been maintained during the audit period as required by the Permit.

4. Within 60 days of installation of any groundwater monitoring well, boring logs prepared by a qualified geologist, well development data and as-built diagrams shall be submitted to the Illinois EPA utilizing the enclosed "Well Completion Report" form. For each well installed pursuant to this permit, one form must be completed.

Status: Three groundwater monitoring wells were installed during the current audit period. Wells R27U and R55D were installed to replace wells G27U and G55D, respectively. These wells were completed on November 11, 2005 and soil boring logs, Illinois EPA well completion reports, and hydraulic conductivity test results were submitted to the Illinois EPA on January 5, 2006, which was within the 60 day limit. Well development records for the replacement wells R27U and R55D were not included in the submittal to the Illinois EPA dated January 5, 2006 which is an apparent violation of Condition VIII.4 of the Permit. CLI submitted the missing information to the IEPA on June 30, 2006.

Well R28M, which replaced well G28M, was completed on May 25, 2006. The soil boring logs, Illinois EPA well completion reports, and well development data are due to the Illinois EPA by July 24, 2006.

5. Groundwater monitoring wells shall be easily visible, labeled with their Illinois EPA monitoring point designations and fitted with padlocked protective covers.

Status: CDM visually inspected the groundwater monitoring wells on June 14, 2006. Each of the groundwater monitoring wells are marked and secured as required by this condition.

6. In the event that any well becomes consistently dry or unserviceable and therefore requires replacement, a replacement well shall be installed within ten (10) feet of the existing well. The Illinois EPA shall be notified in writing at least 15 days prior to the installation of all replacement wells. A replacement well that is more than ten feet from the existing well or which does not monitor the same geologic zone is considered to be a new well and must be approved via a significant modification permit.

Status: Three groundwater monitoring replacement wells were installed during the current audit period. Wells R27U, R28M, and R55D were installed to replace wells G27U, G28M, and G55D, respectively. The Illinois EPA was notified and the replacement wells were installed in accordance with the requirements of the Permit.

7. All borings, wells and piezometers not used as monitoring points shall be abandoned in accordance with the standards in 35 IAC, Section 811.316, and the decommissioning and reporting procedures contained in the Illinois

Department of Public Health's (IDPH) Water Well Construction Code, 77 IAC, Part 920 (effective 1/1/92). In the event specific guidance is not provided by IDPH procedures, the enclosed Illinois EPA monitoring well plugging procedures shall be followed.

Status: Wells G27U, G28M, and G55D were abandoned and replaced with R27U, R28M, and R55D respectively. The wells G27U and G55D were abandoned on August 26, 2005 and the well sealing completion forms were submitted to the Lake County Health Department and the Illinois Department of Public Health on September 20, 2005, which is within the 30 day limit as required the Permit. The well G28M was abandoned on May 16, 2006 and well sealing completion form is due to the Lake County Health Department by June 15, 2006.

Three piezometers located along the eastern border of the property were abandoned. Piezometers P302 and P304 were abandoned on May 5, 2006 and abandonment forms are due to the Lake County Health Department by June 4, 2006. Piezometer P301 was abandoned on May 31, 2006 and the abandonment form is due to the Lake County Health Department by June 30, 2006.

8. Groundwater sampling and analysis shall be performed in accordance with the requirements of 35 IAC, Section 811.318(e) and the specific procedures and methods approved by the Illinois EPA. Results shall be provided to the Illinois EPA on chemical analysis forms (or facsimile) prescribed by the Illinois EPA.

Status: Sampling and analysis data are not longer required to be submitted on chemical analysis forms, but are instead submitted electronically on CD.

9.a. The following monitoring points are to be used in the groundwater detection monitoring program for this facility:

Applicant Designation	Illinois EPA Designation
Background Wells – Weathered Till	
G27U	G27U
G22U	G22U
G25U	G25U
Background Wells – Unweathered Till	
G38M	G38M
Background Wells – Uppermost Aquifer	
G33D	G33D
A	G45D
Wells Within the Zone of Attenuation – Weathered Till	
G35U	G35U
G02/R02U	R02U
G10U	G10U
Compliance Boundary Wells – Weathered Till	
---	G11U
Wells Within the Zone of Attenuation – Unweathered Till	
G31M	G31M

G36M	G36M
G37M	G37M
G40M	G40M
Wells Within the Zone of Attenuation – Uppermost Aquifer	
E	G48D
F	G49D
G50D	G50D
G51D	G51D
G52D	G52D
G53D	G53D
G54D	G54D
P103	G55D
Compliance Boundary Wells – Unweathered Till	
G28M	G28M
Compliance Boundary Wells – Uppermost Aquifer	
B	G46D
G47D	G47D
Piezometers	
P1D-T	P101
P2D-T	P102
G15D	P15D
G13D	P13D
G30D	P30D
G32D	P32D

Status: Wells specified as monitoring points have been sampled according to the requirements of the Permit with the following exceptions: a sample was not collected from R27U during the 1st Quarter 2006 monitoring event because the well was frozen and the sample from G38M during the 2nd Quarter 2005 was not analyzed for all required parameters because the well went dry and did not produce the required quantity of water.

10. The groundwater monitoring program approved by this permit shall continue for a minimum period of 30 years after closure and shall not cease until the conditions described in the 35 IAC, Section 811.319(a)(1)(C) have been achieved. The operator shall collect samples from all of the monitoring points listed in Condition VIII.9, test the samples for the parameters listed in Condition VIII.12 (Lists G1 and G2), and report the results to the Illinois EPA, all in accordance with the schedule in Condition VIII.17. Removal of any groundwater monitoring well from the groundwater monitoring program is the subject of an application for significant modification to this permit.

Status: Groundwater monitoring is conducted according to this condition, including required parameters and schedule. The three wells that were abandoned during the audit period were replaced in accordance with the Permit.

11. The applicable groundwater quality standards (AGQS) and the maximum allowable predicted concentrations (MAPC), as listed in Condition 12 below, are subject to the following conditions:

a. Temperature and the field parameters involving depth or elevation are not considered groundwater constituents and do not need AGQS.

b. For constituents which have not been detected in the groundwater, the method detection limit (MDL) shall be used as the AGQS.

c. MAPCs are only applicable to those wells within the zone of attenuation. MAPC values are not applicable to parameters in zone of attenuation wells having an established intrawell AGQS value.

d. AGQS are only applicable to upgradient/background and compliance boundary wells.

Status: AGQS and MAPC values have been determined and periodically reevaluated per conditions (a) through (d) of the Permit.

12. AGQS and MAPC values must be determined for all of the parameters which appear in either Lists G1 or G2 (not including groundwater depth or elevations). The AGQS values shall be calculated using four (4) consecutive quarters of groundwater monitoring data and employing the statistical method described in Section 5.8 of Volume I of Permit Application Log No. 1994-479 as modified by Permit Application Log No. 1999-196. Appropriate K factors shall be utilized in calculation of interwell AGQS values, as approved in Log No. 2000-284. AGQS/MAPC's as approved by Permit Modification No. 28 are included as Attachment 1, which replaces all previous Attachments 1's. The AGQS's listed in Attachment 1 are equal to the MAPC's.

Status: Various AGQS/MAPC values were proposed during the current audit period. The following table summarizes the proposed AGQS/MAPC values for the current audit period.

Zone or Well ID	Parameter	Revised AGQS/MAPC Value	Proposed in Log No.	Approving Modification
Well G11U	Ammonia (d)	47.3 mg/L (Intrawell)	2006-110	Pending
	Ammonia (t)	43.8 mg/L (Intrawell)	2006-110	Pending
	TOC	21.3 mg/L (Intrawell)	2006-110	Pending
	Barium (t)	1,203.9 ug/L (Intrawell)	2006-110	Pending
	Iron (d)	11,401 ug/L (Intrawell)	2006-110	Pending
	Iron (t)	63.0 mg/L (Intrawell)	2006-110	Pending
Well G25U	Chloride (t)	1,361.2 mg/L (Intrawell)	2006-110	Pending
Well G52D	Boron (d)	902.7 ug/L (Intrawell)	2006-110	Pending
	Boron (t)	920.8 mg/L (Intrawell)	2006-110	Pending

13. Pursuant to 35 IAC, Section 811.319(a)(4)(A), any of the following events shall constitute an observed increase only if the concentrations of the constituents monitored can be measured at or above the practical quantitation limit (PQL):

a. The concentration of any constituent in List G1 of Condition VIII.12 shows a progressive increase over four (4) consecutive quarters.

b. The concentration of any constituent monitored in accordance with List G1 or List G2 of Condition VIII.12 exceeds the MAPC at an established monitoring point within the zone of attenuation. MAPC values are not applicable to parameters in zone of attenuation wells having an established intrawell AGQS value.

c. The concentration of any organic constituent in List G2, monitored in accordance with Condition VIII.12 exceeds the preceding measured concentration at any established point.

d. The concentration of any constituent monitored at or beyond the edge of the zone of attenuation (compliance boundary) exceeds its AGQS, or pursuant to 35 IAC, Section 811.320(d)(1) any constituent monitored at an upgradient well exceeds its AGQS.

e. The concentration of any constituent monitored in accordance with List G1 and List G2 in Condition No. VIII.12 exceeds the intrawell AGQS value at an established monitoring point. Intrawell AGQS values replace MAPC values.

The comparison of groundwater concentrations to values in b., d., and e to determine an observed increase will be based on exceedances of both interwell and intrawell AGQS values, if there is an intrawell value established for the parameter, listed in Condition VIII.12.

Status: Quarterly summary reports indicate observed increases in groundwater constituent concentrations during the audit period. During 2nd quarter 2005 through 4th quarter 2005 and in 1st quarter 2006, observed increases were found in the following parameters for at least one well location and sampling event: ammonia (d), ammonia (t), arsenic (d), arsenic (t), bis(2-ethylhexyl)phthalate, boron (d), chemical oxygen demand (COD), chloride (d), iron (d), iron (t), manganese (d), nickel (t), nitrate (d), phenol (t), sulfate (d), total organic carbon (TOC), and zinc (d).

14. For each round of sampling described in Condition VIII.10 of this Section, the operator must determine if an observed increase has occurred within 45 days of the date the samples were collected. If an observed increase is identified, the operator must also notify the Illinois EPA in writing within ten days and follow the confirmation procedures of 35 IAC, Section, 811.319(a)(4)(B). Furthermore, the operator must complete the confirmation procedures within 90 days of the initial sampling event.

Status: CLI has notified the Illinois EPA of the observed increases and confirmed increases found in 2nd, 3rd, and 4th quarters of 2005 and in the 1st quarter of 2006, with the following exceptions:

The 4th Quarter 2005 sampling event result for manganese (d) at well G22U was 99 ug/L, which was a fourth consecutive increase. This result was not identified as an

observed increase and confirmation procedures were not initiated. This is an apparent violation of Condition VIII.14 of the Permit.

The 1st Quarter 2006 sampling event result for boron (d) at well G53D was 580 ug/L, which was a fourth consecutive increase. This result was not identified as an observed increase and confirmation procedures were not initiated. This is an apparent violation of Condition VIII.14 of the Permit.

All other confirmation sampling was conducted within the required time frame of 90 days, however, the confirmation sampling for the observed increase of phenol at G10U in the 1st Quarter 2006 was conducted but the results were not included in the confirmation sampling notification letter dated May 16, 2006. CDM recommends that CLI consistently report the results of all confirmation sampling to the IEPA regardless of whether the confirmation sampling indicates a confirmed increase. This will provide quality assurance that all observed increases have been adequately addressed.

The following table provides the dates for quarterly and confirmation sampling as well as dates for observed and confirmed increase notifications.

Quarter	Quarterly Sampling Date (week of)	Date of Observed Increases Notification	Confirmation Sampling Date (week of)	Date of Confirmed Increases Notification
2nd 2005	05/23/2005 & 05/30/2005	07/13/2005	07/21/2005	08/23/2005
3rd 2005	08/15/2005 & 08/22/2005	10/07/2005	10/04/2005	11/15/2005
4th 2005	11/14/2005	01/03/2006	02/01/2006	02/16/2006
1st 2006	02/13/2006 & 02/20/2006	04/03/2005	4/24/2005	05/16/2005

15. Within 90 days of confirmation of any monitored increase, the operator shall submit a permit application for a significant modification to begin an assessment monitoring program in order to determine whether the solid waste disposal facility is the source of the contamination and to provide information needed to carry out a groundwater impact assessment in accordance with 35 IAC, Section 811.319(b).

Status: Significant Modification No. 69 (Log No. 2005-328, submitted August 17, 2005) approved assessment monitoring plans for 1st Quarter 2005 confirmed increases. Modification No. 70 (Log No. 2005-456, submitted November 18, 2005) approved assessment monitoring plans for 2nd Quarter 2005 confirmed increases. Modification No. 72 (Log No. 2006-056, submitted February 13, 2006) approved

assessment monitoring plans for 3rd Quarter 2005 confirmed increases. Permit application log number 2006-174, submitted May 17, 2006 proposed assessment monitoring plans for 4th Quarter 2005 confirmed increases and is currently pending. A notice of 1st Quarter 2006 confirmed increases was submitted to the IEPA on May 16, 2006. The deadline for submittal of an assessment monitoring plan for these confirmed increases does not fall within the current audit period.

The assessment monitoring plans were submitted as part of permit applications for significant modification within the required time frame of 90 days and in accordance with the permit with the following exceptions:

During the 3rd Quarter 2005 sampling event, a fourth consecutive increase of manganese (d) was detected at well G222U with a concentration of 85 ug/L. The result of confirmation sampling was 81 ug/L, which is still greater than the result of the previous quarter (51 ug/L in the 2nd Quarter 2005). This confirmed increase was not reported by CLI in the 3rd Quarter 2005 Groundwater Monitoring Assessment Proposal (Log No. 2006-056) which is an apparent violation of Condition VIII.15 of the Permit.

During the 4th Quarter 2005 sampling event, a fourth consecutive increase of boron (d) was detected at well G53D with a concentration of 570 ug/L. The result of confirmation sampling was also 570 ug/L. This confirmed increase was not included in the 4th Quarter 2005 Groundwater Monitoring Assessment Proposal (Log No. 2006-174) which is an apparent violation of Condition VIII.15 of the Permit.

16. The first quarterly statistical evaluations shall be performed on groundwater samples taken during the months of October - November, 1995 and the results submitted to the Illinois EPA by January 15, 1996.

Status: The required information was completed as required.

17. The schedule for sample collection and submission of quarterly monitoring results is as follows:

Sampling Quarter	Sampling Due	Report Due Date
Jan-Feb (1st)	List G1	April 15
April-May (2nd)	List G1 and G2	July 15
July-Aug (3rd)	List G1	October 15
Oct-Nov (4th)	List G1	January 15

G1- Routine Groundwater Parameters

G2- Annual Groundwater Parameters

Status: Quarterly sampling results for 2nd Quarter 2005, 3rd Quarter 2005, 4th Quarter 2005, and 1st Quarter 2006 were submitted on July 13, 2005, October 7, 2005, January 3, 2006, and April 3, 2006, respectively, thereby in accord with the required schedule.

18. Elevation of stick-up is to be surveyed and reported to the Illinois EPA:

a. When the well is installed (with the as-built diagrams),

b. Every two years thereafter, or

c. Whenever there is reason to believe that the elevation has changed.

Status: Well survey information was included in the as-built well completion diagrams that were submitted to the Illinois EPA for replacement wells R27U and R55D. The as-built well completion diagram for replacement well R28M is due to the Illinois EPA by July 24, 2006.

The most recent biannual well elevation survey was completed on December 6, 7 and 17, 2004 in accordance with this condition. This information was reported to the IEPA on December 17, 2004.

19. Annually, the operator shall prepare an evaluation of the groundwater flow direction and the hydraulic gradients at the facility using the groundwater surface elevations (Storet #71993) determined for each monitoring event. This assessment shall be submitted each July 15.

Status: An annual groundwater flow evaluation and hydraulic gradient report for 3rd Quarter 2004, 4th Quarter 2004, 1st Quarter 2005, and 2nd Quarter 2005 was submitted on July 14, 2005. This report is further discussed in Section 4 of this report.

20. All monitoring points shall be maintained in accordance with the approved permit application such that the required samples and measurements may be obtained.

Status: CDM's site visit verifies that monitoring wells are maintained in the proper manner so that the required samples and measurements can be obtained.

21. Annually, the operator shall evaluate the background database using an appropriate statistical method listed in 35 IAC, Section 811.320(e) for determining a statistically significant change. The results of this evaluation shall be submitted with the annual report each year. Background concentrations which exhibit a statistically significant change shall be adjusted and updated in accordance with 35 IAC, Section 811.320(d)(1) and submitted to the Illinois EPA as a permit modification.

Status: CDM reviewed the summary of the background data evaluation included in the 2005 Bureau of Land Annual Report, in which no constituents were found to be unrepresentative of background conditions during calendar year 2005.

22. Issuance of this permit does not constitute agreement or approval of the input parameters and assumptions utilized in the monitoring well spacing model provided in Application Log No. 1994-479, or in the Groundwater Impact Assessment (GIA) of Application Log No. 2000-026. Specifically, the GIA has been approved based upon the Illinois EPA's contaminant transport model, which is documented in Illinois EPA memoranda.

Status: No action required.

23. Information required by Conditions VIII.10 and VIII.17 must be submitted in an electronic format. The information is to be submitted, as fixed-width text files formatted as found at www.epa.state.il.us/land/waste-mgmt/groundwater-monitoring.html.

Status: Groundwater data was submitted in the required format.

24. The operator shall redevelop the intrawell AGQS value for total and ammonia and Total Organic Carbon (TOC) in well G11U using four consecutive quarters of data beginning with the second quarter 2005 and ending with the first quarter 2006. Intrawell values shall be determined employing the statistical method described in Section 5.8 of Volume I of Log No. 1994-479, as modified by Log Nos. 1999-196 and 2000-284. Intrawell calculations shall be submitted to the Illinois EPA in the form of a significant modification application no later than April 15, 2006.

    The Illinois EPA is in receipt of a permit application that purports to address this condition. Application Log No. 2006-110 is currently under review and the current decision date is July 11, 2006.

Status: Application Log No. 2006-110 remains pending.

25. COD shall be monitored on a quarterly basis for four consecutive quarters beginning with the second quarter 2005 and ending with the first quarter 2006 in well G46D. The results of the quarterly sampling, discussion of any trends, and an evaluation of COD with other indicator parameters shall be submitted to the Illinois EPA in the form of a Significant Modification application no later than April 15, 2006.

    The Illinois EPA is in receipt of a permit application that purports to address this condition. Application Log No. 2006-110 is currently under review and the current decision data is July 11, 2006.

Status: Application Log No. 2006-110 remains pending.

26. Intrawell AGQS values shall be developed for the following parameters and wells using four consecutive quarters of data beginning with the second quarter 2005 and ending with the first quarter 2006: total barium and total and dissolved iron in well G11U; total chloride in well G25U; and total and dissolved boron in well G52D. Intrawell values shall be determined using the statistical method described in Section 5.8 of Volume I of Log No. 1994-479, as modified by Log Nos. 1999-196 and 2000-284. The calculated intrawell AGQS values shall be submitted to the Illinois EPA in the form of a Significant Modification application no later than April 15, 2006.

The Illinois EPA is in receipt of a permit application that purports to address this condition. Application Log No. 2006-110 is currently under review and the current decision date is July 11, 2006.

Status: Application Log No. 2006-110 remains pending.

IX. LANDFILL GAS MANAGEMENT / MONITORING

1. The landfill gas management system shall be constructed, operated and maintained in accordance with the facility permit.

    a. The gas monitoring probes within the waste boundary described in Permit Application Log No. 1994-479 shall be installed and put into service within 90 days after final cover has been applied to the various areas where they are located.

Status: Observations made by CDM during the audit indicate that CLI is operating the gas collection system as specified by the Permit with the exceptions noted in this report. Gas monitoring within the waste boundary is conducted at gas extraction wells W-14R (located in the western portion of the Existing Unit), W-44 (located in the eastern portion of the Existing Unit), W-120 (located in the western portion of the South Expansion Area), W-133 (located in the eastern portion of the North Expansion Area), and W-139 (located in the western portion of the North Expansion Area).

    b. The operator shall submit to the Illinois EPA a significant modification of permit application for operating authorization of the landfill gas extraction system approved for development by Modification No. 25 (Log No. 2000-070). The application shall be submitted to comply with Special Condition I.2.e. The aforementioned system components shall be installed in accordance with the requirements of Special Conditions I.4 and I.5.

Status: Modification No. 70 dated February 1, 2006, approved the *Construction Acceptance Report, Gas Management System, Construction Expansion No. 6*, including the installation and operation of two gas wells (W-140R and W-152). The IEPA is currently reviewing an application for permit modification dated May 30, 2006, *Construction Acceptance Report, Gas Management System, Construction Expansion No. 7*, requesting approval to operate four new gas wells (W-111, W-127, W-128 and W-129) in Cell 4.

    c. Modification No. 64 approved construction acceptance report for the installation of 2 in-refuse gas extraction wells (W-150 and W-151) and 4 out-of-refuse gas extraction wells (ORW-1D, ORW-1S, ORW-2D and ORW-2S). These wells were installed to control landfill gas migration. As proposed in Application Log No. 2004-195 and approved in Modification No. 58 an evaluation report on the effectiveness of the additional gas management system components mentioned above shall be submitted as a significant modification on or before April 30, 2006. If the modifications to

the gas management system prove ineffective, the report shall include alternative proposal(s) to control landfill gas migration.

The Illinois EPA is in receipt of a permit application that purports to address this condition. This application is currently under review and the current decision date is July 30, 2006.

Status: Gas wells W-150, W-151, ORW-1D, ORW-1S, ORW-2D, and ORW-2S were installed between October 11, 2004 and November 3, 2004. The Construction Acceptance Report was approved via Modification No. 64 on April 26, 2005. According to monthly monitoring data, the additional gas wells have reduced some of the positive pressure at the monitoring locations west of the landfill, although methane detections continued to occur. The results of the evaluation have been submitted as a significant modification on April 28, 2006 in Log No. 2006-148.

d. Modification No. 70 approved construction acceptance report for the installation of one in-refuse gas extraction well (GW-152) and associated lateral. This well was installed to control landfill gas migration issues along the east site of the existing unit. As proposed in application Log No. 2004-466 and approved in Modification No. 62 an evaluation report on the effectiveness of the additional gas extraction well mentioned above shall be submitted in the form of an application for significant modification on or before August 22, 2006. If methane exceedances in perimeter gas monitoring probes CL01S and CL01D persist, the report shall include alternative proposal(s) to control landfill gas migration.

Status: CLI has requested a change of submittal date to allow for a twelve-month evaluation period for gas wells. Well W-152 was placed into service in February 2006, therefore, in pending modification Log No. 2006-148 submitted April 28, 2006 CLI requests that the August 22, 2006 date be changed to February 15, 2007.

e. Modification No. 66 approved the applicant's proposal to monitor the headspace of groundwater monitoring well R33D on a monthly basis. The monthly gas monitoring results shall be submitted to the Illinois EPA in the form of an application for significant modification on or before April 30, 2006. The referenced permit application shall include a discussion of monthly monitoring results and if needed proposal(s) to control landfill gas migration.

Status: Results of monthly monitoring of the headspace of groundwater monitoring well R33D were submitted to the IEPA in Log No. 2006-148 on April 28, 2006.

d. Modification No. 62 approved the applicant's demonstration that the gas exceedance observed in perimeter monitoring probe CL02S is not due to the landfill. Modification No. 62 also approved the proposed additional gas well (W-152) to address methane exceedances observed in perimeter

monitoring probes CL01S and CL01D attributed to the landfill. The construction of this well shall be completed by August 22, 2005 and in accordance with the procedures approved in Modification No. 25 (Log No. 2000-070). Also as proposed in application Log No. 2004-466 an evaluation of the gas monitoring results shall be submitted in the form of an application for significant modification on or before August 22, 2006. If the gas management system modifications prove ineffective, the report shall include alternative proposal(s) for controlling methane gas migration.

Status: This condition does not apply yet.

2. The gas monitoring probes both inside and outside the waste boundary shall be monitored for the following parameters:

   a. Methane;
   b. Pressure;
   c. Oxygen; and
   d. Carbon Dioxide.

Status: Monitoring for the specified parameters has been conducted monthly inside the waste boundary at gas wells W-14R, W-44, W-120, W-133, and W-139 and outside the waste boundary at gas probes CL01S, CL01D, CL02S, CL02D, CL03S, CL03D, CL04S, CL04D, CL05S, CL05D, CL07S, CL08S, CL08D, CL09S, CL10S, CL11S, CL12S, CL12D, CL13S, CL14S, CL15S, and CL15D. In addition, groundwater wells along the west side of the Existing Unit (G31M, R02U, P32D, G10U, and R33D) were monitored for gas constituents based on a recommendation from 2001 SWALCO audit report (i.e., all but R33D are not required by the Permit). The continued monitoring of gas constituents in groundwater well R33D was approved in Permit Modification No. 66.

3. The ambient air monitoring devices described in the Permit Application Log No. 1994-479 shall be used to test the air downwind of the landfill for methane.

Status: Ambient air monitoring for methane has been conducted monthly at the NE, SE, NW, and SW sampling locations on the site using a Landtec GEM-2000 gas analyzer.

4. All buildings within the facility boundaries shall be monitored continuously for methane.

Status: Continuous methane monitoring devices (Sierra Monitoring Corporation Model 2001 Combustible Gas Monitors) are located in all buildings on the site including the Main office, North Garage, East Garage, Scale House, Compressor building and the Truck Wash. The monitoring device located in the truck wash building has been inoperable and subsequently removed between March 2006 and June 14, 2006. This is an apparent violation of Condition IX.4 of the Permit. In order to prevent methane gas build up in the truck wash the entrance and exit doors are left open to promote air circulation.

5. Gas monitoring shall begin immediately, shall continue for at least thirty (30) years after closure and may be discontinued only after the conditions described in 35 IAC, Section 811.310(c)(4) have been achieved.

Status: Monitoring began as required.

6. Sampling and testing of the gas monitoring probes and ambient air monitoring shall be performed at least monthly throughout the remaining operating life and during the first five (5) years after its closure of the unit. Then during the remainder of the post-closure care period, this monitoring frequency may be reduced to quarterly.

Status: Monitoring has been conducted monthly as required during the audit period at the following locations: Interior gas probes (gas wells) W-14R, W-44, W-120, W-133, and W139; perimeter gas probes CL01S, CL01D, CL02S, CL02D, CL03S, CL03D, CL04S, CL04D, CL05S, CL05D, CL07S, CL08S, CL08D, CL09S, CL10S, CL11S, CL12S, CL12D, CL13S, CL14S, CL15S, and CL15D; ambient air locations; and onsite buildings. CLI is in compliance with this requirement.

7. In the event of any of the occurrences listed below, the operator shall, within 180 days of the occurrence, submit to the Illinois EPA an application for a significant modification either proposing a gas collection/management system or demonstrating that the new unit is not the cause of the occurrence:

    a. A methane concentration greater than 50 percent of the explosive limit in air is detected in any of the below ground monitoring devices outside the waste boundary;
    b. A methane concentration greater than 50 percent of the explosive limit in air is detected during ambient air monitoring;
    c. A methane concentration greater than 25 percent of the explosive limit in air is detected in any building on or near the facility; or
    d. Malodors attributed to the unit are detected beyond the property boundary.
    e. In case of any occurrence of (a) through (c) above, the operator shall also contact the Illinois EPA in writing within two business days of an observed exceedance and take such action as may be immediately necessary to protect human health.

Status: A review of monitoring records indicates the gas management system is functioning and controlling gas migration from the expansion cells. However, exceedances of greater than 2.5% methane (50% of the lower explosive limit (LEL) of methane) frequently occurred during the audit period at gas monitoring probes CL08Dand CL01S. Exceedances also occurred at gas probe CL01D in October 2005 and at piezometer P32D in June and July 2005. CLI has notified the IEPA of methane exceedances within 2 days as they occur (i.e., monthly).

8. The gas probes shall be inspected at least monthly for structural integrity and proper operation.

Status: Monitoring and concurrent inspections of the gas probes has been conducted monthly as required during the audit period.

9. The results from gas monitoring for each calendar year shall be submitted to the Illinois EPA in the annual report required by 35 IAC, Section 813.504.

Status: The results of monthly monitoring during the 2005 calendar year were submitted in the 2005 Annual Report for Countryside Landfill dated April 26, 2006.

10. It should be noted that on March 12, 1996, USEPA adopted New Source Performance Standards (NSPS) for new Municipal Solid Waste Landfills (MSWLFs) -- (61 Fed. Reg. 9905 et seq.). In addition, effective July 31, 1998, the Illinois Pollution Control Board promulgated rules for existing MSWLFs. These rules establish requirements for control of non-methane organic compounds (NMOC) emissions generated at landfills. The Illinois EPA's Bureau of Air (BOA) is implementing the NSPS pursuant to a delegation agreement between IEPA and USEPA. Based upon the information provided in the application your facility may be subject to either the NSPS, i.e., 40 CAR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfill, or the Illinois regulations, i.e., 35 Ill. Adm. Code Part 220 - Nonmethane Organic Compounds.

Status: Based on CLI's estimated NMOC generation rates, CLI must comply with the NSPS. In accordance with NSPS, CLI operates under a sitewide Clean Air Act Permit Program (CAAPP) Title V Operating Permit issued by the IEPA Bureau of Air (Permit #97040110, Site ID# 097806AAG).

11. Permit Modification No. 20 does not relieve the Permittee of the responsibility of complying with the provisions of the State of Illinois Rules and Regulations, 35 Ill. Adm. Code Subtitle B, Air Pollution control, Chapter 1. The Permittee may be required to file reports and/or obtain applicable permits through the BOA's Division of Air Pollution Control. If you have any questions regarding these requirements, contact the Illinois EPA's BOA - Division of Air Pollution Control, Permit Section at 217/782-2113.

Status: CLI has obtained the necessary IEPA Bureau of Air permits for the landfill's gas management system. CLI operates under a sitewide Clean Air Act Permit Program (CAAPP) Title V Operating Permit issued by the IEPA Bureau of Air (Permit #97040110, Site ID# 097806AAG).

12. At the end of the post-closure care period, the gas monitoring probes shall be decommissioned. The probes outside the waste boundary shall be decommissioned using the method described in the enclosed Illinois EPA monitoring well plugging procedure guidance. In decommissioning the probes within the waste boundaries, the pipes shall be cut off at least two (2)

feet below the low permeability layer and plugged. Then the low permeability layer, the protective layer and the vegetation shall be restored in the excavated areas.

Status: This condition did not apply during the audit period.

X. CLOSURE/POST CLOSURE CARE AND FINANCIAL ASSURANCE

1. Upon completion of closure activities in accordance with the significant modification Permit No. 1994-479-LF (Log 1994-479), as modified by Modification No. 2 (Log No. 1996-081) and Modification No. 6 (Log No. 1997-009) and revised final contours approved by Modification No. 21 (Plan Sheet 1 of 1 entitled "Proposed Final Contours," in Log No. 1999-197), the operator shall notify the Illinois EPA that the site has been closed in accordance with the approved closure plan utilizing the Illinois EPA's "Affidavit for Certification of Closure of Solid Waste Landfills permitted under 35 Ill. Adm. Code Parts 813 and 814."

Status: Currently not applicable.

2. Inspections of the closed landfill shall be conducted in accordance with the approved post-closure care plan. Records of field investigations, inspections, sampling and corrective action taken are to be maintained at the site and made available to Illinois EPA personnel. During the post-closure care period, these records are to be maintained at the office of the site operator.

Status: Currently not applicable.

3. If necessary, the soil over the entire planting area shall be amended with lime, fertilizer and/or organic matter. On sideslopes, mulch or some other form of stabilizing material is to be provided to hold seed in place and conserve moisture.

Status: Currently not applicable.

4. The minimum post-closure care period for this MSWLF landfill is thirty years. When the post-closure care period has been completed, the operator shall notify the Illinois EPA utilizing the Illinois EPA's LPC-PA1 Application Form.

Status: Currently not applicable.

5. The operator shall provide financial assurance for closure and post-closure care pursuant to 35 IAC, Section 811.700(b). However, financial assurance shall be required only for those areas for which authorization to operate has been obtained or is being requested.

Status: Modification #68 (application Log No. 2005-295) updates the closure and post-closure cost care estimate to $7,789,382, which includes an addition of $210,131 for the closure of Subcell 4C. Modification #72 (application Log Nos. 2005-363 and 2006-056)

updates the closure and post-closure cost care estimate to $8,022,503 which includes an addition of $233,121 for the closure of Subcell 5B.

6. The total cost estimate for closure and post closure care for this facility approved by Modification No. 72 is $8,022,503.00 for total closure and post-closure care. Financial assurance shall be maintained in this amount.

Status: CLI made revisions to the closure and post-closure care cost estimate in Permit Modification No. 72 Application (application Log Nos. 2005-363 and 2006-056). The revised total cost estimate for closure and post-closure care is $8,022,503.00. CLI maintains financial assurance in this amount.

7. The operator shall increase the total amount of financial assurance so as to equal the current cost estimate within 90 days of an increase in the current cost estimate in accordance with 35 IAC, 811.701(b).

Status: The financial assurance documentation, the Certificate of Insurance for Closure and/or Post-Closure Care, was approved by IEPA on November 4, 2005 as additional information to the initial application. The submittal of the financial assurance was issued by CLI to IEPA on January 19, 2006, which is within the allotted time schedule of 90 days (February 2, 2006) following an increase in the current cost estimate.

8. Permit Modification No. 20 requires that the owner or operator shall adjust the cost estimates for closure, post-closure, and corrective action for inflation on an annual basis during the following time periods:

   a. The active life of the unit for the closure cost;
   b. The active life and post-closure care period for the post-closure cost; or
   c. Until any corrective action program is completed in accordance with 35 IAC, Section 811.326, for the cost of corrective action.

   The owner or operator shall submit a permit application for significant modification by June 1 of each year. This application shall provide an update to the cost estimate or a certification that there are no changes to the current cost estimates.

Status: Permit Modification No. 72 (approved May 10, 2006) approved CLI's request to updated closure and post-closure estimates to adjust for inflation for the year 2005 based on the Consumer Price Index for urban consumers for the period April 2004 through April 2005 for the Chicago area as provided by the U.S. Department of Labor. Specifically, the cost estimate was increased 2.3% to $8,207,020.

XI. REPORTING REQUIREMENTS

1. The annual certification shall be submitted to the Illinois EPA during operation and for the entire post-closure monitoring period. The certification

shall be signed by the operator or duly authorized agent, shall be filed each year by May 1 of the following year, and shall state:

a. All records required to be submitted to the Illinois EPA have been timely and accurately submitted; and

b. All applicable fees required by the Act have been paid in full.

Status: The annual certification stating the required information was submitted by CLI within the 2005 Annual Report for Countryside Landfill on April 26, 2006. Mr. Hey signed the certification. In this certification, Mr. Hey certified that "all records required to be submitted to the Illinois EPA have been timely and accurately submitted."

2. The annual report for each calendar year shall be submitted to the Illinois EPA by May 1 of the following year pursuant to 35 Ill. Adm. Code 813.504. The annual report shall include:

   a. Information relating to monitoring data from the leachate collection system, groundwater monitoring network, gas monitoring system and any other monitoring data specified in this permit, including:
      1) Summary of monitoring data for the calendar year;
      2) Dates of submittal of comprehensive monitoring data to the Illinois EPA during the calendar year;
      3) Statistical summaries and analysis of trends;
      4) Changes to the monitoring program; and
      5) Discussion of error analysis, detection limits and observed trends.

   b. Proposed activities:
      1) Amount of waste expected in the next year;
      2) Structures to be built within the next year; and
      3) New monitoring stations to be installed within the next year.

   c. Any modification or significant modification affecting operation of the facility; and

   d. The signature of the operator or duly authorized agent as specified in 35 Ill. Adm. Code 815.102.

Status: The 2005 Annual Report for Countryside Landfill was submitted to the IEPA BOL by CLI on April 26, 2006 containing the required information.

3. The permittee shall submit a completed "Solid Waste Landfill Groundwater, Leachate, Facility and Gas Reporting Form" (LPC 591) as a cover sheet for any notices or reports required by the facility's permit for identification purposes. One copy of the LPC 591 form must accompany each report; however, except for electronically formatted data, the permittee must submit one (1) original and a minimum of two (2) copies of each report you submit to the Illinois EPA.

The form is not to be used for applications for supplemental permit or significant modification.

Status: According to CLI, a completed "Solid Waste Landfill Groundwater, Leachate, Facility and Gas Reporting Form" has been submitted with each required report as a cover sheet. Also, the correct number of copies has been submitted to the IEPA for each of the required reports.

4. All certifications, logs, reports, plan sheets and groundwater and leachate monitoring data, required to be submitted to the Illinois EPA by the permittee shall be mailed to the following address:

Illinois Environmental Protection Agency
Permit Section
Bureau of Land - #33
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Except for electronic groundwater and leachate monitoring data, the operator shall provide the Illinois EPA with the original and two (2) copies of all certifications, logs, reports and plan sheets required by this permit.

Status: The requested number of copies of the required information has been submitted to the IEPA by CLI.

2.2 Significant Modifications

A significant modification to the Permit may contain a change to aspects of the originally permitted design, or it may document the construction of a previously approved component of the landfill. A significant modification documenting construction must be approved by the IEPA prior to operation of the constructed component. To date, seventy-two (72) modifications to the original Permit for the expansion of Countryside Landfill have been approved by the IEPA. Since the last audit, eight significant modifications to the Permit (Nos. 65 through 72) have been approved (provided in **Appendix D**). At the time of this report, four additional applications for significant modifications are currently under IEPA review. For each significant modification, a summary of the changes made and a brief discussion of related considerations, if applicable, are provided.

Modification No. 65 - Application Log No. 2004-452

Approved June 13, 2005

Summary: In Log No. 2004-452 (dated December 15, 2004), CLI submitted a Groundwater Assessment Proposal for the 2nd Quarter 2004 monitoring event. The results of the assessment report are as follows:

- Well G11U was installed during the 1st quarter 2004 and the 2nd Quarter 2004 sampling event resulted in confirmed exceedances of total barium and total iron. These were the only total barium and total iron results to date of this well. CLI suggested the well was not impacted by leachate based on review of more mobile dissolved constituents, such as chloride. CLI also noted that no organic compounds were detected in the well. CLI attributed the increase of total barium and total iron to a significant amount of organic material present above the well screen. CLI proposed four quarters of assessment monitoring to develop intrawell AGQS/MAPC values.

- A fourth consecutive increase of dissolved chloride in well G22U was confirmed during the 2nd Quarter 2004 monitoring. CLI noted that the 2nd Quarter 2004 result of 13.4 mg/L was well below the dissolved chloride AGQS/MAPC value of 633 mg/L and that the 3rd Quarter 2004 result of 11.7 mg/L reversed the upward trend. CLI asserted that the increase in dissolved chloride was not indicative of leachate impact and proposed continuation of detection monitoring.

- A total boron AGQS/MAPC exceedance was confirmed for well G25U during 2nd Quarter 2004 sampling. Between the time of sampling and submittal of the groundwater assessment proposal a new total boron unweathered till zone interwell AGQS/MAPC value of 584.7 ug/L was approved by Modification No. 57. CLI asserted that the 2nd Quarter 2004 exceedance (420 ug/L) was lower than the new limit and proposed continuation of detection monitoring based on the revised AGQS/MAPC value.

- Total chloride AGQS/MAPC was also exceeded during the 2nd Quarter 2004 for well G25U. Total and dissolved chloride exceedances have occurred in this well previously and twelve months of chloride sampling was conducted between February 2002 and March 2003 to define the trend in the well. Results indicated that there was no discernable seasonal trend in concentrations or any correlation to groundwater elevation or precipitation events and a return to detection monitoring was approved by Modification No. 50. Based on this increase of total chloride at well G25U during the 2nd Quarter 2004, CLI proposed to develop an intrawell AGQS/MAPC value, based upon four quarters of sampling.

- A total potassium exceedance during the 2nd Quarter 2004 monitoring event was obtained at well R33D. This was the first total potassium exceedance at this well. CLI asserted that this occurrence was not indicative of a landfill impact due to R33D being a background well and proposed continued detection monitoring.

- The exceedance of COD in well G46D during 2nd Quarter 2004 was evaluated by CLI by reviewing other indicator parameters and noting that no organic compounds were detected during the monitoring event. CLI proposed monitoring COD for four quarters rather than annually to evaluate the

exceedance. The IEPA challenged this proposal in a letter dated March 14, 2005. The IEPA stated:

> "Assessment monitoring should be proposed for monitoring well G46D (unless a stronger demonstration for another source is provided) for the following reasons:
>
> a. Increasing trends in TDS and chloride;
>
> b. Exceedances of COD; and
>
> c. Exceedances of acetone."

In CLI's response, dated May 13, 2005, the trends of TDS and chloride were evaluated and found no relation in the trends to indicate landfill impact. CLI presented a summary of a study's findings regarding the reliably of COD as a landfill indicator parameter, wherein the study shows that COD is clearly an unreliable indicator parameter. CLI also found that the one confirmed exceedance of acetone at well G46D during 2nd Quarter 2002 monitoring, was attributed to natural variations and furthermore was not related to COD exceedances.

CLI proposed to monitor COD quarterly for one year and submit a report in the form a significant modification permit application that would evaluate the results of the sampling.

- Wells G48D and G54D, which are located in proximity near one another, both obtained total nitrate confirmed exceedances during 2nd Quarter 2004 monitoring event. Historically, concentrations at well G48D have been below detection limit and well G54D has had only one exceedance of total nitrate in 2nd Quarter 2000. Previous exceedances of dissolved nitrate in the wells had been addressed by Modification 59, which approved continued detection monitoring. CLI asserted there is no evidence that the landfill is the source of the dissolved and total nitrate in these wells, and therefore CLI proposed continued detection monitoring.

- Well G52D obtained dissolved and total boron confirmed exceedances during the 2nd Quarter 2004 monitoring event. Well G52D has a history of boron exceedances; however, time series plots show that historic dissolved and total boron concentrations have been fairly constant with neither showing any upward trend. CLI's review of other indicator parameters showed no trend indicative of leachate impact and the higher concentrations are likely due to natural variation within the well. CLI proposed the development of intrawell AGQS/MAPC values for this parameter. IEPA's review of the application concurred with CLI's assessment.

Considerations: The assessment monitoring proposal was submitted in accordance with Condition VIII.15 of the IEPA Permit.

Modification No. 66 - Application Log No. 2005-144

Approved July 1, 2005

Summary: This Permit modification approved the continued monitoring of the headspace of groundwater monitoring well R33D for methane on a monthly basis. Based upon past gas investigations along the west side of the Existing Unit, shallow gas is present in the vicinity of R33D. Methane exceedances were detected in R33D in October through December 2004 and January 2005. In response to gas exceedances in gas probes along the west side of the Existing Unit, CLI installed five gas wells in 2002, and two gas wells and four out-of-refuse gas wells in 2005, near the locations of the exceedances. In March 2002, CLI replaced groundwater well G33D, which was constructed of PVC and had cracked over time, with stainless-steel-constructed R33D. Between April 2002 and October 2004, no methane was detected in R33D. In January 2005, after methane had once again been detected, CLI conducted an investigation of R33D by lowering a video camera the full depth of the well to determine the integrity of the well. The investigation revealed no problems with the construction of R33D.

According to CLI, the cause of the exceedances in R33D is the accumulation of methane in the annulus space between the well casing and its outer protective casing. The Permit application recommended the continuation of monitoring at R33D as part of the routine monthly gas monitoring. This application was approved and the IEPA required that the monthly gas monitoring results be submitted to the Illinois EPA in the form of an application for significant modification on or before April 30, 2006. The permit application should also include a discussion of monthly monitoring results and, if needed, provide a proposal to control landfill gas migration.

Considerations: The proposed monitoring of R33D is a result of continued methane gas exceedances the groundwater monitoring well. Pursuant to Permit Condition IX.7, when a methane concentration greater than 50% of the explosive limit in air is detected, CLI must submit an application for a significant modification to the IEPA either proposing a gas collection/management system or demonstrating that the new unit is not the cause of the occurrence.

Modification No. 67 - Application Log No. 2005-192

Approved September 23, 2005

Summary: In Log No. 2005-192 (dated May 26, 2005), CLI presented a request for the approval of a modification to the closure and post-closure care cost estimate.

As required by Condition X.8 of the IEPA permit, the cost of inflation shall be considered in the closure and post-closure cost estimate on an annual basis. The Application Log No. 2005-192 updated the closure and post-closure cost estimate to adjust for inflation for the year 2004 based on the Consumer Price Index for urban consumers for the period April 2004 through April 2005 for the Chicago, Illinois – Kenosha, Wisconsin – Gary, Indiana area, as provided by the U.S. Department of Labor. Specifically, the cost estimate was subject to a 3.2% inflation adjustment increasing it to $7,094,938.

The 4th Quarter 2004 Groundwater Assessment Proposal was also included in Log No. 2005-192. The results of the assessment report are as follows:

- Dissolved nitrate and dissolved zinc AGQS/MAPC exceedances were confirmed at well G45D during the 4th Quarter 2004 sampling. During the following 1st Quarter 2005 sampling event, the concentrations of dissolved nitrate and dissolved zinc in well G45D were below their respective AGSQ/MAPC values. CLI reviewed the history of these and other indicator parameters at well G45D and concluded that there is no indication that the landfill is the source. CLI proposed continued detection monitoring.

- A dissolved nitrate AGQS/MAPC exceedance was confirmed at well G47D during the 4th Quarter 2004 sampling event. During the following 1st Quarter 2005 sampling event, the concentration of dissolved nitrate in well G47D was below its respective AGSQ/MAPC value. CLI reviewed the history of this and other indicator parameters at well G47D and concluded that there is no indication that the landfill is the source of the dissolved nitrate. CLI proposed continued detection monitoring.

- The other confirmed increases obtained during the 4th Quarter 2004 sampling event include dissolved ammonia at well G11U and dissolved boron at well G52D. The increase of dissolved ammonia at well G11U was under assessment for calculation of a new intrawell AGQS/MAPC as approved by Modification 59. The increase of dissolved boron at well G52D was subject to a pending groundwater assessment proposal (Log No. 2004-452).

Considerations: The assessment monitoring proposal was submitted in accordance with Special Condition VIII.15 of the Permit.

Modification No. 68 - Application Log No. 2005-295

Approved November 4, 2005

Summary: In Log No. 2005-295 (dated July 29, 2005), CLI presented the "Construction Acceptance Report, Subcell 4C," prepared by Earth Tech, Inc., dated July 2005, which describes the construction and construction quality assurance activities of Subcell 4C. This Permit Modification approves operation in Subcell 4C. The modification also updates the closure and post-closure cost care estimate to $7,789,382, which includes an addition of $210,131 for the closure of Subcell 4C.

Considerations: The report is required to document construction and quality assurance activities at Subcell 4C. The construction acceptance report was submitted in accordance with Condition I.9 of the Permit. Updating the facility's closure and post-closure care cost estimates is required for compliance with Condition X.5 of the Permit.

Modification No. 69 - Application Log No. 2005-328

Approved November 14, 2005

Summary: In Log No. 2005-328 (dated August 17, 2005), CLI submitted a Groundwater Assessment Proposal for the 1st Quarter 2005 monitoring event. The results of the assessment report are as follows:

- A dissolved zinc AGQS/MAPC exceedance was confirmed at well G38M during the 1st Quarter 2005 sampling event. CLI reviewed the history of this parameter and other indicator parameters at well G38M and concluded that there is no indication that the landfill is the source of the dissolved zinc. CLI proposed continued detection monitoring.

- A dissolved nitrate AGQS/MAPC exceedance was confirmed at wells G49D and G50D during the 1st Quarter 2005 sampling event. During the following 2nd Quarter 2005 sampling event, the concentrations of dissolved nitrate at wells G49D and G50D were below their respective AGSQ/MAPC values. CLI reviewed the history of these parameters and other indicator parameters at well G45D and concluded that there is no indication that the landfill is the source. CLI proposed continued detection monitoring.

- A fourth consecutive increase of total dissolved solids (TDS) in well G55D was confirmed during the 1st Quarter 2005 monitoring event. However, the concentrations of TDS in the 1st Quarter 2005 was 1050 mg/L, which is well below the TDS AGQS/MAPC value of 1956 mg/L. CLI proposed continued detection monitoring based on the increase being well below AGQS/MAPC value.

- The other confirmed increases obtained during the 1st Quarter 2005 sampling event include dissolved ammonia at well G11U and dissolved boron at well G52D. The increase of dissolved ammonia at well G11U was under assessment for calculation of a new intrawell AGQS/MAPC as approved by Modification 59. The increase of dissolved boron at well G52D was under assessment for calculation of a new intrawell AGQS/MAPC as approved by Modification 65.

Considerations: The assessment monitoring proposal was submitted in accordance with Condition VIII.15 of the IEPA Permit.

Modification No. 70 - Application Log No. 2005-327 and 2005-456

Approved February 15, 2006

Summary: Permit Modification No. 70 (Log No. 2005-327) approves the *Construction Acceptance Report, Gas Management System Construction, Expansion No. 6, Countryside Landfill.* The report describes the construction of the gas management system components added to Cell 2 of the North Expansion area and the east side of the Existing Unit. Specifically, two gas extraction wells (GW-140R and GW-152) were

installed on June 28, 2005 and July 11, 2005, respectively. This construction is identified as Gas Management System Expansion No. 6. The report indicates that construction of the gas management system modifications were constructed in accordance with the permitted design as certified by a Construction Quality Assurance officer.

Permit Modification No. 70 (Log No. 2005-456) approved the 2nd Quarter 2005 Groundwater Assessment Proposal. The results of the assessment report are summarized below:

- Dissolved arsenic and total arsenic AGQS/MAPC exceedances were confirmed at well G27U during the 2nd Quarter 2005 sampling event. CLI reviewed the history of these and other parameters at well G27U and concluded that there is no indication that the landfill is the source of the dissolved zinc. CLI attributed the exceedances to damaged well casing. CLI proposed continued detection monitoring.

- Dissolved arsenic and total arsenic AGQS/MAPC exceedances were confirmed at well G53D during the 2nd Quarter 2005 sampling event. CLI reviewed the history of these parameters at well G53D and concluded that there is no indication that the landfill is the source of the dissolved zinc. CLI attributed the exceedances to natural variation. CLI proposed continued detection monitoring.

- The other confirmed increases during the 2nd Quarter 2005 include dissolved and total ammonia, total iron, and TOC at well G11U and dissolved boron at well G52D. These increases were under assessment and are subject to the pending groundwater assessment proposal (Log No. 2006-110).

Permit Modification No. 70 also approved the development of new intrawell AGQS values for total and dissolved ammonia, total and dissolved iron, total barium, and TOC at well G11U based on 4 consecutive quarters of monitoring data. This modification also approved the development of new intrawell AGQS values for total chloride at well G25U and total and dissolved boron at well G52D based on 4 consecutive quarters of monitoring data.

Considerations: This construction acceptance report was submitted in order to operate the newly installed gas wells and header. The assessment monitoring proposal was submitted in accordance with Condition VIII.15 of the IEPA Permit.

Modification No. 71 - Application Log No. 2006-019

Approved April 13, 2006

Summary: Log No. 2006-019 (dated January 12, 2006), approves revision to the construction quality assurance plan to incorporate liner geomembrane seam acceptance values for peel strength, elongation at break, and locus of failure. Permit Modification No. 71 also approves the addition of beta-BHC to the G2 groundwater

monitoring parameter list based on detection of the constituent during the 2nd Quarter 2005 leachate monitoring event.

Considerations: The revisions to the construction quality assurance plan were made pursuant to Condition I.17. The addition of beta-BHC as a groundwater monitoring parameter was made in accordance with Condition VII.3 of the Permit.

Modification No. 72 - Application Log No. 2005-363 and 2006-056 Approved May 10, 2006

Summary: Log No. 2005-363 (dated September 20, 2005), approves the "Construction Acceptance Report, Subcell 5B," prepared by Earth Tech, Inc., dated September 2005, for approximately 5 acres at the southeast side of the South Expansion Area. The Report describes the construction and construction quality assurance activities of Subcell 5B. As a result, the modification updates the closure and post-closure cost care estimate to $8,022,503.

Permit Modification No. 72 (Log No. 2005-056) approved the 3rd Quarter 2005 Groundwater Assessment Proposal. The results of the assessment report are summarized below:

- A fourth consecutive increase of dissolved iron in well G27U was confirmed during the 3rd Quarter 2005 monitoring event. However, CLI asserted the range of increases is well below the dissolved iron AGQS/MAPC value of 8110 mg/L ant the 4th Quarter 2005 dissolved iron result reversed the upward trend. CLI proposed continuation of detection monitoring.

- Dissolved iron and dissolved manganese AGQS/MAPC exceedances were confirmed at well G28M during the 3rd Quarter 2005 sampling event. CLI reviewed the history of these parameters at well G28M and concluded the exceedances were a result of well damage and surface water infiltration. CLI stated that the well should be replaced and proposed continued detection monitoring.

- The other confirmed increases during the 2nd Quarter 2005 include dissolved ammonia at well G11U and dissolved boron at well G52D. These increases were under assessment and are subject to the pending groundwater assessment proposal (Log No. 2006-110).

Permit Modification No. 72 also approved the replacement of groundwater monitoring well G28M.

Considerations: The report is required to document construction and quality assurance activities at Subcell 5B. The construction acceptance report was submitted in accordance with Condition I.9 of the Permit and I.17. Updating the facility's closure and post-closure care cost estimates is required for compliance with Condition X.5 of the Permit. The assessment monitoring proposal was submitted in accordance with Condition VIII.15 of the Permit.

Pending Modification - Application Log No. 2006-110

Submitted April 11, 2006

Summary: This Permit application presents groundwater statistical calculations and a groundwater assessment for well G46D.

The groundwater statistical calculations included in Log No. 2006-110 proposed new intrawell AGQS/MAPC values at wells G11U, G25U, and G52D based on 4 consecutive quarters of monitoring data between the 2nd Quarter 2005 and 1st Quarter 2006. The statistical calculations were conducted pursuant to the conditions contained in Permit Modification No. 70 and were performed using statistical methods based on USEPA regulations. This Permit application proposed the following intrawell AGQS/MAPC values:

Well	Sampled Parameter	Proposed Intrawell AGQS/MAPC Value
G11U	Ammonia (d)	47.3 mg/L
	Ammonia (t)	43.8 mg/L
	TOC	21.3 mg/L
	Barium	1,203.9 µg/L
	Iron (d)	11,401 µg/L
	Iron (t)	63.0 µg/L
G25U	Chloride (t)	1,361.2 mg/L
G52D	Boron (d)	902.7 µg/L
	Boron (t)	920.8 mg/L

Log No. 2006-110 also contained the groundwater assessment report findings of the assessment activities for monitoring chemical oxygen demand (COD) at well G46D. The well was sampled over four consecutive quarters between 2nd Quarter 2005 and 1st Quarter 2006. The results were all below the AGQS/MAPC value for COD, with three of the four results below detection limits and CLI proposed a return to detection monitoring.

Considerations: This modification application was submitted in accordance with Condition VIII.15 of the IEPA Permit.

Pending Modification - Application Log No. 2006-148

Submitted April 28, 2006

Summary: This Permit application requests an extension of the evaluation period for gas extraction well GW-152. Condition No. IX 1(d) identifies a report submittal date of August 22, 2006 for evaluating the effectiveness of gas well GW-152. The original application addressing this issue, Log No. 2004-466, proposed a twelve-month

evaluation period. GW-152 was placed into service in February 2006, therefore the twelve-month evaluation period began February 15, 2006 and ends February 15, 2007. Therefore, CLI is requesting that the original due date of August 22, 2006 be changed to February 15, 2007.

The *Evaluation Report West Side Gas Migration Control Countryside Landfill*, dated April 2006, was also included in Log No. 2006-148. According to monthly monitoring data, the additional gas extraction wells (W-150, W-151, ORW-1D, ORW-1S, ORW-2D, and ORW-2S) installed between October 11, 2004 and November 3, 2004, have reduced some of the positive pressure at the monitoring locations west of the landfill, although methane detections continued to occur. The Construction Acceptance Report for the gas extraction wells was approved in Modification No. 64 on April 26, 2005.

Log No. 2006-148 also addresses gas exceedances observed in the headspace of monitoring well R33D. As of April 2006, no methane had been detected in the headspace of well R33D since January 2005.

Considerations: This request was submitted in order to have a full twelve-month evaluation period for gas well GW-152 as proposed in Log No. 2004-466. Evaluation of the gas monitoring system was included pursuant to Condition IX.1(c), and evaluation of R33D was included pursuant to Condition IX.1(e).

Pending Modification - Application Log No. 2006-174

Submitted May 17, 2006

Summary: This Permit application (Log No. 2006-174) presents the 4th Quarter 2005 Groundwater Assessment Proposal. The results of the assessment report are as follows:

- A fourth consecutive increase of dissolved sulfate in well G22U was confirmed during the 4th Quarter 2005 monitoring event. CLI evaluated the history of this parameter and other indicator parameters at well G22U with time-series plots and Piper and Schoeller diagrams. CLI concluded that the increasing trend of dissolved sulfate at well G22U does not appear to be due to the landfill. CLI proposed continued detection monitoring.

- Dissolved iron and dissolved manganese AGQS/MAPC exceedances were confirmed at well G28M during the 4th Quarter 2005 sampling event. CLI reviewed the history of these parameters at well G28M and concluded the exceedances were a result of well damage and surface water infiltration. The replacement well G28M was previously approved by Permit Modification No. 72.

- A dissolved zinc AGQS/MAPC exceedance was confirmed at well G48D during the 4th Quarter 2005 sampling event. CLI reviewed the history of these parameters at well G28M and attributed the exceedance to natural variation. CLI proposed continued detection monitoring.

- Dissolved ammonia and dissolved arsenic AGQS/MAPC exceedances were confirmed at well R55D during the 4th Quarter 2005 sampling. CLI reviewed the history of these parameters at well G28M and concluded the exceedances were a result of well installation effects from the newly installed replacement well R55D. CLI proposed to redevelop the well and continue detection monitoring.

- The other confirmed increases during the 4th Quarter 2005 include dissolved ammonia at well G11U, dissolved manganese at well G28M, and dissolved boron at well G52D. These increases were under assessment and are subject to the pending groundwater assessment proposal (Log No. 2006-110).

Considerations: This modification application was submitted in accordance with Condition VIII.15 of the IEPA Permit.

Pending Modification - Application Log No. 2006-189

Submitted May 30, 2006

Summary: This Permit application requests the approval the *Construction Acceptance Report, Gas Management System Construction, Expansion No. 7, Countryside Landfill.* The report describes the construction of the gas management system components added to Cell 4 of the South Expansion area. Specifically, four gas extraction wells (GW-111, GW-127, GW-128, and GW-129) and associated lateral header piping were installed between December 8 and December 21, 2005. This construction is identified as Gas Management System Expansion No. 7. The report indicates that construction of the gas management system modifications were constructed in accordance with the permitted design as certified by a Construction Quality Assurance officer. The modification also updates the closure and post-closure cost care estimate to $8,022,503, which accounts for the 2005 annual inflation adjustment rate of 2.3%

Considerations: This construction acceptance report was submitted in order to operate the newly installed gas wells and header. Updating the facility's closure and post-closure care cost estimate for annual inflation increases is required for compliance with Condition X.8 of the Permit.

Section 3
Local Siting Criteria

3.1 Lake County Siting and Operations Criteria

There are nine criteria established by Lake County ordinance and Section 39.2 of the Illinois Environmental Protection Act that must be met in order for local siting approval to be granted. On October 4, 1994, the Lake County Board and the Regional Pollution Control Hearing Committee found that USA Waste Services, Inc (now Waste Management) proved all nine criteria had been satisfied for the proposed expansion of CLI with certain restrictions and conditions.

On April 16, 2006, the Lake County Health Department (LCHD) met with CLI's Senior Engineer to evaluate CLI's operations for compliance with the criteria set forth by the Lake County Board for the period from January 1, 2005 through December 31, 2005. The review of CLI's compliance to the nine criteria was summarized in LCHD's report entitled, "Countryside Landfill Local Siting Criteria Review, Review Period: January 1 through December 31, 2005" dated April 2006 (provided in **Appendix E**). This report, along with information obtained during site visits and telephone conversations, were used by CDM at least in part to determine compliance with siting criteria during the audit period. The results of the review are provided below.

Criteria No. 2 - Facility is designed, located and proposed to be operated to protect public health, safety and welfare:

Status: Criteria No. 2 was conditionally approved based on conditions A through Q. The status of conditions A through Q follows.

> **A.** The sequence of the landfill expansion shown in Drawings 6 through 15 of the Application (pp. 1432-1441), shall be modified so that both horizontal expansions and any necessary, related expansions over the side slopes of the existing landfill (provided that such expansions over the side slopes do not result in the deposition of waste around the vertical leachate extraction wells, shown on Drawing 37 of the Application (p. 1453)) shall be completed before construction of the vertical expansion above the bottom or base of the existing landfill. In no case shall the sequence of operations be adjusted so as to adversely impact surface water drainage.
>
> **Status:** Countryside Landfill is currently in compliance with this condition. CLI has developed the North Expansion Area and is currently developing the South Expansion Area prior to constructing the vertical expansion of the Existing Unit.
>
> **B.** All waste placed in the top lift of the existing landfill shall be carefully selected and well compacted to minimize the potential for development of a void in close proximity to the lining system. The surface of the waste at the

top of the existing landfill shall be proof rolled before additional waste is placed thereon. A reinforcing geosynthetic material (i.e., geogrid or high strength geotextile) shall be placed in the gas collection layer beneath the lining system to be placed over the existing landfill to enhance the stability of the lining system.

Status: Cover soil on the Existing Unit was graded and proof rolled prior to the installation of the existing temporary liner in 2000. Modification No. 2, dated June 6, 1996, approved the removal of the horizontal gas collection layer beneath the Existing Unit intermediate liner system. Modification No. 25, dated June 7, 2000, approved the replacement of the permitted horizontal gas collection system with a vertical collection system, eliminating the gas collection layers beneath the final cover system and existing unit intermediate linter and reconstruction the vertical gas collection system in the existing unit.

C. Piezometers shall be installed on both the inside and outside of the slurry wall, shown on Drawing 36, to monitor the performance of said slurry wall.

Status: Piezometers P203, P205, P207, and P209 have been installed on the inside of the slurry wall. Piezometers P204, P206, P208, and P210 have been installed on the outside of the slurry wall. Groundwater elevations were measured on February 18, June 1, August 17 and November 16, 2005 and February 21, 2006. These measurements generally indicate that the elevations are near equilibrium with a slight inward gradient towards the landfill. However P209 shows a decrease of approximately 15.5 feet from the November 16, 2005 reading indicating large inward gradient at this location. The slurry wall will not be extended any further than it currently exists per Modification No. 36.

D. The drainage ditch along the south boundary of the south expansion area shall be monitored for leachate constituents to ensure that contaminants from the landfill are not draining into the ditch.

Status: Construction of the drainage ditch along the south boundary began in May 2005 and is scheduled to complete in 2007. Construction of the drainage ditch will be completed concurrently with the completion of Cell 5C. CLI indicated that the current design of the drainage ditch may be modified to improve water flow. The current design would convey water to the east, north and around the landfill to the outlet located on the west side. The redesign would convey water in the south ditch west towards the outlet. The direction of water flow in the east and north ditch would not change.

E. A protective zone of at least six feet radius shall be provided around each leachate extraction wells shown on drawing 37 of the Application. Such

wells and protective zones shall be prominently marked to avoid damage by construction activities.

Status: CLI maintains a protective zone of six feet around leachate extraction wells to avoid damage during construction activities. According to CLI, a protective zone is not required in an area where construction activities are not occurring.

F. Gas condensate collected in the condensate traps, shown on Drawing 62 of the Application, shall be tested semi-annually to verify the composition of the gas condensate constituents. If tests conclude that condensate is a hazardous waste under applicable state regulations, the gas condensate shall not be mixed with leachate for treatment and disposal.

Status: Gas condensate was sampled on June 2, 2005 from knockout CK2 and CK3 and on November 18, 2005 from knockouts CK1, CK2 and CK3. CK1 was dry on June 2, 2005. Results showed the gas condensate was non-hazardous. Gas condensate has not yet been sampled in 2006. CDM recommends CLI more evenly distribute the collection of semi-annual samples in the future.

G. Leachate from the existing landfill and the expansion areas shall be tested separately to determine leachate concentration. If test results indicate that the treatment requirements for each leachate are similar, the leachates may by mixed and treated in a common treatment system. If test results indicate that the treatment requirements for each leachate are not similar, treatment systems for the leachates shall be operated separately and independently.

Status: Leachate from the existing landfill and the expansion areas are tested separately to determine leachate concentration. Results leachate TCLP analysis from monitoring point L118 was received on October 25, 2005. Results showed that the leachate was non-hazardous.

H. The prairie grasses and forbs specified in the Final Cover Plan in the Application (pp. 3789-3800) shall be mowed as needed, but at least annually, and shall not be burned.

Status: Mowing of grass was completed on June 9, 2005 by Landscape Concepts Management.

I. The landfill shall be developed and operated in accordance with the Application as modified by these conditions provided that these conditions are not inconsistent with regulations of the IEPA or the terms of any development or operating permit approved by the IEPA.

Status: Twenty-nine inspections were conducted by LCHD at CLI during the audit period. No apparent violations were found.

J. Groundwater monitoring wells shall be installed in the unweathered till above the aquifer. The number and location shall be included in the IEPA site development application. A minimum of ten private wells will be included in the monitoring process within a minimum of a two-mile radius of the site, with two in the Libertyville Acres subdivision and two in the Bull Creek subdivision, to be monitored by the LCHD.

Status: Six monitoring wells (G28M, G31M, G36M, G37M, G38M, and G40M) are screened in the unweathered till above the aquifer. Wells G36M, G37M and G40M are located along the north boundary; well G28M along the east boundary; well G31M along the west boundary; and G38M along the south boundary. These wells were analyzed in accordance with the IEPA operating permit. During spring 2005, LCHD collected samples from fifteen private wells located within a two-mile radius of the site. Thirteen of these wells were located in the aforementioned subdivisions. Samples were analyzed by the LCHD laboratory for inorganic parameters. During the fall of 2005, eight wells were sampled and analyzed for 60 volatile organic compounds. Six of these wells were located in the aforementioned subdivisions. Laboratory results of the well samples showed that no standards were exceeded for inorganic parameters and no volatile organic compounds were detected.

K. Before construction of the landfill, subgrade bearing capacity, leachate pipe strength and slope stability must be recalculated on the basis of "unit weight of waste" being 75 lbs/cf (2025 lbs/cy) as opposed to the 60 lbs/cf (1620 lbs/cy) assumption used in the original calculations, and adjusted if necessary.

Status: This was completed prior to submittal of the IEPA Operating Permit application for the expansion. Recalculations were included in CLI's Expansion Permit Application Log No. 1994-479.

L. Final cover stability should be recalculated and redesigned if necessary, under "saturated conditions" to determine stability in worse case scenarios (spring snow melt conditions).

Status: This was completed prior to submittal of the IEPA Operating Permit application for the expansion.

M. The side-slope riser pipes in the leachate collection system should be modified to provide for easier insertion of the leachate pumps.

Status: This was completed prior to submittal of the IEPA Operating Permit application for the expansion.

N. Two leachate "head" wells should be installed, one in the north portion of the site and one in the south portion of the site, to more accurately determine the head level for leachate recirculation determinations (said head level is proposed to be 1 foot).

Status: Currently, leachate recirculation is not conducted at the CLI site. However, leachate head is measured in the North Expansion Area at well L111, located on the western border of the North Expansion Area. This well was recorded as dry during each quarter of the audit period. The leachate piezometer for the South Expansion Area is not yet installed. According to CLI, a leachate piezometer is planned to be installed in Subcell 5C in 2007.

O. Approval by and receipt of a permit from the Lake County Stormwater Management Commission (LCSMC) for the control of stormwater.

Status: A Watershed Development Permit was issued on March 24, 1997 by the Lake County Storm Water Management Commission (LCSMC).

P. Prior to the applicant's vertical expansion of the landfill begins, the Lake County Health Department shall obtain and assess all monitoring data for the landfill.

Status: Due to the overfill, vertical expansion occurred prior to the review of all monitoring data for the landfill. All monitoring data will be assessed before any future vertical expansion at the existing landfill.

Q. That if the monitoring data results are beyond legal or regulatory limits, and if the causes are not adequately corrected, then the Lake County State's Attorney may take appropriate action to enjoin said vertical expansion.

Status: Not applicable at this time.

3.2 Lake County Health Department Inspections

The Lake County Health Department (LCHD) conducts random inspections at CLI two to three times per month. The resulting inspection reports include a brief overview of the construction activities at the time of the inspection, and a review of compliance with the IEPA requirements. CDM reviewed the 29 inspection reports from inspections conducted between June 1, 2005 and May 18, 2006. CLI did not receive any non-compliance advisory letters or notices of violation from the LCHD during the audit period related to these inspections.

3.3 Village of Grayslake Host Village Agreement

The Village of Grayslake Host Village Agreement was executed by the Village of Grayslake and USA Waste Services, Inc. on May 3, 1994. There are 26 conditions and criteria established by the Village of Grayslake Host Village Agreement. Based on

CDM's scope of work, its actual observations during site visits, and the information provided by SWALCO and CLI, which CDM has relied upon the accuracy and completeness thereof, it is CDM's professional opinion, that the Countryside Landfill is currently in compliance with the obligations under its Host Village Agreement, except as otherwise noted in this report. CDM's opinion in this matter is based upon CDM's knowledge, information and belief, formulated in accordance with applicable standards of practice, and as such does not constitute a guaranty or warranty, either expressed or implied, nor does it represent the direct views of the IEPA and any other regulatory agency that may have regulatory jurisdiction over the facility.

Items 1 through 5, 7 through 9, and 21 through 26 in the Agreement are conditions that further define the scope and terms of the Agreement, but do not involve the physical operation of the landfill, or required actions by CLI. The following criteria of the Host Agreement either involve the physical operation of the landfill or require actions by CLI. A summary description of each condition is provided and the status for each follows.

Condition 6. *Indemnification/Insurance* - Countryside shall indemnify and hold the Village and its officers, agents, and employees harmless from any and all costs, expenses, attorney fees, fees, damages, and judgments ("Liability") incurred by the Village and/or its officers, agents, or employees by reason of any and all operations by Countryside and/or its officers, agents, or employees at the Countryside property. . . .Countryside shall carry at least Ten Million Dollars ($10,000,000.00) per occurrence and in aggregate of general liability insurance and, to the extent reasonably obtainable, environmental impairment insurance. The insurance shall name Countryside as primary insured and shall name the Village of Grayslake and its officers, agents, and employees as additional insureds. Countryside shall provide the Village, as requested by the Village from time to time, with a certificate of insurance showing that the above policy is in effect with the Village and its officers, agents, and employees, named as additional insureds and providing for a mandatory thirty (30) day pre-termination notice to the Village.

Status: CLI carries this insurance under the following policy numbers: HDO G21714318, ISA H08218997, XOOG23572503, WLR C44338440 (AOS), WLR C44338427 (CA), SCF C44338403 (WI). CLI provides the certificate of insurance to the Village of Grayslake annually. The last insurance certificate was provided to the Village of Grayslake in January 2006. The village of Grayslake is listed as additional insured.

Condition 10. *Tonnage* - It is the expectation of the parties that for the first year following execution of this Agreement, the tonnage of waste accepted for disposal at the Countryside Landfill will not exceed a daily average of 1,550 tons, calculated on a monthly basis utilizing a six (6) day work week, with an increase of two (2) percent per year thereafter (the "Expected Average Daily Level"). In the event that the actual daily average for any month exceeds the amounts described above, the per ton Hose Village compensation described in paragraph 17 herein shall be increased by fifty per

cent for each ton accepted above the Expected Average Daily Level; provided, however, that the Surcharge shall no apply to any tonnage from SWALCO communities or to the first three hundred tons per day from non-SWALCO communities above the Expected Average Daily Level. The landfill shall be equipped with scales to determine the tonnage of waste disposed on a daily basis. . . . In addition, at least annually, Countryside shall have such scales calibrated and shall deliver a certification to the Village stating that such scales are properly calibrated.

Status: The Village Host Agreement has been in place since 1997, thus based on the escalation clause of 2 percent per year, the Expected Average Daily Level (EADL) is 1,852 tons for 2005 and 1,889 tons for 2006. Therefore, a maximum of 1,852 tons in 2005 and 1,889 tons in 2006, calculated by the highest monthly average of the audit period, can be accepted per day without triggering the 50 percent per ton increase in compensation due to the Village. The greatest amount of waste accepted daily within the audit period in 2005 was 48,920 tons in July. With 25 working days in July, the daily average of waste accepted was 1,957 tons which is above the EDAL of 1,852. The greatest amount of waste accepted in the audit period in 2006 was 48,780 tons in May. With 27 working days in May, the daily average of waste accepted was 1,807 tons. Although the 1,957 tons received in July 2005 was above the EDAL, the Village Host Agreement clause states that the surcharge will not apply to any tonnage accepted from SWALCO or the first 300 tons from non-SWALCO communities above the EDAL. As such, CLI currently meets this condition.

CLI is equipped with scales that are calibrated twice a year by the scale manufacturer (Fairbanks Scales) and inspected annually by the Illinois Department of Agriculture (IDA) Bureau of Weights and Measures. According to IDA's December 22, 2005 report, a copy of which was sent to the Village of Grayslake, both of the CLI scales met all tolerances and specifications. Based on recommendations by Fairbanks scales, the inbound scale was replaced by CLI on August 11, 2005.

Condition 11. *Prohibited Wastes* - In no event and at no time, shall any material then regulated as hazardous waste (as then defined in 40 C.F.R. Part 261), or then defined as nuclear waste of any kind, including but not limited to, below regulatory concern nuclear waste, as those terms are then defined in the applicable federal and state regulations, knowingly be accepted for disposal at the landfill. Low level nuclear waste, bulk liquids, or untreated infectious or pathological medial waste, shall never knowingly be accepted. . . .

Status: According to CLI, prohibited wastes listed in this condition have never been accepted.

Condition 12. *Special Waste* - The Countryside Landfill may accept "Special Waste" as that term is currently defined either in the Illinois Environmental Protection Act or in regulations adopted by the Illinois Pollution Control Board; provided, however, that the levels of Special Waste accepted at the Countryside Landfill shall be no greater

than those described in any written agreement between SWALCO and Countryside, and that no drums containing liquid wastes and no bulk liquid wastes knowingly shall be accepted unless otherwise agreed in writing by the Parties. . . .

Status: During the audit period, CLI accepted only non-hazardous special waste. According to CLI, no liquid or bulk wastes were knowingly accepted by CLI during the audit period.

Condition 13. *General Wastes* - All other wastes not defined as "hazardous" or "special" by the Illinois Environmental Protection Act or Regulations of the Illinois Pollution Control Board and not otherwise banned from disposal in a sanitary landfill may be accepted for disposal at the Countryside Landfill. All wastes accepted for disposal shall be disposed of in compliance with any and all applicable federal, state, and local requirements, conditions, regulations, and permits, as amended and supplemented during the life of the Countryside Landfill and as the Parties may have further agreed as set forth in the Agreement or any subsequent writing agreed to by the Parties.

Status: CLI accepts waste in compliance with this condition.

Condition 14. *Future Landfill Expansion* - Countryside shall deliver, and the Village agrees to review promptly, objectively, and in good faith, any documentation or applications related to future expansion or re-permitting of the Countryside Landfill...

Status: As of this time, CLI has not requested expansion of the landfill.

Condition 15. *Design and Operation of the Facilities* - The Countryside Landfill and all ancillary buildings and facilities developed or operated on the Countryside property shall be sited, developed, and operated in accordance with all applicable federal, state, and local laws and regulations, including but not limited to the regulations of the Illinois Pollution Control Board as may be amended and supplemented as well as the regulations proposed and adopted by the United States Environmental Protection Agency under Subtitle D of the Solid Waste Disposal Act or any successor provisions ("Subtitle D").

> **A.** *Operational Plan of the Landfill* - Except in cases of emergencies, Countryside Landfill shall not accept waste for disposal except between the hours of 6:00 a.m. to 5:00 p.m., Monday through Friday, and from 7:00 a.m. to 1:00 p.m. on Saturday, with trucks accepted on Saturday only until 11:30 a.m. The Village agrees that the covering of such waste shall be permitted after the hours of 5:00 p.m. on Monday through Friday, and after the hour of 1:00 p.m. on Saturdays, until the waste received each day is covered. In the event of an emergency, Countryside shall notify the Village as soon as possible of the circumstances requiring extended hours of operation, and Countryside shall limit such emergency operation to as short a period of time as practicable. In the event that more than five such emergencies occur within a calendar month,

representatives of the Village and Countryside shall meet and discuss the causes of such emergencies and, if necessary, additional measures.

Status: CLI currently accepts waste between 6:00 AM and 3:30 PM, Monday through Friday, Saturday 7:00 AM to 11:00 AM, and 7:00 AM to 1:00 PM (or 2:00 PM if requested) on a Saturday after a holiday. During the audit period, CLI requested to operate extended hours to 1:00 PM on the following Saturdays: June 3, 2005, July 8, 2005, September 9, 2005, and November 25, 2005. The purpose of these extended hours was to accommodate area haulers "catching up" from the holidays.

Countryside shall operate the Countryside Landfill in accordance with all applicable substantive legal requirements and regulations and in accordance with the plans set forth in all permits and permit applications now and hereafter approved by the Illinois Environmental Protection Agency ("IEPA"). Countryside shall at all times solely be responsible for the submission and acquisition of any and all permits, whether they be local, state, federal, or regulatory agency permits for the operation of the landfill.

Status: As noted in this report, CDM identified various issues that could result in a notice of violation of their IEPA Operating Permit. This would be an apparent violation of Condition 15.A of the Village of Grayslake Village Host Agreement.

Countryside shall operate the Countryside Landfill in a manner that will reduce to a minimum, consistent with excellent operating practice, the area of open operating face each day, and will take steps above and beyond industry norms (including daily cover of at least six inches of soil or other appropriate material on all waste deposited) to control, to the greatest extent practicable, odors emanating from that area, and substantially in accordance with the specifications described in Attachment C (SB 172 Siting Application) hereto. The length of the working face shall be contingent upon the height and slope of the lift of waste being developed, but in any event shall be in substantial conformity with Attachment C (SB 172 Siting Application) hereto. All exposed waste shall be covered at the end of each working day. Daily cover application shall consist of soil, fabric, or other material as expressly approved by the Illinois Environmental Protection Agency.

Status: Based on a review of LCHD inspection reports, CLI has complied with the operational requirement for the use of daily cover in accordance with Conditions II.4 through II.9 of the IEPA Operating Permit which govern daily cover and its use.

Countryside shall not accept waste delivered by rail, construct, install, or operate a waste incinerator, or institute a collection program for household hazardous waste, on the Countryside property or Countryside additional

property. Countryside shall not establish or operate a waste transfer station on the Countryside property or the Countryside additional property without the express written consent of the Village Board of Trustees.

Status: CLI has not accepted waste by rail, operated a waste incinerator, instituted a household hazardous waste collection program, nor operated a waste transfer system and is operating in accordance with this condition.

Countryside shall, substantially in accordance with the specifications described in Attachment C (SB 172 Siting Application) hereto and in accordance with the Amended and Restated Mutual Cooperation Agreement entered into with Prairie Holdings, Inc., develop a program of controls to discourage gulls or other birds from scavenging or gathering at the Countryside Landfill in numbers that constitute a nuisance.

Status: CLI places daily cover on the active face and uses a noise-making cannon to discourage birds. CLI plans to shortly discontinue the use of the cannon and instead use simulated bird distress calls to discourage birds.

Countryside shall continue to use the existing entrance (or another on Route 83 as approved by the Illinois Department of Transportation) as the sole waste truck entry to the Countryside Landfill. Countryside shall implement a traffic control policy for all vehicles delivering waste for disposal and leaving the landfill after disposal to the Countryside property that refuses to accept for landfilling any waste delivered to the landfill using any of the following routes (as described below and as depicted on Attachment D hereto), unless such vehicle (i) is non-commercial (which for purposes of this Agreement shall mean a vehicle with an empty gross weight of less than eight tons), (ii) is subject to temporary redirection by governmental authorities or their agents, employees or contractors, due to road maintenance, repair, construction, seasonal necessity, or emergency, (iii) is prohibited by law, statute or ordinance from using reasonable alternate routes, or (iv) is collecting and/or transporting waste collected within the Village:

- Washington Street between Hainesville Road and Route 45
- Route 83 between Lake Street and Route 137
- Route 120 between Route 83 and Alleghany Road
- Route 137 between Route 83 and Peterson Road

In the event that any of these route restrictions interfere with reasonable waste disposal operations for Countryside, its affiliates, or its customers, the Village and Countryside shall reevaluate the restrictions and, if necessary, in good

faith attempt to negotiate a modification to the traffic routing plan described above.

As part of the traffic control policy, upon receipt of a copy of any courtesy citation issued by the Village police department to the operator of a vehicle transporting waste to the landfill, Countryside shall notify owner of the vehicle that continued violations of the traffic control policy shall result in a refusal by Countryside to accept waste delivered to the landfill by the vehicle after using a prohibited route. Upon notification from the Village, Countryside shall refuse to accept waste from any vehicle using a prohibited route after the driver of such vehicle has received a courtesy citation from the Village more than once in any six month period.

Status: CLI notified haulers of the traffic control plan at the time of this agreement. CLI has not been notified by the Village of Grayslake during this audit period of any violations issued.

Subject to approval and issuance of a permit by the IEPA, Countryside shall maintain and use a recirculating-water wheel wash for purposes of removing mud and dirt from trucks as they exit the Countryside Landfill. Said wheel wash shall be located on the Countryside property or Countryside additional property and at least 1/8 of a mile from the nearest public road. Landfill traffic shall be routed through the wheel wash facility as needed to eliminate mud tracking on public roads.

Status: CLI maintains and uses the wheel wash on an as-needed basis (typically immediately following rain events) in accordance with this condition.

Countryside shall maintain a debris, mud, dirt, and litter control program for the Countryside Landfill and surrounding areas, substantially in accordance with Attachment C (SB 172 Siting Application) hereto. Mud, dirt, and debris, shall be removed from Route 83 in the immediate vicinity of the Countryside Landfill on a daily basis.

Countryside shall make a daily clean up of any litter and debris from landfill operations on adjoining rights-of-way and, if approval is received from applicable property owners, adjoining properties.

Status: CLI uses a vacuum sweeper daily and as needed to maintain clean conditions on the access road and on Route 83. Litter at CLI is picked up on a daily basis.

Countryside shall deliver a $5,000.00 cash deposit to the Village which shall be placed by the Village into a segregated Litter Control Fund (the "Litter Control Fund"), and which the Village shall have the right (but not the obligation) to

use for purposes of paying the cost of litter, debris, and dirt control in the immediate vicinity of the Countryside Landfill and adjoining properties, in the event Countryside fails to satisfy its obligations under the preceding paragraphs. The Village shall give personal or telephone notice to the operating personnel of the Countryside Landfill at least two hours prior to performing clean up activities that will be paid for from the Litter Control Fund and allow Countryside personnel the opportunity to perform the clean up activities.

Upon notice from the Village, Countryside shall be required to deposit additional amounts in the Litter Control Fund to maintain a $5,000.00 balance; provided, however, that Countryside shall not be required to deposit more than $50,000.00 in the Litter Control Fund during the term of this Agreement, and provided further that nothing in this paragraph shall relieve Countryside of any of its duties, obligations, or liabilities regarding the removal of dirt, debris, or litter from the streets and other properties in the vicinity of the Countryside Landfill. If at the end of the first two-year period following establishment of the Litter Control Fund, or at any time thereafter, it is determined that such a fund is unnecessary due to the operating procedures utilized by the Countryside Landfill, the Litter Control Fund shall be terminated and the balance of funds remaining in the account as of termination shall be returned to Countryside.

Status: CLI deposited the required funds. The Village has never requested deposit or replenishment of additional funds.

Countryside agrees that with respect to any construction work which it determines to subcontract to unaffiliated third parties, it will attempt to utilize local contractors provided that they are capable of performing the work and that their bids are price competitive.

Status: CLI uses local contractors whenever possible when they are capable and competitive. Local contractors have been used for landscaping, electrical, HVAC, plumbing, surveying, general office cleaning, and beverage service to date.

B. *Design of the Facilities* - The landfill and all ancillary buildings and facilities developed on the Countryside property shall be sited, developed, and operated in accordance with all applicable federal, state, and local laws and regulations, including but not limited to the regulations of the Illinois Pollution Control Board as may be amended and supplemented as well as the regulations proposed and adopted by the United States Environmental Protection Agency under Subtitle D or successor regulations.

Subject to receipt of the necessary permits, authorizations, or approvals (which Countryside shall make all reasonable efforts to obtain), and subject to the

provisions of paragraph 14 above, Countryside agrees to construct the expanded landfill substantially in accordance with the specifications contained in Attachment C (SB 172 Siting Application) hereto, including the specifications regarding the maximum height (elevation 930, excluding one to three feet of possible additional soil to ensure effective landscaping), capacity (14.4 million in-place cubic yards), timing and sequence of construction, end uses, and landscaping of the Countryside Landfill, as well as the buffer areas and road improvements relating to or affected by the landfill. The Parties understand and acknowledge that where in this Agreement Countryside agrees to construction "substantially in accordance with Attachment C (SB 172 Siting Application)", that shall mean constructed: (1) to the specifications contained therein; or (2) to those specifications as modified and approved by local, state, or federal regulatory authorities.

Status: CLI has designed, constructed and operated the landfill expansion in compliance with all federal, state and local laws and the specifications approved by local, state, or regulatory authorities except as may be otherwise noted in this report.

Condition 16. *Monitoring* - Countryside shall provide to the Village design details of all environmental monitoring systems, which currently exist or are designed for future installation at the Countryside Landfill.

Status: CLI continues to provide details and plans of the environmental monitoring systems to the Village as required. During the current audit period, CLI sent the installation report for groundwater well G11U to the Village. At the time of any permit modification application, CLI notifies the Village through the LPC-PA16 form, which is a public notification form stating in brief the content of the permit application.

The Lake County Health Department operates a Comprehensive Landfill Inspection and Monitoring Program to ensure compliance with federal, state, and local regulations. Subject to IEPA approval, the continuation of this program, or a comparable program implemented by a governmental agency authorized to do so, will constitute the monitoring and inspection of any landfilling operations on the Countryside property.

Status: The LCHD continues to inspect and monitor CLI operations on a random basis. During the audit period, LCHD performed twenty-nine inspections.

A. *Site Inspections* - Subsequent to the execution of this Agreement, the County or the Village and their authorized agents or representatives shall have the right to inspect all operations at the Countryside Landfill during normal business hours. In addition, the Village or the Lake County Health Department or its successor or designee may conduct a reasonable number of random inspections of waste deliveries to Countryside Landfill.

Status: During the audit period, LCHD performed twenty-nine inspections. A summary of these inspections is provided in Section 3.2 of the report.

B. *Tonnages* - The Village shall be permitted to inspect the books and records that Countryside agrees to maintain on a daily basis pertaining to the tonnages of waste accepted at the Countryside Landfill. Countryside shall provide such records to the Village in the same manner and on the same terms and conditions as they are presented to SWALCO.

Status: According to CLI, a summary of accepted tonnage along with payment is provided to the Village on a quarterly basis. However, SWALCO receives a more in-depth report with a payment on a monthly basis. According to CLI, the Village has stated in the past that quarterly payments accompanied by quarterly summary are acceptable, contingent on SWALCO receiving monthly payments and reports.

C. *Prohibited Waste* - Countryside shall perform such inspections and monitoring for hazardous waste, nuclear waste or other prohibited wastes, as are set forth in the IEPA permit for the landfill.

Status: CLI continues to implement its random load inspection program by inspecting three loads each week randomly as required by the IEPA Permit. CDM reviewed the 156 random load inspection reports between June 3, 2005 and May 22, 2006 and found that no loads inspected randomly were found to contain prohibited waste.

D. *Hours of Operations* - Normal operating hours shall not exceed those listed in paragraph 15(A) above. Countryside shall install security fencing at all entrances to the Countryside Landfill to ensure that no deliveries of waste occur outside of the permitted hours of operation.

Status: Operational hours are generally in conformance with paragraph 15(A). During the audit period, CLI requested to operate extended hours to 1:00 PM on the following Saturdays: June 3, 2005, July 8, 2005, September 9, 2005, and November 25, 2005. The purpose of these extended hours was to accommodate area haulers "catching up" from the holidays. Security fencing is in place at the site to insure no after hours delivery.

E. *Correspondence* - Countryside shall also forward to the Village any written communication which it receives from the Illinois Environmental Protection Agency, its delegate or any other jurisdiction, relating to the Countryside Landfill. Countryside shall also provide to the Village notice of any fine imposed upon it for such actions provided that a final determination or adjudication has been made with respect to the matter. All such written communications shall be forwarded to the Village within ten (10) days of receipt by Countryside.

Status: Copies of correspondence from the IEPA have been forwarded to Mike Ellis of the Village of Grayslake.

F. *Groundwater* - Groundwater quality shall be monitored in accordance with Attachment C (SB 172 Siting Application) hereto, subject to IEPA approval. The Village shall have the right to witness all sampling, as well as to request split sampling, and to receive copies of all results.

Status: CLI monitored groundwater quality according to their IEPA operating permit with the exception of the apparent violations included in Section 2. Violations of the IEPA operating permit also constitute a violation of the Village of Grayslake Host Agreement.

G. *Surface Water* - Surface water quality shall be monitored in accordance with Attachment C (SB 172 Siting Application) hereto, subject to IEPA approval.

Status: CLI monitors surface water quality in accordance with the site NPDES Permit. The NPDES Permit requires that an annual inspection be conducted and that an annual inspection report be submitted to the IEPA. This inspection was conducted on August 5, 2005 and the inspection report was submitted to the IEPA on August 15, 2005.

H. *Landfill Gasses* - A gas collection and management system shall be implemented in accordance with Attachment C (SB 172 Siting Application) hereto, subject to IEPA approval.

Status: Gas collection is currently being conducted via 81 vertical gas extraction wells and six connections to other collection devices. Modification No. 25, dated June 7, 2000, modified the horizontal gas collection system originally proposed in the SB 172 Application to a system utilizing vertical gas extraction wells. Modification No. 70 dated February 15, 2006 approved operation of one new in-refuse gas extraction well in the Existing Unit and replacement of one gas extraction well in the North Expansion Unit. A Pending Modification submitted May 30, 2006 requests the permission to operate four new gas extraction wells within Cell 4 of the South Expansion Area.

I. *Leachate Collection* - A leachate collection and management system shall be implemented in accordance with Attachment C (SB 172 Siting Application) hereto, subject to IEPA approval. In the event that Countryside desires to convey leachate from the Countryside Landfill to a publicly owned treatment works ("POTW") via sewer lines, the Village . . .

Status: In accordance with this condition, CLI collects and manages its leachate according to its IEPA Operating Permit. CLI currently does not

convey leachate to a POTW via sewer lines, nor does CLI plan to do this in the near future. Currently, CLI's leachate is transported to the Kenosha Water Utility treatment facility.

J. *Well Monitoring* - If the IEPA issues a permit to Countryside to expand the Countryside Landfill, Countryside shall contact the owners of all potable water supply wells within 500 feet of the perimeter of the Countryside property, by certified mail, return receipt requested, seeking permission from the owners to sample their wells for background and for routine monitoring...

Status: There are no potable water supply wells within 500 feet of the perimeter of the site.

Condition 17. *Host Village Compensation* - Within ten days of the effective date of this Agreement, Countryside shall pay to the Village a Host Village Compensation in the amount of Two Hundred and Fifty Thousand Dollars ($250,000.00), to cover the period from the effective date of this Agreement through June 1, 1997. . . .

Within fifteen days after the end of each calendar quarter during the term of operation, Countryside shall provide a statement relating to the Countryside property showing the number of tons of waste disposed of at the Countryside property. . . . The remedies provided in this Section are in addition to all other remedies available to the Village under the terms of this Agreement or otherwise.

The Parties agree that the Village may use the Host Village Compensation in any lawful manner that it sees fit.

Status: CLI submits the required statements and payments to the Village of Grayslake.

Condition 18. *Post Closure Remedy* - Countryside agrees that, upon final closure of each section of any Countryside landfill located on the Countryside property, Countryside agrees it shall place a cap on the respective section of the landfill in accordance with federal and state regulations and permits and to take all other actions required by such laws and regulations with respect to the closure and post-closure of the landfill.

Countryside further agrees and understands that the Village shall have no responsibility to maintain, rehabilitate, or otherwise contribute to the short or long term care of the landfill, either during the time that it accepts waste or during its post-closure care.

Status: Intermediate cover and topsoil have been placed on the southeast waste boundaries of Cells 4 and 5. Final seeding of these areas is anticipated to take place in 2007.

Condition 19. *Annexation* - Countryside shall not cause or voluntarily permit the Countryside Landfill or Countryside property to be annexed into any incorporated village or city except the Village during the life of this Agreement or any extensions of this Agreement, without prior approval of the Village. . .

Status: The landfill or property has not been annexed into any other village or city. The Material Recovery Facility (MRF) and soil stockpile area are part of the Village of Grayslake.

Condition 20. *Additional Countryside Land* - Countryside agrees that no Countryside additional property shall be used for any regional pollution control facilities or for any other waste disposal, handling, treatment, or recycling uses or purposes without the prior written consent of the Village. . .

Status: The adjacent 142 acres of property located south of the landfill are used for soil stockpiling purposes. No waste disposal, handling, treatment, or recycling is being conducted on this adjacent property.

Section 4
Site Hydrogeology/Groundwater and Leachate Monitoring

4.1 Site Geology & Hydrogeology

The site stratigraphy consists of unconsolidated Quaternary-age deposits overlying a sequence of Silurian-age bedrock. The site has two hydrostratigraphic units: the Wadsworth Formation, an aquitard, overlying the uppermost aquifer, the combined Haeger Member glacial deposits of the Lemont Formation and underlying undifferentiated Silurian Dolomite bedrock.

The Wadsworth Formation at the site is relatively thick, massive glacial diamicton (clay till), averaging approximately 150 feet in thickness from the ground surface (generally at 800 ft. Mean Sea Level (MSL)) to the top of Haeger Member (generally at 650 ft. MSL). It is composed primarily of sediments classifying as lean clay (CL) with lesser amounts of silty clay (CL-ML), and silt (ML), and relatively minor discontinuous lenses of silt, sand, and gravel.

The uppermost aquifer is about 175 to 200 feet thick in the site area and is composed of the combined Haeger Member glacial deposits of the Lemont Formation and the underlying Silurian Dolomite. The Haeger Member is over 75 feet thick at the site, and consists of "silty sand" glacial till and interbedded sand, silty sand, and sandy gravel with minor amounts of silty clay and clayey silt. The undifferentiated Silurian dolomite bedrock underlies the glacial deposits of the Haeger Member of the Lemont Formation and forms the lower portion of the uppermost aquifer. The uppermost aquifer is confined below the Wadsworth Formation diamicton.

No groundwater monitoring well is completed at the base of the uppermost aquifer. However, the boring log for Grayslake Well #2 (located 1 mile north of the landfill) shows that the base of the uppermost aquifer occurs at an elevation of approximately 445 feet (MSL). The base elevation of the uppermost aquifer in Mundelein Well #9 (located 1 mile south of the landfill) is approximately 440 (MSL) feet. This indicates that the uppermost aquifer at the site is approximately 215 feet thick, based on an average elevation of 657 feet (MSL) for the top of the silty sand unit.

According to the annual groundwater flow direction report prepared by EMT dated July 14, 2005 (provided in **Appendix F**), the general direction of groundwater flow in the uppermost aquifer at CLI was generally to the south-southeast during the monitoring events of the 3rd Quarter 2004, 4th Quarter 2004, 1st Quarter 2005, and 2nd Quarter 2005.

Based on CDM's review of the attached (**Appendix F**) groundwater flow maps, groundwater flow appears to be predominantly toward the southeast during the 3rd Quarter 2004, with a southwestern flow component near Wells G50D and G54D in the southeast portion of the landfill site. During the 4th Quarter 2004 and 1st Quarter 2005

monitoring events, groundwater appears to have been flowing southeast within the majority of the landfill area with a southern flow component near the southern extent of the landfill. During the 2nd Quarter 2005 monitoring event groundwater appears to have been flowing predominantly southeast with groundwater depression near Well G49D located near the southern border of the landfill. The maximum groundwater elevation difference noted during the reviewed monitoring events was at well G45D, which varied by 3.79 feet between the 4th Quarter 2004 and 2nd Quarter 2005.

A south-southeast flow direction is in agreement with that presented in the application for Modification No. 13, which also indicated a south-southeast flow. The horizontal hydraulic gradients for the uppermost aquifer at the site were calculated at 0.0009 ft/ft (3rd Quarter 2004), 0.0005 ft/ft (4th Quarter 2004), 0.0005 ft/ft (1st Quarter 2005) and 0.0007 ft/ft (2nd Quarter 2005). The gradient was calculated for each quarter by dividing the change in head from well G33D/R33D to well G54D by the straight-line horizontal distance between these wells.

4.2 Groundwater Monitoring

In accordance with 35 IAC Section 811.318, an operator of a municipal solid waste landfill must establish a groundwater monitoring program that monitors all potential sources of discharge to the groundwater. The monitoring program must continue through the active life of the project to a specified amount of time after closure. According to the operating permit of the landfill, the monitoring program will continue for a minimum of 30 years after closure.

The sampling program for the Countryside Landfill includes the establishment and monitoring of the background groundwater quality, monitoring stratigraphic units that may serve as contaminant migration pathways in the zone of attenuation, and monitoring potential sources of discharge. Groundwater sampling activities were performed by Environmental Monitoring Technologies, Inc. (EMT) of Morton Grove, Illinois and groundwater chemical analysis was performed by Severn Trent Laboratories, Inc. of Buffalo, New York. For the current groundwater monitoring review, CDM reviewed quarterly groundwater sampling result summaries for 2nd quarter 2005 through 4th quarter 2005, and 1st quarter 2006 (provided in **Appendix F**).

The groundwater monitoring program at CLI monitors three zones, the Weathered Till, Unweathered Till, and the Uppermost Aquifer. Wells designated with a "U" are completed in the weathered till (the upper most monitored layer), "M" wells are completed in the unweathered till (the middle monitored layer), and "D" wells are completed in the Uppermost Aquifer (the deepest monitored layer). Each monitoring zone contains three types of monitoring wells: background or upgradient wells, wells within the zone of attenuation, and compliance boundary wells. The groundwater monitoring program is currently conducted in accordance with Modification No. 72 (issued May 10, 2006). Currently, groundwater is monitored on a quarterly basis at CLI. **Table 4-1** lists the approved sampling schedule required for the CLI monitoring program.

Table 4-1: Groundwater Monitoring Program Schedule

Sampling Quarter	Sample Requirements [1]	Report Due Date
January-February (1st)	List G1	April 15
April-May (2nd)	List G1 and G2	July 15
July-August (3rd)	List G1	October 15
October-November (4th)	List G2	January 15

Note

1 – Sample lists are provided in Section VIII *Groundwater Monitoring*, Condition 12 of the operating permit

Groundwater is analyzed for field parameters, some metals, and indicator parameters on a quarterly basis (List G1 - Routine Groundwater Parameters) and for a complete list of volatile organic compounds and metals (List G2 - Annual Groundwater Parameters) annually. The results of the monitoring program were compared to the applicable groundwater quality standards (AGQS) and the maximum allowable predicted concentrations (MAPC) that have been established for the background and compliance wells and the zone of attenuation wells, respectively. Established MAPC and AGQS values for each monitoring zone can be found as Attachment 1 of the IEPA operating permit. These values were calculated based on four consecutive quarters of groundwater monitoring data using statistical methods approved by the IEPA.

As part of routine quarterly groundwater monitoring, the analytical result for each parameter from each well is compared to its applicable AGQS/MAPC value. An exceedance of an AGQS/MAPC for a particular parameter for a given well, or four consecutive increases of a parameter in a well, constitutes an observed increase and written notification must be sent to the IEPA that an observed increase has occurred at the facility. In order to determine if the exceedance is valid or the result of laboratory or sampling error or some other cause, confirmation sampling may be performed for the parameter and well in question.

If confirmation sampling does not verify the exceedance, i.e., the confirmation results are below the applicable AGQS/MAPC value, then no further action is required. If confirmation sampling does verify the exceedance, i.e., the confirmation sampling results exceed the applicable AGQS/MAPC value, then a confirmed exceedance has occurred. This requires a written notification to the IEPA that a confirmed increase has occurred at the facility. Confirmed increases also require the submittal of an assessment plan in the form of a significant modification permit application to determine if the exceedance is due to the facility or some other source. At this point the well and parameter under question are considered under assessment. It should be noted that confirmation sampling is not mandatory; a landfill owner/operator may elect to skip confirmation sampling, for example, if a given well and parameter is already under assessment and exceedances for that particular parameter continue with subsequent monitoring events.

The discussion below presents a summary of the groundwater monitoring results based on the quarterly evaluations and the AGQS and MAPC values contained in the permit (last updated in Modification No. 72). **Table 4-2** summarizes the observed increases of the audit period and **Table 4-3** summarizes the confirmed increases and assessment monitoring proposals for the audit period.

2nd Quarter 2005 Monitoring

Observed increases were identified during the 2nd Quarter 2005 monitoring event for the following parameters: ammonia (d), ammonia (t), arsenic (d), arsenic (t), boron (d), bis(2-ethylhexyl)phthalate, chemical oxygen demand (COD), iron (t), nickel (t), phenol, total organic carbon (TOC). Observed increases of various groundwater constituents were noted for four Weathered Till wells (R02U, G11U, G22U, and G27U), one Unweathered Till well (G40M), and two Uppermost Aquifer wells (G52D and G53D).

Confirmation sampling showed that the following parameters had confirmed increases during 2nd quarter 2005: ammonia (d), ammonia (t), arsenic (d), arsenic (t), boron (d), iron (t) and TOC. CLI notified the IEPA of 2nd quarter 2005 confirmed increases on August 23, 2005 and also stated that the new confirmed increases were likely due to natural variation. **Table 4-4** summarizes the current status as of the time of this report of the confirmed increases found during the 2nd Quarter 2005 monitoring event.

3rd Quarter 2005 Monitoring

Observed increases of the following parameters were identified during the 3rd quarter 2005 monitoring event: ammonia (d), arsenic (d), boron (d), iron (d), and manganese (d). Observed increases of various groundwater constituents were noted for five Weathered Till wells (G11U, G22U, G25U, G27U and G28M) and one Uppermost Aquifer Well (G52D).

Confirmed increases of ammonia (d), boron (d), iron (d), and manganese (d) were identified. CLI notified the IEPA of 3rd Quarter 2005 confirmed increases on November 15, 2005, noting that the new confirmed increases were likely due to natural variation. **Table 4-4** summarizes the current status as of the time of this report of the confirmed increases found during the 3rd Quarter 2005 monitoring event. Note that the confirmed increase of dissolved manganese at well G22U was not included in the groundwater assessment proposal for the 3rd Quarter 2005 (Log No. 2006-056).

Table 4-2: Summary of Observed Increases for the Current Audit Period

Well ID	Monitoring Event			
	2nd Qtr. 2005	3rd Qtr. 2005	4th Qtr. 2005	1st Qtr. 2006
Weathered Till Zone				
R02U	Nickel (t)			
G10U				Phenol (t)
G11U	**Ammonia (d)**	**Ammonia (d)**	**Ammonia (d)**	**Ammonia (d)**
	Ammonia (t)			
	Iron (t)			
	TOC			
G22U	Phenol	**Manganese (d)**	Manganese (d) **Sulfate (d)**	Chloride (d)
G25U		Boron (d)		
G27U/ R27U	**Arsenic (d)**	**Iron (d)**		
	Arsenic (t)			
Unweathered Till Zone				
G28M		Arsenic (d)	**Arsenic (d)**	**Arsenic (d)**
		Iron (d)	**Manganese (d)**	**Iron (d)**
		Manganese (d)	**Zinc (d)**	**Manganese (d)**
				Zinc (d)
G40M	Bis (2-ethylhexyl) phthalate			
Uppermost Aquifer				
G45D			Nitrate (d)	
G48D			Nitrate (d)	Zinc (d)
			Zinc (d)	
G49D				**Sulfate (d)**
G52D	**Boron (d)**	**Boron (d)**	**Boron (d)**	**Boron (d)**
	COD			
G53D	**Arsenic (d)**		**Boron (d)**	Boron (d)
	Arsenic (t)			
	Phenol			
G55D/ R55D			**Ammonia (d)**	**Ammonia (d)**
			Arsenic (d)	Arsenic (d)
			Chloride (d)	
			Nitrate (d)	
			Phenol (t)	

Key:
Bold type indicates confirmed increase
(d) – dissolved
(t) – total

Table 4-3: Summary of Confirmed Increases and Assessment Monitoring for the Current Audit Period

Monitoring Event	2nd Qtr 2005	3rd Qtr 2005	4th Qtr 2005	1st Qtr 2006
Log. No. (1)	2005-456	2006-056	2006-174	Assessment Proposal Due August 14, 2006
Modification No. (2)	Mod. 70	Mod. 72	Pending	NA
Well ID	**Confirmed Increase Parameter**			
Weathered Till				
G11U	Ammonia (d) Ammonia (t) Iron (t) TOC	Ammonia (d)	Ammonia (d)	Ammonia (d)
G22U		**Manganese (d)**	**Sulfate (d)**	
G27U/R27U	**Arsenic (d)** **Arsenic (t)**	Iron (d)		
Unweathered Till				
G28M		**Iron (d)** **Manganese (d)**	**Arsenic (d)** Manganese (d) **Zinc (d)**	Arsenic (d) Iron (d) Manganese (d) Zinc (d)
Uppermost Aquifer				
G48D			**Zinc (d)**	
G49D				Sulfate (d)
G52D	Boron (d)	Boron (d)	Boron (d)	Boron (d)
G53D	**Arsenic (d)** **Arsenic (t)**		**Boron (d)**	
G55U/R55D(3)			**Ammonia (d)** Arsenic (d)	Ammonia (d)

Key:
Bold type indicates new confirmed increases
(d) – dissolved
(t) – total

Notes:
1 – Log No. represents the submittal made by CLI containing the groundwater assessment proposal for the new confirmed increases.
2 – Modification No. represents the significant modification in which the groundwater assessment proposal was approved.
3 – In the 2005 BOL Annual Report, CLI reported confirmed increases at R55D during the 4th Quarter 2005 for chloride (d), nitrate (d), and phenol. However the observed increases were not confirmed during resampling.

4th Quarter 2005 Monitoring

Observed increases of the following parameters were identified during the 4th quarter 2005 monitoring event: ammonia (d), arsenic (d), boron (d), chloride (d), manganese (d), nitrate (d), phenol (t), sulfate (d), and zinc (d). The observed increases were identified in two Weathered Till wells (G11U), one Unweathered Till well (G28M),

and five Uppermost Aquifer wells (G45D, G48D, G52D, G53D, and R55D). Note that the observed increase of dissolved manganese at well G22U was not identified by CLI as an observed increase and confirmation sampling was not initiated.

Confirmed increases of ammonia (d), arsenic (d), boron (d), manganese (d), sulfate (d), and zinc (d) were identified. CLI notified the IEPA of 4th Quarter 2005 confirmed increases on February 16, 2006, noting that the new confirmed increases were likely due to natural variation. **Table 4-4** summarizes the current status as of the time of this report of the confirmed increases found during the 4th Quarter 2005 monitoring event. Note that the confirmed increase of dissolved boron at well G53D was not included in the groundwater assessment proposal for the 4th Quarter 2005 (Log No. 2006-174).

1st Quarter 2006 Monitoring

Observed increases of the following parameters were identified during the 1st quarter 2006 monitoring event: ammonia (d), arsenic (d), boron (d), chloride (d), iron (d), manganese (d), phenol, sulfate (d), and zinc (d). Observed increases of various groundwater constituents were noted for three Weathered Till wells (G10U, G11U, and G22U), one Unweathered Till well (G28M) and four Uppermost Aquifer wells (G48D, G49D, G52D, and R55D). Note that the observed increase of dissolved boron at well G53D was not identified by CLI as an observed increase and confirmation sampling was not initiated.

Confirmed increases of ammonia (d), arsenic (d), boron (d), iron (d), manganese (d), sulfate (d), and zinc (d) were identified. CLI notified the IEPA of 1st Quarter 2006 confirmed increases on May 16, 2006, noting that the new confirmed increases were likely due to natural variation. Based on information reviewed by CDM, an observed increase of phenol was detected at well G10U and the results of confirmation sampling were not included in the confirmation sampling notification letter dated May 16, 2006.

Table 4-4 summarizes the current status as of the time of this report of the confirmed increases found during the 1st Quarter 2006 monitoring event.

Groundwater assessment reports are required to be submitted within 90 days of a confirmed increase per CLI's IEPA Operating Permit. Based on this timeline, the fourth quarter groundwater assessment report is normally a pending significant modification and the first quarter has yet to be submitted to the IEPA at the time of this audit report. Therefore, **Table 4-5** below provides an updated status of **Table 4-4** from the previous audit period for those issues that were pending at the time of the previous audit report. **Table 4-5** lists only those confirmed increases that were unresolved in the previous audit report.

Table 4-4: Summary of Confirmed Increases and Their Status During the Audit Period

Well ID	Confirmed Increase Parameter	Quarters Having Confirmed Increase (1)	GW Assessment Proposal Log. No.	Status
G11U	Ammonia (d)	2nd, 3rd, 4th, 1st	2005-456	Mod. 59 approved 4 Qtrs. Of assessment monitoring to develop intrawell AGQS/MAPC values. Quarterly monitoring has been ongoing since 1st Qtr. 2004. Calculation of new intrawell AGQS/MAPC currently pending (Log No. 2006-110).
	Ammonia (t)	2nd*	2005-456	Mod. 59 approved 4 Qtrs. Of assessment monitoring to develop intrawell AGQS/MAPC values. Quarterly monitoring has been ongoing since 1st Qtr. 2005. Calculation of new intrawell AGQS/MAPC currently pending (Log No. 2006-110).
	Iron (t)	2nd*	2005-456	Mod. 65 approved 4 Qtrs. Of assessment monitoring to develop intrawell AGQS/MAPC values. Quarterly monitoring has been ongoing since 2nd Qtr. 2005. Calculation of new intrawell AGQS/MAPC currently pending (Log No. 2006-110).
	TOC	2nd*	2005-456	Mod. 59 approved 4 Qtrs. Of assessment monitoring to develop intrawell AGQS/MAPC values. Quarterly monitoring has been ongoing since 1st Qtr. 2005. Calculation of new intrawell AGQS/MAPC currently pending (Log No. 2006-110).
G22U	Manganese (d)	3rd	NA	This exceedance was not included in the groundwater assessment proposal for the 3rd Qtr. 2005.
	Sulfide (d)	4th	2006-174	4nd Qtr. Result was a fourth consecutive increase. CLI proposes continuation of detection monitoring based on the increase being well below the AGQS/MAPC value and that G22U is a designated background well.
G27U	Arsenic (d)	2nd	2005-456	The exceedance was attributed to well damage and the well has since been replaced. The groundwater assessment proposal for this exceedance was approved by Mod. 70. Mod. 70 approved a return to detection monitoring of the replacement well R27U.
	Arsenic (d)	2nd	2005-456	The exceedance was attributed to well damage and the well has since been replaced. The groundwater assessment proposal for this exceedance was approved by Mod. 70. Mod. 70 approved a return to detection monitoring of the replacement well R27U.
	Iron (d)	3rd	2006-056	3rd Qtr. Result was a fourth consecutive increase. CLI proposed continuation of detection monitoring based on the increase being well below the AGQS/MAPC value and that G27U is a designated background well. Mod. 72 approved continued detection monitoring.

Notes:

1 – Quarters of the audit period are denoted as 2nd Quarter 2005, 3rd Quarter 2005, 4th Quarter 2005, and 1st Quarter 2006. Those parameters that are sampled annually are noted by an (*).

Table 4-4: Summary of Confirmed Increases and Their Status During the Audit Period Continued

Well ID	Confirmed Increase Parameter	Quarters Having Confirmed Increase (1)	GW Assessment Proposal Log. No.	Status
G28M	Arsenic (d)	4th, 1st	2006-174	Exceedance attributed to well damage and surface water infiltration. Damage described in 3rd Qtr. 2005 assessment proposal (Log No. 2006-056). Well replacement and a return to detection monitoring were approved in Mod 72. Well replacement was completed on May 25, 2006.
	Iron (d)	3rd, 1st	2006-056	Exceedance attributed to well damage and surface water infiltration. Damage described in 3rd Qtr. 2005 assessment proposal (Log No. 2006-056). Well replacement and a return to detection monitoring were approved in Mod 72. Well replacement was completed on May 25, 2006.
	Manganese (d)	3rd, 4th, 1st	2006-056	Exceedance attributed to well damage and surface water infiltration. Damage described in 3rd Qtr. 2005 assessment proposal (Log No. 2006-056). Well replacement and a return to detection monitoring were approved in Mod 72. Well replacement was completed on May 25, 2006.
	Zinc (d)	4th, 1st	2006-174	Exceedance attributed to well damage and surface water infiltration. Damage described in 3rd Qtr. 2005 assessment proposal (Log No. 2006-056). Well replacement was completed on May 25, 2006.
G48D	Zinc (d)	4th	2006-174	Exceedance attributed natural variation. CLI proposed continuation of detection monitoring. The assessment proposal is currently pending.
G49D	Sulfate (d)	1st	NA	This exceedance should be described in the 1st Qtr. 2006 groundwater assessment proposal. The deadline for submittal of this assessment monitoring plan does not fall within the current audit period.
G52D	Boron (d)	2nd, 3rd, 4th, 1st	2005-456	Mod. 65 approved 4 Qtrs. of assessment monitoring to develop intrawell AGQS/MAPC values. Quarterly monitoring has been ongoing and calculation of new intrawell AGQS/MAPC currently pending (Log No. 2006-110).

Notes:

1 – Quarters of the audit period are denoted as 2nd Quarter 2005, 3rd Quarter 2005, 4th Quarter 2005, and 1st Quarter 2006. Those parameters that are sampled annually are noted by an (*).

Table 4-4: Summary of Confirmed Increases and Their Status During the Audit Period Continued

Well ID	Confirmed Increase Parameter	Quarters Having Confirmed Increase (1)	GW Assessment Proposal Log. No.	Status
G53D	Arsenic (d)	2nd	2005-456	The groundwater assessment proposal attributed this exceedance to natural variation and was approved by Mod. 70. Mod. 70 approved a return to detection monitoring.
	Arsenic (t)	2nd*	2005-456	The groundwater assessment proposal attributed this exceedance to natural variation and was approved by Mod. 70. Mod. 70 approved a return to detection monitoring.
	Boron (d)	4th	NA	This exceedance was not included in the groundwater assessment proposal for the 4th Qtr. 2005.
G55D/ R55D	Ammonia (d)	4th, 1st	2006-174	The groundwater assessment proposal attributed this exceedance to well installation affects from recently installed replacement well R55D. It was proposed to redevelop the well and continue detection monitoring. The assessment proposal is currently pending.
	Arsenic (d)	4th	2006-174	The groundwater assessment proposal attributed this exceedance to well installation affects from recently installed replacement well R55D. It was proposed to redevelop the well and continue detection monitoring. The assessment proposal is currently pending.

Notes:

1 – Quarters of the audit period are denoted as 2nd Quarter 2005, 3rd Quarter 2005, 4th Quarter 2005, and 1st Quarter 2006. Those parameters that are sampled annually are noted by an (*).

Table 4-5: Status Summary of Pending Previous Audit Report Confirmed Increases

Well ID	Confirmed Increase Parameter	Quarters Having Confirmed Increase (1)	GW Assessment Proposal Log. No.	Subsequent Permit Modification Number	Comments
G11U	Ammonia (d)	2nd, 3rd, 4th, 1st	2005-456	70	New intrawell AGQS/MAPC value of 47.3 mg/L is currently pending (Log No. 2006-110).
	Ammonia (t)	2nd*	2005-456	70	New intrawell AGQS/MAPC value of 43.8 mg/L is currently pending (Log No. 2006-110).
	Barium (t)	2nd*	2004-452	65	New intrawell AGQS/MAPC value of 1,203.9 µg/L is currently pending (Log No. 2006-110).
	Iron (d)	NA	NA	NA	New intrawell AGQS/MAPC value of 11,401 µg/L is currently pending (Log No. 2006-110).
	Iron (t)	2nd*	2004-452	65	New intrawell AGQS/MAPC value of 63.0 µg/L is currently pending (Log No. 2006-110).
	TOC	2nd*	2004-310	59	New intrawell AGQS/MAPC value of 43.8 mg/L is currently pending (Log No. 2006-110).
G22U	Chloride (d)	2nd	2004-452	65	Continued detection monitoring.
G25U	Boron (t)	2nd*	2004-452	65	Continued detection monitoring.
	Chloride (t)	2nd*	2004-452	65	New intrawell AGQS/MAPC value of 1,361.2 mg/L is currently pending (Log No. 2006-110).
R33D	Potassium (t)	2nd*	2004-452	65	Continued detection monitoring.
G38M	Zinc (d)	1st	2005-328	69	Continued detection monitoring.
G45D	Nitrate (d)	4th	2005-192	67	Continued detection monitoring.
	Zinc (d)	4th	2005-192	67	Continued detection monitoring.
G46D	COD	2nd*	2004-452	65	Proposed continued detection monitoring with assessment report in Log No. 2006-110. Pending.
G47D	Nitrate (d)	4th	2005-192	67	Continued detection monitoring.
G48D	Nitrate (t)	2nd*	2004-452	65	Continued detection monitoring.
G49D	Nitrate (d)	1st	2005-328	69	Continued detection monitoring.
G50D	Nitrate (d)	1st	2005-328	69	Continued detection monitoring.

Notes:

1 – Quarters of the audit period are denoted as 2nd Quarter 2004, 3rd Quarter 2004, 4th Quarter 2004, and 1st Quarter 2005. Those parameters that are sampled annually are noted by an (*).

Table 4-5: Status Summary of Pending Previous Audit Report Confirmed Increases Continued

Well ID	Confirmed Increase Parameter	Quarters Having Confirmed Increase (1)	GW Assessment Proposal Log. No.	Subsequent Permit Modification Number	Comments
G52D	Boron (d)	2nd, 3rd, 4th, 1st	2004-452	65	New intrawell AGQS/MAPC value of 902.7 µg/L is currently pending (Log No. 2006-110)
	Boron (t)	2nd*	2004-452	65	New intrawell AGQS/MAPC value of 920.8 mg/L is currently pending (Log No. 2006-110)
G54D	Nitrate (t)	2nd*	2004-452	65	Continued detection monitoring
G55D	TDS	1st	2005-328	69	Continued detection monitoring.

Notes:

1 – Quarters of the audit period are denoted as 2nd Quarter 2004, 3rd Quarter 2004, 4th Quarter 2004, and 1st Quarter 2005. Those parameters that are sampled annually are noted by an (*).

Table 4-6 summarizes the currently approved monitoring well network for CLI. During the current audit period Well R27U was installed to replace Well G27U and Well R55D was installed to replace Well G55D. The soil boring logs, well completion reports, well development data, hydraulic conductivity test results, and the well sealing forms are included in **Appendix F**. On May 25, 2006, Well G28M was replaced with Well R28M. Well replacement documentation is due to the Illinois EPA by July 24, 2006. Three piezometers located along the eastern border of the property were abandoned. Piezometers P302 and P304 were abandoned on May 5, 2006 and abandonment forms are due to the Lake County Health Department by June 4, 2006. Piezometer P301 was abandoned on May 31, 2006 and the abandonment form is due to the Lake County Health Department by June 30, 2006. Piezometer P303 was scheduled for abandonment, but could not be located. CDM recommends that CLI locate and abandon piezometer P303 in accordance with the Permit.

Table 4-6: Summary of the Currently Approved Groundwater Monitoring Well Network

Well ID	Screened Location	Location Description
Background Wells		
G22U	Weathered Till	S of South Expansion
G25U	Weathered Till	N of North Expansion
R27U (Replacement of G27U)	Weathered Till	E of South Expansion
R33D (Replacement of G33D)	Uppermost Aquifer	W of Existing Unit
G38M	Unweathered Till	S of South Expansion
G45D	Uppermost Aquifer	NW of Existing Unit
Zone of Attenuation Wells		
R02U (Replacement of G02U)	Weathered Till	W of Existing Unit
G10U	Weathered Till	W of North Expansion
G31M	Unweathered Till	W of Existing Unit
G35U	Weathered Till	W of North Expansion
G36M	Unweathered Till	NW of Existing Unit
G37M	Unweathered Till	N of North Expansion
G40M	Unweathered Till	NE of North Expansion
G48D	Uppermost Aquifer	S of South Expansion
G49D	Uppermost Aquifer	S of South Expansion
G50D	Uppermost Aquifer	SE of South Expansion
G51D	Uppermost Aquifer	S of Retention Basin 1
G52D	Uppermost Aquifer	S of Cell 1 & South Expansion
G53D	Uppermost Aquifer	S of South Expansion
G54D	Uppermost Aquifer	SE of South Expansion
R55D (Replacement of G55D)	Uppermost Aquifer	E of South Expansion
Compliance Boundary Wells		
G11U (Replacement of G03U)	Weathered Till	NE of Existing Unit
R28M (Replacement of G28M)	Unweathered Till	E of South Expansion
G46D	Uppermost Aquifer	S of South Expansion
G47D	Uppermost Aquifer	S of South Expansion

4.3 Leachate Monitoring

During the audit period, 4,376,554 gallons of leachate were collected and disposed off-site, an approximate 34% decrease compared to last audit period. This decrease was a result of below average rainfall during the previous year, the closure of Cells 2 and 3, and intermediate cover placed on Cell 4.

Leachate monitoring was conducted on a semi-annual and annual basis at the Countryside Landfill during the audit period, in accordance with the requirements in Section VII.6 of the Permit. Semi-annual leachate monitoring includes sampling for parameters listed in List L1 (Routine Leachate Parameters), which includes field parameters, some metals, and indicator parameters. Leachate parameter lists L2 (Annual Leachate Parameters) and L3 (Annual TCLP Leachate Parameters) are monitored annually. List L2 includes organic compounds, a full list of metals, and leachate level. List L3 consists of RCRA parameters (ignitability, corrosivity, reactivity, and TCLP metals) and organics. The schedule for leachate sampling is listed in **Table 4-7**.

Table 4-7: Leachate Monitoring Program Schedule

Sampling Quarter	Sample Requirements (1)	Report Due Date
January – February (1st)	List L1	April 15
July – August (3rd)	Lists L1, L2, and L3	October 15

Note

1 – Sample lists are provided in Section VII *Leachate Monitoring*, Condition 5 of the current permit.

During the 3rd Quarter 2005 and the 1st quarter of 2006, leachate was monitored at nine leachate sampling points L101, L102, L103, L104, L105 (dry, 2nd Quarter 2005, 4th Quarter 2005 and 1st quarter 2006), L106 (dry, 4th Quarter 2005), L111 (level only), R112 (level only) and L118.

Table 4-8 lists the various amounts of leachate removed annually. According to CLI records, 5,116,355 gallons of leachate were removed from the landfill in 2005 (**Appendix F**). For the 1st quarter of 2006, a total of 1,458,557 gallons were removed. This 1st Quarter total is comparable to the volume of leachate removed during 1st Quarter 2004 (less than 1% difference).

Table 4-8: Leachate Disposal Quantities at CLI

Year	Leachate Disposal (gallons)
1995	55,100
1996	247,127
1997	4,236,300
1998	8,254,850
1999	11,250,070
2000	9,479,393
2001	9,745,637
2002	11,656,065
2003	7,772,260
2004	6,261,419
2005	5,116,355
1st Quarter 2006	1,458,557

Leachate Recirculation

Leachate recirculation is currently not being conducted at CLI. In the previous audit report, CDM stated that CLI indicated that a request for a permit modification for leachate recirculation was targeted for submittal to the IEPA in late fall 2005. CLI has yet to submit a permit modification request for leachate recirculation. According to CLI, the leachate recirculation submittal is now targeted for late fall 2006. CLI plans to have a draft report and design reviewed by SWALCO.

Section 5
Site Operations

5.1 Site Operations

USA Waste Services officially merged with Waste Management, Inc. (WMI) on July 16, 1998. The following individuals and companies operate in various capacities for Countryside Landfill (CLI):

Countryside Landfill Employees

- **Chris Rubak, P.E.** - Senior Engineer responsible for technical aspects of site operations including overseeing modifications to and maintaining compliance with site permits, and conducting SWPPP inspections.
- **Michael Hey** - District Manager responsible for overseeing financial matters, construction projects, and operational aspects of the facility.
- **Eilee Regenaur** - Accountant for Countryside Landfill (located at WM's Downer Grove office)
- **Jim Kearny** - Controller for Countryside Landfill
- **Matt Deterding** - Landfill Gas & Leachate Technician
- **Joe Kash** - Special Waste Technical Manager
- **Patty Cichy** - Gatehouse Operators
- **Diane Caine** - Operational Specialist & Gatehouse Operator Back-Up
- **8 Equipment Operators**
- **1 Laborer**
- **3 Temporary Workers** - As needed for litter control

Outside Professionals and Consultants

- **Environmental Monitoring Technologies, Inc. (Morton Grove, IL)** - Environmental sampling
- **Earth Tech, Inc. (Oak Brook, IL)** - Construction Quality Assurance for all landfill construction related activities
- **Severn-Trent Laboratories (Buffalo, NY)** - Groundwater and leachate analysis
- **R.E. Allen and Associates, Ltd. (Grayslake, IL)** - Ground surveying

- **Ryan, Inc. (Elgin, IL)** – Clay liner construction
- **Aero Metric Engineering, Inc. (Chilton, WI)** – Aerial photography and map preparation
- **Terra Engineering & Construction (Madison, WI)** – Gas well and pipe installation
- **GSE (formerly Gundle Lining Systems) (Wellford, SC)** – Geomembrane manufacturer and installer (Subcell 4C and 5B)
- **Weaver Boos Consultants** – Quarterly airspace surveying

5.2 Waste Disposal Quantities

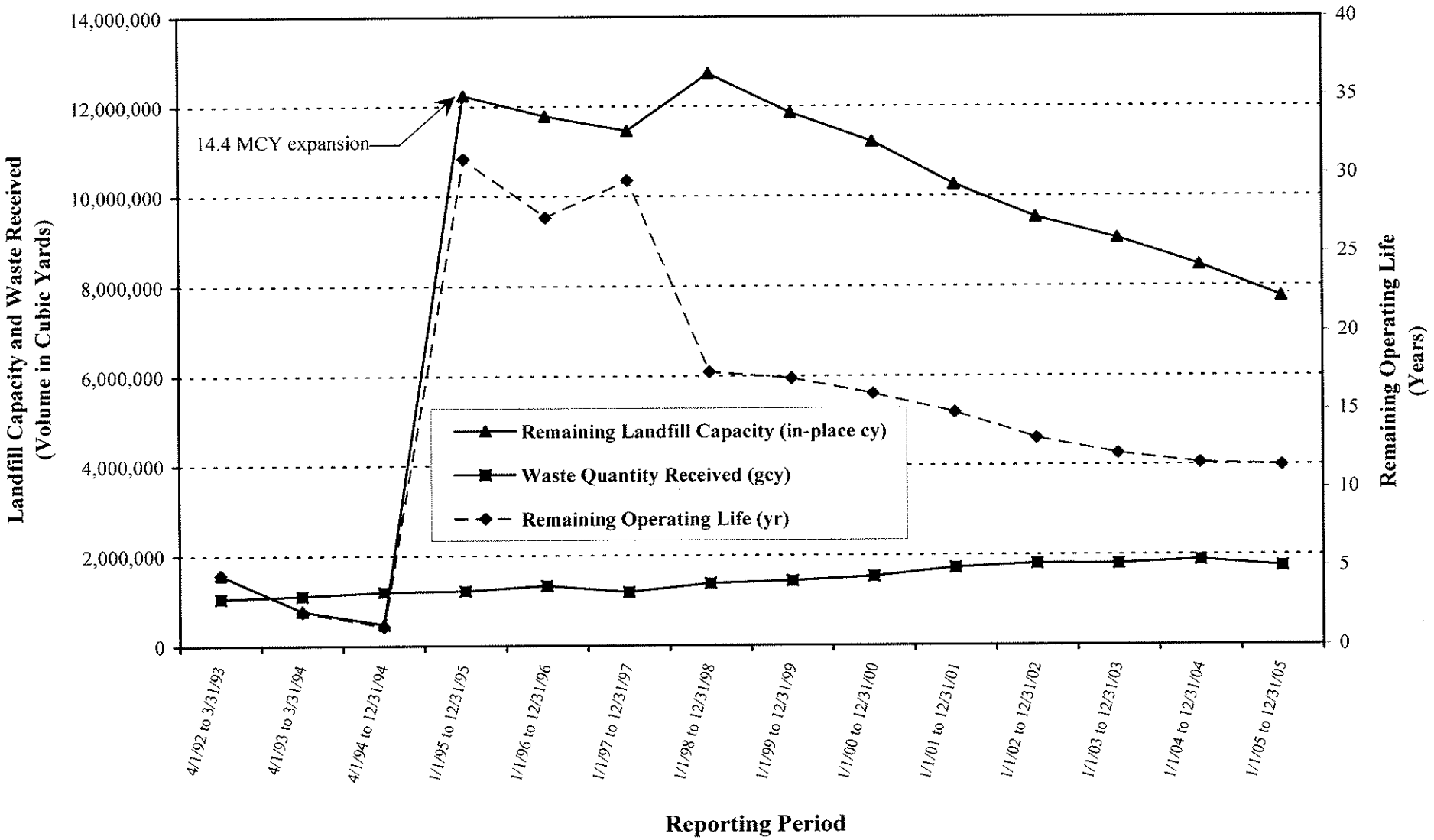
5.2.1 Waste Quantities

The waste quantity data reviewed in this section includes the annual Solid Waste Landfill Capacity Certification prepared by CLI and monthly gate-ticket information received by CDM from CLI from June 2005 through May 2006 (provided in **Appendix G**). Up until 1999, the annual Solid Waste Landfill Capacity Certifications were prepared by Andrews Environmental Engineering (AEE). Since this time, Solid Waste Landfill Capacity Certifications (summarizing operating years 1998 to 2005) were prepared by the CLI Site Engineer. Capacity certifications were reviewed for the following time periods:

- April 1, 1992 to March 31, 1993
- April 1, 1993 to March 31, 1994
- April 1, 1994 to December 31, 1994
- January 1, 1995 to December 31, 1995
- January 1, 1996 to December 31, 1996
- January 1, 1997 to December 31, 1997
- January 1, 1998 to December 31, 1998
- January 1, 1999 to December 31, 1999
- January 1, 2000 to December 31, 2000
- January 1, 2001 to December 31, 2001
- January 1, 2002 to December 31, 2002
- January 1, 2003 to December 31, 2003
- January 1, 2004 to December 31, 2004
- January 1, 2005 to December 31, 2005

The annual capacity certifications provide annual waste quantity received, remaining landfill capacity, and remaining operating life of the landfill. **Figure 5-1** summarizes the information provided by the capacity reports between April 1992 and December 2005 (data for 1994 was adjusted to represent an annual period).

Figure 5-1
Summary of Annual IEPA Landfill Capacity Reports
Countryside Landfill



Volume and weight-based waste quantity data was provided for the period between June 2005 and May 2006. **Table 5-1** and **Table 5-2** summarize the monthly gate-ticket transaction register data by material type and by source.

Table 5-1: Summary of Waste Accepted June 2005 to May 2006

Month	Tons	Gate Cubic Yards	Gate Density (lb/cy)
June 2005	44,546	168,786	528
July 2005	48,920	161,173	607
August 2005	47,422	174,243	544
September 2005	40,156	152,337	527
October 2005	39,297	150,064	524
November 2005	42,098	148,340	568
December 2005	31,028	124,200	500
January 2006	35,502	132,076	538
February 2006	26,848	112,720	476
March 2006	35,498	142,544	498
April 2006	42,339	146,452	578
May 2006	48,780	165,261	590
Total	482,433	1,778,196	-
Average	40,203	148,183	540

Table 5-2: Waste Quantities Received by Origin

Source	Gate Tons	Total Gate Cubic Yards	% of Total by Weight
Cook County	35,370	68,764	7%
Lake County	356,821	1,321,824	74%
McHenry County	90,242	387,608	19%
Total	482,433	1,778,196	-

Records indicate that approximately 74% of the waste received at CLI originates in Lake County, as seen in **Figure 5-2**. Approximately 482,433 tons of waste, corresponding to 1,778,196 gate cubic yards (gcy), was received during the audit period. The annual tonnage decreased approximately 6% from last audit period, and the gate cubic yardage decreased approximately 4.5%. This corresponds to:

- 40,203 tons/month (148,183 gcy/month)
- 9,278 tons/week (34,196 gcy/week)
- 1,546 tons/day (5,699 gcy/day)

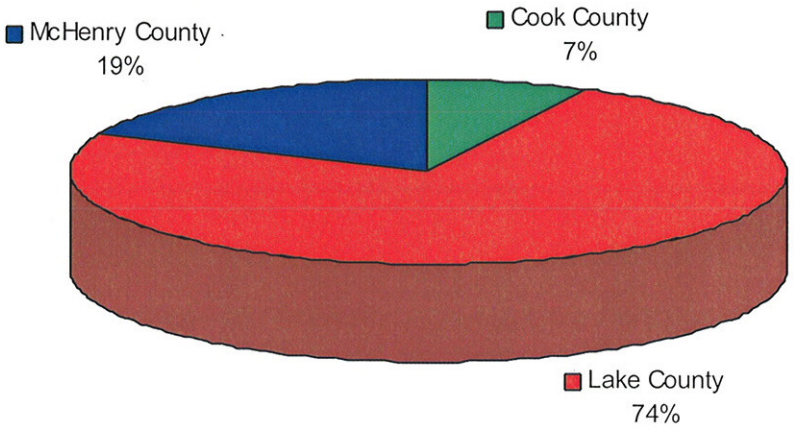


Figure 5-2
Percent by Weight of Waste Accepted by County Source

Figure 5-3 summarizes the type of material received by CLI during the current audit period.

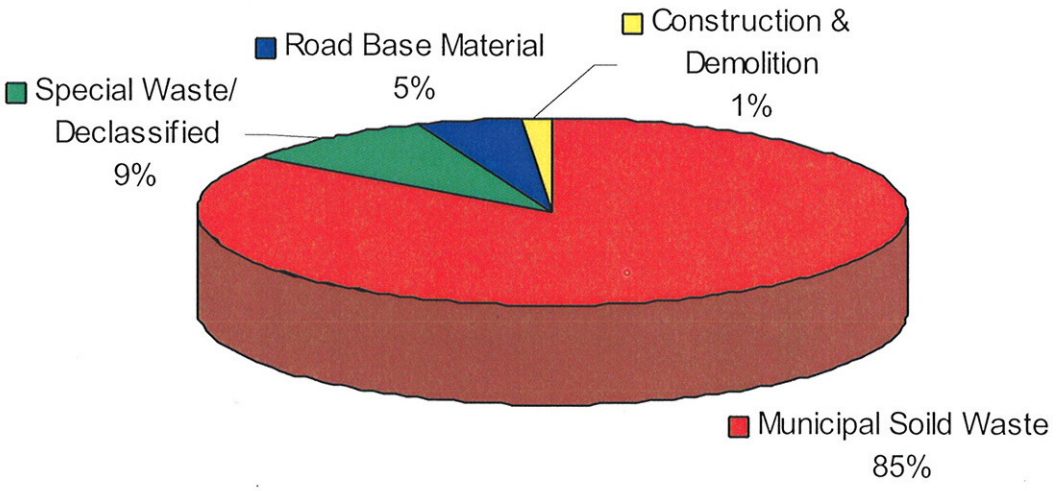


Figure 5-3
Percent by Weight of Waste Accepted by Commodity Type

The four commodity types from **Figure 5-3** are classified into smaller groups, as shown in **Table 5-3**, for tracking materials subject to fees and exempt from fees. The type of waste collected determines the amount in fees due to SWALCO and IEPA. SWALCO collects fees on all waste except Road Base Material. CDM estimates 459,812 tons of waste was subject to SWALCO fees during the audit period. Road Base Material as wells as Pollution Control Waste are exempt from IEPA fees. CDM estimates 414,818 tons of waste was subject to IEPA fees during the audit period.

During this period, the average gate density of waste is estimated to be 540 pounds per cubic yard (lb/cy). **Figure 5-4** compares the total tonnages and the average daily tonnage of the past seven years.

CDM has also reviewed CLI's Quarterly Solid Waste Summary forms for 2nd quarter 2005, 3rd quarter 2005, 4th quarter 2005, and 1sat quarter 2006. CLI had not recorded the quantity of solid waste permanently disposed of at the landfill that is exempt from the fee payment provisions. This is an apparent violation of 35 IAC 858.207. Per CLI's discussion with IEPA, Quarterly Solid Waste Summary forms submitted to IEPA in 2006 will be revised and corrected to include this information.

5.2.2 Remaining Operating Life

CLI contracted R.E. Allen and Associates, Ltd. (second quarter 2005 only) and Weaver Boos Consultants (third quarter 2005 to present) to quarterly survey the landfill in order to determine waste filling rates. CLI provided CDM with volume of airspace consumed based on the quarterly airspace surveys from April 2005 through March 2006. This information is used to monitor compactive effort and remaining waste capacity of the landfill. In addition, aerial photography of the site was performed by Aero-metric on August 1, 2004. By comparing topographic survey data obtained by these surveys, the quantity of airspace consumed can be calculated as well as waste densities, filling rates, and overall site life.

The quarterly airspace surveys and the monthly gate records were used to calculate the average compaction ratio from April 2005 through March 2006, as shown in **Table 5-4**. The average in-place density was 1,545 lb/cy.

Table 5-4: Waste Compaction Ratio April 2005 Through March 2006

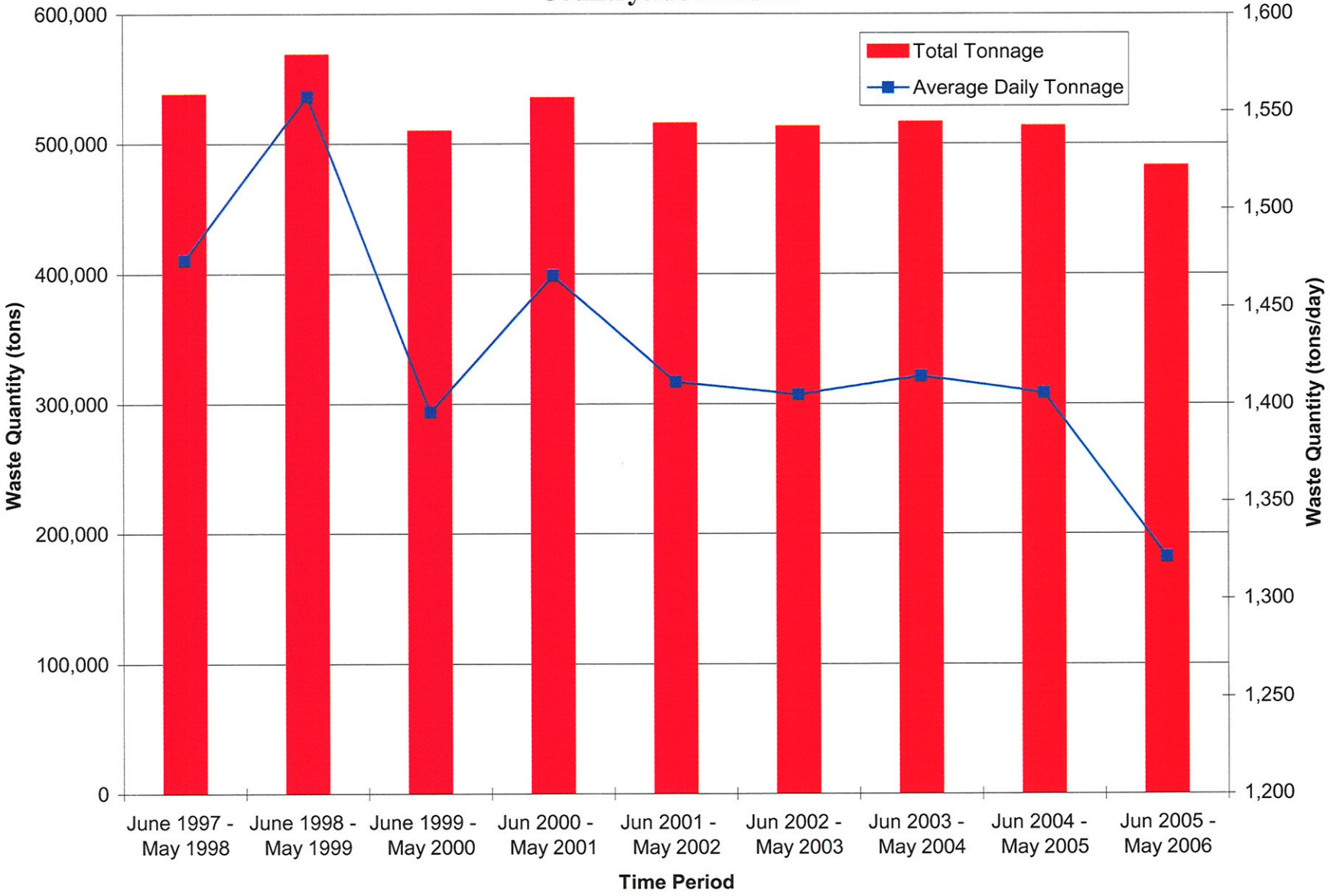
Period	Airspace Consumed (bcy)	Tonnage (tons)	In-Place Density (lb/cy)	Gate Volume (gcy)	Compaction Ratio
April 05 – June 05	148,000	121,286	1,639	465,941	3.15
July 05 – September 05	159,603	136,498	1,710	487,753	3.06
October 05 – December 05	150,841	112,423	1,491	422,604	2.80
January 06 – March 06	145,980	97,848	1,341	387,340	2.65
Total/Average	604,424	468,054	1,545	1,763,638	2.92

Table 5-3
Summary of Commodity Types
Collected at Countryside Landfill
Audit Period June 2005 - May 2006

Commodity Code	Description	Quantity (tons)	SWALCO Fees	IEPA Fees	PCW	Special Waste	Declassified Waste	Contaminated Soil
MSW								
100 thru 105, 115, 900	Municipal Solid Waste	408,239	X	X				
110	Hard-to-Handle MSW	223	X	X				
Special/Declassified Waste								
200	Declassified Waste (NSW)	1,738	X	X			X	
205	Declassified Waste Soil (NSW)	996	X	X			X	X
210	Contaminated Soil Exempt	16,122	X		X	X		X
215	Special Waste Taxble	305	X	X		X		
220	Special Waste Exempt	-	X		X	X		
230	Asbestos Taxable	283	X	X		X		
235	Declassified Drums Taxable	91	X	X			X	
240	Drums Exempt	5	X		X	X		
260	Declassified Waste EXEMPT PCW	30	X		X		X	
265	Declassified Soil EXEMPT PCW	25,445	X		X		X	X
C&D								
300/315	Concrete/Brick/Asphalt/Dirt	2,943	X	X				
305	Road Base (Wood)	3,391	X					
Road Base Material								
905	Clean Road Base (No charge)	17,346						
920	Clean Soil (No charge)	5,275						
	Total Tons	**482,433**	**459,812**	**414,818**	**41,603**	**16,715**	**28,301**	**42,563**

NOTE:
MSW - Municipal Soild Waste
NSW - Nonspecial Waste
PCW - Pollution Control Waste

Figure 5-4
Annual Waste Quantity Received
Countryside Landfill



The Solid Waste Landfill Capacity Certification summarizing operating year 2005 (provided in **Appendix G**) as submitted by CLI was based upon the topographic surveys and gate records of waste acceptance. As reported, the total remaining volume of landfill airspace as of January 1, 2006 was 7,755,900 cubic yards (not including final cover volume). For comparison, CLI's January 1, 2005 capacity certification indicated 8,457,266 cubic yards of landfill airspace remaining. Therefore, 701,366 cubic yards, airspace was consumed during 2005. Records indicate 1,742,516 gate cubic yards of waste was received in 2005, indicating a compaction ratio of 2.48 gate cubic yards per in-place cubic yards during 2005. This ratio determined using the Capacity Certification is slightly less than the ratio estimated quarterly, 2.92.

In the January 1, 2006 Solid Waste Landfill Capacity Certification, CLI assumed an average compaction ratio of 2.56 gate cubic yards per in-place cubic yards. Using this ratio, the volume of remaining available gate yards was estimated to be 19,855,104 cubic yards. Assuming an annual incoming rate of 1,742,489 cubic yards (based on monthly yardage totals of 2005), the remaining operating life was estimated to be 11.4 years, through July 2017. These calculations assume that the annual rate of waste received remains constant through the closure date.

Assuming the remaining permitted capacity of the landfill is 7,755,900 cubic yards (from January 1, 2006 Solid Waste Landfill Capacity Certification) and an annual volume of 1,763,638 gate cubic yards, the remaining operating life is dependent on the compaction ratio. A compaction ratio of 2.48 (based on the average compaction ratio from the quarterly airspace surveys), would result in a remaining operating life of 10.9 years, through November 2015. With a compaction ratio of 2.92, the approximate remaining operating life would be 12.8 years, through October 2017.

5.2.3 Lake County Waste Disposal Agreement

The Solid Waste Agency of Lake County entered into a disposal agreement with CLI on June 23, 1994 (amended November 20, 1998). The agreement guarantees disposal for Lake County at CLI for 20 years from January 1, 1997 (January 2017) based on an annual disposal quantity of 700,000 gate cubic yards (gcy) per year, guaranteeing Lake County a total disposal of 14,000,000 gate cubic yards. **Table 5-5** summarizes the volume of waste received from Lake County from 1998 through 2006.

Table 5-5: Waste Quantities Received from Lake County

Period	Quantity (gcy)
1998	1,088,128
1999	1,020,966
2000	1,257,258
2001	1,479,219
2002	1,551,252
2003	1,521,221
2004	1,881,489
2005	1,507,219
January to May 2006	499,136
Total Lake County Waste To-Date	**11,805,888**

Due to the disposal of Lake County waste in excess of the contractually obligated quantity, the time period of guaranteed disposal has been adjusted. The total remaining capacity is 2,194,112 gate cubic yards. After factoring in additional waste received beyond the guaranteed disposal quantity, CLI must guarantee disposal capacity through July 2009, assuming future annual disposal quantities of 700,000 cubic yards. (Assuming 1,500,000 gate cubic yards per year, CLI must guarantee disposal capacity through November 2007.) CLI currently has sufficient disposal capacity to comply with the requirements of the disposal agreement between CLI and SWALCO.

5.2.4 Final Waste Elevations

A topographic map created by R.E. Allen and Associates of Grayslake, Illinois, illustrating the overall "cut" and "fill" locations currently at the landfill, was provided to CDM for review (provided in **Appendix J**). The cut and fill values are based on a comparison of a topographic survey of this site dated June 16, 2006, versus the permitted top of waste grading plan dated September 2000. The numbers on the map with a minus sign represent a cut, or area where the existing topography exceeds the top of waste contours, and the numbers with a plus sign underneath them indicate a fill, or area where additional waste needs to be placed. Review of the map indicates there are no areas where waste is above the approved top of waste grading plan.

As a note, this survey did not provide topographic data for areas where soil is stockpiled above the intermediate cover at the North Expansion Area and the Existing Unit.

5.3 Construction Activities

5.3.1 Past Construction Activities

A summary of construction and operations activities conducted at CLI since June 2005 is provided as **Figure 5-5**.

Gas Collection System: Gas System Expansion No. 6 was completed between June 28 and July 15, 2005. This expansion of the gas system included installation of two in-refuse gas extraction wells (W-140R and W-152) on June 28, 2005, located near the western border of the North Expansion Area and the eastern border of the Existing Unit, respectively. W-152 is located near gas probes CL01S and CL01D. Gas System Expansion No. 7 was completed between June 27 and December 21, 2005. This expansion of the gas system included installation of four in-refuse gas extraction wells (W-111, W-127, W-128, and W-129) located in Cell 4 on June 27, 2005 and the associated header gas piping.

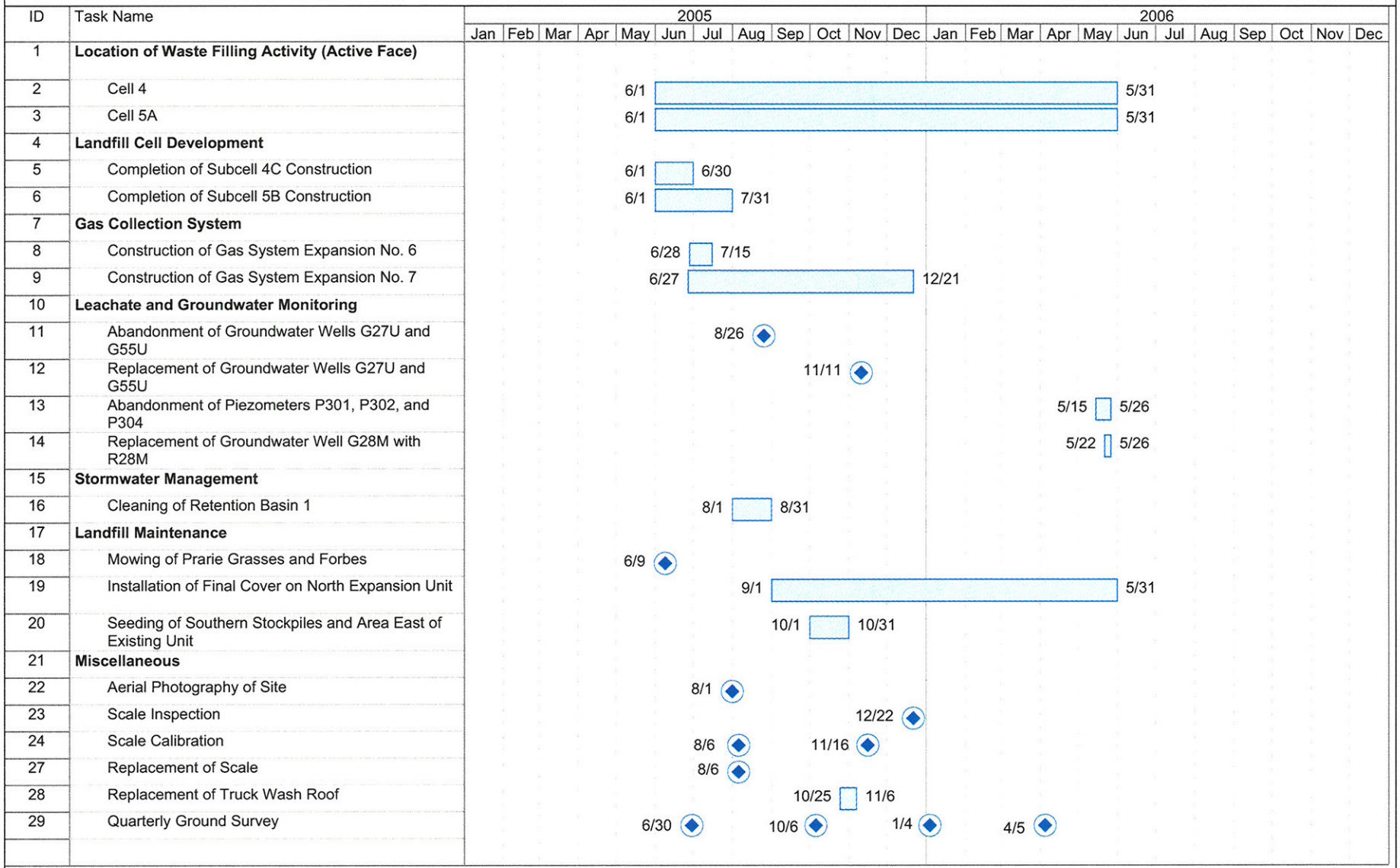
Leachate and Groundwater Monitoring: On August 26, 2005, groundwater monitoring wells G27U and G55U were abandoned. Replacement wells G27U and G55U were installed on November 11, 2005. In May 2006, three piezometers (P301, P302, and P304) were abandoned and one well (R28M) was replaced.

Stormwater Management System: Retention Basin 1, located immediately north of the maintenance building near the landfill office, was cleaned in August 2005.

Landfill Cell Development: Construction of Subcell 4C was completed in June 2005. Subcell 4C was approved to accept waste on November 4, 2005 through the approval of Significant Modification 68. The construction of Subcell 5B continued from the previous audit period and was completed in July 2005. Subcell 5B was approved to accept waste May 10, 2006 through the approval of Significant Modification 72.

Maintenance/Miscellaneous: During August 2005, CLI replaced the inbound truck scale. In October 2005, CLI replaced the roof on the truck wash and seeded the southern stockpiles and an area along the railroad tracks on the east side of the Existing Unit where the groundwater monitoring wells were replaced. CLI began to lay the final cover on the North Expansion Unit. A perimeter road, consisting of concrete and brick, along the South Expansion area had been constructed since the last audit period.

Figure 5-5
Construction and Operation Activities Conducted During Audit Period
Countryside Landfill



5.3.2 Upcoming Construction

A summary of construction and operations activities to be conducted at CLI after May 2004 is provided as **Figure 5-6.**

Gas Collection System: Abandonment of gas extraction well W-73 was completed on June 8, 2006.

Groundwater/Leachate Monitoring: CLI does not currently have plans to install any new groundwater monitoring wells or replacement wells. CLI tentatively plans to begin work on a bioreactor leachate infiltration system that may be installed in the North Expansion Areas as part of the leachate recirculation system.

Stormwater Management System: Construction of the drainage ditch along the south boundary, which began during the last audit period in May 2005, is scheduled to be complete in 2007.

Landfill Cell Development: Rough excavation of Subcell 5C began in June 2006 and will continue through May 2007. Clay liner placement in Subcell 5C is scheduled for May though June 2007. Construction of Subcell 5C will be completed in August 2007. Removal of stockpiles used for final cover on the 12 acres of the North Expansion Area is scheduled to finish by the end of August 2006. The North Expansion Area will be seeded and possibly planted with trees in Fall 2006.

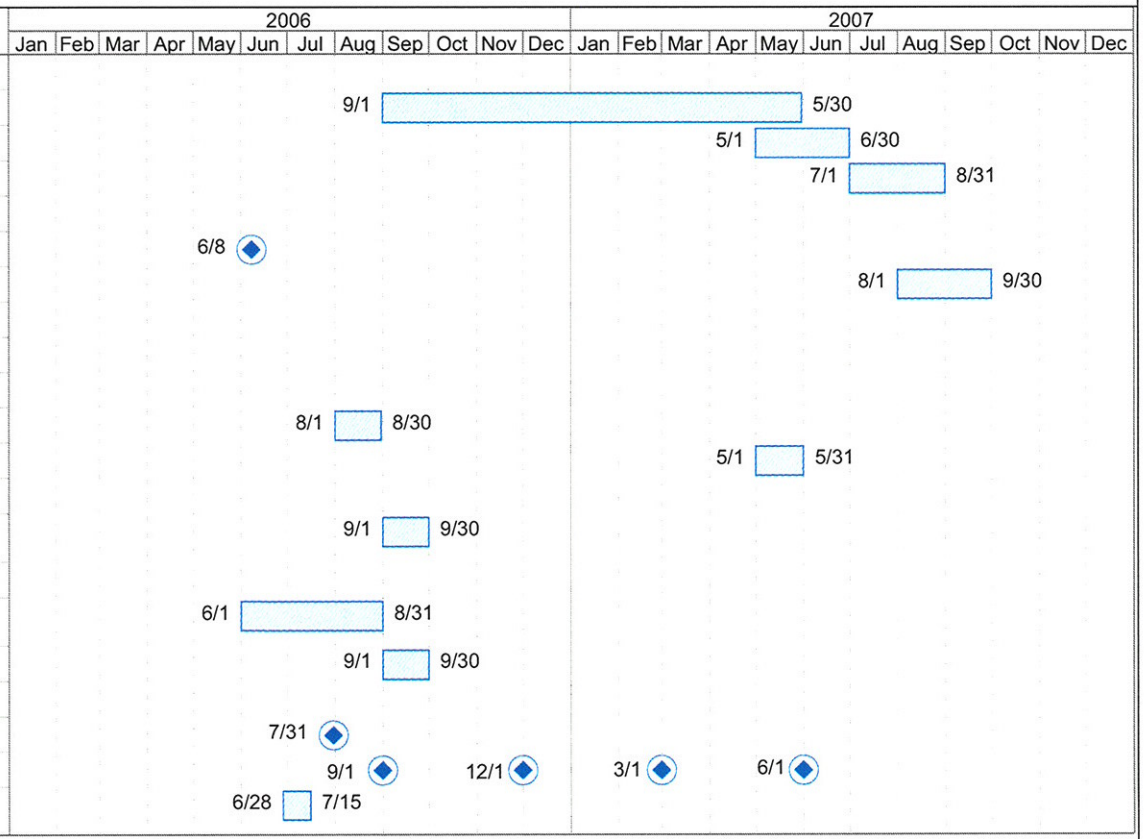
5.4 Gas Management System

5.4.1 Current Gas Management Practices

Currently, landfill gas (LFG) is collected from the Existing Unit, the North Expansion area (Cells 2 and 3) and the South Expansion area (Cell 1) from a total of 81 vertical gas extraction wells and six connections to other collection devices (e.g., leachate collection components, etc.). Since the last audit, CLI installed one gas well (W-152) in the Existing Unit and four wells in Cell 4 in the South Expansion Area (W-111, W-127, W-128, and W-129). One gas well (W-36R) was abandoned and one gas well was replaced (W-140 replaced by W-140R). The new wells in Cell 4 are currently in start-up phase, and are tentatively scheduled to receive authorization to operate in August 2006. Installation of the wells W-152 and W-140R was approved in Modification No. 70 on February 15, 2006.

Figure 5-6
Construction and Operation Activities Planned for Next Audit Period
Countryside Landfill

ID	Task Name
1	**Landfill Cell Development**
2	Rough Excavation of Subcell 5C
3	Placement of Subcell 5C Clay Liner
4	Construction Completion of Subcell 5C
5	**Gas Collection System**
6	Abandonment of Extraction Well W-73
7	Construction of Gas System Expansion No. 8
8	**Leachate and Groundwater Monitoring**
9	
10	**Stormwater Management**
11	Cleaning of Retention Basins
12	Completion of South Boundary Drainage Ditch
13	**Landfill Maintenance**
14	Seeding of Intermediate Cover on Southeast Side and North Expansion Area
15	**Final Closure**
16	Removal of Stockpiles for North Expansion Area Final Cover (12 acres)
17	Seeding of North Expansion Area
18	**Miscellaneous**
19	Aerial Photography of Site
20	Quarterly Ground Survey
25	Replacement / Addition of Fencing on Western & Southern Boundaries



The following 66 gas extraction wells are currently located within the Existing Unit:

W-1R	W-14R	W-26	W-41	W-52	W-67	W-147
W-3R	W-17R	W-28R	W-42R	W-54	W-68	W-148
W-4R	W-18R	W-31R	W-43	W-55	W-69	W-149
W-5R	W-19R	W-32R(2)	W-44	W-56	W-70	W-150
W-6R	W-20	W-33R	W-46	W-57	W-71	W-151
W-7R	W-21	W-34R	W-47	W-58	W-72	W-152
W-8R	W-22	W-35R	W-48R	W-60	W-73	
W-9R	W-23	W-37	W-49R	W-64	W-74	
W-12R	W-24	W-38	W-50R	W-65	W-145	
W-13R	W-25	W-39	W-51	W-66R	W-146	

The following four out-of-refuse gas extraction wells are currently located west of the Existing Unit:

ORW-1S ORW-1D ORW-2S ORW-2D

The following three gas extraction wells are currently located within the South Expansion area (Cell 1):

W-101 W-119 W-120

The following 12 gas extraction wells are currently located within the North Expansion area (Cells 2 and 3):

W-130	W-134	W-136	W-138	W-140R	W-142
W-133	W-135	W-137	W-139	W-141	W-143

The following four gas extraction wells are currently located within the South Expansion area (Cell 4):

W-111 W-127 W-128 W-129

Gas extraction is also conducted at six other collection devices defined with the following identifications:

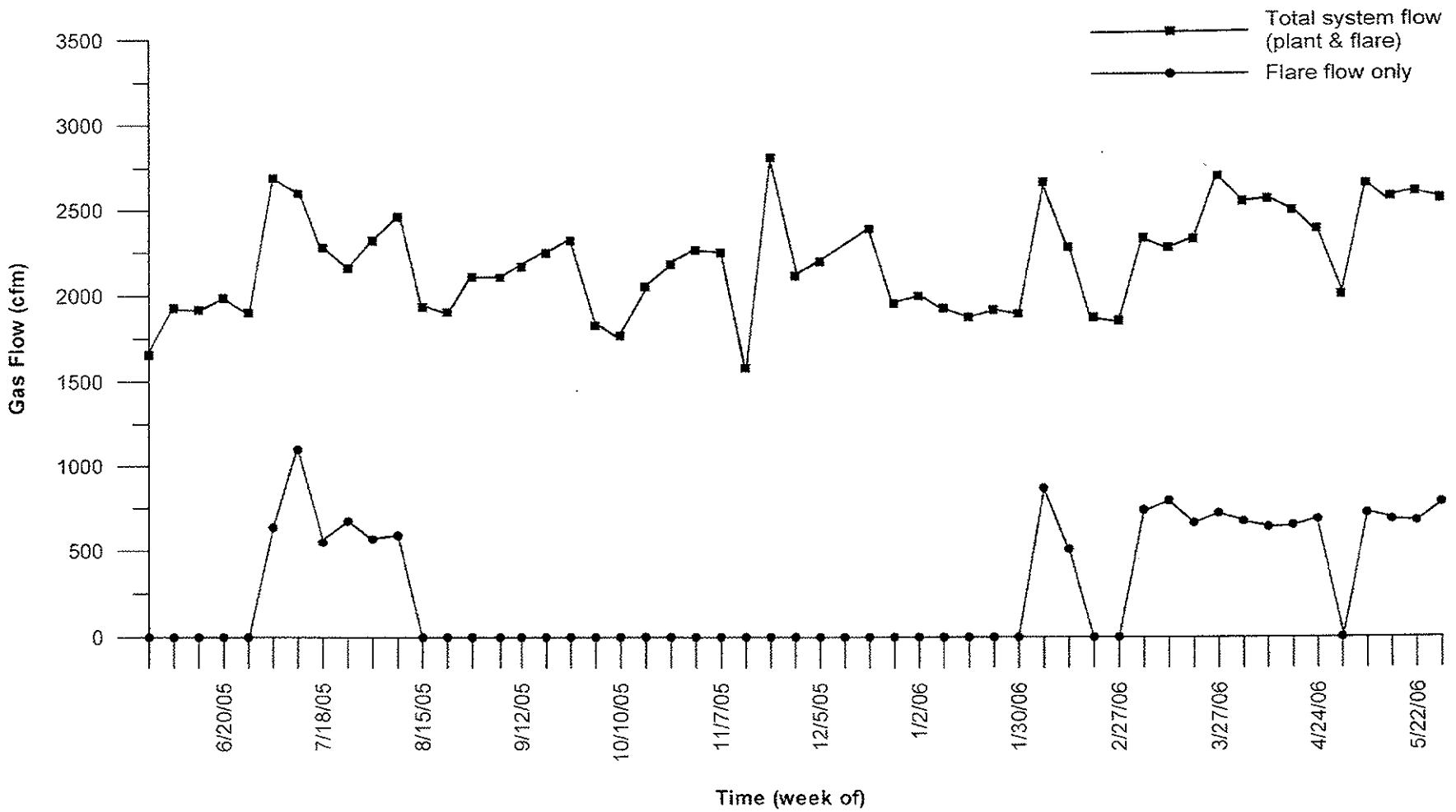
OD-201 OD-202 OD-203 OD-204 OD-205 OD-206

In addition to the gas collection devices listed above, horizontal gas collection piping was installed in Cells 1 and 2 as per the original permit drawings, however this has not been used for gas collection due to operational and design issues. LFG collected from all locations is transported via header pipe to CLI's 4,200 cubic feet per minute (cfm) enclosed flare unit and/or an off-site gas-to-energy plant.

Total gas flow from the well field has typically varied between 1,500 cfm and 2,750 cfm. LFG flow to the flare during the audit varied between no flow (during shut down periods when the gas-to-energy plant accepted all of the gas) and approximately 1,900 cfm,. Average weekly gas flows to the flare and the gas-to-energy plant are shown in **Figure 5-7**.

Figure 5-7

Average Weekly Gas Flow
Countryside Landfill
(June 1, 2005 - May 31, 2006)



5.4.2 Compliance with Permit Conditions

As of May 15, 2003, CLI operates the landfill emissions sources under a Title V Clean Air Act Permit Program (CAAPP) Permit #97040110. Unlike previous air permits assigned to specific emission sources at the landfill, this permit evaluates all emissions from the landfill facility. Insignificant activities (associated with less significant emission sources) include the 8,200 gallon leachate/condensate storage tank and 10,500 gallon leachate/condensate storage tank. Significant emission units include the landfill (due to operations and LFG emissions), the leachate/condensate tanks greater than 10,566 gallon capacity and the 500 gallon gasoline storage tank (due to vapor emissions).

The permit sets forth special conditions to be followed during operations at the facility including requirements for operating, monitoring, reporting and recordkeeping. Based on CDM's site inspections, CLI is in compliance with the recordkeeping requirements of the Permit. Based on a review of the permit's conditions, CLI is currently in compliance with the permit with the exceptions noted. On August 25, 2005, the IEPA BOA conducted a site inspection of the Countryside Landfill. The purpose of the inspection was to review facility operations with regard to applicable state and federal air pollution control laws and regulations. No issues were identified in the resulting inspection report dated September 8, 2005.

Specific permit conditions requiring actions to be taken by CLI, not including recordkeeping requirements as previously discussed, have been reviewed by CDM. Conditions and the status of these conditions are provided below:

5.2.5(c) This stationary source will be subject to 40 CFR 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills, when such rule becomes final and effective. The Permittee shall comply with the applicable requirements of such regulation by the dates specified in such regulation and shall certify compliance with such regulation as part of the annual compliance certification…

Status: The NESHAP regulation establishes national emission standards for hazardous air pollutants for existing and new municipal solid waste (MSW) landfills. This subpart requires landfills to meet the requirements of NSPS and requires timely control of bioreactors. This subpart also requires landfills to meet the startup, shutdown, and malfunction (SSM) requirements of the general provisions of this part and provides that compliance with the operating conditions shall be demonstrated by parameter monitoring results that are within the specified ranges. It also includes additional reporting requirements, including semi-annual submittal of the Title V monitoring report.

CLI has complied with this requirement. CLI prepared a Startup, Shutdown and Malfunction Plan dated January 15, 2004. A revised Gas Collection and

Control System SSM Report Form was added on July 5, 2005. CLI submitted semi-annual SSM reports to the IEPA on July 21, 2005 and January 27, 2006 and semi-annual NSPS reports on July 26, 2005 and January 27, 2006.

5.6.1 Emission Records – The Permittee shall maintain the records of the following ....Total annual emissions on a calendar year basis....

Status: CLI retains the required information at the CLI facility.

7.1.7(a)(i) Operate the collection system such that gas is collected from each area... in which solid waste has been placed for 5 years or more if active; or 2 years or more if closed...

Status: Gas is collected from all closed areas (Existing Unit) and active areas with waste present for greater than 5 years (Cells 1, 2 and 3).

7.1.7(a)(ii) Operate the collection system with negative pressure at each wellhead except under conditions shown 40 CFR 60.753(b).

Status: According to the NSPS Monthly Gas Well Monitoring Data provided in **Appendix F**, the collection system generally operated at a negative pressure throughout the system. On April 10, 2006, gas well W-51 had a positive pressure of 0.4 inches of water column.

7.1.7(a)(iii) Operate each interior wellhead in the collection system with a landfill gas temperature less than 55° C and with either a nitrogen level less than 20 percent or an oxygen level less than 5 percent. The Permittee may establish a higher operating temperature, nitrogen, or oxygen value at a particular well. A higher operating value demonstration shall show supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens.

Status: According to the NSPS Monthly Gas Well Monitoring Data provided in **Appendix F**, the collection system is operated at well temperatures less than 55° C and oxygen levels less than 5 percent (when temperatures are greater than 100° F). No exceedances of temperature greater than 55° C or oxygen levels greater than 5 percent (at temperature greater than 100° F) were noted during the audit period. A summary of these measurements can be found in the semi-annual NSPS Reports, dated July 26, 2005 and January 27, 2006 in **Appendix C**.

7.1.7(a)(iv) [and 7.1.9(c)(i)(A-D)] Operate the collection system so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. To determine if this level is exceeded, the Permittee shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where

visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover.

Status: During the audit period, CLI completed NSPS surface scans during the 3rd quarter 2005, 4th quarter 2005, 1st quarter 2006, and 2nd quarter 2006.

- Third quarter 2005 surface monitoring was conducted on July 27, 2005. No exceedances were identified during the initial surface scan.
- Fourth quarter 2005 surface monitoring was conducted on October 19, 2005. No exceedances were identified during the initial surface scan.
- First quarter 2006 surface monitoring was conducted on March 22, 2006. No exceedances were identified during the initial surface scan.
- Second quarter 2006 surface monitoring was conducted on May 18, 2006. No exceedances were identified during the initial surface scan.

7.1.7(a)(v) Operate the system such that all collected gases are vented to a control system designed and operated in compliance with 40 CFR 60.752 (b) (2) (iii). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within one hour.

Status: During the audit period, collected gases were combusted at the landfill's enclosed flare and/or at the off-site gas-to-energy power plant. The landfill's enclosed flare was used during summer and spring months of the audit period. A motor-driven actuated valve is used to shutoff gas flow to the flare.

7.1.7(a)(vi) Operate the control system at all times when the collected gas is routed to the system.

Status: Collected gas is routed to the power plant at all times when gas is collected from the landfill during the audit period. The landfill's enclosed flare was used when the power plant's system could not support any additional heat from high summer and spring temperatures. The flare was rarely used during the winter months.

7.1.7(a)(vii) If monitoring demonstrates that the operational requirements in 40 CFR 60.753(b), (c), or (d) are not met, corrective action shall be taken as specified in 40 CFR 60.755(a) (3) through (5) or 40 CFR 60.755(c). If corrective actions are taken as specified in 40 CFR 60.755, the monitored exceedance is not a violation of the operational requirements in 40 CFR 60.753. [40 CFR 60.753 (g)]

Status: On April 10, 2006, gas well W-51 had a positive pressure of 0.4 inches of water column, therefore a deviation from the operational requirements of 40 CFR 60.753 (b). Per 40 CFR 60.755 (a)(3), if a positive pressure exists, action shall be initiated to correct the exceedance within 5 calendar days. If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. No corrective actions were taken by CLI as required. This is an apparent violation of this Condition 7.1.7(a)(vii) of the IEPA CAAPP Permit.

7.1.8(d) The Permittee shall sample and analyze the landfill gas entering the control system(s) at least once per year. This analysis shall include determinations for heat value and composition which shall include at least: methane, sulfur compounds, and nonmethane organic content and nonmethane organic compound (NMOC) content.

Status: Gas sampling and analysis was performed on December 1, 2005 by WMI. Total sulfur content was resampled on January 6, 2006 due to a sampling error with the original samples. This information was provided to the IEPA in correspondence dated February 7, 2005.

7.1.9(a) Fugitive Dust – Compliance with the fugitive dust limitation... shall be based upon the following: (i) The Permittee shall implement a program to monitor and control wind erosion on the landfill surfaces ... on at least a weekly basis. (et al.)

Status: CLI prepared a Wind Erosion/Fugitive Particulate Matter Monitoring & Control Plan dated May 2003 in response to this requirement. No changes were made to the plan during the audit period. Weekly monitoring was conducted as needed and is included in the semi-annual monitoring reports as required by the CAAPP Permit, dated August 24, 2005 and February 24, 2006.

7.1.9(b) The Permittee shall calibrate, maintain, and operate according to the manufacturer's specifications, the following equipment: (i) A temperature monitoring device... (ii) Flare hours of operation... (iii) A gas flow rate measuring device that provides a measurement of gas flow to ...the flare. (iv) A gas flow rate measuring device that shall record the gas flow to the adjacent gas to energy plant...

Status: The enclosed flare is equipped with devices to continuously monitor temperature and gas flow to the flare and record the data on a circular chart recorder. Flare hours are based on periodic reading of blower hours and/or flow data provided on flare circular charts. On February 4, 2006, for a duration of 12 hours, the thermocouple temperature monitoring device on the flare was inoperable. The thermo couple was later replaced on February 7th.

7.1.9(c)(iii) The gas collection and control requirements of 40 CFR 60 Subpart Permittee shall apply at all times, except during times of startup, shutdown, or malfunction, provided that the duration... shall not exceed 5 days for the collection systems and shall not exceed 1 hour for treatment or control devices.

Status: At no time during the audit period was the collection system not operating for greater than 5 days. The gas-to-energy power plant was used as the primary control device during the audit period. The flare was used as a secondary device. At times during the audit period the flare was inoperable for greater than 1 hour however the plant was operational during these times.

7.1.9(c)(iv)(A) The Permittee shall install a sampling port and a thermometer ... at each wellhead and (1) Measure the gauge pressure in the gas collection header... (2) Monitor nitrogen or oxygen in the landfill gas...; and (3) Monitor temperature of the landfill gas on a monthly basis...

Status: CLI monitored the specified parameters (pressure, temperature and oxygen) at each gas extraction well monthly during the audit period.

7.1.9(c)(i)(E) The Permittee shall implement a program to monitor for cover integrity and implement cover repairs as necessary on a monthly basis.

Status: CLI conducted monthly cover integrity inspections throughout the audit period. During the March 24, 2006 inspection, it was noted that a recent rain event had exposed portions of the HDPE liner to the west of Subcell 4C. This area was repaired on April 12, 2006.

7.1.10 Recordkeeping Requirements - In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected landfill to demonstrate compliance with Conditions 5.5.1 and 7.1.6....

Status: CLI maintains the specified information at the facility.

7.1.11(c)(iii) The Permittee shall submit to the IEPA annual reports of the recorded information...

Status: CLI submitted NSPS semi-annual reports on July 26, 2005 and January 27, 2006.

7.1.11(c)(iii)(A) The Permittee shall submit, to the Illinois EPA, annual reports of the recorded...value and length of time for exceedance of applicable parameters monitored under 40 CFR 60.756(a), (b), (c), and (d).

Status: CLI did not documental all exceedances of monitored parameters in the NSPS semi-annual reports. There was one instance where the flare temperature fell below the permitted value of 1718° F (82° F below the most recent performance test value of 1800° F) and CLI did not report in the NSPS semi-annual report dated January 27, 2006 on July 28, 2005 for a period of 3.5 hours. This is an apparent violation of Condition 7.1.11(c)(iii)(A) of the IEPA CAAPP Permit. CLI amended the January 27, 2006 semi-annual report to reflect this exceedances on July 12, 2006.

7.1.11(c)(iii)(B) The Permittee shall submit, to the Illinois EPA, annual reports of the recorded...description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under 40 CFR 60.756.

Status: Not applicable. No bypass line exists for venting gas to the atmosphere.

7.1.11(c)(iii)(C) The Permittee shall submit, to the Illinois EPA, annual reports of the recorded...description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating.

Status: CLI submitted the required information in the NSPS annual reports. All periods where the flare was inoperable another control device, the landfill gas cogeneration plant, was operational except for 1.5 hours on July 4, 2005 and September 26, 2006. There were no periods where the collection system was inoperable for greater than 5 days.

7.1.11(c)(iii)(D) The Permittee shall submit, to the Illinois EPA, annual reports of the recorded...all periods when the collection system was not operating in excess of five (5) days.

Status: CLI submitted the required information in the NSPS semi-annual reports. There were no periods where the collection system was inoperable for greater than 5 days.

7.1.11(c)(iii)(E) The Permittee shall submit, to the Illinois EPA, annual reports of the recorded...location of each exceedance of the 500 parts per million methane concentration as provided in 40 CFR 60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month.

Status: CLI submitted the required information in the NSPS semi-annual reports. There were no exceedances during quarterly surface scans.

7.1.11(c)(iii)(F) The Permittee shall submit, to the Illinois EPA, annual reports of the recorded...date of installation and the location of each well or collection system expansion added pursuant to 40 CFR 60.755(a)(3), (b), and (c)(4).

Status: CLI submitted the required information regarding well installations in the NSPS semi-annual reports.

9.7 Annual Emissions Report - The Permittee shall submit an annual emissions report to the Illinois EPA, Compliance Section no later than May 1 of the following year, as required by 35 IAC Part 254.

Status: CLI submitted an annual emissions report to the IEPA on April 28, 2006.

9.8(a), (b), and (c) Requirements for Compliance Certification - The Permittee shall submit annual compliance certifications. The compliance certification shall be submitted no later than May 1 or more frequently as specified in the applicable requirements or by permit condition. The certification shall include...the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source...

Status: CLI submitted an annual compliance certification on April 28, 2006. Since CLI did not document all exceedances of monitored parameters in the NSPS semi-annual reports, as required by Condition 7.1.11(c)(iii), CLI submitted incorrect compliance status for Condition 7.1.11. There was one instance where the flare temperature fell below the permitted value of 1718° F (82° F below the most recent performance test value of 1800° F) and CLI did not report in the NSPS semi-annual report dated January 27, 2006. CLI did not identify this noncompliance item in their April 28, 2006 annual compliance certification. This is an apparent violation of Condition 9.8 of the IEPA CAAPP Permit.

5.4.3 Review of Operations Records

All extraction points are monitored and adjusted monthly to optimize balance of the system. Pressure readings for gas flow and gas quality measurements are taken at the wells. Data collected monthly from the wells is recorded and maintained on-site as required by the operating permit. All gas monitoring probes are monitored monthly to detect migration of LFG from the site (monitoring data provided in **Appendix F**).

A review of monitoring records indicates the gas management system is functioning and controlling gas migration from the expansion cells. However, exceedances of greater than 2.5% methane (50% of the lower explosive limit (LEL) of methane) frequently occurred during the audit period at gas monitoring probes CL08D and

CL01S. Exceedances also occurred at gas probe CL01D in October 2005 and at piezometer P32D in June and July 2005.

Permit Modification No. 70 approved Gas Expansion No. 6, which included the installation of two vertical, slotted dual (gas/leachate) extraction wells (W-152 and W-140R) and associated header piping on the east side of the Existing Unit and west side of the North Expansion Area, respectively.

The "Existing Unit East Side Methane Gas Investigation" Report was approved by Significant Modification No. 62 on March 29, 2005. The investigation proposed that one in-refuse gas extraction well (W-152) and associated header piping be installed near CL01S and CL01D on the eastern side of the Existing Unit to alleviate exceedances. The construction of the well occurred within 120 days of approval of modification. Well installation occurred on June 28, 2005 and the associated lateral pipe was installed on July 11, 2005. An evaluation report will need to be prepared after the 12-month startup period and submitted as a significant modification application. Since well GW-152 was placed into service in February 2006, CLI has requested a change of due date from August 22, 2006 to February 15, 2007, in Log No. 2006-148, in order to evaluate the effectiveness of the well for the full 12-month period.

No methane was detected in the monthly ambient air and on-site building monitoring events. CLI has installed continuous methane monitoring devices in all buildings in accordance with Condition IX.4 of the IEPA Permit, however the monitor in the truck wash was not in service and removed from the building between March 2006 and June 14, 2006.

5.4.4 Gas-to-Energy Plant

U.S. Energy Biogas Corporation (USEBC) currently owns the landfill gas-to-energy facility located on the property west of Route 83, directly southwest of CLI's detention basin. The facility currently operates six gas fired internal combustion engine driven generator sets (Deutz TBG-620 16-cylinder, turbo charged) to produce 6,800 kilowatts of electricity from landfill gas supplied by CLI. The enclosed flare currently located on CLI property is used as a backup to the plant in the event the plant is unable to accept landfill gas from the landfill. This facility operates according to a construction permit (ID# 097025AAR) from the IEPA Bureau of Air issued on August 20, 1998 (renewed on August 10, 1999).

During the 2005-2006 audit, on average, the plant combusted 2,326 standard cubic feet per minute (scfm) of landfill gas during the audit period. During the audit period the power plant produced 52,616,085 kilowatt-hours (kWh) of electricity, or equal to approximately 30,699 barrels of oil (based on 1 kWh of electricity = 3,412 BTU; 1 barrel of crude oil = 5,848,000 BTU). This corresponds to approximately 76% of the budgeted kWh production. Assuming a national average power usage of 27.6 kWh

per household per day, the power generated by the plant during the audit period is equivalent to the energy needs of 5,355 homes.

No new permits have been issued regarding the gas-to-energy plant during that time. The site has a Title V exemption from USEPA. A letter from USEPA to CLI dated March 3, 2004 explains that, since landfill gas is treated and sent to the internal combustion engines, the treated gas is not subject to the requirements of the USEPA's New Source Performance Standards.

5.5 Water Resources Permits

Permits have been obtained for the landfill expansion that cover water resources issues such as control of storm water runoff, floodplain filling and construction of compensatory storage, dam safety, drainage work in the highway right of way, soil erosion and sediment control and mitigation of wetland impacts. During the audit period, the following permits and associated conditions continue to be applicable to the site.

- Lake County Watershed Development Permit
- National Pollutant Discharge Elimination System (NPDES) Permit for Industrial Storm Water
- United States Corps of Engineers Section 404 Permit
- Illinois Environmental Protection Agency Section 401 Authorization
- Earthmoving approval for the Soil Stockpile Area
- National Pollutant Discharge Elimination System (NPDES) Permit - Construction Storm Water

On June 14, 2006, CDM conducted an inspection of the storm water management facilities at the site (See Photos **Appendix H**). Maintenance activities including removal of sediment from ditches, silt fence replacement and repair, and seeding of slopes had been recently completed or were underway at several locations of the storm water management system during the audit period.

Retention Basin 1 was last dredged in August 2005. Due to the relatively low levels of precipitation, CLI has not dredged other basins during this audit period.

The base of the slopes of the North Expansion Area remains unvegetated from the last audit period. During the 2003-2004 audit, a large rain event caused significant surface runoff over an unvegetated section of the base of the slopes of the North Expansion Area. At the time, CLI staff informed CDM that the surface cover in this area had been removed in preparation of final cover placement. The lack of vegetation caused surface erosion from the rain event and caused the adjacent perimeter ditch to fill

with silt. Final cover has not been applied to this area to date and it remains unvegetated. CDM continues to recommend that CLI implement temporary stormwater control measures to minimize erosion from the disturbed areas.

Closure activities conducted during the audit period include continuing work on the final cover on the north sideslopes. Also, intermediate cover and topsoil was placed on the southeast waste boundaries of Cells 4 and 5.

As noted in prior audits, an area along the perimeter run-off ditch on the east side has been previously been susceptible to settling, creating a low spot in the ditch. During the 2004 site visit, visible settling had been observed. However, during the 2005 and 2006 site inspections, the settling appeared to have temporarily stabilized. CLI has leveled this area to grade. There was a moderate amount of standing water and silt was observed in this ditch at the time of the site inspection from a recent rain event. CLI staff stated that the silt would be shortly removed.

During the last audit, the surface at the southeast perimeter of the landfill, near the active portions near Subcell 4A, was not vegetated and no silt fencing had been installed here. At that time, CDM recommended that silt fencing be installed at this area to minimize the impact of silt to the adjacent perimeter ditch. During the June 14, 2006 inspection, the slope had been seeded and was covered with straw matting to keep the seeding in place and maintain moisture. This vegetation should help reduce the impacts to the adjacent perimeter ditch.

Construction of the drainage ditch along the south boundary began in May 2005 and is scheduled to complete in 2007. CLI has submitted a permit application to the United States Army Corps of Engineers (USACOE) to modify this run-on ditch in order to enhance surface water flow at the facility and provide a higher level of performance as compared to the currently permitted conditions. This activity was approved by IEPA in Permit Modification No. 61 (Application Log No. 2004-294 and 2004-376) Slopes will be increased in the redesigning portion of the perimeter run-on ditch. Instead of relying on a long, flat ditch to convey the run-on to the existing flood storage basin west of Illinois Rt. 83, placement of a high point should allow surface water run-on north of the high point to flow north through the east run-on ditch to the north run-on ditch and then to the existing flood storage basin west of Illinois Rt. 83. The proposed stormwater design changes should allows run-on water surface flows to be improved. The direction of water flow in the east and north ditch would not change. On February 22, 2005, CLI submitted a letter to the USACOE requesting a "Letter of No Objection" to indicate that no approval from the USACOE is necessary for this ditch construction project. To date, no response has been received by USACOE.

As noted in prior audits, an area at the northeast corner of the landfill is being monitored by landfill staff because of gradual slumping on the outside slope of the perimeter road. The plastic liner along this area prevents roots from penetrating and

precludes options for shoring the slope. Vegetation has continued to increase in this area and the slumping is not noticeably worse than previous years.

Based on these observations, CDM believes that, except for the aforementioned exceptions, the stormwater management system is in generally compliance with the permits related to water resources issues at the site.

5.5.1 Lake County Watershed Development Permit

The Watershed Development Permit (#94-69-004) was approved by the Lake County Storm Water Management Commission (LCSMC) on March 24, 1997. The Watershed Development Permit includes approval of the storm water detention basins, the compensatory storage facilities, and the soil erosion and sediment control measures. The requirements of this permit were fulfilled prior to this review period.

CLI contacted LCSMC on January 25, 2005 to discuss an area of surface water and vegetation CLI suspected of potentially being a wetland. LCSMC authorized the extension of the aforementioned Watershed Development Permit for CLI through January 25, 2008 to encompass this area. This authorization also constitutes "Category-I isolated wetlands approval" by LCSMC for the South Expansion Area (Cell 5). The subject expansion project will impact one non-high quality Isolated Water of Lake County, totaling 0.66 acres. To compensate for this impact, WMI has recently purchased 0.66 acres of fully certified wetland mitigation credit at the Delany Road Mitigation Bank in the Des Plaines watershed, the same watershed that the impacted wetland is located. Conditions of this Isolated Wetlands Approval are as follows:

- CLI shall notify LCSMC immediately of the development plan is modified, including any changes to proposed isolated wetland impacts

- CLI shall notify LCSMC within three (3) working days prior to commencing grading activities to schedule a pre-construction field meeting. The purpose of the field meeting is to inspect the silt fence around the preserved Isolated Water of Lake County to ensure the wetland is being property protected. During the June 14, 2006 site inspection, part of the silt fencing around this area was damaged and CLI staff stated that it would be promptly replaced.

5.5.2 General NPDES Permit for Industrial Storm Water

On July 13, 2001 CLI submitted an application for an Individual NPDES Permit to replace the General NPDES Permit IL000152 under which it has been operating since 1993. The application was prepared in response to a request from the IEPA dated April 13, 2001. Upon issuance of the Individual Permit, the general NPDES permit coverage will be terminated. The current general NPDES Permit, No. ILR000152, is included in **Appendix B**. It was reissued effective, June 1, 2003 and will expire May 31, 2008. At this time, no response has been received from the IEPA regarding the individual permit submittal.

The general NPDES Permit requires that an annual inspection be conducted and that an annual inspection report be submitted to the IEPA. This inspection was conducted on August 5, 2005 and the inspection report was submitted to the IEPA on August 15, 2005. There were no non-storm water discharges (vehicle wash water) into any of the sedimentation basins during the audit period.

The NPDES permit requires that the Storm Water Pollution Prevention Plan (SWPPP) and Spill Prevention Control and Countermeasure (SPCC) Plan be amended "whenever there is a change in construction, operation or maintenance which may affect the discharge of significant quantities of pollutants to the waters of the State..." The SWPPP covers the landfill and the soil stockpile area. The SWPPP includes all necessary components and is adequate for the current conditions at the landfill site. The site map included with the SWPPP was last updated in June 2003.

Per the SWPPP, CLI tests the water quality (fats/oil/grease and total suspended solids) at the outfall of the flood storage basin prior to discharge to the Avon-Fremont Ditch. During the audit period, samples were taken on August 18, 2005. During this sampling event, FOGs were less than 5 mg/L and total suspended solids were 41.0 mg/L. It should be noted that CLI's current NPDES permit does not establish numeric effluent limits for these discharges; rather it states that, "Discharges covered by this permit...shall not cause of contribute to a violation of any applicable water quality standards."

The SPCC was last recertified by CLI in January 2005. CLI has stated that they are in the process of updating their SPCC Plan to reflect new SPCC rules promulgated by USEPA. These updates are required by August 2006. SPCC training as required by the plan occurred on April 28, 2005. The next training is scheduled to be conducted by CLI in September 2006.

5.5.3 United States Corps of Engineers Section 404 Permit

On March 14, 1997, The USACOE authorized wetland fills that would result from the landfill expansion (Permit 199600592, included in **Appendix B**). The permit authorizes the filling of 29.2 acres of wetlands. To mitigate for these and past wetland impacts, CLI must create and enhance a total of 119.3 acres of wetland habitat and 96.4 acres of upland habitat. There are six general conditions and 21 special conditions that are included in the permit. Initial grading and planting of the mitigation area was completed in the spring of 1999.

The 2003 Management and Monitoring report was completed in June 2004 and submitted to the Corps on June 15th, 2004. This report details the ongoing management and monitoring activities and describes the current status of the site and requests Corps approval that the performance standards identified in the aforementioned report have been met. At this time, CLI is in compliance with the requirements of the Section 404 Permit. As of this time, CLI is pending the Corp's approval of the report findings.

On March 6, 2006, CLI requested an open burning permit from the IEPA Bureau of Air. The permit was to allow for the controlled burning for ecological management of prairie and wetland restoration. The burning would talk place over a two-day period, approximately 12 hours/day during a one-year period from the date of the permit issuance. Burning would be started with a propane torch and only performed on days with the winds are favorable (i.e., light winds blowing away from homes and other populated areas). To date, no response has been received by CLI from IEPA.

5.5.4 IEPA Section 401 Authorization

The Illinois Environmental Protection Agency (IEPA) authorized the landfill expansion under Section 401 of the Clean Water Act on October 12, 1995 based on six conditions. CDM reviewed the status of compliance with each of the six conditions based on the 2005 Annual Report prepared by CLI and the June 5, 2006 and June 14, 2006 site inspection completed by CDM. A summary of the status review is provided below.

Condition 1: The applicant shall not cause:

a. violation of applicable water quality standards of the Illinois Pollution Control Board, Title 35, Subtitle C: Water Pollution Rules and Regulation;

Status: There is no evidence that discharges to offsite water bodies (i.e., Avon-Fremont Ditch) violate any water quality standards.

b. water pollution defined and prohibited by the Illinois Environmental Protection Act; and

Status: There is no evidence that discharges to offsite water bodies (i.e., Avon-Fremont Ditch) violate any water quality standards.

c. interference with water use practices near public recreation areas or water supply intakes.

Status: None of these exist near the facility. Therefore, this condition does not apply.

Condition 2: The applicant shall provide adequate planning and supervision during the project construction period for implementing construction methods, processes and cleanup procedures necessary to prevent water pollution and control erosion.

Status: Mr. Mike Hey is the district manager and is responsible for continued implementation of the Storm Water Pollution Prevention Plan and the Spill Prevention Control and Countermeasures Plan that have been prepared for the site. It should be noted that the base of slopes of the North Expansion Area remains unvegetated from the last audit period. CDM continues to recommend that CLI implement temporary stormwater control measures to minimize erosion from the disturbed areas.

Condition 3: Any spoil material excavated, dredged or otherwise produced must not be returned to the waterway...backfilling must be done with clean material and placed in a manner to prevent violation of applicable water quality standards.

Status: Spoil materials are no longer being excavated from the vicinity of the waterways (detention ponds and mitigation area have been constructed). Spoil material generated during the excavation for landfill construction is placed within the permitted areas shown on the construction drawings and in the soil stockpile area.

Condition 4: All areas affected by construction shall be mulched and seeded...NPDES Storm Water Permit must be obtained by submitting a properly completed Notice of Intent (NOI) form by certified mail to the Agency's Division of Water Pollution Control, Permit Section.

Status: Temporary and permanent cover crops are used to control erosion at most of the site. The base of slopes of the North Expansion Area remains unvegetated from the last audit period. CDM continues to recommend that CLI implement temporary stormwater control measures to minimize erosion from the disturbed areas.

Condition 5: The applicant shall implement erosion control measures consistent with the "Standards and Specifications for Soil Erosion and Sediment Control" (IEPA/WPC/87-012).

Status: The proposed and permitted soil erosion and sediment control measures generally follow these guidelines. The construction drawings for each cell include the detailed soil erosion and sediment control measures.

Condition 6: A construction plan for the storm water detention basins shall be submitted to the Agency prior to the start of construction. This plan shall specify the erosion and surface water control measures for the areas during the construction phase.

Status: The construction phase of the storm water detention basins is complete.

5.5.5 Earthmoving Approval for the Soil Stockpile Area

The soil stockpile area is located in Grayslake, south of the landfill site. CLI submitted the Watershed Development Permit (WDP) application on March 14, 2000 to the Village of Grayslake. Grayslake allowed CLI to commence the "berming" operation in a May 11, 2000 letter from Grayslake. Comments on the Watershed Development Permit application were received by CLI on June 14, 2000. CLI addressed these comments in a letter dated September 5, 2000. To date, it is unclear whether or not the Village of Grayslake will issue a WDP.

CDM inspected the soil stockpile area on June 14, 2006 and found silt fence to be in place and generally in good condition around the perimeter of the soil stockpile area with the exception of several low areas. These areas are essentially serving as

sediment traps. Care is being taken to ensure that adjacent property is not adversely impacted by onsite activities. Minor silt fence repairs were performed as needed throughout the year.

5.5.6 NPDES Storm Water Permit - Soil Stockpile Area

A NPDES Storm Water Permit for the soil stockpile area was obtained on April 17, 2000 from the IEPA. This permit, No. ILR105290, covers construction storm water discharges associated with the soil stockpile site. The permit requires the preparation of a SWPPP for the soil stockpile site. This SWPPP was prepared in August 1999 as required. It is CDM's opinion that this SWPPP adequately describes the nature of the site and the BMPs for soil erosion and sedimentation control. The SWPPP requires weekly inspections and inspections following rain events of greater than 0.5 inch. These inspections are to be documented and kept on file for a period of three years. 59 inspection reports for this audit period were available for review. The reports all indicated that no pollutants entered adjacent drainage systems or surface waters.

Section 6
Closure and Post-Closure Activities

6.1 Closure and Post-Closure Activities

CLI has been designed to operate in seven phases. At the end of each phase of the landfill's life, an IEPA approved final cover system will be placed that conforms to the approved permit regulations. Closure activities conducted during the audit period include continuing the final cover on the north sideslopes and the placement of intermediate cover and topsoil on the southeast waste boundaries of Cells 4 and 5. Final seeding of these areas is anticipated to take place in 2007. Closure activities will include installation of geomembrane/geocomposite, placement of cover protective layer, placement of topsoil and vegetation, survey certification and construction quality assurance. Post-closure activities include quarterly inspection, maintenance of final cover, gas, leachate and groundwater monitoring, and post-closure certification. Closure and post-closure documentation have been included in **Appendix I.**

A landscape design was prepared for the intermediate and final cover systems. The resulting landscape program is designed to use grading, composition of plant materials, native grasses, shrubs and trees to positively integrate and blend the resulting landform into the surrounding landscape. The landscape will allow for the development of a park that will function as an important permanent element of the regional open space network and trail system. During later years of the landfill operation, northern areas of the proposed open space and park will be opened to the public, while the landfill will remain in operation to the south.

6.2 Closure and Post-Closure Funding

CDM has reviewed CLI's closure and post-closure care cost estimate and funding status. The current closure and post-closure cost estimate, as provided by Modification #72 (application Log Nos. 2005-363 and 2006-056), is $8,022,503. This cost estimate includes closure and post-closure activities of the active portions of the landfill. Therefore the total amount of financial assurance required and currently maintained by CLI is $8,022,503. The National Guaranty Insurance Company of Vermont current administers Policy No. CPCS01-0017 for $8,022,503, effective April 11, 2006 through April 11, 2007.

As required by Condition X.8 of the IEPA permit, the cost of inflation shall be considered in the closure and post-closure cost estimate on an annual basis. The pending permit application submitted on May 30, 2006 (Log No. pending) updates the closure and post-closure cost estimate to adjust for inflation for the year 2005 based on the Consumer Price Index for urban consumers for the period April 2005 through April 2006 for the Chicago, Illinois - Kenosha, Wisconsin - Gary, Indiana area, as provided by the U.S. Department of Labor. Specifically, the cost estimate was subject to a 2.3% inflation adjustment increasing it to $8,207,020.

Section 7
Recommendations

7.1 Previous Recommendations Status

Six recommendations were provided in the 2004/2005 CLI audit report. Since the last audit, CLI has generally made efforts to address the recommendations. Actions taken by CLI to address these recommendations are summarized below:

7.1.1 Water Resource Management

1. The ground surface at the southwest perimeter of the landfill is not vegetated and no silt fencing has been installed. Stormwater run-off at this area will flow down to the adjacent vegetated perimeter ditch. CDM recommends that silt fencing be installed at the southwest perimeter of the landfill where it is currently not present to minimize the impact of silt to the adjacent perimeter ditch.

Status: During the June 14, 2006 inspection, the slope had been seeded and was covered with straw matting to keep the seeding in place and maintain moisture. This vegetation should help reduce the impacts to the adjacent perimeter ditch.

2. Along the west side slope of the landfill, where the Existing Unit ends and Cell 2 begins, remains unvegetated from the last audit period. Final cover has not been applied to this area to date and it remains unvegetated. CDM continues to recommend that CLI implement temporary stormwater control measures to minimize erosion from the disturbed areas.

Status: Final cover has not been applied to this area to date and it remains unvegetated. CDM continues to recommend that CLI implement temporary stormwater control measures to minimize erosion from the disturbed areas.

3. During the current audit period, additional soil was placed on the unvegetated areas of the Northern Expansion. Seeding of the cover placed during the audit period did not take place; therefore the intermediate cover placed during the audit period remains unvegetated. Per CLI's IEPA Permit, waste or final cover should be seeded within 60 days. CDM recommends that the soil stockpiles at the North Expansion be seeded to prevent erosion and run-off issues.

Status: At the time of the site inspection, the soil piles on the Northern Expansion area was covered with limited vegetation. Placement of final cover on the Northern Expansion Area started in September 2005 and is not completed. Completion of the final cover and seeding of this area is tentatively scheduled to be completed by September 2006.

7.1.2 Acceptance of Special Waste

4. CLI is permitted to accept non-hazardous special waste and certified non-special waste. Section 22.28 of the Act outlines the method in which waste is to be

certified as non-special. Special waste is to be managed according to the CLI's Operating Permit unless it is certified as non-special. CDM recommends that CLI provide a specific question on the waste profile sheet completed by generators certifying wastes as non-special requesting the method in which the waste was determined to not be a liquid.

Status: The waste profile sheet completed by the generators certifying wastes as non-special has been updated and currently requests the method in which the waste was determined not to be a liquid. The following has been added to the Waste Management form, *Generator's Certification of Special Waste Status*:

In determining that the waste is not a liquid, I have used knowledge of the process generating the waste and the attached supporting documentation:

[] MSDS
[] Analytical
[] Other
(explain below)

7.1.3 Miscellaneous

5. CLI contracted Fairbanks Scales to test and calibrate the scales on October 6, 2004 and October 9, 2004. Fairbanks Scales' report noted that the deck is low due to worn suspension. CDM recommends that this deck's suspension system eventually be repaired in the near future.

Status: Based on recommendations by Fairbanks scales, the inbound scale was replaced by CLI on August 11, 2005.

6. CDM recommends CLI abandon all inactive subsurface monitoring devices in order to minimize potential sampling/monitoring errors.

Status: During the current audit period CLI abandoned three inactive groundwater piezometers. CLI abandoned the piezometers P301, P302, P304 in accordance with the Permit, however a fourth inactive piezometer, P303, could not be located and was not abandoned.

7.2 Recommendations

Based on a review of information collected during the audit, CDM proposes the following recommendations be considered for implementation by CLI:

7.2.1 Water Resource Management

1. The base of the side slopes of the North Expansion Area remains unvegetated from the last audit period. For an extended period over the audit period, this area was left unvegetated and susceptible to erosion. CDM recommends that CLI implement temporary stormwater control measures to minimize erosion from the disturbed areas if any future delays arise prior to completion of the final cover installation.

7.2.2 Groundwater Monitoring

2. CDM recommends that CLI consistently report the results of all confirmation sampling to the IEPA regardless of whether the confirmation sampling indicates a confirmed increase. This will provide assurance that all observed increases have been adequately addressed.

7.2.3 Miscellaneous

3. CDM recommends that CLI abandon all inactive subsurface monitoring devices in order to minimize potential sampling/monitoring errors. This includes locating and abandoning piezometer P303 in accordance with the Permit.

4. CDM recommends that CLI repair the falling bollards surrounding groundwater monitoring well G51D.

5. CDM recommends CLI more evenly distribute the collection of semi-annual samples in the future.

6. During the June 5, 2006 site visit, it was observed that clean C&D debris was being utilized as a road base material for the South Expansion perimeter road (outside of the permitted limit of waste). CDM recommends that CLI contact IEPA to determine the appropriate course of action to resolve this issue.

7. CDM recommends that additional quality assurance be performed on gas monitoring results to ensure that necessary responses are completed in accordance with the applicable permits. Internal (i.e., WMI) or external (e.g., SWANA) training should continue to be reinforced to gas monitoring personnel to ensure an understanding of the applicable regulations.

8. CDM recommends that CLI supplement their existing Complaint Log to document mud tracking and other road quality related complaints in addition to odor complaints.

Section 8
Information Reviewed

8.1 Application Documents for IEPA Permit Modifications

Modification No. 65
Waste Management, Inc., Permit Application for Significant Modification for Countryside Landfill. June 13, 2005. Log No. 2004-452.

Waste Management, Inc., Permit Application for Significant Modification for Countryside Landfill. May 13, 2005. Log No. 2004-129.

Modification No. 66
Waste Management, Inc., Permit Application for Significant Modification for Countryside Landfill. June 1, 2005. Log No. 2005-144.

Modification No. 67
Waste Management, Inc., Permit Application for Significant Modification for Countryside Landfill. September 23, 2005. Log No. 2005-192.

Modification No. 68
Waste Management, Inc., Permit Application for Significant Modification for Countryside Landfill. November 4, 2005. Log No. 2005-295.

Modification No. 69
Waste Management, Inc., Permit Application for Significant Modification for Countryside Landfill. September 23, 2005. Log No. 2005-328.

Waste Management, Inc., Additional Information for September 23, 2005 Permit Application for Significant Modification for Countryside Landfill. August 17, 2005.

Modification No. 70
Waste Management, Inc., Permit Application for Significant Modification for Countryside Landfill. September 23, 2005. Log Nos. 2005-327 and 2005-456.

Waste Management, Inc., Additional Information for September 23, 2005 Permit Application for Significant Modification for Countryside Landfill. August 18, 2005.

Modification No. 71
Waste Management, Inc., Permit Application for Significant Modification for Countryside Landfill. April 13, 2006. Log No. 2006-019.

Modification No. 72
Waste Management, Inc., Permit Application for Significant Modification for Countryside Landfill. May 10, 2006. Log Nos. 2005-363 and 2006-056.

Waste Management, Inc., Additional Information for May 10, 2006 Permit Application for Significant Modification for Countryside Landfill. January 12, 2006.

Waste Management, Inc., Additional Information for May 10, 2006 Permit Application for Significant Modification for Countryside Landfill. February 13, 2006.

Waste Management, Inc., Additional Information for May 10, 2006 Permit Application for Significant Modification for Countryside Landfill. April 26, 2006.

Pending Modification Log No. 2006-110
Waste Management, Inc., Permit Application for Significant Modification for Countryside Landfill. April 11, 2006. Log No. 2006-110.

Pending Modification Log No. 2006-148
Waste Management, Inc., Permit Application for Significant Modification for Countryside Landfill. April 11, 2006. Log No. 2006-148.

Pending Modification Log No. 2006-174
Waste Management, Inc., Permit Application for Significant Modification for Countryside Landfill. May 17, 2006. Log No. 2006-174.

Pending Modification Log No. 2006-189
Waste Management, Inc., Permit Application for Significant Modification for Countryside Landfill. May 30, 2006. Log No. 2006-189.

8.2 Water Resources

Countryside Landfill, Inc., Spill Prevention Control and Countermeasure Plan. November 1999 (5/30/03 update).

Countryside Landfill, Inc., Storm Water Pollution Prevention Plan for Countryside Landfill. August 1999 (June 2003 Update).

Countryside Landfill, Inc. Application for Individual NPDES Permit for Replacement of General Permit. July 2001.

Countryside Landfill, Inc. Annual Storm Water Inspection Report. August 15, 2005.

Illinois EPA, NPDES Permit No: ILR000152. General NPDES Permit. June 1, 2003.

8.3 Annual Reports

Waste Management, Inc., Countryside Landfill 2005 Annual Report, April 26, 2006.

Waste Management, Inc., Countryside Landfill 2005 Annual Emissions Report, April 28, 2006.

8.4 Semi-Annual Reports

Waste Management, Inc., Countryside Landfill 2005 Semi-Annual NSPS Report, July 21, 2005.

Waste Management, Inc., Countryside Landfill 2005 Semi-Annual NSPS Report, January 27, 2006.

Waste Management, Inc., Countryside Landfill 2005 Semi-Annual Clean Air Act Permit Program Report, August 24, 2004.

Waste Management, Inc., Countryside Landfill 2005 Semi-Annual Clean Air Act Permit Program Report, February 24, 2006.

Waste Management, Inc., Countryside Landfill 2005 Semi-Annual SSM Report, July 26, 2005.

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8.5 Monitoring Data

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