CONKLIN LANDFILL
FOLLOW-UP REPORT
TO
5-YEAR USEPA REVIEW

Prepared for the:

Town of Conklin
1271 Conklin Road
Conklin, New York 13748

For the:

Former Conklin Landfill
EPA ID NYD981486947
Broome Parkway
Town of Conklin
Broome County, New York

SCE Project No. R08126.00

By

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EXECUTIVE SUMMARY

In their report, entitled "*5-Year Review Report, Conklin Dumps Superfund Site, Town of Conklin, Broome County, New York*" dated January, 2008, the USEPA made numerous comments regarding the ongoing operation and maintenance of the closed landfill facility. Of all the comments, a total of three were assigned deadlines for completion. In addition, USEPA also offered eleven suggestions to be considered under the ongoing monitoring, maintenance, and operation at the landfill.

SCE conducted a detailed site survey, landfill cap physical investigation, and evaluation of quarterly chemical data for the landfill in response to the issues identified by the USEPA. As a result, each comment and suggestion was answered with a technically documented response. The following presents a summary of SCE's findings and recommendations for future landfill monitoring, operation, and maintenance:

1. SCE confirmed that the landfill cap has settled over time, with the largest amount of settlement being measured at over 5 feet at the peak of the landfill. No visible ponding of surface water is evident in this location, and the localized subsidence does not appear to have impacted the overall surface drainage patterns from the cap. SCE does not feel that the cap has been compromised as a result of this settlement; however, we recommend that the landfill cap continue to be surveyed on a 5-year periodicity to ensure that localized settlement or subsidence does not become excessive to a point where surface drainage is impacted or where the integrity of the landfill geotextile cap becomes questionable.

2. The leachate collection system has not been fully functional for an indeterminant amount of time. Based on information collected from SCADA-Tech, three of the four pumps in the leachate collection system wells were not operational due to malfunctioning automatic level controls.

The malfunctioning leachate pumps have been repaired, and the system is being restored to a fully operational status with improved monitoring. In addition, the operation of the leachate collection system has been integrated into the town-wide SCADA system. Integrating the leachate collection system with the SCADA system will improve the monitoring and alarm function of this system and will result in better overall operations.

When the leachate collection system is again functioning normally, SCE feels that the chemical data from quarterly monitoring at downgradient wells will show continued improvement, and inorganic compounds will approach the pre-2003 levels.

3. At least three monitoring wells on the landfill cap present evidence of damage, or weathering to the point where the steel protective guard pipe is loose or bent. Although there is no evidence that the underlying geotextile cap material has been compromised, SCE recommends that these wells with loose or damaged guard pipes be excavated and the guard pipe re-installed, with a proper concrete surface seal to retain it in place and provide full security and protection. It is highly recommended that a reputable environmental well driller be retained to conduct these repairs and to assess the functionality of these wells.

4. The condition of monitoring well MW-3 is unsatisfactory, and it should be replaced with a new well in a nearby location. Due to its proximity to the nearby parkway location in a low-lying area, and lack of a sealable, lockable cover that is prone to flooding or other damage, SCE recommends abandoning the existing MW-3 and replacing it with a new monitoring well installation with equivalent features. The new well shall be equipped with a protective steel guard pipe, located further from the alignment of the Industrial Parkway to prevent damage from snow removal, mowing operations, or traffic.

5. The requirements for data collection and reporting must be updated to conform with the landfill's Operation and Maintenance Plan, and in consideration of recent commentary by

USEPA. SCE recommends that the following modifications be made to the current quarterly monitoring contract with Eastern Laboratory Services:

- Analytical methods or quality assurance protocols for organic analytes should be altered so that the reported detection limit is equal to, or less than the regulatory limit for any specific analyte.

- Ongoing trend analysis of chemical data should be undertaken so that long-term increases in organic or inorganic concentrations in groundwater may be identified and corrected, as required. In addition, a comparison of upgradient vs. downgradient water quality should be implemented to evaluate the overall performance of the leachate collection system.

- At least annually, a groundwater contour map should be developed to confirm groundwater flow direction and to evaluate the impact/performance of the leachate collection system.

- Following at least five quarters of stable data with the leachate collection system functioning properly, it is suggested that the Town consider application for a Post-Closure Monitoring Variance (Variance), similar to the variance submitted February 1, 2005 by C&S Companies. (The February 1, 2005 Variance was not accepted or adopted by the Town.) Not only will a newly scoped monitoring program potentially save money, but if implemented properly, will achieve the long-term monitoring and trend analysis described earlier. It is further recommended to solicit conceptual pre-approval by the NYSDEC if a new variance is considered.

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1.0 INTRODUCTION

This report was prepared for the Town of Conklin, in technical support of the former Town of Conklin Landfill Site located in the Town of Conklin, Broome County, New York. The site is identified by the United States Environmental Protection Agency (USEPA) as NYD981486947. The project involves addressing comments made by the USEPA as a result of their third 5-year review of the site. A site location map has been included as **Figure 1**.

2.0 PROJECT DESCRIPTION

The former Town of Conklin Landfill is located along the Broome Industrial Parkway in the Town of Conklin, Broome County, New York. According to the Broome County GIS Portal website, the portion of the site currently being studied is designated by the Broome County Tax Assessors Office as Tax Map No. 194.04-1-2.

The former Town of Conklin Landfill is comprised of a closed landfill which includes a restricted cap area of approximately 5.5 acres of land, 31.5 acres of unrestricted land, and a leachate collection and discharge system. The current study area is approximately 12 acres in size and is roughly bound by the Broome Industrial Parkway to the east, Carlin Creek to the north, and property reputedly owned by Maple Leaf Holdings LLC to the south and west.

3.0 PURPOSE

In January of 2008, the USEPA Region 2 conducted its third 5-year review for the subject site. The review was documented in the report entitled *Five-Year Review Report, Conklin Dumps Superfund Site, Town of Conklin, Broome County, New York.* The purpose of this project is to address the documented recommendations for follow up actions raised in the USEPA report that were assigned to the town. This report will also assist the town in addressing the USEPA's comments on the Operation, Maintenance, and Institutional Controls.

3.1 BACKGROUND

Based on available information, the Town of Conklin Landfill formerly consisted of two landfill areas that primarily accepted municipal solid waste and a limited amount of industrial waste; these landfilled areas were known as the Upper and Lower Landfills. The landfill operated from 1964 until 1975 when the NYSDEC issued a closure order for the facility.

In June of 1986, the site was nominated for inclusion on the National Priority List (NPL). In June of 1987, a consent order was signed between the town and the NYSDEC. This consent order required the completion of a remedial investigation and feasibility study (RI/FS) and subsequent remedial design/remedial actions. The RI was completed in December of 1988 and indicated that limited groundwater contamination was present in the vicinity of the Upper Landfill. A Record of Decision (ROD) was issued by the USEPA in March of 1991; the ROD called for the capping of both landfills in place and for the development of deed restrictions. An Explanation of Significant Differences (ESD) was issued in September of 1992 which modified the remedial actions outlined in the ROD. The modified remedy consisted of excavating and consolidation of the lower landfill onto the upper landfill, capping the upper landfill, construction of a leachate collection system, and treatment of the leachate.

The remedial design selected for the site was completed in January of 1993. The construction of the leachate system, comprised of leachate collection wells, interceptor trench, and a 30,000-gallon above-ground storage tank, was completed in January of 1996. Following completion of the remedial design, the site was deleted from the NPL in May of 1997.

3.2 USEPA FIVE-YEAR REVIEW REPORT

The purpose of the five-year review report prepared by the USEPA is to ensure that a remedial action remains protective of public health and the environment and that it is functioning as designed. The review is required since contaminants remained on-site following remedial activities. Additional five-year review reports were conducted by the USEPA in 1998 and 2003. The five-year review conducted in 2008 determined that there have been changes in the physical condition of the landfill cap which may be affecting the remedy.

The following is a summary of the EPA's findings derived from their report entitled *Five-Year Review Report, Conklin Dumps Superfund Site, Town of Conklin, Broome County, New York,* dated January, 2008:

"Based upon the results of the five-year review, it has been concluded that:

- Although there have been changes in the physical conditions of the site, these changes do not affect the protectiveness of the selected remedy under current site usage. The site does not pose a risk to human health since drinking water wells are not threatened and contaminated material is not available for contact. Nevertheless, the possibility exists that some contamination may be escaping the leachate collection system.
- The leachate filtration (there is pretreatment of the leachate), storage, and transfer system is operating properly.
- The soil and vegetative covers are intact and in good condition.
- The fence around the site is intact and in good repair.
- Although surface water monitoring did not indicate elevated site-related contaminants, monitoring should continue.

- Considerable differential compaction of the cap has occurred, which may affect the integrity of the impermeable lining.
- The results of a statistical analysis noted that inorganic concentrations in a deep, downgradient monitoring well were above the background values observed in an upgradient monitoring well.
- It appears that the concentration of manganese in several shallow downgradient wells is increasing.
- There is no evidence of trespassing or vandalism.
- There has been no detection of volatile organic compounds in the leachate, monitoring wells, or surface waters.
- At least one monitoring well is damaged[1].

[1]Damaged wells have the potential to transmit water downward. The damaged wells need to be repaired.

Although differential compaction is taking place and further investigations may result in the need for corrective actions, the cap is still intact and contaminated material is not available for contact. In addition, since ingestion of drinking water is not occurring, nor is it expected to occur in the next five years, this pathway is currently incomplete."

3.3 RESPONSE TO MANDATORY CORRECTIVE ACTIONS

Following a comprehensive assessment of observed conditions coupled with a review of recently collected monitoring laboratory data, three (3) deficiencies were noted by the USEPA that required follow-up action on the part of the Town. It is SCE's goal to assist the town in responding to these comments, and to provide technical recommendations to make permanent corrective actions.

3.3.1 ACTION REQUIRED BY 3/08: (paraphrased) Add deed restrictions to prevent any activities in the future that could disturb the cap and to prevent the installation of drinking water wells.

RESPONSE: This Action Item is being addressed by the Town and NYSDEC with no input by SCE.

3.3.2 **ACTION REQUIRED BY 1/09**: "Investigation of the cap needs to be performed. If this investigation indicates that the integrity of the cap has been compromised, corrective measures may need to be implemented."

RESPONSE: The EPA's reason for this comment is that "several of the leachate collection and monitoring wells had well pipe protruding above the protective casing by approximately 6 inches", precluding them from being properly secured. In addition, the EPA field team observed at least one well that appeared to be damaged. This action item has a multi-phase response and several field assessment elements were initiated to adequately address this item. The following paragraphs summarize SCE's activities to address this comment:

PHYSICAL ASSESSMENT OF LANDFILL CAP

Prior to SCE's involvement with this site, personnel from Jones Water investigated and made repairs to monitoring wells MW-2 and LW-4 which both exhibited protrusion of the interior PVC pipe. According to Mr. Thomas Delamarter of the Town of Conklin, Jones Water welded approximately 4 inches of additional length of protective casing around each of the well pipes so that the wells were able to be properly secured. During the field assessment, it was determined that MW-2 also exhibited interior damage, whereas the water level detector could not pass an apparent blockage in the well pipe at a depth of approximately 19 feet below the top of the well. The cause for the blockage in MW-2 could not be determined during SCE's field investigation. A map depicting the landfill, and all monitoring wells, gas vents, and leachate collection system components is included as **Figure 2**.

During SCE's investigation of other monitoring wells on the cap, well DC-1 was observed to be bent, and wells DC-2S and DC-2D had loose steel standpipes. All of this damage could be the result of mowing operations or weathering during multiple freeze/thaw cycles. The protective casing on DC-1 has been straightened, and no damage to the interior PVC standpipe was

observed. The steel standpipes at wells DC-2S and DC-2D were not securely embedded in the ground, the concrete surface collars were largely deteriorated, and the steel standpipe fit loosely over their respective PVC well pipes.

The 1993 design drawings do not present construction details for the monitoring well penetrations through the geotextile cap. Based on SCE's knowledge of monitoring well construction relative to the location of the landfill's geotextile cap, it is SCE's opinion that the PVC well pipe is fastened to the 40-mil HDPE geotextile cap, and the steel protective casing is grouted around the PVC standpipe above the level of the geotextile cap. Typically, due to the deep construction depth and construction materials, the PVC well riser pipe rarely moves once it is set. However, it is common for steel protective casings to undergo frost heaving and other physical damage caused by weathering. In addition, it is common for mowing accidents to bend or break the steel guard pipes while the more flexible PVC well riser pipe remains intact. It is SCE's opinion that the damage observed at the three monitoring wells is limited to the protective steel casing pipes in one well and that damage caused by weathering, landfill settlement, or other action resulted in the steel casings of the other monitoring wells to become loose, with a bent appearance.

The cause of the deep damage that has effectively blocked MW-2 is unknown, and it is recommended that this well be either removed from the periodic sampling or abandoned and re-drilled at a nearby location.

In summary, SCE concurs that subsidence of the cap may have occurred resulting in the protrusion of PVC monitoring well pipes from their respective steel standpipes. In addition, at least three additional monitoring wells on the cap exhibit damage to their associated steel standpipes, which may be the result of mowing operations, or even weathering of the concrete surface seal. However, due to the likely construction of the wells relative to the geotextile cap, SCE does not suspect that damage to the geotextile cap at any monitoring well location is

occurring at a rate which may increase the amount of leachate entering the landfill as surface water.

LANDFILL CAP SURVEY

As a first priority, SCE conducted a full survey of the landfill cap area which included a detailed survey of the ground surface as well as all installed monitoring wells and other leachate collection system components. The purpose of this survey was to identify if possible landfill settlement had resulted in changes to installed equipment at the surface level. In addition, it gave SCE the opportunity to compare the current surface contours of the landfill with the surface as it existed in 1996 when the landfill construction was completed.

Figure 3 depicts the results of the 2008 survey relative to the survey of the landfill conducted in 1996, just after the landfill cap was completed. Based on the calculated subsidence depicted on Figure 3, it can be summarized that the landfill cap and area has generally settled. Calculated settlement ranges from 0.0 feet in the southwest corner to over 5.1 feet near the landfill center at the high point of the cap.

Although the settlement of the landfill has occurred overall, the settlement has been generally less than 1 foot in total change, and there are no areas that may suggest that the cap is allowing surface water to collect or pond. In the northeast corner of the landfill site, generally from the site entrance gate westerly to the leachate collection wells on top of the cap area, settlement has taken place between 1.0 to 1.5 feet in total depth.

Along the northern fenceline, from the leachate collection tank westerly along the alignment of the leachate collection trench, subsidence has generally occurred between 2.0 to 3.0 feet.

The highest degree of settlement calculated in the entire landfill cap is situated in a localized area near the landfill peak and also at the point where underlying refuse is the deepest. Although not

unexpected, increased localized settlement in this area could suggest improper compaction while the landfill was being constructed and should be monitored to ensure that surface water continues to drain from the surface.

3.3.3 **ACTION REQUIRED BY 1/09**: "A maintenance assessment and an investigation of the leachate collection system should be performed and, if necessary, corrective actions should be performed."

RESPONSE: Many of the problems identified by the USEPA have been traced to the possibility that the leachate collection system was not operating as designed and that leachate may have been bypassing the collection system, then being detected in downgradient monitoring wells. Irratic or increasing levels of various contaminants in downstream wells was the primary indicator of this possible malfunctioning leachate collection system.

Concurrent with SCE's involvement, the Town of Conklin retained the services of SCADA-Tech of Manlius, New York to assess, correct, and implement improvements to the installed leachate collection system components and pumps. Based on information provided by SCADA-Tech, only one of four leachate collection system pumps were operational when they conducted their assessment at the site. According to SCADA-Tech, the leachate collection system level sensors in each well had failed, and the pumps had not operated for an indeterminate period of time. All well and sump level controllers were replaced by SCADA-Tech, and the system was returned to automatic leachate level management.

In addition, SCADA-Tech is making improvements to the pump controllers and is installing additional meters and sensors in the leachate collection system in order to integrate the operation of the Leachate Collection System through the Town's Supervisory, Control, and Data Acquisition System (SCADA), already in place for their water system. It is SCE's opinion that integrating the Leachate Collection System with the Town's existing SCADA system will greatly

improve the alarm and monitoring function of the Landfill parameters, and will reduce the possibility that the leachate collection system could malfunction without notice.

3.4 USEPA'S SUGGESTIONS FOR OPERATION, MAINTENANCE, AND INSTITUTIONAL CONTROLS

In addition to issuing mandatory Corrective Actions, the USEPA also presented a series of suggestions to the Town for follow-up actions. These suggestions included the following:

3.4.1 SUGGESTION: "Survey the monitoring wells to establish casing elevations."

RESPONSE: SCE conducted this task as part of this project. The monitoring program has been revised to reflect the newly surveyed elevations of the monitoring wells. Survey mapping will be provided to the Town under separate correspondence.

3.4.2 SUGGESTION: "The Town needs to perform data reduction and analysis."

RESPONSE: SCE conducted data reduction and analysis for at least 5 years of post-closure monitoring data. The following sections present the findings of that data reduction and analysis:

GENERAL

SCE collected, reviewed, tabulated and correlated the quarterly laboratory data from March 2003 to March 2008. SCE then conducted trend analysis to determine if analytes were detected in the downgradient wells that exceeded background or guidance values. The laboratory analyses were performed by Eastern Analytical Services, Ltd. and Benchmark Analytics, Inc. of Sayre, PA.

Upgradient monitoring well MW-1 was used to establish background concentration of contaminants. MW-37 is also an upgradient monitoring well. The downgradient monitoring wells for which the analytical results were analyzed are MW-3, MW-4, MW-12, and MW-38D. Figure 2 depicts the locations of the monitoring wells utilized as part of this assessment.

ORGANIC COMPOUNDS

The organic compounds of concern identified for the site are chloroethane, xylene, and 1,2-dichloropropane. These chemicals have not been detected in samples obtained for the site. A detection limit of 5 micrograms per liter (µg/l) has been routinely utilized by the laboratory for organic compounds. This detection limit, as noted by the USEPA, is higher than many of the state groundwater standards. For example the State groundwater standard for 1,2-dichloropropane, is 1 µg/l whereas analytical data reviewed did not have the detection limit low enough to determine if this parameter was detected above the State limit.

The only organic compound in groundwater detected above the laboratory detection limits during this period was Methylene Chloride which was detected in the March, 2003 sampling round. Due to its widespread detection in nearly all samples during this sampling event, it is likely that methylene chloride was a field contaminant, or the laboratory data reflected quality assurance problems.

INORGANIC COMPOUNDS

The USEPA report indicated that their analysis of the laboratory results shows elevated levels of arsenic, iron, bromide, chloride, barium, calcium, cobalt, magnesium, sodium, and manganese in the deep, downgradient monitoring well MW-38D. The contaminants were detected at levels above the background values observed in upgradient monitoring well MW-1; the levels also exceeded the NYSDEC groundwater guidance standard.

The USEPA was also concerned that the concentration of manganese is increasing in several shallow downgradient wells. In general, iron, manganese, and sodium have been detected at levels that exceed the State groundwater guidance standard and background concentrations. The USEPA Report recommended that the shallow, downgradient monitoring well MW-3 should be studied since elevated concentrations of inorganic contaminants have been observed and because

the well is only sampled sporadically. The laboratory reports indicate that the roadbox of the well is frequently filled with sand; therefore, MW-3 is only sampled sporadically when it could be located by Town forces.

The concentration of manganese was also noted to be increasing in the shallow, downgradient monitoring well MW-4. The concentration of iron and lead were also frequently detected at levels exceeding guidance values and background concentrations.

Contaminants exceeding the background levels and the groundwater guidance standards were also detected in the shallow, downgradient monitoring well MW-12. Contaminants included iron, magnesium, and manganese. According to the laboratory reports, this well was not sampled during several events due to limited access caused by the flooding of Carlin Creek or dense vegetation.

The concentration of contaminants in the shallow, upgradient monitoring well MW-37 appeared to be generally comparable to the contaminants observed in the other upgradient well MW-1. Overall, the concentrations of inorganic contaminants in the downgradient monitoring wells appear to be generally higher when compared to the upgradient monitoring wells, MW-1 (background) and MW-37; furthermore, the concentrations often exceed the NYSDEC groundwater guidance values.

ANALYTICAL DATA CONCLUSIONS

For organic compounds, it appears that no elevated concentrations were identified by the testing laboratory because the detection limits for the selected lab methods was above the regulatory level established by the State of New York.

For the general increases in concentrations of inorganics detected in downgradient wells, it is SCE's opinion that this condition is likely attributable to the improperly functioning leachate

collection system described in Section 3.3.3 herein. The leachate collection system is currently being repaired and improvements are being made to the system's monitoring and alarm functions. After repairs are made, it may be expected that over time, the detected concentration of inorganics will again drop to the pre-2003 levels.

During the field inspection, SCE technicians noted that the top of MW-3 is approximately one foot below grade at a low spot on the shoulder of the road. In addition, the roadbox was noted to be in poor condition, and the lid did not fit over the PVC well pipe, which extended above the level of the roadbox frame. In addition, the well cap is not a locking-sealing type, and it is expected that severe surface water intrusion into the well may be occurring with each rain event.

In summary, it is SCE's opinion that MW-3 is in poor condition, and under the influence of surface water, which would make any laboratory data for the groundwater samples from this well suspect and unreliable. Due to this condition, SCE did not collect any sample from the well, as initially proposed. SCE recommends that MW-3 be replaced with a new well constructed to the same depth as the existing well in this location. The new MW-3 should be constructed with a PVC riser pipe and associated locking steel protective cover and situated in a location that will not be prone to damage caused by mowing operations, snow plow impact, surface flooding, or traffic-related damage.

3.4.3 SUGGESTION: "For each future sampling event, the water levels should be measured and potentiometric maps should be created. Contouring the water table to establish actual flow directions will require taking water level measurements from old wells that have not been included in the past. Since landfill compaction has the potential to damage the inner casing, the older wells will require an evaluation."

RESPONSE: Utilizing data collected during the July, 2008 investigation and new survey, SCE has created a baseline groundwater flow map. This map is included as **Figure 4** herein. It is important to note that the leachate collection system was not

operational during this study, and the groundwater contours depicted on Figure 4 are likely natural contours. With follow-on monitoring events, it is recommended that a groundwater flow map be determined so that the actual potentiometric maps will reflect drawdown caused by the leachate collection system.

3.4.4 SUGGESTION: "Alternative analytical methods for several contaminants need to be employed for all subsequent sample analyses."

RESPONSE: SCE will propose that the analytical laboratory utilize alternative methods or utilize new Quality Assurance protocols that will allow the use of lower detection limits for the identified monitoring organic parameters.

3.4.5 SUGGESTION: "Monitoring Well MW-3 should be sampled on a quarterly basis."

RESPONSE: MW-3 is only sporadically sampled because its location and construction do not enable it to be located within the allocated time. SCE recommends replacing MW-3 with a new well, then placing it under the quarterly sampling program in lieu of the existing MW-3. The existing MW-3 should be properly abandoned.

3.4.6 SUGGESTION: The Application for Monitoring Variance lists six items under "Reporting" (comparison of groundwater and surface water results with applicable standards, historical groundwater elevations, historical parameter concentrations, groundwater contours, statistical evaluation of the data, and comparison of upgradient and down gradient sample results). "The items recommended under "Reporting" should be implemented. This information should be utilized to assess system performance."

RESPONSE: SCE agrees with this approach, and concurs that the quarterly groundwater monitoring should include a more detailed analysis of data relative to itself, as well as historic trends.

3.4.7 SUGGESTION: "Perform time series analysis on the other analytes detected in the downgradient wells."

RESPONSE: SCE conducted a time series analysis as part of Paragraph 3.4.2 above. Graphical analysis for each well is included as **Appendix A** herein.

3.4.8 SUGGESTION: "A physical examination of the cap and the wells installed through it should be performed. Repairs should be made if necessary. This includes obvious breaches in the cap, broken or malfunctioning wells, and the leachate collection system. After minor repairs are made, the landfill should be monitored quarterly for 5 years to see if increasing contamination trends are reversed, or at least stabilized. If not, then a more thorough investigation and remedy may have to be developed.

RESPONSE: SCE conducted a detailed survey and physical assessment of the existing cap, and all wells and/or leachate collection infrastructure on the cap. The Town of Conklin made repairs to the wells that had PVC riser pipe extending above the steel protective cover. At least three other monitoring wells on the cover had visibly loose or bent steel protective covers. Although it is not suspected that these wells are allowing leakage through the geomembrane cap, it may be recommended that these steel protective covers be re-set in concrete to enable secure access to these wells.

3.4.9 SUGGESTION: "Surface water monitoring should continue."

RESPONSE: SCE recommends continuation of stream sampling at Carlin Creek

3.4.10 SUGGESTION: "The Town should ascertain if there are any reuse opportunities for this site. If such opportunities exist, then a reuse plan should be developed. This plan would need to be a collaborative effort between the interested parties. A reuse plan should be developed to address future property ownership, institutional controls, and the final status of the existing structures and foundations on the site."

RESPONSE: SCE has no opinion on this matter.

3.4.11 SUGGESTION: "On an annual basis, the site will need to be inspected to verify that no groundwater extraction wells have been installed at the site. The annual O&M report should indicate the results of this inspection and should include a certification that remedy-related O&M is being performed. Once the institutional controls are put into place, the annual O&M report should include a certification that the institutional controls are in place, as well."

RESPONSE: SCE acknowledges that this requirement is a good idea, especially if development in the area of this landfill increases.

4.0 CONCLUSIONS AND RECOMMENDATIONS

In their report, entitled "*5-Year Review Report, Conklin Dumps Superfund Site, Town of Conklin, Broome County, New York*" dated January, 2008, the USEPA made numerous comments regarding the ongoing operation and maintenance of the closed landfill facility. Of all the comments, a total of three were assigned deadlines for completion. In addition, USEPA also offered eleven suggestions to be considered under the ongoing monitoring, maintenance, and operation at the landfill.

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The malfunctioning leachate pumps have been repaired, and the system is being restored to a fully operational status with improved monitoring. In addition, the operation of the leachate collection system has been integrated into the town-wide SCADA system. Integrating the leachate collection system with the SCADA system will improve the monitoring and alarm function of this system and will result in better overall operations.

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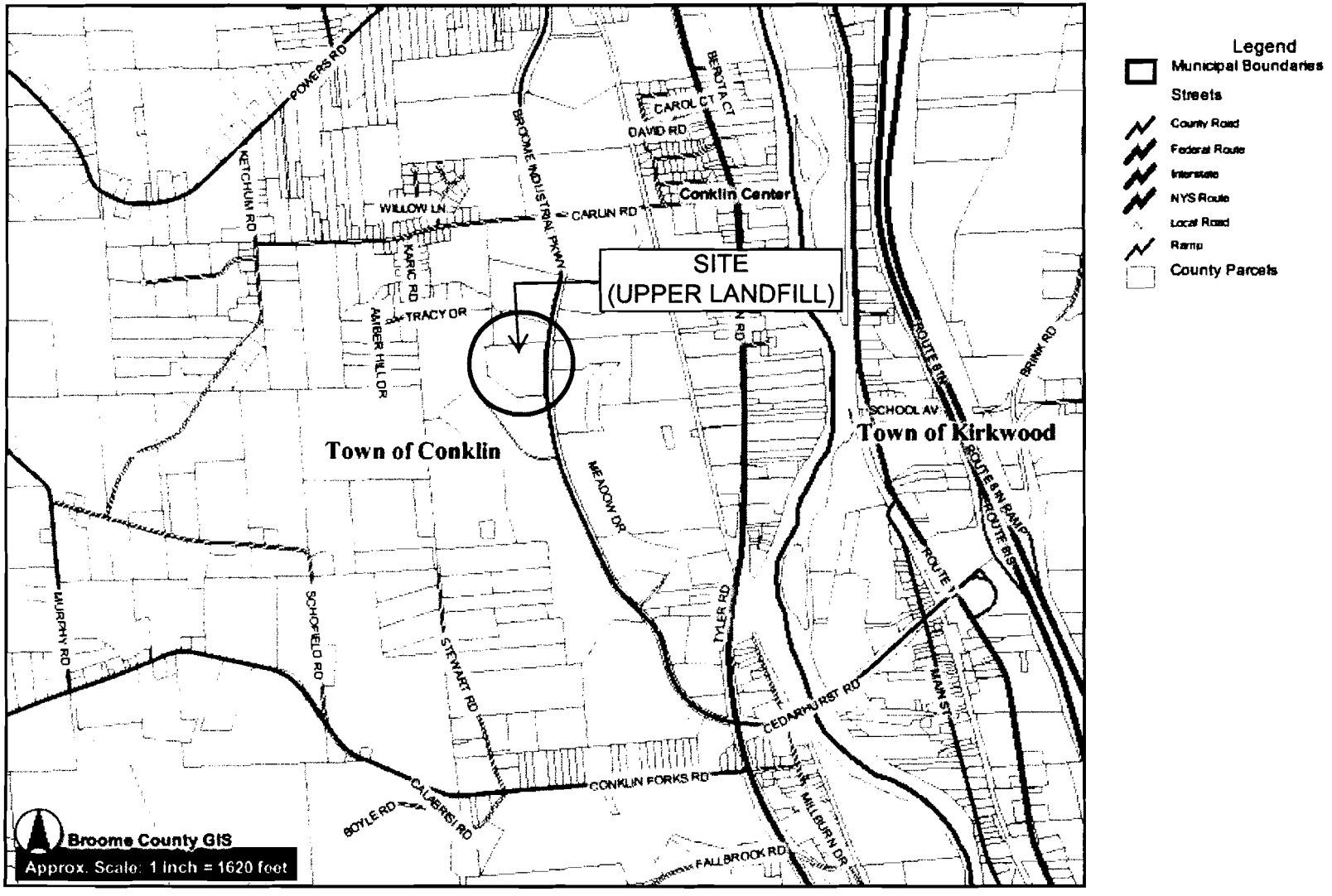
FIGURE 1

SITE LOCATION MAP

Figure 1: Site Location



Broome County, New York | Unified Parcel Information System | *Web: www.bcgis.com | Phone: 607-778-6505*
DISCLAIMER: Broome County does not guarantee the accuracy of the data presented. Information should be used for reference purposes only. Always check primary sources when accuracy is essential.

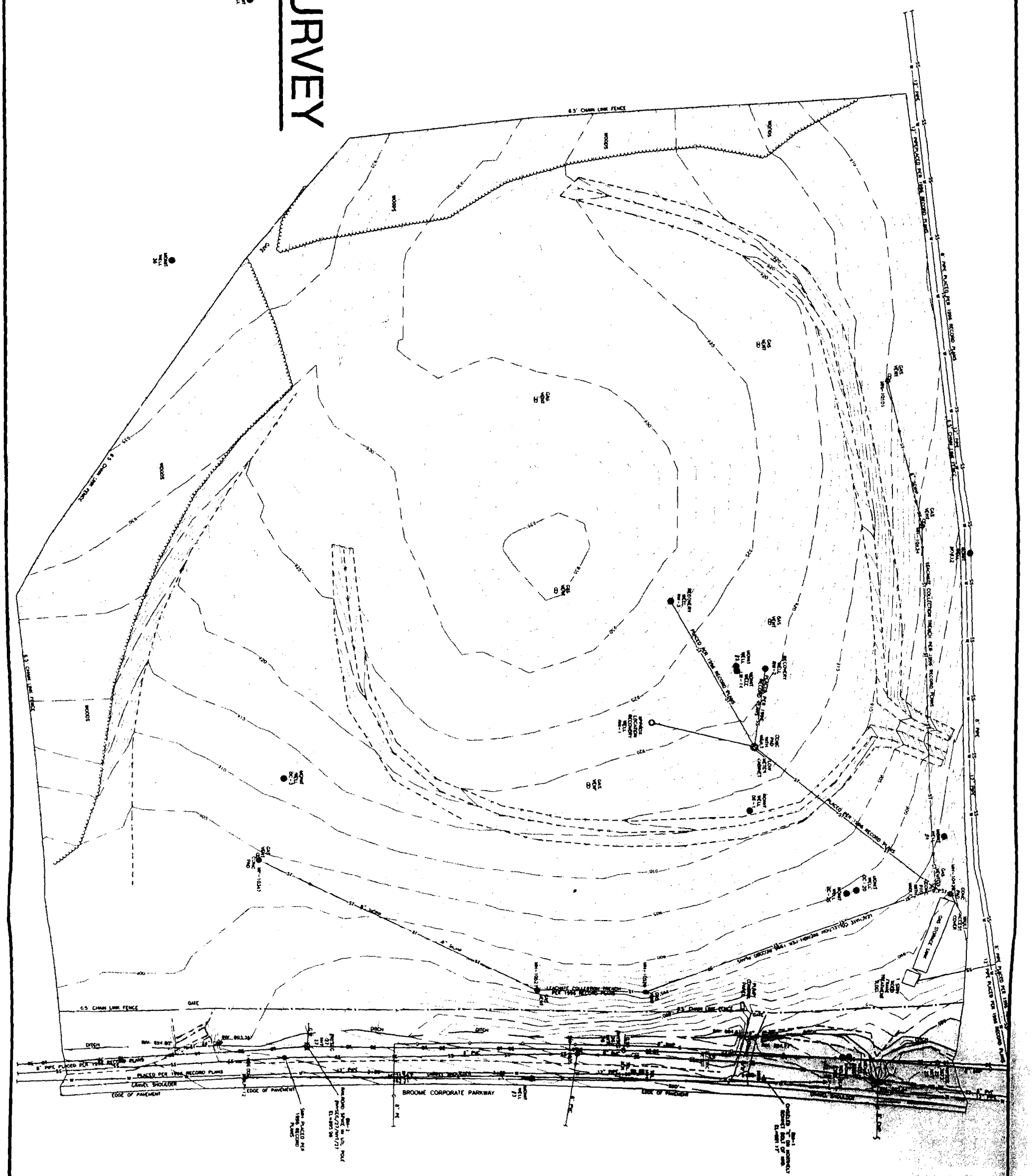
FIGURE 2

2008 LANDFILL SURVEY MAP

JULY 2008 SURVEY

SCALE: 1" = 80'-0"

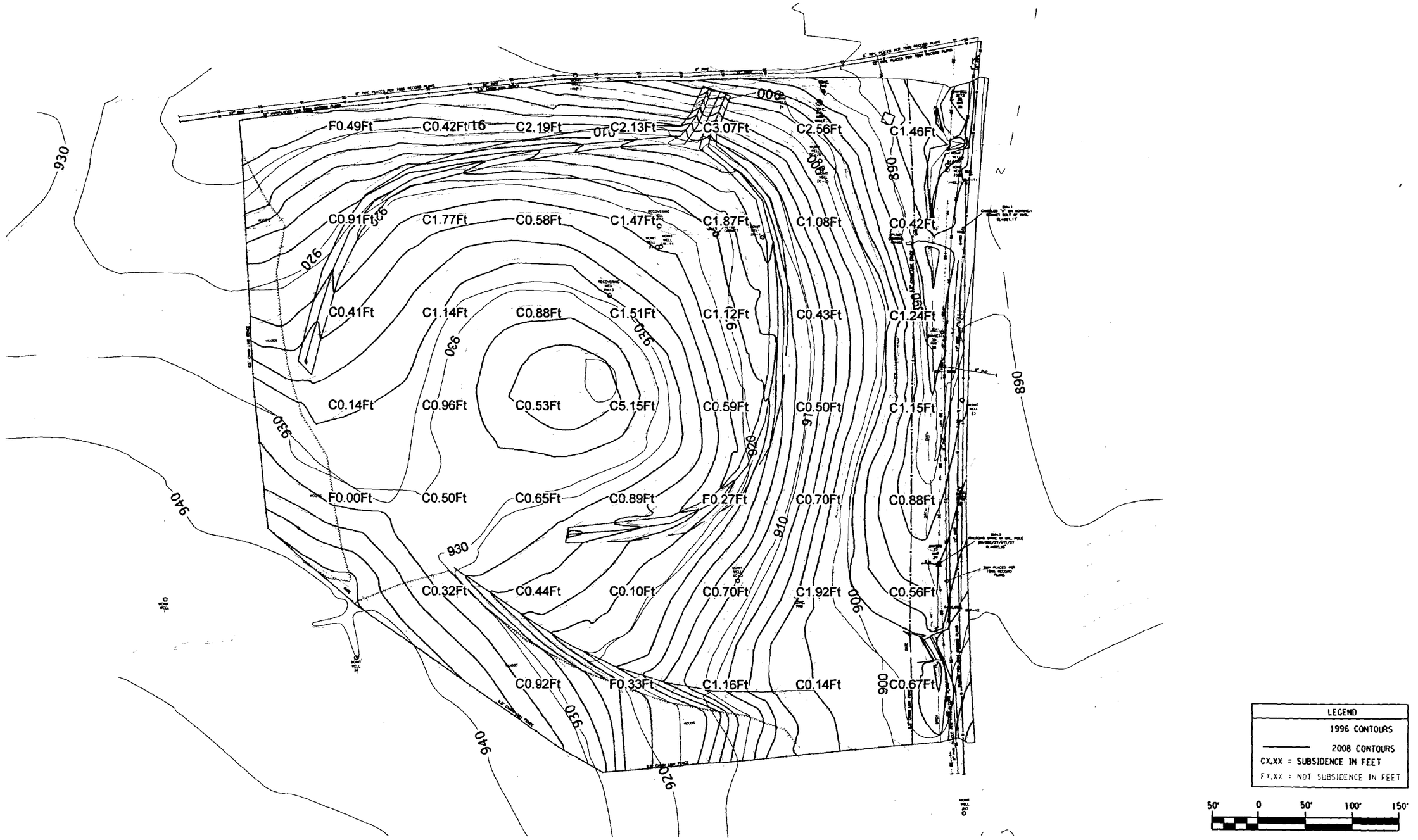
80' 0 80'



SHUMAKER Consulting Engineering & Land Surveying, P.C. 430 Court Street, Suite 300, Utica, New York 13502 Telephone (315) 724-0100/ Fax (315) 724-9715	CONKLIN LANDFILL FOLLOW-UP REPORT 1271 CONKLIN ROAD — CONKLIN, NEW YORK
DRAWING TITLE JULY 2008 SURVEY	Drawn By: PHE Checked By: WCN Project Mgr: WCN Date: 9/8/08 Project No: R08126
FIGURE 2	

FIGURE 3

1995 AND 2008 SITE SURVEY MAPS DEPICTING LANDFILL CAP CHANGES



DESIGN SUPERVISOR _____ JOB MANAGER _____ DESIGNED BY _____ DRAFTED BY _____ CHECKED BY _____ ESTIMATED BY _____ CHECKED BY _____

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DATE/TIME = 9/8/2008 / 9:11:29 AM
USER = USER jmc

SHUMAKER CONSULTING ENGINEERING & LAND SURVEYING, P.C.
ENGINEERING CERTIFICATION
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF LICENSED ARCHITECT, PROFESSIONAL ENGINEER, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY HIS OR HER SIGNATURE, THE DATE OF SUCH ALTERATION AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

COUNTY: BROOME
DOCUMENT NAME: 8126.fea for curt.dgn

P/N
PS&E DATE

BRIDGES

CULVERTS

CONKLIN LANDFILL SURVEY COMPARISON

SHUMAKER

DRAWING NO. 3

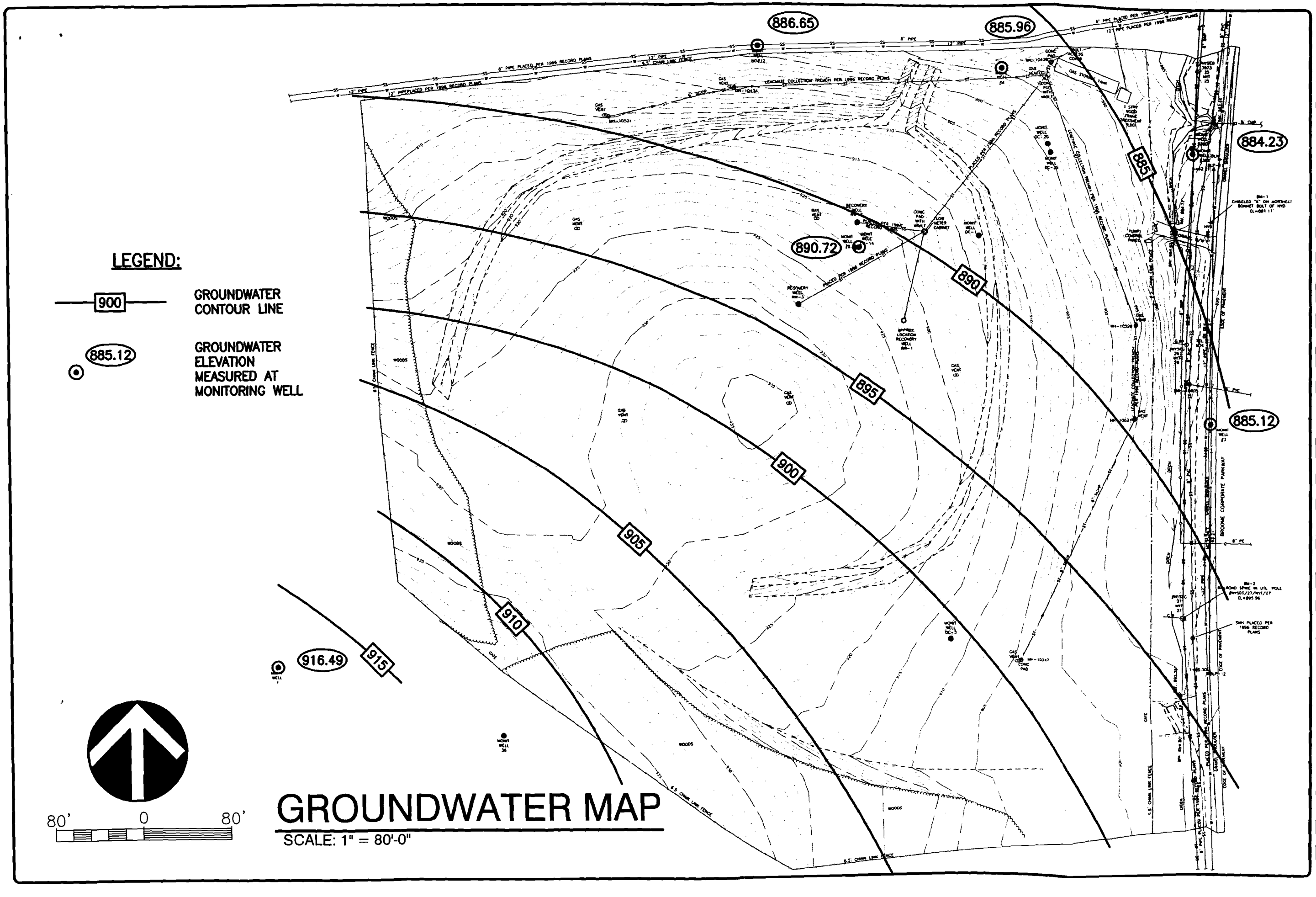
TOWN OF CONKLIN

FIGURE 4

JULY 2008 GROUNDWATER POTENTIOMETRIC MAP

CONKLIN LANDFILL
MONITORING WELL DATA AND GROUNDWATER ELEVATIONS

WELL#	Ground Elevation (ft)	Top of Well Elevation (ft)	Depth to Ground Water (ft)	Ground Water Table Elevation (ft)	Depth to Bottom (ft)	Comments
MW-1	943.57	946.69	30.20	916.49	61.83	Silt in bottom of well
MW-2	921.89	925.73	BLOCKED	BLOCKED	BLOCKED	Blocked at approximately 18.7 feet
MW-3	890.52	890.83	5.71	885.12	17.20	Recommend replace well
MW-4	893.92	897.18	11.22	885.96	22.86	Silt in bottom of well
MW-12	898.25	901.08	14.43	886.65	18.94	Silt in bottom, 4" maple aproximately 6" away
MW-37	907.30	908.71	9.21	899.50	23.40	Silt in bottom of well
MW-38D	885.73	888.34	9.11	879.23	17.11	
MW-38S	886.12	890.13	5.80	884.33	16.30	Loose casing
DC-1	913.30	917.12	Not assessed	Not assessed	Not assessed	Casing bent
DC-2D	898.92	901.65	Not assessed	Not assessed	Not assessed	No concrete around casing
DC-2S	899.27	902.08	Not assessed	Not assessed	Not assessed	No concrete around casing
LW-14	921.71	925.00	34.28	890.72	52.29	Silt in bottom of well



DRAWING TITLE
JULY 2008
GROUNDWATER
POTENTIOMETRIC MAP

Drawn By: PHE
Checked By: WCN
Project Mgr: WCN
Date: 9/8/08
Project No: R08126

FIGURE 4

CONKLIN LANDFILL
FOLLOW-UP REPORT
1271 CONKLIN ROAD
CONKLIN, NEW YORK

SHUMAKER
Consulting Engineering & Land Surveying, P.C.

APPENDIX A

ANALYTICAL DATA REDUCTION

Shumaker Consulting Engineering and Land Surveying, P.C.
Analytical History for the Conklin Landfill
SCE Project 08126.00

Monitoring Well 1		Date Sampled:	3/24/2003	6/2/2003	9/8/2003	11/3/2003	3/15/2004	6/14/2004	9/13/2004	11/1/2004	3/29/2005	6/29/2005	9/20/2005	11/16/2005	3/15/2006	6/20/2006	8/28/2006	11/13/2006	3/7/2007	5/7/2007	8/13/2007	11/5/2007	3/17/2008
Analyte (Note 1)	Units	Guidance Value																					
Chloroethane	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.0	-	-	-	<5.0	-	-	-	-
1,2-Dichloropropane	ug/l	1	<5.0	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.0	-	-	-	<5.0	-	-	-	-
Methylene chloride	ug/l	5	12	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.0	-	-	-	<5.0	-	-	-	-
o-Xylene	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.0	-	-	-	<5.0	-	-	-	-
m,p-Xylene	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.0	-	-	-	<5.0	-	-	-	-
Alkalinity as CaCO3	mg/l		243	233	241	244	258	236	242	256	258	257	245	256	252	248	244	244	222	116	250	230	236
Ammonia as N	mg/l	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.7	0.2	<0.1
Biochemical Oxygen Demand-5	mg/l		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	13	<6	<6
Chloride	mg/l	250	3	4	2	3	5	3	3	2	8	7	2	2	5	4	5	4	3	10	2	1.25	1.6
Chemical Oxygen Demand	mg/l		<10	58	<10	26	16	17	<10	<10	<10	<10	26	<10	<10	<10	<10	<10	<10	31	17	<10	<10
Hexavalent Chromium	mg/l		<0.01	-	-	-	-	<0.010	-	-	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	
Nitrate as N	mg/l	10	<0.05	<0.05	<0.05	0.38	<0.05	<0.05	0.08	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.36	0.29	0.08	0.17	0.24	0.22	0.11
pH	pH Units	6.5-8.5	7.23	7.41	7.38	7.28	7.52	7.56	7.48	7.5	7.51	7.41	7.55	7.48	8.57	7.6	7.72	7.76	7.7	6.22	6.97	7.26	8.22
Phenol	mg/l	0.001	0.103	0.029	<0.036	<0.036	0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.03	0.036	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Total Dissolved Solids	mg/l	500	264	288	295	232	221	116	249	239	266	245	255	254	238	264	250	241	150	210	223	266	260
Sulfate as SO4	mg/l	250	14	16	18	11	12	<11	<11	11	<11	<10	12	<11	<11	<11	<11	<11	<11	26	<11	5.88	5.76
Total Kjeldahl Nitrogen	mg/l		2.4	<1.0	2.5	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	2.9	1.1	<1.0	<1.0	1.8	<1.0	<1.0	<1.0	1.1	1.4	<1.0	<1.0
Total Organic Carbon	mg/l		-	-	-	-	-	-	3.7	3.2	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	1.2	1	2.5	1.2	0.8	1.3
Total Hardess as CaCO3	mg/l		220	234	176	220	250	232	290	222	226	216	256	220	200	224	212	212	204	124	220	256	203
Color	Color Units	5	<5.00	-	-	-	-	<5.00	-	-	12	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
Cyanide	mg/l	0.2	<0.015	-	-	-	-	<0.025	-	-	<0.025	-	-	-	<0.010	-	-	-	<0.010	-	-	-	-
Bromide	mg/l	2	<0.100	<0.100	<0.100	<0.100	2	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.298	<0.100	<0.050	<0.050
Mercury	mg/l	0.0007	<0.0002	-	-	-	-	<0.0002	-	-	<0.0002	-	-	-	<0.0002	-	-	-	<0.0002	-	-	-	-
Silver	mg/l	0.05	<0.0050	-	-	-	-	<0.010	-	-	<0.010	-	-	-	<0.010	-	-	-	<0.010	-	-	-	-
Aluminum	mg/l		0.89	-	-	-	-	0.058	-	-	0.071	-	-	-	<0.050	-	-	-	<0.050	-	-	-	-
Arsenic	mg/l	0.025	<0.005	-	-	-	-	<0.005	-	-	<0.010	-	-	-	<0.003	-	-	-	<0.003	-	-	-	-
Boron	mg/l	1	<0.10	-	-	-	-	<0.10	-	-	<0.10	-	-	-	<0.10	-	-	-	<0.10	-	-	-	-
Barium	mg/l	1	<0.050	-	-	-	-	<0.050	-	-	<0.050	-	-	-	<0.050	-	-	-	<0.050	-	-	-	-
Beryllium	mg/l	0.03	<0.0020	-	-	-	-	<0.0020	-	-	<0.0020	-	-	-	<0.0020	-	-	-	<0.0020	-	-	-	-
Calcium	mg/l		62	67	65	64	59	64	65	64	62	58	55	63	60	58	52	58	55	28	53	52.8	<0.001
Cadmium	mg/l	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.010	<0.0020	<0.010	<0.010	<0.010	<00020	<0.010	<0.010	<0.010	<0.0020	<0.010	<0.010	<0.010	50.3
Cobalt	mg/l		<0.010	-	-	-	-	<0.020	-	-	<0.020	-	-	-	<0.020	-	-	-	<0.020	-	-	-	-
Chromium	mg/l	0.05	<0.010	-	-	-	-	<0.010	-	-	<0.010	-	-	-	<0.010	-	-	-	<0.010	-	-	-	-
Copper	mg/l	0.2	0.0067	-	-	-	-	<0.050	-	-	<0.0050	-	-	-	<0.0050	-	-	-	<0.0050	-	-	-	-
Iron	mg/l	0.3	0.8	1.2	1	0.071	0.33	0.15	0.29	0.062	0.14	0.39	3.7	0.076	<0.050	0.074	<0.050	0.24	0.08	17	0.098	0.206	0.126
Potassium	mg/l		1.9	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	2.19
Magnesium	mg/l	35	17	17	18	18	19	20	18	20	21	19	18	19	18	18	17	19	18	11	19	17.5	18.7
Manganese	mg/l	0.3	0.046	0.2	0.14	<0.0050	0.39	0.25	0.055	0.093	0.59	0.13	0.35	0.14	0.11	0.045	0.0073	0.99	0.069	2.6	0.26	0.268	0.634
Sodium	mg/l	20	19	18	21	21	17	19	21	22	20	19	17	22	19	20	16	17	16	9.1	15	12.7	15
Nickel	mg/l	0.1	<0.020	-	-	-	-	<0.20	-	-	<0.20	-	-	-	<0.020	-	-	-	<0.020	-	-	-	-
Lead	mg/l	0.025	0.003	0.007	0.01	<0.001	<0.001	<0.001	<0.001	<0.040	<0.001	<0.001	<0.001	0.018	<0.001	<0.001	<0.0020	0.005	0.001	0.011	<0.001	<0.001	<0.010
Antimony	mg/l	0.03	<0.0050	-	-	-	-	<0.0050	-	-	<0.040	-	-	-	<0.040	-	-	-	<0.040	-	-	-	-
Thallium	mg/l	0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.025
Vanadium	mg/l		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.010
Zinc	mg/l	2	<0.011	0.021	0.016	<0.010	0.014	0.014	0.01	0.053	<0.010	<0.010	0.079	<0.010	0.018	0.057	0.011	0.041	0.02	0.051	0.013	0.018	0.008
Selenium	mg/l	0.01	<0.010	-	-	-	-	<0.005	-	-	<0.005	-	-	-	<0.005	-	-	-	<0.005	-	-	-	-

Notes

1. Full analytical reports for the Target Compound List were analyzed but were not detected. Contaminants of concern plus Organic compounds listed herein are for the Methylene Chloride, which has been detected above standards in one sampling event.

Shumaker Consulting Engineering and Land Surveying, P.C.
Analytical History for the Conklin Landfill
SCE Project 08126.00

Monitoring Well 3		Date Sampled:	3/24/2003	6/2/2003	9/8/2003	11/3/2003	3/15/2004	6/14/2004	9/13/2004	11/1/2004	3/28/2005	6/28/2005	9/20/2005	11/18/2005	3/15/2006	5/20/2006	6/28/2006	11/13/2006	3/7/2007	5/7/2007	8/13/2007	11/5/2007	3/17/2008
Analyte (Note 1)	Units	Guidance Value																					
Chloroethane	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	-	-	-	-	<5.00	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/l	1	<5.0	-	-	-	-	<5.0	-	-	-	-	-	-	<5.00	-	-	-	-	-	-	-	-
Methylene chloride	ug/l	5	13	-	-	-	-	<5.0	-	-	-	-	-	-	<5.00	-	-	-	-	-	-	-	-
o-Xylene	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	-	-	-	-	<5.00	-	-	-	-	-	-	-	-
m,p-Xylene	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	-	-	-	-	<5.00	-	-	-	-	-	-	-	-
Alkalinity as CaCO3	mg/l		83	93	104	101	103	107	116	112	-	-	125	-	252	-	-	118	-	-	-	204	172
Ammonia as N	mg/l	2	<0.1	<0.100	<0.100	<0.100	<0.100	<0.100	<0.1	ND	-	-	<0.1	-	<0.1	-	-	0.1	-	-	-	<0.1	<0.1
Biochemical Oxygen Demand-5	mg/l		<6	<6	<6	<6	<6	<6	<6	ND	-	-	<6	-	<6	-	-	<6	-	-	-	<6	<6
Chloride	mg/l	250	103	48	83	33	80	27	130	81	-	-	147	-	5	-	-	50	-	-	-	147	366
Chemical Oxygen Demand	mg/l		37	100	135	72	23	29	52	14	-	-	21	-	<10	-	-	<10	-	-	-	45	53
Hexavalent Chromium	mg/l		<0.01	-	-	-		<0.010	-	-	-	-	-	-	<0.01	-	-		-	-	-	-	-
Nitrate as N	mg/l	10	<0.05	<0.05	<0.05	0.16	<0.05	<0.05	<0.05	ND	-	-	<0.05	-	<0.05	-	-	0.46	-	-	-	0.17	0.15
pH	pH Units	6.5-8.5	6.92	6.96	7.06	6.87	6.63	7.12	6.74	6.59	-	-	6.82	-	6.57	-	-	7	-	-	-	6.86	7.77
Phenol	mg/l	0.001	<0.023	<0.023	<0.036	<0.036	0.057	<0.025	<0.025	ND	-	-	-	-	0.03	-	-	<0.025	-	-	-	-	<0.025
Total Dissolved Solids	mg/l	500	241	247	287	201	218	462	368	250	-	-	378	-	238	-	-	222	-	-	-	467	784
Sulfate as SO4	mg/l	250	15	21	16	14	15	15	<11	11	-	-	17	-	<11	-	-	14	-	-	-	16.3	20.8
Total Kjeldahl Nitrogen	mg/l		9.6	7.1	5.3	1.2	1.7	<1.0	1.1	ND	-	-	2.4	-	<1.0	-	-	<1.0	-	-	-	<1.0	<1.0
Total Organic Carbon	mg/l		-	-	-	-	-	-	<1.0	2.8	-	-	2.6	-	<1.0	-	-	3.7	-	-	-	5.8	2.3
Total Hardess as CaCO3	mg/l		230	268	280	152	240	128	280	136	-	-	530	-	200	-	-	152	-	-	-	200	155
Color	Color Units	5	<5.0	-	-	-	-	<5.0	-	-	-	-	-	-	<5.00	-	-	-	-	-	-	-	-
Cyanide	mg/l	0.2	<0.015	-	-	-	-	<0.025	-	-	-	-	-	-	<0.010	-	-	-	-	-	-	-	-
Bromide	mg/l	2	<0.100	<0.100	<0.100	<0.100	<5.00	<1.00	<10.0	ND	-	-	<5.0	-	<1.00	-	-	<0.100	-	-	-	<0.050	<0.25
Mercury	mg/l	0.0007	<0.0002	-	-	-	-	<0.0002	-	-	-	-	-	-	<0.0002	-	-	-	-	-	-	-	-
Silver	mg/l	0.05	<0.0050	-	-	-	-	<0.010	-	-	-	-	-	-	<0.010	-	-	-	-	-	-	-	-
Aluminum	mg/l		1.1	-	-	-	-	1.1	-	-	-	-	-	-	<0.050	-	-	-	-	-	-	-	-
Arsenic	mg/l	0.025	0.016	-	-	-	-	0.014	-	-	-	-	-	-	<0.003	-	-	-	-	-	-	-	-
Boron	mg/l	1	<0.10	-	-	-	-	<0.010	-	-	-	-	-	-	<0.10	-	-	-	-	-	-	-	-
Barium	mg/l	1	0.26	-	-	-	-	0.13	-	-	-	-	-	-	<0.050	-	-	-	-	-	-	-	-
Beryllium	mg/l	0.03	<0.0020	-	-	-	-	<0.0020	-	-	-	-	-	-	<0.0020	-	-	-	-	-	-	-	-
Calcium	mg/l		38	44	68	58	39	39	49	42	-	-	42	-	60	-	-	43	-	-	-	61.1	47.2
Cadmium	mg/l	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	ND	-	-	<0.010	-	<0.0020	-	-	<0.010	-	-	-	<0.010	<0.001
Cobalt	mg/l		<0.010	-	-	-	-	<0.020	-	-	-	-	-	-	<0.020	-	-	-	-	-	-	-	-
Chromium	mg/l	0.05	<0.010	-	-	-	-	<0.010	-	-	-	-	-	-	<0.010	-	-	-	-	-	-	-	-
Copper	mg/l	0.2	0.025	-	-	-	-	<0.050	-	-	-	-	-	-	<0.0050	-	-	-	-	-	-	-	-
Iron	mg/l	0.3	8.9	8	6.1	28	30	10	5.8	11	-	-	4.2	-	<0.050	-	-	12	-	-	-	13	4.64
Potassium	mg/l		1.1	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	ND	-	-	<5.0	-	<5.0	-	-	<5.0	-	-	-	<5.00	1.34
Magnesium	mg/l	35	8.8	10	17	12	9.4	10	10	9.8	-	-	8.8	-	18	-	-	6.1	-	-	-	7.98	8.98
Manganese	mg/l	0.3	4.4	4.7	7.2	3.8	4.5	3.2	4	3.7	-	-	4.1	-	0.11	-	-	15	-	-	-	11	5.17
Sodium	mg/l	20	43	26	-	15	45	12	300	26	-	-	72	-	19	-	-	31	-	-	-	107	227
Nickel	mg/l	0.1	<0.020	-	-	-	-	<0.020	-	-	-	-	-	-	<0.020	-	-	-	-	-	-	-	-
Lead	mg/l	0.025	0.005	0.051	0.026	0.047	0.002	0.01	0.003	ND	-	-	0.005	-	<0.001	-	-	0.004	-	-	-	0.0087	<0.010
Antimony	mg/l	0.03	<0.0050	-	-	-	-	<0.0050	-	-	-	-	-	-	<0.040	-	-	-	-	-	-	-	-
Thallium	mg/l	0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	ND	-	-	<0.002	-	<0.002	-	-	<0.002	-	-	-	<0.001	<0.025
Vanadium	mg/l		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	ND	-	-	<0.020	-	<0.020	-	-	<0.020	-	-	-	<0.020	<0.010
Zinc	mg/l	2	0.38	0.05	0.032	0.07	0.032	0.024	<0.020	0.048	-	-	0.038	-	0.016	-	-	0.045	-	-	-	0.057	0.015
Selenium	mg/l	0.01	<0.010	-	-	-	-	<0.0050	-	-	-	-	-	-	<0.005	-	-	-	-	-	-	-	-

Notes

1. Full analytical reports for the Target Compound List were analyzed but were not detected. Contaminants of concern plus Organic compounds listed herein are for the Methylene Chloride, which has been detected above standards in one sampling event.

Shumaker Consulting Engineering and Land Surveying, P.C.
Analytical History for the Conklin Landfill
SCE Project 08126.00

Monitoring Well 4		Date Sampled:	3/24/2003	6/2/2003	9/8/2003	11/3/2003	3/15/2004	6/14/2004	9/13/2004	11/1/2004	3/29/2005	6/29/2005	9/20/2005	11/16/2005	3/15/2006	6/20/2006	8/28/2006	11/13/2006	3/7/2007	5/7/2007	8/13/2007	11/5/2007	3/17/2008
Analyte (Note 1)	Units	Guidance Value																					
Chloroethane	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
1,2-Dichloropropane	ug/l	1	<5.0	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
Methylene chloride	ug/l	5	27	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
o-Xylene	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
m,p-Xylene	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
Alkalinity as CaCO3	mg/l		90	92	91	96	100	95	98	98	108	103	104	104	98	112	102	98	94	106	110	98	108
Ammonia as N	mg/l	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Biochemical Oxygen Demand-5	mg/l		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Chloride	mg/l	250	8	7	8	8	10	11	4	7	8	4	10	6	6	6	6	5	7	9	9	5.63	7.16
Chemical Oxygen Demand	mg/l		155	15	15	17	65	17	<10	11	16	<10	11	27	<10	<10	<10	<10	<10	26	31	<10	<10
Hexavalent Chromium	mg/l		<0.01	-	-	-	-	<0.010	-	-	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-
Nitrate as N	mg/l	10	<0.05	<0.05	0.14	0.11	<0.05	0.09	0.09	0.05	0.1	<0.05	0.12	0.05	0.14	0.09	0.12	0.12	0.12	0.11	0.16	0.14	0.17
pH	pH Units	6.5-8.5	6.74	6.98	7.05	6.95	6.86	7.18	7.03	6.84	7.13	7	7.16	6.82	8.18	7.06	6.9	7.1	7.15	7.04	7.1	6.71	8.1
Phenol	mg/l	0.001	0.023	0.027	<0.036	<0.036	0.031	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Total Dissolved Solids	mg/l	500	125	189	126	151	122	66	116	138	144	120	75	136	100	128	122	108	158	205	152	164	136
Sulfate as SO4	mg/l	250	12	12	12	<11	11	<11	18	<11	14	10	19	14	12	<11	19	<11	15	27	15	8.89	9.11
Total Kjeldahl Nitrogen	mg/l		2.5	<1.0	2	1.5	<1.0	<1.0	<1.0	<1.0	1	1.1	1	1	1	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0
Total Organic Carbon	mg/l		-	-	-	-	-	-	1.7	1.2	1.8	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<0.5	<0.5	0.5	<0.5	<0.5	1.5
Total Hardess as CaCO3	mg/l		110	100	114	124	160	120	170	108	100	94	154	116	92	100	108	92	104	136	140	98	125
Color	Color Units	5	<5.00	-	-	-	-	<5.00	-	-	14	-	-	-	<5.00	-	-	-	25	-	-	-	-
Cyanide	mg/l	0.2	<0.015	-	-	-	-	<0.025	-	-	<0.025	-	-	-	0.011	-	-	-	<0.010	-	-	-	-
Bromide	mg/l	2	<0.100	<0.100	<0.100	<1.00	2	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.050	<0.050
Mercury	mg/l	0.0007	<0.0002	-	-	-	-	<0.0002	-	-	<0.0002	-	-	-	<0.0002	-	-	-	<0.0002	-	-	-	-
Silver	mg/l	0.05	<0.0050	-	-	-	-	<0.010	-	-	<0.010	-	-	-	<0.010	-	-	-	<0.010	-	-	-	-
Aluminum	mg/l		1.1	-	-	-	-	0.49	-	-	2.4	-	-	-	0.84	-	-	-	18	-	-	-	-
Arsenic	mg/l	0.025	<0.005	-	-	-	-	<0.005	-	-	<0.010	-	-	-	<0.003	-	-	-	0.015	-	-	-	-
Boron	mg/l	1	<0.10	-	-	-	-	<.10	-	-	<0.10	-	-	-	<0.10	-	-	-	<0.10	-	-	-	-
Barium	mg/l	1	<0.05	-	-	-	-	<0.050	-	-	<0.050	-	-	-	<0.050	-	-	-	0.26	-	-	-	-
Beryllium	mg/l	0.03	<0.002	-	-	-	-	<0.0020	-	-	<0.0020	-	-	-	<0.0020	-	-	-	<0.0020	-	-	-	-
Calcium	mg/l		30	29	29	32	30	31	31	31	32	31	29	36	31	29	28	30	33	32	33	30.7	32.5
Cadmium	mg/l	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.010	<0.0020	<0.010	<0.010	<0.010	<0.0020	<0.010	<0.010	<0.010	<0.040	<0.010	<0.010	<0.010	0.002
Cobalt	mg/l		<0.010	-	-	-	-	<0.020	-	-	<0.020	-	-	-	<0.020	-	-	-	0.046	-	-	-	-
Chromium	mg/l	0.05	<0.010	-	-	-	-	<0.010	-	-	<0.010	-	-	-	<0.010	-	-	-	0.018	-	-	-	-
Copper	mg/l	0.2	0.0054	-	-	-	-	<0.050	-	-	<0.0050	-	-	-	<0.0050	-	-	-	<0.10	-	-	-	-
Iron	mg/l	0.3	0.75	0.76	6.7	3.6	3.5	0.32	5.9	4.8	3	4.7	5.7	25	0.96	4	1.4	16	34	28	20	4.26	20.3
Potassium	mg/l		<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	3
Magnesium	mg/l	35	7.8	7.5	8.5	8.3	8.1	8.1	8.5	8.7	8.6	8.5	8	12	7.6	7.9	7.5	9.6	12	11	11	8.07	10.6
Manganese	mg/l	0.3	0.046	0.082	0.26	0.52	0.35	0.049	0.32	0.54	0.25	0.35	0.77	5.8	0.24	0.74	0.21	1.6	4.8	7.6	2.4	0.473	11.2
Sodium	mg/l	20	5.9	5.7	6.9	6.6	6.4	5.6	6.9	6.7	7.3	6.5	<5.0	8.4	6	5.7	5.1	6.3	6.2	6	7.2	6.82	6.32
Nickel	mg/l	0.1	<0.020	-	-	-	-	<0.020	-	-	<0.020	-	-	-	<0.020	-	-	-	0.041	-	-	-	-
Lead	mg/l	0.025	0.001	0.002	0.01	0.03	0.007	0.001	0.006	<0.040	0.003	0.004	0.01	0.042	0.001	0.005	0.011	0.025	0.042	0.04	0.027	0.0054	0.026
Antimony	mg/l	0.03	<0.0050	-	-	-	-	<0.0050	-	-	<0.040	-	-	-	<0.040	-	-	-	0.04	-	-	-	-
Thallium	mg/l	0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.025
Vanadium	mg/l		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.03	<0.002	<0.020	<0.020	<0.020	0.02	0.02	<0.020	<0.020	0.015
Zinc	mg/l	2	<0.010	<0.010	0.017	0.012	0.011	<0.010	0.014	0.043	0.011	<0.010	0.048	0.076	0.011	0.02	<0.010	0.055	0.12	0.081	0.076	0.016	0.055
Selenium	mg/l	0.01	<0.010	-	-	-	-	<0.005	-	-	<0.005	-	-	-	<0.005	-	-	-	<0.005	-	-	-	-

Notes
1. Full analytical reports for the Target Compound List were analyzed but were not detected. Contaminants of concern plus Organic compounds listed herein are for the Methylene Chloride, which has been detected above standards in one sampling event.

Shumaker Consulting Engineering and Land Surveying, P.C.
Analytical History for the Conklin Landfill
SCE Project 08126.00

Monitoring Well 12		Date Sampled:	3/24/2003	6/2/2003	9/8/2003	11/3/2003	3/15/2004	6/14/2004	9/13/2004	11/1/2004	3/29/2005	6/29/2005	9/20/2005	11/16/2005	3/15/2006	6/20/2006	8/28/2006	11/13/2006	3/7/2007	5/7/2007	8/13/2007	11/5/2007	3/17/2008
Analyte (Note 1)	Units	Guidance Value																					
Chloroethane	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
1,2-Dichloropropane	ug/l	1	<5.0	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
Methylene chloride	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
o-Xylene	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
m,p-Xylene	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.0	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
Alkalinity as CaCO3	mg/l		103	95	90	79	121	115	94	110	84	145	-	102	104	96	-	-	98	116	-	68	-
Ammonia as N	mg/l	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	-	0.2	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	-
Biochemical Oxygen Demand-5	mg/l		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	-	<6	<6	<6	-	-	<6	<6	-	<6	-
Chloride	mg/l	250	12	10	12	11	10	9	5	7	8	15	-	3	7	12	-	-	9	10	-	1.15	-
Chemical Oxygen Demand	mg/l		18	45	68	79	58	24	45	19	74	46	-	25	10	30	-	-	22	31	-	35	-
Hexavalent Chromium	mg/l		<0.01	-	-	-	-	<0.01	-	-	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-
Nitrate as N	mg/l	10	0.33	<0.05	0.26	0.27	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	0.23	0.13	<0.05	-	-	<0.05	0.17	-	<0.05	-
pH	pH Units	6.5-8.5	6.57	6.28	6.96	6.21	6.25	6.46	6.18	6.27	6.28	6.64	-	6.17	7.46	6.58	-	-	6.4	6.22	-	5.82	-
Phenol	mg/l	0.001	<0.023	<0.023	<0.036	<0.036	0.0063	<0.025	<0.025	<0.025	<0.025	<0.025	-	<0.025	<0.025	<0.025	-	-	<0.025	<0.025	-	<0.025	-
Total Dissolved Solids	mg/l	500	230	203	147	172	150	166	116	219	168	184	-	124	98	130	-	-	160	210	-	167	-
Sulfate as SO4	mg/l	250	16	16	24	17	26	13	<11	15	16	32	-	14	18	35	-	-	18	26	-	11.7	-
Total Kjeldahl Nitrogen	mg/l		5	1.1	9.8	1.4	4.6	2.2	1.4	<1.0	3.7	4.2	-	1.7	2	<1.0	-	-	<1.0	1.1	-	1	-
Total Organic Carbon	mg/l		-	-	-	-	-	-	1.7	4.4	1.6	2.2	-	<1.0	<1.0	1.4	-	-	2.7	2.5	-	2.7	-
Total Hardess as CaCO3	mg/l		156	100	128	138	200	168	200	150	100	174	-	112	80	88	-	-	136	124	-	152	-
Color	Color Units	5	<5.00	-	-	-	-	<5.00	-	-	15	-	-	-	<5.00	-	-	-	23	-	-	-	-
Cyanide	mg/l	0.2	<0.015	-	-	-	-	<0.025	-	-	<0.025	-	-	-	<0.010	-	-	-	<0.010	-	-	-	-
Bromide	mg/l	2	<0.100	<0.100	<0.100	<1.0	3	<1.00	4	<1.00	<1.00	<1.00	-	<1.00	<1.00	0.1	-	-	<0.100	0.298	-	<0.250	-
Mercury	mg/l	0.0007	<0.0002	-	-	-	-	<0.0002	-	-	<0.0002	-	-	-	<0.0002	-	-	-	<0.0002	-	-	-	-
Silver	mg/l	0.05	<0.0050	-	-	-	-	<0.010	-	-	<0.010	-	-	-	<0.010	-	-	-	<0.010	-	-	-	-
Aluminum	mg/l		2	-	-	-	-	3.4	-	-	38	-	-	-	2	-	-	-	0.69	-	-	-	-
Arsenic	mg/l	0.025	<0.005	-	-	-	-	<0.005	-	-	0.022	-	-	-	<0.003	-	-	-	<0.003	-	-	-	-
Boron	mg/l	1	<0.10	-	-	-	-	<0.10	-	-	<0.10	-	-	-	<0.10	-	-	-	<0.10	-	-	-	-
Barium	mg/l	1	0.3	-	-	-	-	0.31	-	-	0.2	-	-	-	0.077	-	-	-	<0.050	-	-	-	-
Beryllium	mg/l	0.03	<0.0020	-	-	-	-	<0.0020	-	-	<0.0020	-	-	-	<0.0020	-	-	-	<0.0020	-	-	-	-
Calcium	mg/l		31	31	32	28	40	43	29	<50	19	34	-	28	28	12	-	-	10	28	-	21.3	-
Cadmium	mg/l	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.10	0.0088	<0.010	-	<0.010	<0.0080	<0.010	-	-	<0.0020	<0.010	-	<0.010	-
Cobalt	mg/l		<0.010	-	-	-	-	<0.020	-	-	0.025	-	-	-	<0.020	-	-	-	<0.020	-	-	-	-
Chromium	mg/l	0.05	<0.010	-	-	-	-	<0.010	-	-	0.043	-	-	-	<0.010	-	-	-	<0.010	-	-	-	-
Copper	mg/l	0.2	0.036	-	-	-	-	<0.050	-	-	0.068	-	-	-	<0.020	-	-	-	0.0052	-	-	-	-
Iron	mg/l	0.3	2.7	3	4.2	2.7	22	2.9	130	98	78	68	-	34	6.1	8.2	-	-	1.7	17	-	37.1	-
Potassium	mg/l		<1.0	<5.0	<5.0	<5.0	5.7	<5.0	6.4	<50	<5.0	<5.0	-	<5.0	<5.0	<5.0	-	-	<5.0	<5.0	-	<5.00	-
Magnesium	mg/l	35	8.8	9.1	9.4	8.2	14	13	22	<50	14	16	-	11	8.7	<5.0	-	-	<5.0	11	-	11.1	-
Manganese	mg/l	0.3	4.3	0.98	2.2	1.5	2.5	1.6	11	9.5	6.8	9.2	-	7.8	1.1	0.99	-	-	0.16	2.6	-	2.24	-
Sodium	mg/l	20	12	11	13	11	12	10	10	<50	8.4	8.5	-	6.4	9.9	5.9	-	-	6.3	9.1	-	9.28	-
Nickel	mg/l	0.1	<0.020	-	-	-	-	<0.020	-	-	0.064	-	-	-	<0.020	-	-	-	<0.020	-	-	-	-
Lead	mg/l	0.025	0.007	0.006	0.019	0.006	0.016	0.006	0.057	0.87	0.036	0.025	-	0.013	0.004	0.004	-	-	0.001	0.011	-	0.0091	-
Antimony	mg/l	0.03	<0.0050	-	-	-	-	<0.0050	-	-	<0.040	-	-	-	<0.040	-	-	-	<0.040	-	-	-	-
Thallium	mg/l	0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	-	<0.002	<0.002	<0.002	-	-	<0.001	<0.001	-	<0.001	-
Vanadium	mg/l		<0.020	<0.020	<0.020	<0.020	0.023	<0.020	0.061	<0.20	0.042	0.037	-	0.028	<0.020	<0.020	-	-	<0.020	<0.020	-	0.027	-
Zinc	mg/l	2	<0.010	0.025	0.029	0.033	0.098	0.03	0.28	0.88	0.23	0.13	-	0.08	0.026	0.038	-	-	0.012	0.051	-	0.115	-
Selenium	mg/l	0.01	<0.010	-	-	-	-	<0.0050	-	-	<0.005	-	-	-	<0.005	-	-	-	<0.005	-	-	-	-

Notes

1. Full analytical reports for the Target Compound List were analyzed but were not detected. Contaminants of concern plus Organic compounds listed herein are for the Methylene Chloride, which has been detected above standards in one sampling event.

Shumaker Consulting Engineering and Land Surveying, P.C.
Analytical History for the Conklin Landfill
SCE Project 08126.00

Monitoring Well 37		Date Sampled:	3/24/2003	6/2/2003	9/8/2003	11/3/2003	3/15/2004	6/14/2004	9/13/2004	11/1/2004	3/29/2005	6/29/2005	9/20/2005	11/16/2005	3/15/2006	6/20/2006	8/28/2006	11/13/2006	3/7/2007	5/7/2007	8/13/2007	11/5/2007	3/17/2008
Analyte (Note 1)	Units	Guidance Value																					
Chloroethane	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.00	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
1,2-Dichloropropane	ug/l	1	<5.0	-	-	-	-	<5.0	-	-	<5.00	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
Methylene chloride	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.00	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
o-Xylene	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.00	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
m,p-Xylene	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.00	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
Alkalinity as CaCO3	mg/l		127	130	158	148	137	150	148	140	142	144	146	150	142	140	151	138	124	126	164	134	130
Ammonia as N	mg/l	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Biochemical Oxygen Demand-5	mg/l		<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Chloride	mg/l	250	6	5	5	6	5	7	3	5	14	5	4	4	5	9	4	6	7	13	8	6.14	5.88
Chemical Oxygen Demand	mg/l		<10	28	75	<10	61	13	<10	26	19	<10	<10	<10	10	<10	<10	<10	<10	<10	<10	<10	33
Hexavalent Chromium	mg/l		<0.01	-	-	-	-	<0.010	-	-	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-
Nitrate as N	mg/l	10	0.15	0.07	0.34	0.13	<0.05	0.09	0.19	0.07	<0.05	<0.05	0.24	0.14	0.16	0.16	0.13	0.18	0.14	0.11	0.14	0.14	0.2
pH	pH Units	6.5-8.5	7.53	7.52	7.5	7.52	7.76	7.62	7.6	7.56	7.73	7.59	7.79	7.59	8.55	7.72	7.97	7.84	7.83	7.9	7.57	7.19	8.01
Phenol	mg/l	0.001	<0.023	<0.023	<0.036	<0.036	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Total Dissolved Solids	mg/l	500	174	169	183	161	175	218	201	105	177	167	138	155	165	177	179	184	291	214	168	211	188
Sulfate as SO4	mg/l	250	40	12	29	15	16	16	19	13	35	16	14	15	12	12	21	13	15	13	14	13.1	11.9
Total Kjeldahl Nitrogen	mg/l		3.3	<1.0	3.1	<1.2	1.6	1.4	<1.0	<1.0	1.1	<1.0	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Organic Carbon	mg/l		-	-	-	-	-	-	1.6	1.9	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	1.1	1	0.6
Total Hardess as CaCO3	mg/l		166	130	174	158	180	152	180	134	94	130	142	136	124	128	132	124	144	120	140	134	143
Color	Color Units	5	<5.00	-	-	-	-	<5.00	-	-	14	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
Cyanide	mg/l	0.2	<0.015	-	-	-	-	<0.025	-	-	<0.025	-	-	-	<0.010	-	-	-	<0.010	-	-	-	-
Bromide	mg/l	2	<0.100	<0.100	<0.100	<1.00	2	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.050	<0.050
Mercury	mg/l	0.0007	<0.0002	-	-	-	-	<0.0002	-	-	<0.0002	-	-	-	<0.0002	-	-	-	<0.0002	-	-	-	-
Silver	mg/l	0.05	<0.0050	-	-	-	-	<0.010	-	-	<0.010	-	-	-	<0.010	-	-	-	<0.010	-	-	-	-
Aluminum	mg/l		1.9	-	-	-	-	0.32	-	-	1.1	-	-	-	0.13	-	-	-	6.9	-	-	-	-
Arsenic	mg/l	0.025	<0.005	-	-	-	-	<0.005	-	-	<0.010	-	-	-	<0.003	-	-	-	0.005	-	-	-	-
Boron	mg/l	1	<0.10	-	-	-	-	<0.10	-	-	<0.10	-	-	-	<0.10	-	-	-	<0.10	-	-	-	-
Barium	mg/l	1	0.075	-	-	-	-	<0.050	-	-	<0.050	-	-	-	<0.050	-	-	-	0.057	-	-	-	-
Beryllium	mg/l	0.03	<0.0020	-	-	-	-	<0.0030	-	-	<0.0020	-	-	-	<0.0020	-	-	-	-	-	-	-	-
Calcium	mg/l		47	44	49	49	47	49	48	48	49	45	40	50	47	44	43	47		43	42	44.8	44.8
Cadmium	mg/l	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.010	<0.0020	<0.010	<0.010	<0.010	<0.0020	<0.010	<0.010	<0.010		<0.010	<0.010	<0.010	<0.001
Cobalt	mg/l		<0.010	-	-	-	-	<0.020	-	-	<0.020	-	-	-	<0.020	-	-	-		-	-	-	-
Chromium	mg/l	0.05	<0.010	-	-	-	-	<0.010	-	-	<0.010	-	-	-	<0.010	-	-	-		-	-	-	-
Copper	mg/l	0.2	0.013	-	-	-	-	<0.050	-	-	<0.0050	-	-	-	<0.0050	-	-	-		-	-	-	-
Iron	mg/l	0.3	2.6	1.1	2.8	0.54	3.6	0.5	0.26	2.2	2.3	1.8	1.7	0.51	0.36	0.47	0.32	2.1		3.5	0.05	6.2	9.27
Potassium	mg/l		4.2	5.8	7.7	6.4	5.7	11	10	7.4	<5.0	5.4	8.6	7	<5.0	12	9.1	5.4		7	10	8.26	4.41
Magnesium	mg/l	35	6.8	6.2	7.1	6.5	7.1	6.8	6.4	7	7.1	6.7	5.9	6.8	6.5	5.9	6	6.8		6.5	5.9	7.06	7.61
Manganese	mg/l	0.3	0.29	0.089	0.41	0.039	0.12	0.073	0.026	0.065	0.067	0.045	0.021	0.081	0.083	0.12	0.034	0.076		0.11	<0.0050	0.153	0.373
Sodium	mg/l	20	7.8	8.3	10	9.7	8.7	9.8	11	9.9	9.5	8.7	7.4	11	8.3	11	9.1	9.5		10	11	9.85	8.62
Nickel	mg/l	0.1	<0.020	-	-	-	-	<0.020	-	-	<0.020	-	-	-	<0.020	-	-	-		-	-	-	-
Lead	mg/l	0.025	0.007	0.004	0.018	0.001	0.003	0.004	0.001	0.04	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0020	0.005		0.002	0.001	0.0034	<0.010
Antimony	mg/l	0.03	<0.0050	-	-	-	-	<0.0050	-	-	<0.040	-	-	-	<0.040	-	-	-		-	-	-	-
Thallium	mg/l	0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		<0.001	<0.001	<0.001	<0.025
Vanadium	mg/l		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020		<0.020	<0.020	<0.020	<0.010
Zinc	mg/l	2	0.015	<0.010	0.013	<0.010	<0.010	<0.010	<0.010	0.036	0.011	<0.010	0.028	<0.010	0.016	0.017	0.012	0.067		0.019	<0.010	0.026	0.03
Selenium	mg/l	0.01	<0.010	-	-	-	-	<0.005	-	-	<0.005	-	-	-	<0.005	-	-	-		-	-	-	-

Notes

1. Full analytical reports for the Target Compound List were analyzed but were not detected. Contaminants of concern plus Organic compounds listed herein are for the Methylene Chloride, which has been detected above standards in one sampling event.

Shumaker Consulting Engineering and Land Surveying, P.C.
Analytical History for the Conklin Landfill
SCE Project 08126.00

Monitoring Well 38D		Date Sampled:	3/24/2003	6/2/2003	9/8/2003	11/3/2003	3/15/2004	6/14/2004	9/13/2004	11/1/2004	3/29/2005	6/29/2005	9/20/2005	11/16/2005	3/15/2006	6/20/2006	8/28/2006	11/13/2006	3/7/2007	5/7/2007	8/13/2007	11/5/2007	3/17/2008
Analyte (Note 1)	Units	Guidance Value																					
Chloroethane	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.00	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
1,2-Dichloropropane	ug/l	1	<5.0	-	-	-	-	<5.0	-	-	<5.00	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
Methylene chloride	ug/l	5	13	-	-	-	-	<5.0	-	-	<5.00	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
o-Xylene	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.00	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
m,p-Xylene	ug/l	5	<5.0	-	-	-	-	<5.0	-	-	<5.00	-	-	-	<5.00	-	-	-	<5.00	-	-	-	-
Alkalinity as CaCO3	mg/l		197	195	186	201	183	190	196	182	184	183	183	198	178	224	179	238	240	232	240	210	202
Ammonia as N	mg/l	2	<0.1	0.3	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	0.8	0.1	<0.1	0.2	0.2	<0.1	<0.1	0.7	<0.1	0.1
Biochemical Oxygen Demand-5	mg/l		<6	<6	<6	<6	<6	<6	<6	<6	<6	6	<6	<6	<6	13	<6	<6	6	<6	11	<6	<6
Chloride	mg/l	250	14	12	13	13	15	11	6	14	15	12	12	12	12	14	9	10	15	13	10	9.42	11.1
Chemical Oxygen Demand	mg/l		222	100	242	113	39	150	57	41	140	56	136	225	61	64	83	29	66	<10	243	28	139
Hexavalent Chromium	mg/l		<0.01	-	-	-	-	<0.010	-	-	<0.01	-	-	-	<0.01	-	-	-	<0.01	-	-	-	-
Nitrate as N	mg/l	10	0.1	0.07	<0.05	0.19	0.06	<0.05	0.19	<0.05	0.18	<0.05	<0.05	<0.05	0.21	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.13
pH	pH Units	6.5-8.5	7.53	7.49	7.74	7.61	7.99	7.73	7.58	7.78	8.02	8.2	7.96	7.58	8.8	7.67	7.93	7.65	7.63	7.46	7.35	6.93	8.38
Phenol	mg/l	0.001	<0.023	<0.023	<0.036	<0.036	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.043	<0.025	<0.025	0.031	<0.025	<0.025	<0.025	<0.025
Total Dissolved Solids	mg/l	500	229	250	225	236	225	269	258	205	218	204	162	208	216	251	227	262	305	317	259	284	245
Sulfate as SO4	mg/l	250	11	14	<11	<11	14	<11	11	13	<11	<10	30	14	11	12	138	<11	44	12	44	7.1	9
Total Kjeldahl Nitrogen	mg/l		5.3	1.2	4.2	1.5	2.7	1.6	1.3	<1.0	3.2	2.2	4	30.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Organic Carbon	mg/l		-	-	-	-	-	-	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.4	1.7	3.2	3.9	0.7	0.9	1.3	0.9
Total Hardess as CaCO3	mg/l		280	250	410	890	300	400	470	320	170	320	1000	4600	184	164	332	400	212	184	175	324	477
Color	Color Units	5	<5.00	-	-	-	-	<5.00	-	-	12	-	-	-	15	-	-	-	20	-	-	-	-
Cyanide	mg/l	0.2	<0.015	-	-	-	-	<0.025	-	-	<0.025	-	-	-	<0.010	-	-	-	<0.010	-	-	-	-
Bromide	mg/l	2	<0.100	<0.100	<0.100	<1.00	<1.00	2	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.115	<0.25
Mercury	mg/l	0.0007	<0.0002	-	-	-	-	<0.0002	-	-	<0.0002	-	-	-	<0.0002	-	-	-	<0.0002	-	-	-	-
Silver	mg/l	0.05	0.0055	-	-	-	-	<0.010	-	-	<0.010	-	-	-	<0.010	-	-	-	<0.010	-	-	-	-
Aluminum	mg/l		5.2	-	-	-	-	3.2	-	-	100	-	-	-	5.2	-	-	-	9.9	-	-	-	-
Arsenic	mg/l	0.025	0.063	-	-	-	-	0.079	-	-	0.042	-	-	-	0.007	-	-	-	0.05	-	-	-	-
Boron	mg/l	1	<0.10	-	-	-	-	<0.10	-	-	<0.10	-	-	-	<0.10	-	-	-	<0.10	-	-	-	-
Barium	mg/l	1	5.3	-	-	-	-	4.7	-	-	0.56	-	-	-	0.7	-	-	-	0.12	-	-	-	-
Beryllium	mg/l	0.03	<0.0020	-	-	-	-	<0.0020	-	-	0.0039	-	-	-	<0.0020	-	-	-	<0.0020	-	-	-	-
Calcium	mg/l		550	120	110	310	48	630	98	61	51	39	100	630	55	42	76	120	60	55	51	64	79.6
Cadmium	mg/l	0.005	0.012	<0.0050	<0.0050	0.0079	<0.010	0.011	0.028	<0.10	0.019	0.012	<0.50	<1.0	<0.020	<0.010	<0.010	<0.10	<0.030	<0.010	<0.010	0.041	0.016
Cobalt	mg/l		0.046	-	-	-	-	0.04	-	-	0.098	-	-	-	<0.020	-	-	-	<0.020	-	-	-	-
Chromium	mg/l	0.05	<0.010	-	-	-	-	<0.010	-	-	0.12	-	-	-	<0.010	-	-	-	0.012	-	-	-	-
Copper	mg/l	0.2	0.0078	-	-	-	-	<0.050	-	-	0.085	-	-	-	<0.050	-	-	-	<0.075	-	-	-	-
Iron	mg/l	0.3	50	7.8	11	36	5.7	49	400	450	230	77	1200	4700	13	13	12	670	23	5.9	12	197	324
Potassium	mg/l		6.8	6.4	6.2	7.2	7	7	13	<50	11	6.8	25	9.6	<5.0	6.1	<5.0	17	<5.0	<5.0	<5.0	9.35	11.5
Magnesium	mg/l	35	96	17	18	50	11	87	87	86	52	23	170	1000	13	11	12	120	16	12	12	43.4	67.5
Manganese	mg/l	0.3	92	16	14	49	2.3	89	17	12	5.8	2.7	39	160	4.6	4.7	9.1	30	2.2	1.7	2.2	8.91	13.2
Sodium	mg/l	20	56	43	47	52	41	55	44	<50	46	40	43	75	40	41	31	43	39	35	36	40.4	40.6
Nickel	mg/l	0.1	<0.020	-	-	-	-	<0.020	-	-	0.2	-	-	-	<0.020	-	-	-	<0.020	-	-	-	-
Lead	mg/l	0.025	0.003	0.078	0.076	0.057	0.015	0.004	<0.001	<0.40	0.011	0.047	0.216	1.63	0.047	0.013	0.23	0.289	0.011	0.005	0.007	0.0465	0.195
Antimony	mg/l	0.03	<0.0050	-	-	-	-	<0.0050	-	-	<0.040	-	-	-	<0.040	-	-	-	<0.040	-	-	-	-
Thallium	mg/l	0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	<0.001	<0.001	<0.001	<0.001	<0.225
Vanadium	mg/l		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.16	0.24	0.11	0.043	<1.0	3.7	<0.020	<0.020	<0.020	0.44	<0.020	<0.020	<0.020	0.098	0.166
Zinc	mg/l	2	0.07	0.042	0.04	0.093	0.035	0.061	0.93	1.8	0.58	0.18	3.2	13	0.06	0.064	0.032	2	0.089	0.027	0.037	0.503	0.724
Selenium	mg/l	0.01	<0.010	-	-	-	-	0.0006	-	-	<0.005	-	-	-	-	-	-	-	<0.005	-	-	-	-

Notes
1. Full analytical reports for the Target Compound List were analyzed but were not detected. Contaminants of concern plus Organic compounds listed herein are for the Methylene Chloride, which has been detected above standards in one sampling event.