



ENGINEERS
DESIGN BUILD
TECHNICAL RESOURCES
OPERATIONS

C&S Engineers, Inc.
499 Col. Eileen Collins Boulevard
Syracuse, NY 13212
phone 315-455-2000
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TRANSMITTAL

FEB 02 2005

To: Town of Conklin
1271 Conklin Road
Conklin, New York 13748

Re: Town of Conklin Landfill
Variance Request

File: C36.001.001

Attn: Ms. Debra Preston
Supervisor, Town of Conklin

Date: February 1, 2005

We are sending you ☒ herewith ☐ under separate cover

- Two (2) copies of the Town of Conklin Landfill Variance Request Report & Application

The above are for ☒ information ☒ approval ☐ revision
☐ construction ☒ other {Signature & Submittal to NYSDEC}

REMARKS:

Once you have reviewed the report please sign the bottom of the application included in Appendix B and submit one copy of the variance request to the NYSDEC with the attached transmittal to Mr. James E. Burke, P.E.

If enclosed are not as noted, please notify us at once.

C&S ENGINEERS, INC.

Christen M. Craig

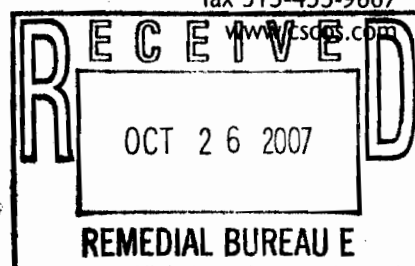
Christen M. Craig
Environmental Scientist

Enclosure



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February 1, 2005

Mr. James E. Burke, P.E.
New York State Department of Environmental Conservation
Environmental Engineer 3
Regional Hazardous Waste Remediation Engineer, Region 7
615 Erie Boulevard West
Syracuse, New York 13204-2400

**Re: Town of Conklin Landfill
Site Code – 704013
EPA ID Number – NYD981486947
Post-Closure Monitoring Variance**

File: C36.001.001

Dear Mr. Burke:

On behalf of our client, the Town of Conklin, C&S Engineer's, Inc., is requesting a variance to reduce the landfill monitoring frequency to once every fifth quarter for the Town of Conklin Landfill. To demonstrate applicability for variance approval, we are submitting this letter report and applicable attachments to the New York State Department of Environmental Conservation (NYSDEC).

SITE HISTORY

The Town of Conklin Landfill is located west of Broome Parkway (County Road 322) in the Town of Conklin, Broome County, New York on a 37-acre parcel owned by the Town of Conklin. Previously, the Town of Conklin Landfill consisted of two landfilled areas, referred to as the Upper and Lower Landfills. Landfilling operations began at the site in 1964 and resulted in depositing approximately 47,000 cubic yards of waste in the Lower Landfill and 55,000 cubic yards of waste in the Upper Landfill. The Town of Conklin Landfill accepted primarily municipal solid waste; however some industrial wastes may have been disposed of within the Upper Landfill. In 1975, the NYSDEC issued a closure order for the Landfill.

In June 1986, the landfill site was nominated for the National Priority List of Inactive Hazardous Waste Sites (NPL). In June 1987, the Town of Conklin signed a Consent Order with the NYSDEC requiring the completion of a remedial investigation/feasibility study (RI/FS). The Consent Order further required that the remedial measures, agreed upon following completion of the RI/FS, be implemented at the site. The RI was completed in 1988 and indicated limited groundwater contamination in the immediate vicinity of the Upper Landfill. A methane gas survey was performed in June 1990. During that survey it was reported that no methane gas was

found at the Upper or Lower Landfills. In January 1991, the FS report was completed. The FS report recommended that the Town of Conklin comply with the following items:

- ◆ Capping of the Landfill
- ◆ Perimeter Leachate Collection
- ◆ Monitoring
- ◆ Fencing and Deed Restrictions
- ◆ Leachate Discharge to be Collected and Discharged to On-Site Sanitary Sewer Lines

The USEPA, in consultation with the NYSDEC issued the Proposed Remedial Action Plan on February 3, 1991. The Record of Decision (ROD) was signed by the USEPA on March 29, 1991. During the pre-design effort, it was decided that the Lower Landfill would be excavated and placed on top of the Upper Landfill which would then be capped. As a result, an Explanation of Significant Difference was issued by the USEPA in June 1992. All remedial work was completed and the landfill is currently in post-closure operation and maintenance.

A site map for the Town of Conklin Landfill is included as Figure 1 in this letter report.

GEOLOGY

The Town of Conklin Landfill site is located in southern Broome County within the Allegheny Plateau physiographic province of south-central New York. This province was created approximately 340-360 million years ago when a thick interval of west-directed deltaic sediments were shed off of an ancient mountain belt, the Acadian Mountains, to the east. This delta, called the Catskill Delta, was subsequently glacially incised during the most recent or Wisconsin glaciation which reached its maximum approximately 20,000 years ago when the Laurentian ice sheet covered most of New York. Approximately 14,000-12,000 years ago the ice sheet began to recede leaving behind much of the surficial deposits and landforms evident throughout the region.

Underlying the region, bedrock is composed of shales of the lower West Falls Group stratigraphic unit. Well to poorly sorted, unconsolidated, outwash deposits of glacial till overly the bedrock throughout the region and are present at the surface of the upper landfill site.

The Town of Conklin Landfill site is situated along a north-south reach of the Susquehanna River in a location where glacial retreat was relatively rapid (Yager, 1986). It is believed that the Susquehanna River marks the perimeter of a salient in the retreating ice sheet. Evidence of this ice salient in the form of ice-contact kame terrace deposits are evident south of Little Snake Creek on the west bank and from the Town of Kirkwood south on the east bank. As the glaciers continued to retreat toward the Valley Heads moraine that dammed the ancestral Finger Lakes, meltwater carried and deposited outwash gravels along the west bank of the Susquehanna River Valley. These outwash deposits are the source of gravels in the nearby gravel pits and are present at the surface near the lower landfill site. Next to the Susquehanna River, recent alluvial sediments create shallow terraces that overly the outwash gravels and comprise the flood plain of the river.

GROUNDWATER FLOW CHARACTERISTICS

With regard to the flow direction of groundwater at the site, based on hydraulic head measurements reported in the ELS quarterly monitoring reports, it is expected that shallow groundwater moves nearly radially away from the landfill site. A topographic buttress on the western margin of the site inhibits groundwater flow in this direction. Subsequently, groundwater flow paths ultimately return to a northeasterly flow direction toward the Susquehanna River. Outwash gravels constitute the principal aquifer for the Town of Conklin (Yager, 1986) and have typical thicknesses of approximately 10 feet.

Surface water near the upper landfill site is either captured by Carlin Creek north of the upper site or infuses into the nearly flat floodplain ultimately ending up in the Susquehanna River.

CAPABILITY OF THE EXISTING GROUNDWATER MONITORING NETWORK

The existing groundwater-monitoring network for the Town of Conklin Landfill was previously approved by the NYSDEC for use as part of the Town of Conklin Landfill Operation Maintenance and Monitoring Plan and currently includes the quarterly post-closure monitoring of wells MW-1 (upgradient), MW-3, MW-4, MW-12, MW-37 (upgradient) and MW-38D as well as surface water location SW-Carlin. The SW-Carlin location is the surface water point in Carlin Creek adjacent to the landfill.

GROUNDWATER QUALITY ASSESSMENT

Historically, the results of monitoring completed at the Town of Conklin Landfill have revealed Class GA exceedances for parameters including iron, lead, magnesium, manganese, sodium and phenols. Additionally, occasional exceedences for parameters including benzene, bromomethane, methylene chloride, toluene, xylene, bromide, chloride, ammonia, total dissolved solids (TDS), sulfate, antimony, arsenic, barium, beryllium, chromium, magnesium, mercury, nickel, thallium, and zinc have been identified. Based on historical monitoring, the greatest number of exceedences and the highest values at the site are generally identified in downgradient wells, specifically well MW-38D. Table 1 includes historical analytical results for groundwater monitoring locations.

A statistical analysis of upgradient monitoring wells was performed (using standard Microsoft ExcelTM statistical analysis functions) on historical analytical data for selected parameters for each monitoring event as shown in Table 2. The results for the selected monitoring wells included in Table 2 are individual datum from the most recent monitoring event completed in June 2004. The parameters were selected on the basis of data usability, frequency of sampling, the ability to indicate representative concentrations, and the ability to indicate the presence of landfill leachate. More specifically, the parameters used for this statistical analysis include alkalinity, bromide, chloride, chemical oxygen demand (COD), hardness, nitrate, ammonia, TKN, phenols, TDS, sulfate, aluminum, antimony, arsenic, barium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, sodium, thallium, vanadium, zinc, and boron. Confidence intervals (99 percentile) were calculated from historical data from the upgradient wells. As shown in Table 3,

groundwater data comparisons with upper confidence intervals revealed that groundwater downgradient of the landfill is characterized by concentrations above background values for chloride, TKN, TDS, barium, and manganese. Specifically, downgradient well MW-38D is characterized by concentrations of bromide, chloride, COD, hardness, arsenic, barium, calcium, cobalt, iron, magnesium, manganese, and sodium at concentrations above background values.

SURFACE WATER QUALITY ASSESSMENT

Table 4 includes historical surface water analytical results from surface water monitoring location SW-Carlin located north of the landfill within Carlin Creek. Occasional exceedences of Class C Surface Water standards were noted for parameters including phenols, aluminum, and iron. Volatile organic compounds were not detected in any of the surface water samples collected with the exception of naphthalene in the sample collected on April 24, 2001. The results of historical monitoring indicate that local surface water quality, in our opinion, is not significantly influenced by the Town of Conklin Landfill.

LEACHATE ASSESSMENT

Leachate is collected in a 30,000 gallon aboveground storage tank and is discharged via an on-site sanitary sewer line to the Binghamton-Johnson City Joint Sewage Treatment Plant (BJCJSTP). Leachate samples are collected on an annual basis as part of the BJCJSTP annual inspection of the landfill. Once the BJCJSTP receives the analytical results, the Town of Conklin is notified and leachate is discharged to the treatment plant. As shown in Table 5, leachate analytical results have historically been in compliance with the effluent limits assigned by the BJCJSTP.

CONCLUSION/RECOMMENDATION

It would appear that a cost effective and technically appropriate monitoring program would include the collection of groundwater and surface water samples for baseline parameter analysis on a fifth quarter frequency. Baseline parameter monitoring would be more applicable because of the need to provide consistent assessment of key leachate indicator parameters (such as heavy metals and volatile organic compounds) which cannot be assessed using a quarterly routine parameter monitoring scheme.

Consistent with applicable NYSDEC guidance and our understanding of Part 360 Variance Applications, we propose to complete the following environmental monitoring tasks as the conditions of variance approval.

Survey of Groundwater Monitoring Wells

The following monitoring wells will be resurveyed: MW-1, MW-3, MW-4, MW-12, MW-37 and MW-38D for location as well as elevation. Water level measurements will be taken at each of the monitoring wells every fifth quarter and historical water level measurements will be recorded into a historical water level table.

Fifth Quarter Baseline Monitoring

Monitoring for 6 NYCRR Part 360 baseline parameters would be completed every fifth quarter for the following existing monitoring locations consistent with the approved Town of Conklin Landfill Operation Maintenance and Monitoring Plan:

◆ ***Six (6) Site Groundwater Monitoring Wells***

MW-1
MW-3
MW-4
MW-12
MW-37
MW-38D

◆ ***One (1) Surface Water Monitoring Location***

SW-Carlin

Reporting

A report for each fifth quarter sampling event will be generated upon receipt of the baseline laboratory data for submittal to the NYSDEC. The Post-Closure Monitoring Report will include the following information:

- ◆ Comparison of groundwater and surface water results with applicable standards;
- ◆ Historical groundwater elevation tables;
- ◆ Historical parameter concentration tables;
- ◆ Groundwater contour map;
- ◆ Statistical evaluations of data;
- ◆ Comparison of upgradient versus downgradient water quality;

Site Inspection

Site Inspections will be completed by Town of Conklin Personnel on a quarterly basis. A copy of the Town of Conklin Landfill inspection checklist is included as Appendix A.

As part of this report, a completed "Application for Variance from 6 NYCRR 360" has been included as Appendix B for your review.



As a final condition prior to implementation of a Part 360 Post-Closure Monitoring Variance, we will be available to complete revisions to the existing Town of Conklin Landfill Post-Closure Operations and Maintenance (O&M) Plan which would include an addendum identifying the modifications and Variance items agreed upon with the NYSDEC. This Post-Closure O&M Manual addendum will be submitted to the NYSDEC for review prior to incorporation within the respective document.

If you have any questions or require further information with regard to the subjects previously discussed, please contact me at your convenience.

Very truly yours,

C&S ENGINEERS, INC.

Christen M. Craig

Christen M. Craig
Environmental Scientist

CMC/cah
Attachments

cc: Ms. Debra Preston, Supervisor – Town of Conklin
Mr. Thomas Delamarter – Town of Conklin

TABLE 1 - TOWN OF CONKLIN LANDFILL HISTORICAL ANALYTICAL DATA

[illegible]

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[illegible]

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[illegible]

TABLE 1 - TOWN OF CONKLIN LANDFILL HISTORICAL ANALYTICAL DATA

Model/Run ID	Date	Series 1-5										Series 6-10										Series 11-15										Series 16-20										Series 21-25										Series 26-30										Series 31-35										Series 36-40										Series 41-45										Series 46-50										Series 51-55										Series 56-60										Series 61-65										Series 66-70										Series 71-75										Series 76-80										Series 81-85										Series 86-90										Series 91-95										Series 96-100										Series 101-105										Series 106-110										Series 111-115										Series 116-120										Series 121-125										Series 126-130										Series 131-135										Series 136-140										Series 141-145										Series 146-150										Series 151-155										Series 156-160										Series 161-165										Series 166-170										Series 171-175										Series 176-180										Series 181-185										Series 186-190										Series 191-195										Series 196-200										Series 201-205										Series 206-210										Series 211-215										Series 216-220										Series 221-225										Series 226-230										Series 231-235										Series 236-240										Series 241-245										Series 246-250										Series 251-255										Series 256-260										Series 261-265										Series 266-270										Series 271-275										Series 276-280										Series 281-285										Series 286-290										Series 291-295										Series 296-300										Series 301-305										Series 306-310										Series 311-315										Series 316-320										Series 321-325										Series 326-330										Series 331-335										Series 336-340										Series 341-345										Series 346-350										Series 351-355										Series 356-360										Series 361-365										Series 366-370										Series 371-375										Series 376-380										Series 381-385										Series 386-390										Series 391-395										Series 396-400										Series 401-405										Series 406-410										Series 411-415										Series 416-420										Series 421-425										Series 426-430										Series 431-435										Series 436-440										Series 441-445										Series 446-450										Series 451-455										Series 456-460										Series 461-465										Series 466-470										Series 471-475										Series 476-480										Series 481-485										Series 486-490										Series 491-495										Series 496-500										Series 501-505										Series 506-510										Series 511-515										Series 516-520										Series 521-525										Series 526-530										Series 531-535										Series 536-540										Series 541-545										Series 546-550										Series 551-555										Series 556-560										Series 561-565										Series 566-570										Series 571-575										Series 576-580										Series 581-585										Series 586-590										Series 591-595										Series 596-600										Series 601-605										Series 606-610										Series 611-615										Series 616-620										Series 621-625										Series 626-630										Series 631-635										Series 636-640										Series 641-645										Series 646-650										Series 651-655										Series 656-660										Series 661-665										Series 666-670										Series 671-675										Series 676-680										Series 681-685										Series 686-690										Series 691-695										Series 696-700										Series 701-705										Series 706-710										Series 711-715										Series 716-720										Series 721-725										Series 726-730										Series 731-735										Series 736-740										Series 741-745										Series 746-750										Series 751-755										Series 756-760										Series 761-765										Series 766-770										Series 771-775										Series 776-780										Series 781-785										Series 786-790										Series 791-795										Series 796-800										Series 801-805										Series 806-810										Series 811-815										Series 816-820										Series 821-825										Series 826-830										Series 831-835										Series 836-840										Series 841-845										Series 846-850										Series 851-855										Series 856-860										Series 861-865										Series 866-870										Series 871-875										Series 876-880										Series 881-885										Series 886-890										Series 891-895										Series 896-900										Series 901-905										Series 906-910										Series 911-915										Series 916-920										Series 921-925										Series 926-930										Series 931-935										Series 936-940										Series 941-945										Series 946-950										Series 951-955										Series 956-960										Series 961-965										Series 966-970										Series 971-975										Series 976-980										Series 981-985										Series 986-990										Series 991-995										Series 996-1000									
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Monitoring Well	Date Sampled	Analyte									
		Lead		Magnesium		Manganese		Mercury		Nickel	
		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
MW-1 Uppertown	06/05/90	2.1	0.05	16.3	0.061	...	...	...	...	...	...
	07/19/90	132	0.06	26.2	3.36	<0.002	6.18	7.9	...	15.7	<0.01
	08/01/90	102	0.07	32.2	3.79	<0.002	...	...	<0.01	15.1	<0.01
	10/13/90	26.7	0.07	17.4	0.87	<0.002	...	...	...	15.4	0.01
	03/21/00	16.1	0.014	16.9	0.844	...	...	2.5	...	16	<0.01
	06/05/00	1.46	0.003	17.1	0.057	<0.002	<0.02	2.1	<0.002	15.2	<0.01
	06/25/00	3.44	0.007	16	0.344	...	...	2.8	...	16.3	<0.01
	11/14/00	7.28	0.007	16.4	0.344	<0.002	0.03	3.1	...	16.6	<0.01
	07/29/01	0.28	0.004	19	0.253	<0.002	...	2.7	<0.002	20.5	<0.01
	09/24/01	0.28	0.004	19	0.253	...	...	...	...	19.6	<0.01
	11/29/01	26.1	0.014	25.1	6.837	...	...	4.1	...	19.6	<0.01
	03/14/02	16.7	0.013	20.6	6.837	...	...	9.5	...	20	<0.01
	03/14/02	12	0.004	20.6	6.842	<0.002	<0.02	3.5	...	20	<0.01
	03/14/02	4	0.004	18	0.25	<0.002	...	3.4	...	19	<0.01
	03/14/02	4	0.004	18	0.25	<0.002	...	2.7	<0.010	18	<0.002
	03/14/02	0.8	0.003	17	0.044	<0.002	...	...	...	16	<0.002
MW-3	06/05/90	1.2	0.007	17	0.2	...	...	<5.0	...	21	<0.002
	09/09/93	1	0.01	18	0.14	...	...	<5.0	...	21	<0.002
	11/03/94	0.071	<0.001	16	<0.0050	...	...	<5.0	...	17	<0.002
	03/15/04	0.33	<0.001	20	0.25	<0.002	<0.020	<5.0	<0.005	19	0.003
	03/15/04	0.15	<0.001	19	0.25	...	...	...	...	17	<0.002
	06/05/90	194	0.14	28.6	3.37	...	...	...	...	17.3	<0.01
	07/19/90	66.7	0.04	20.4	3.67	<0.002	0.06	11.8	...	14.6	<0.01
	08/01/90	29.1	0.05	16.5	3.36	...	...	2.7	<0.002	14.6	<0.01
	10/13/90	14.1	0.009	17.1	2.53	...	...	2.4	...	15.2	<0.01
	03/21/00	17	0.029	8.74	2.36	...	...	1.1	...	11.2	<0.01
	06/05/00	22.4	0.011	9.54	3.48	<0.002	<0.02	2.4	<0.002	9.6	<0.01
	06/25/00	...	0.004	11.2	1.81	...	...	1.2	...	36.3	<0.01
	11/14/00	...	...	13.9	7.99	0.0095	0.07	2.5	0.002	106	0.02
	07/29/01	20.3	0.15	87.1	8.08	...	...	6.8	...	121	<0.01
	09/24/01	20.8	0.013	25.7	4.71	...	...	2.9	...	77	<0.01
	11/29/01	3.48	<0.005	11.1	1.82	...	...	0.7	...	44	<0.002
MW-4	06/05/90	16	0.15	13	1.6	...	...	3.3	...	44	<0.002
	07/19/90	8	0.005	6.8	4.4	<0.002	<0.020	<5.0	...	43	<0.002
	08/01/90	8	0.005	6.8	4.4	...	...	<5.0	...	28	<0.002
	10/13/90	24	0.007	10	4.7	...	...	<5.0	...	116	<0.002
	03/21/00	12	0.002	9.4	3.2	...	...	<5.0	...	46	<0.002
	06/05/00	10	0.002	9.4	3.2	...	...	<5.0	...	12	<0.002
	06/25/00	10	0.002	9.4	3.2	...	...	<5.0	...	12	<0.002
	11/03/02	...	...	...	...	...	...	...	...	...	...
	03/15/04	10	0.01	10	3.2	<0.002	<0.020	<5.0	<0.010	8.2	<0.01
	03/15/04	10	0.01	10	3.2	...	...	...	...	5.9	<0.01
	06/05/90	11.8	0.17	19.2	6.1	...	...	10.6	...	6.2	<0.01
	07/19/90	11.8	0.013	7.15	0.87	<0.002	0.04	2.4	<0.002	6.2	<0.01
	08/01/90	6.8	0.06	5.54	1.86	...	...	2.4	<0.002	5.9	<0.01
	10/13/90	7.23	0.009	7.14	0.874	...	...	1.1	...	6	<0.01
	03/21/00	6.27	0.007	7.07	0.293	<0.002	<0.02	1.8	<0.002	6.1	<0.01
	06/05/00	7.4	0.006	6.87	0.534	...	...	1.7	...	5.9	<0.01
MW-12	06/05/90	0.21	<0.002	6.72	0.055	...	...	0.6	...	6.2	<0.01
	07/19/90	18.8	0.03	9.17	3.81	<0.002	0.03	2.3	<0.002	6.2	<0.01
	08/01/90	18.8	0.03	9.17	3.81	...	...	1.8	...	6.2	<0.01
	10/13/90	6.81	<0.005	7.07	0.296	...	...	1.6	...	6.2	<0.01
	03/21/00	2.74	0.194	7.3	0.346	...	...	1.2	...	6	<0.01
	06/05/00	2.3	0.015	7.3	0.371	...	...	1	...	6	<0.01
	06/25/00	46	0.06	16	3.8	<0.002	0.053	4.4	<0.002	6.8	0.013
	11/14/00	18	0.12	6.5	1.3	...	...	4.1	...	5.7	<0.002
	07/29/01	18	0.12	6.5	1.3	...	...	4.1	...	5.7	<0.002
	09/24/01	0.78	0.001	7.4	0.062	<0.002	...	...	...	5.7	<0.002
	11/29/01	0.78	0.001	7.4	0.062	<0.002	...	...	...	5.7	<0.002
	03/14/02	0.78	0.001	7.4	0.062	<0.002	...	...	...	5.7	<0.002
	03/14/02	0.78	0.001	7.4	0.062	<0.002	...	...	...	5.7	<0.002
	03/14/02	0.78	0.001	7.4	0.062	<0.002	...	...	...	5.7	<0.002
	03/14/02	0.78	0.001	7.4	0.062	<0.002	...	...	...	5.7	<0.002
	03/14/02	0.78	0.001	7.4	0.062	<0.002	...	...	...	5.7	<0.002

TABLE 1 - TOWN OF CONKLIN LANDFILL HISTORICAL ANALYTICAL DATA

Monitoring Well	Depth	Date	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Potassium	Selenium	Silver	Sulfur	Tungsten	Vanadium	Zinc	Barium
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
MW-37	072002	04/20/90	8.8	<0.05	8.2	0.21	...	...	8.2	...	...	...	...	...	...	...
		07/18/90	189	0.004	31.8	0.186	<0.002	0.02	19.5	...	...	12	<0.01	0.07	0.02	...
		08/27/90	6.87	0.004	7.08	...	...	...	9.6	<0.002	<0.01	10.1	<0.01	0.13	0.02	...
		10/17/90	51.5	0.02	11.4	0.879	...	...	9	...	...	10	<0.01	0.03	0.08	...
		12/14/90	13.2	0.004	11.8	0.279	<0.002	...	5.2	<0.002	...	9.5	<0.01	0.02	0.02	...
		01/04/91	7.48	0.004	7.58	0.26	<0.002	...	11.8	<0.002	<0.01	10.4	<0.01	0.04	0.01	...
		04/29/90	2.96	0.004	6.48	0.342	...	...	8.2	...	...	10.4	<0.01	0.04	0.01	...
		11/14/90	6.41	0.003	6.57	0.04	...	...	6	...	...	10.4	<0.01	0.04	0.01	...
		04/24/91	1.81	<0.001	6.88	0.087	<0.002	<0.02	5.9	<0.002	<0.01	9.9	<0.01	<0.02	0.01	<0.02
		07/28/91	6.79	0.008	6.7	0.172	...	...	9.5	...	...	10.4	<0.01	<0.02	0.04	...
		10/29/91	13.2	0.004	6.44	0.16	...	...	10.8	...	...	10.4	<0.01	<0.02	0.03	...
		02/19/92	8.18	<0.005	6	0.273	...	...	7.4	...	...	9	<0.01	<0.02	0.04	...
		11/28/91	2.7	0.02	7.1	0.073	...	...	5.4	...	...	11	<0.01	<0.02	0.04	...
		02/18/92	6.1	0.007	6.1	0.44	<0.002	...	12	<0.002	<0.0050	8	<0.01	<0.02	0.012	<0.10
		08/08/92	6.1	0.048	7.1	0.22	...	...	8.9	...	...	8.5	<0.002	<0.020	0.015	...
		11/04/92	4.8	0.03	7	0.13	<0.002	<0.020	4.2	<0.010	...	8.3	<0.002	<0.020	0.015	...
		02/29/93	2.8	0.007	6.8	0.29	...	...	5.8	...	...	8.3	<0.002	<0.020	0.015	...
		05/29/93	1.1	0.004	7.2	0.40	...	...	7.7	...	...	8.3	<0.002	<0.020	0.015	...
		08/09/93	3.4	0.018	7.1	0.41	...	...	7.2	...	...	8.7	<0.002	<0.020	0.015	...
		11/03/93	6.84	0.001	6.5	0.039	...	...	6.4	...	...	9.7	<0.002	<0.020	0.015	...
		02/15/94	3.8	0.023	7.1	0.12	...	...	5.7	...	...	9.7	<0.002	<0.020	0.015	...
		08/14/94	8.5	0.004	6.6	0.073	<0.002	<0.020	11	<0.005	<0.010	9.8	<0.002	<0.020	<0.010	<0.10
MW-38D	04/20/90	04/20/90	4880	2.32	886	146	...	...	48.1	...	...	37.4	<0.02	1.2	8.46	...
		07/18/90	178	1.4	314	1.34	...	...	25.8	...	...	47.8	0.04	0.23	4.4	...
		07/28/90	13.8	0.005	8.4	0.012	...	...	16	<0.002	<0.1	40	<0.01	0.02	0.3	...
		10/17/90	13.4	0.005	8.4	0.012	...	...	4.8	...	...	40	<0.01	0.02	0.3	...
		03/27/90	53.3	0.005	86.7	83.2	0.003	0.07	4.7	...	...	48.2	<0.01	0.02	0.3	...
		08/26/90	28	0.002	67.3	63.3	0.003	0.07	4.2	<0.002	0.01	48.7	<0.01	0.02	0.3	...
		08/29/90	64.4	0.017	86.2	86.3	...	...	4.8	...	...	48.1	<0.01	0.02	0.3	...
		11/14/90	41.8	<0.002	108	123	...	...	5.5	...	...	83	<0.01	<0.2	0.08	...
		02/18/91	32.8	0.008	81.6	81.6	<0.002	0.04	4.9	<0.002	<0.01	47.4	<0.01	0.02	0.08	...
		07/28/91	38.8	0.008	77.8	77.8	...	...	4.8	...	...	47.4	<0.01	0.02	0.08	...
		08/24/91	82.1	<0.005	87	149	...	...	4.8	...	...	47.4	<0.01	0.02	0.08	...
		11/28/91	41.7	0.122	102	119	...	...	3.8	...	...	46	<0.01	0.02	0.04	...
		02/18/92	10	0.122	16.4	17.1	...	...	3.8	...	...	46	<0.01	0.02	0.04	...
		08/17/92	48	<0.005	160	180	<0.002	<0.020	7.8	<0.002	<0.0050	80	<0.04	<0.20	0.08	<0.10
		11/04/92	48	0.12	35	11	...	...	3.8	...	...	47	<0.04	<0.20	0.08	...
		02/29/93	50	0.002	86	82	<0.002	<0.020	6.4	<0.010	0.0065	48	<0.002	<0.020	0.04	<0.10
		08/09/93	7.8	0.079	17	16	...	...	6.4	...	...	47	<0.002	<0.020	0.04	...
		08/08/93	11	0.079	16	14	...	...	7.2	...	...	47	<0.002	<0.020	0.04	...
		11/03/93	24	0.087	80	48	...	...	7.2	...	...	47	<0.002	<0.020	0.04	...
		02/15/94	2.7	0.015	80	3.3	<0.002	<0.020	7	...	...	41	<0.002	<0.020	0.04	...
		08/14/94	48	0.004	87	88	...	...	7	...	...	48	0.005	<0.020	0.04	...

TABLE 2 - UPGRADEMENT GROUNDWATER - STATISTICAL ANALYSIS

Monitoring Well	Date Sampled	Abundance	Bromide	Chloride	COD	Hardness, Total	Nitrate as N	Nitrogen, Ammonia	Total Kjeldahl	Phenols, Total	Total Dissolved	Sulfate	Aluminum	Antimony	Arsenic	Barium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Nickel	Phosphorus	Sodium	Thallium	Vanadium	Zinc	Boron
MW-1 Upgradient	04/28/99	221	0.1	1	10	216	0.22	1.8	2.3	0.037	286	24.9	...	...	...	...	59	...	...	...	2.1	0.05	16.9	0.081	...	2.5	15.7	0.01	0.003	0.11	...
	07/19/99	207	0.1	2	21	206	0.15	0.1	3.7	0.010	262	27	...	...	...	...	66.4	...	...	...	132	0.06	35.2	0.35	...	7.9	15.1	0.01	0.09	0.33	...
	09/27/99	242	0.1	7	64	330	0.18	0.1	1.8	0.010	267	24	...	...	...	...	75.2	...	...	...	105	0.07	32.2	3.76	0.18	8.7	15.4	0.01	0.07	0.3	0.07
	12/13/99	211	0.1	2	87	262	0.05	0.1	1.4	0.010	366	27.4	...	...	...	...	63.1	...	...	...	15.7	0.021	19.4	0.714	...	4	18	0.01	0.02	0.07	...
	03/21/00	233	0.1	2	42	230	0.05	0.1	0.9	0.010	316	32	...	...	...	...	63.6	...	...	...	25.5	0.021	16.9	0.594	...	2.5	15.2	0.01	0.02	0.1	...
	06/05/00	221	0.1	4	24	298	0.05	0.1	1.3	0.010	280	28	...	...	...	...	61	...	...	...	148	0.003	17.1	0.057	0.02	2.1	18.3	0.01	0.02	0.01	0.04
	08/28/00	240	0.1	5	85	218	0.08	0.1	0.5	0.013	264	11	...	...	...	...	67.6	...	...	...	3.94	0.007	18	0.366	...	2.8	18.3	0.01	0.02	0.04	...
	11/14/00	224	0.1	4	14	220	0.05	0.1	0.8	0.010	1201	19	...	...	...	...	68.4	...	...	...	7.92	0.007	18.4	0.246	...	3.1	18.8	0.01	0.02	0.03	0.06
	04/24/01	236	0.1	4	14	206	0.1	0.04	0.5	0.013	252	12	...	...	...	...	57.8	...	...	...	6.29	0.004	19	0.333	0.03	2.7	20.5	0.01	0.02	0.03	0.06
	07/09/01	228	0.1	4	10	178	0.06	0.04	0.3	0.013	266	15	...	...	...	...	69	...	...	...	7.82	0.007	17	0.023	...	1.9	19.4	0.01	0.02	0.02	...
	09/24/01	242	0.1	11	29	110	0.06	0.04	1.4	0.013	472	16	...	...	...	...	61.5	...	...	...	25.1	0.014	25.1	0.838	...	4.1	19.4	0.01	0.02	0.11	...
	03/18/02	206	0.1	2	21	250	0.06	0.04	0.8	0.013	404	18	...	...	...	...	72.8	...	...	...	12	0.013	20.6	0.537	...	9.5	26	0.01	0.02	0.01	...
	06/17/02	226	0.1	35	213	320	0.09	0.1	0.8	0.023	266	29	...	...	...	...	63.6	...	...	...	12	0.013	20.6	0.542	...	3.5	20	0.01	0.02	0.02	0.075
	09/03/02	240	0.1	3	24	220	0.07	0.1	1.6	0.013	239	22	...	...	...	...	64	...	...	...	4	0.034	18	0.25	...	3.4	19	0.04	0.02	0.02	0.054
	11/04/02	250	0.02	3	10	252	0.05	0.1	0.9	0.013	326	14	...	...	...	...	61	...	...	...	2	0.014	17	0.074	...	2.7	19	0.04	0.02	0.02	...
	03/24/03	243	0.1	3	4	234	0.05	0.1	2.4	0.103	264	16	...	...	...	...	62	...	...	...	0.8	0.003	17	0.045	...	1.9	19	0.02	0.02	0.021	0.1
	06/02/03	233	0.1	4	58	234	0.05	0.1	1	0.029	288	16	...	...	...	...	65	...	...	...	1	0.001	18	0.14	...	5	21	0.002	0.02	0.016	...
	09/08/03	241	0.1	2	10	176	0.05	0.1	2.5	0.036	295	11	...	...	...	...	84	...	...	...	0.071	0.001	18	0.005	...	5	21	0.002	0.02	0.01	...
	11/03/03	244	1	3	26	220	0.38	0.1	1.3	0.026	222	12	...	...	...	...	59	...	...	...	1	0.001	19	0.38	...	5	17	0.002	0.02	0.014	...
	03/15/04	256	2	5	18	250	0.05	0.1	1	0.025	221	11	...	...	...	...	84	...	...	...	0.15	0.001	20	0.25	0.02	5	19	0.003	0.02	0.014	0.1
	06/14/04	226	1	3	17	232	0.05	0.1	2.5	0.025	116	11	...	...	...	...	48.6	...	...	...	9.6	0.05	8.2	0.21	...	8.2	9.7	0.01	0.007	0.03	...
MW-37 Upgradient	04/28/99	155	0.1	3	10	166	0.06	1.9	2.5	0.009	217	22.2	...	...	...	...	56.8	...	...	...	159	0.006	31.9	0.291	...	19.5	12	0.01	0.13	0.39	...
	07/19/99	153	0.1	27	15	156	0.13	0.1	8.1	0.01	178	24	...	...	...	...	47.8	...	...	...	5.57	0.004	7.08	0.186	0.02	9.6	10.1	0.01	0.02	0.02	0.02
	09/27/99	157	0.1	4	25	216	0.06	0.1	0.6	0.01	138	12	...	...	...	...	51.3	...	...	...	31.5	0.02	11.4	0.879	...	9	10	0.01	0.03	0.08	...
	12/13/99	150	0.1	4	54	166	0.07	0.1	0.9	0.01	200	18	...	...	...	...	47.7	...	...	...	2.55	0.006	6.63	0.373	...	6.2	9.5	0.01	0.02	0.02	...
	03/21/00	152	0.1	6	15	152	0.05	0.1	0.5	0.012	195	16	...	...	...	...	49	...	...	...	7.46	0.006	7.58	0.28	0.02	11.6	10.6	0.01	0.02	0.03	0.02
	06/05/00	158	0.1	7	48	160	0.13	0.1	0.5	0.012	190	11	...	...	...	...	48.9	...	...	...	2.36	0.006	6.49	0.242	...	9.2	10.1	0.01	0.04	0.01	...
	08/28/00	162	0.1	12	10	142	0.08	0.1	0.6	0.01	188	12	...	...	...	...	47.5	...	...	...	1.81	0.003	6.57	0.04	...	8	10.4	0.01	0.02	0.01	...
	11/14/00	140	0.1	10	10	128	0.17	0.04	0.3	0.013	170	11	...	...	...	...	45.4	...	...	...	5.76	0.009	6.68	0.067	0.02	5.9	8.9	0.01	0.02	0.01	0.02
	04/24/01	156	0.1	6	10	122	0.15	0.04	0.3	0.013	165	17	...	...	...	...	48.1	...	...	...	1.81	0.003	6.57	0.04	...	8	10.4	0.01	0.02	0.01	...
	07/09/01	140	0.1	6	38	124	0.16	0.04	1.5	0.013	300	15	...	...	...	...	45.4	...	...	...	3.83	0.005	6.64	0.14	...	10.8	10.4	0.01	0.02	0.03	...
	11/26/01	142	0.1	3	10	152	0.12	0.04	0.9	0.026	193	12	...	...	...	...	51	...	...	...	9.18	0.005	8	0.276	...	5.1	9	0.01	0.02	0.02	...
	03/18/02	130	0.1	24	10	200	0.18	0.1	0.8	0.025	279	24	...	...	...	...	45.9	...	...	...	2.7	0.02	7.1	0.44	0.02	12	11	0.01	0.02	0.046	0.01
	06/17/02	144	0.1	10	10	272	0.18	0.1	2.3	0.023	173	19	...	...	...	...	45	...	...	...	8.1	0.007	8.1	0.44	0.02	12	11	0.01	0.02	0.046	0.01
	09/03/02	155	0.1	4	10	164	0.16	0.1	1.3	0.023	173	19	...	...	...	...	46	...	...	...	6.1	0.009	7.1	0.13	...	6.8	8.5	0.002	0.02	0.015	...
	11/04/02	147	0.02	6	19	140	0.36	0.1	1.3	0.023	174	12	...	...	...	...	44	...	...	...	2.8	0.007	6.8	0.29	0.02	4.2	7.8	0.002	0.02	0.015	...
	03/24/03	127	0.1	5	10	166	0.15	0.1	3.3	0.023	169	12	...	...	...	...	44	...	...	...	1.1	0.008	6.2	0.089	...	5.8	8.3	0.002	0.02	0.01	...
	06/02/03	130	0.1	5	28	174	0.34	0.1	3.1	0.036	163	29	...	...	...	...	49	...	...	...	3.6	0.003	6.5	0.12	...	6.4	8.7	0.002	0.02	0.01	...
	09/08/03	159	0.1	5	75	174	0.34	0.1	1.2	0.036	161	15	...	...	...	...	49	...	...	...	3.6	0.003	6.5	0.12	...	6.4	8.7	0.002	0.02	0.01	...
	11/03/03	148	1	5	10	158	0.13	0.1	1.6	0.025	175	16	...	...	...	...	47	...	...	...	0.5	0.004	6.8	0.073	...	11	9.6	0.002	0.02	0.01	...
	03/15/04	137	2	6	61	180	0.05	0.1	1.4	0.025	218	16	...	...	...	...	49	...	...	...	0.5	0.004	6.8	0.073	...	11	9.6	0.002	0.02	0.01	...
	06/14/04	150	1	7	13	152	0.09	0.1	1.5	0.025	218	16	...	...	...	...	49	...	...	...	0.5	0.004	6.8	0.073	...	11	9.6	0.002	0.02	0.01	...
Mean		185.6	0.3	6.6	32.8	186.8	0.1	0.2	1.5	0.028	262.9	24.4	...	...	...	...	56.1	...	...	...	14.5	0.016	14.2	0.5	0.03	6.4	14.2	0.010	0.025	0.051	0.058
Standard Deviation		50.7	0.5	6.6	37.6	53.2	0.1	0.3	1.3	0.034	160.6	25.6	...	...	...	...	8.9	...	...	...	13.0	0.020	7.8	0.6	0.04	3.5	4.9	0.010	0.021	0.064	0.034
Count		430	430	430	430	430	430	430	430	430	430	430	130	...	...	...	430	...	...	...	430	430	430	430	0.03	14	19	0.004	0.008	0.038	0.025
Confidence Interval		19.9	0.2	2.6	14.8	20.9	0.0	0.1	0.5	0.013	63.1	10.0	...	...	...	...	3.5	...	...	...	13.1	0.008	3.1	0.3	0.03	1.4	1.9	0.004	0.008	0.038	0.025

Note - Analytical results reported as less than MDL are inputted as to MDL.

TABLE 3 - GROUNDWATER DATA COMPARISON WITH UPPER CONFIDENCE INTERVALS FOR SELECTED PARAMETERS

PARAMETERS	UNITS	UPPER CONFIDENCE LEVEL FOR THE AVERAGE			
		MW-3	MW-4	MW-12	MW-38D
Alkalinity	mg/l	107	95	115	190
Bromide	mg/l	<1.00	<1.00	<1.00	
Chloride	mg/l	27	10	9	2
COD	mg/l	29	17	24	160
Hardness, Total	PtCo	128	120	168	400
Nitrate as N	mg/l	<0.05	0.09	<0.05	<0.05
Nitrogen, Ammonia	mg/l	<0.1	<0.1	<0.1	<0.1
Total Kjeldahl Nitrogen	mg/l	<1.0	<1.0	2.2	1.6
Phenols, Total	mg/l	<0.025	<0.025	<0.025	<0.025
Total Dissolved Solids	Units	462	66	166	269
Sulfate	mg/l	15	<11	13	<11
Aluminum	mg/l	1.1	0.49	3.4	3.2
Antimony	mg/l	<0.0050	<0.0050	<0.0050	<0.0050
Arsenic	mg/l	0.014	<0.005	<0.005	
Barium	mg/l	0.13	<0.050		
Calcium	mg/l	39	31	43	
Chromium	mg/l	<0.010	<0.010	<0.010	<0.010
Cobalt	mg/l	<0.020	<0.020	<0.020	
Copper	mg/l	<0.050	<0.050	<0.050	<0.050
Iron	mg/l	10	0.32	2.9	49
Lead	mg/l	0.01	0.001	0.006	0.004
Magnesium	mg/l	10	8.1	13	
Manganese	mg/l		0.049		
Nickel	mg/l	<0.020	<0.020	<0.020	<0.020
Potassium	mg/l	<5.0	<5.0	<5.0	7
Sodium	mg/l	12	5.6	10	
Thallium	mg/l	<0.002	<0.020	<0.002	0.005
Vanadium	mg/l	<0.020	<0.020	<0.020	<0.020
Zinc	mg/l	0.024	<0.010	0.03	0.061
Boron	mg/l	<0.10	<0.10	<0.10	<0.10

(1) The upper confidence level for the average is based on the mean plus the 99% confidence interval. The 99% Confidence interval is calculated from the standard deviation.

TABLE 4 - HISTORICAL SURFACE WATER ANALYTICAL RESULTS

Parameter		SW CARLIN																						
Date Sampled	Class C	3/15/2004	6/14/2004	4/26/1999	7/19/1999	9/27/1999	12/13/1999	3/21/2000	6/5/2000	8/28/2000	11/14/2000	4/24/2001	7/9/2001	9/24/2001	11/26/2001	3/18/2002	6/17/2002	9/9/2002	11/4/2002	3/24/2003	6/2/2003	9/8/2003	11/2/2003	
Alkalinity	mg/l	23	45	22	Dry	28	21	19	30	Dry	32	24	156	DRY	32	30	70	Dry	33	15	28	37	30	
Ammonia	mg/l	<0.1	<0.1	1.8		<0.1	<0.1	<0.1	<0.1		<0.1	<0.04	<0.04		<0.04	<0.1	<0.10		<0.10	<0.1	<0.1	<0.1	<0.1	
BOD	mg/l	<6	<6	<5		<5	<5	<5	<5		<5	<5	<5		<5	7	<5		<6	10	<6	<6	<6	
Chloride	mg/l	35	28	20		56	26	24	14		33	28	6		50	42	20		42	26	18	24	22	
COD	mg/l	<10	<10	227		12	21	11	64		<10	12	<10		21	<10	19		<10	<10	28	<10	<10	
Hexavalent Chromium	mg/l		<0.01	0.21		<0.01	0.06	<0.01	<0.01		0.23	<0.01	0.15		0.51	0.2	<0.01		0.42	<0.01	0.48	0.25	0.09	
Nitrate	mg/l	0.05	0.06	0.45		0.34	7.54	0.09	<0.05		7.32	0.09	6.4		7.25	7.21	7.21		7.04	7.39	7.48	7.15	7.05	
Phenol	SU	7.34	7.11	6.99		6.73	7.54	7.92	7.3		<0.010	7.55	0.2		<0.013	0.069	<0.013		<0.013	<0.023	0.027	0.051	<0.036	
TDS	mg/l	0.065	<0.025	0.022		<0.010	<0.010	<0.010	<0.010		<0.010	<0.013	0.2		0.069	0.069	<0.013		0.069	<0.023	0.027	0.051	<0.036	
Sulfate	mg/l	88	24	98		96	193	72	92		109	98	195		189	145	58		161	70	101	96	112	
TKN	mg/l	<11	15	9.5		18	15	13	14		14	<10	17		13	12	14		26	20	14	29	11	
TOC	mg/l	<1.0	1.1	0.6		<0.5	0.7	0.5	<0.5		0.5	0.8	0.3		1	<0.8	1		0.9	2.3	1.4	1.7	<1.2	
Hardness	mg/l	<1.0	2	2.1		2.5	1.6	1.8	<0.5		2	1.5	0.93		3.2	2	3.7		2.4	1.9	3.1	2.3	6	
Color	color units	90	72	44		50	120	40	60		48	60	122		80	110	44		76	32	36	<2	40	
Cyanide	mg/l		<0.025	<0.1		0.012	<0.1	<0.1	<0.015		<0.1	<0.024	<0.1		<0.1	<0.1	<0.10		<0.020	<0.015	<0.100	<0.100	<1.00	
Bromide	mg/l	<1.00	<0.100	<0.1		<0.01	<0.1	<0.1	<0.01		<0.1	<0.1	<0.1		<0.1	<0.1	<0.050		<0.050	<0.100	<0.100	<0.100	<1.00	
Silver	mg/l		<0.010	<0.010		<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01		<0.01	<0.01	<0.010		<0.010	<0.010	<0.010	<0.010	<0.010	
Aluminum	mg/l		<0.050	<0.050		<0.03	<0.03	<0.03	<0.04		<0.04	<0.06			<0.06		0.19		<0.050	0.51	<0.005	<0.005	<0.005	
Arsenic	mg/l		<0.005	<0.005		<0.002	<0.002	<0.002	<0.002		<0.002	0.006			0.006		<0.002		<0.002	<0.002	<0.002	<0.002	<0.002	
Boron	mg/l		<0.10	<0.10		0.03	0.03	0.01	<0.02		<0.02	<0.02	<0.02		<0.02	<0.02	<0.010		<0.010	<0.010	<0.010	<0.010	<0.010	
Beryllium	mg/l		<0.050	<0.050		0.01	0.01	<0.002	0.011		0.011	<0.02	<0.02		<0.02	<0.02	<0.010		<0.010	<0.010	<0.010	<0.010	<0.010	
Calcium	mg/l	12	15	9.36		12.8	10.6	9.22	9.51		15.4	10.5	48.1		20.9	13.7	11		16	8.9	9.4	13	9.8	
Cadmium	mg/l	<0.010	<0.010	<0.01		<0.01	<0.01	<0.01	<0.02		<0.02	<0.02	<0.02		<0.02	<0.003	<0.003		<0.0030	<0.0050	<0.0050	<0.0050	<0.0050	
Cobalt	mg/l		<0.020	<0.020		<0.02	<0.02	<0.02	<0.03		<0.03	<0.03	<0.03		<0.03	<0.03	<0.010		<0.010	<0.010	<0.010	<0.010	<0.010	
Chromium	mg/l		<0.010	<0.010		<0.03	<0.03	<0.03	<0.03		<0.03	<0.03	<0.03		<0.03	<0.03	<0.030		<0.030	<0.030	<0.030	<0.030	<0.030	
Copper	mg/l	0.08	0.11	0.18		<0.05	<0.05	0.1	<0.05		0.12	0.07	5.76		0.08	0.05	0.27		<0.050	0.75	0.38	<0.050	0.07	
Iron	mg/l		<0.0002	<0.0002		<0.005	<0.005	<0.005	<0.005		<0.005	<0.005	<0.005		<0.005	<0.005	<0.0050		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Mercury	mg/l		<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	<0.002	
Potassium	mg/l	<5	<5.0	1.4		2.1	1.2	1.2	1.5		1.7	1.3	9.5		2.3	1.4	1.2		2.2	1.1	<5.0	<5	<5	
Magnesium	mg/l	<5	5.0	2.54		3.33	2.95	2.51	2.56		3.78	2.72	6.7		5.4	3.9	0.07		4.2	2.3	<5.0	<5	<5	
Manganese	mg/l	<0.050	0.19	0.006		<0.005	<0.005	0.012	<0.005		0.072	<0.005	0.172		0.007	<0.005	0.007		<0.050	0.078	0.011	0.0064	<0.0050	
Sodium	mg/l	17	18	13.6		17.7	14	14.1	11.5		16.7	15.9	9.9		29	21	11		18	13	12	17	11	
Nickel	mg/l		<0.020	<0.020		<0.02	<0.002	<0.002	<0.03		0.003	<0.02	0.009		<0.005	<0.008	<0.005		<0.0080	<0.020	<0.001	<0.001	<0.001	
Lead	mg/l	<0.001	<0.001	<0.05		<0.003	<0.002	<0.002	<0.003			<0.001					<0.005			<0.001				
Antimony	mg/l		<0.0050	<0.005		<0.002	<0.002	<0.002	<0.003			<0.003					<0.002			<0.0050	<0.001	<0.001	<0.001	
Selenium	mg/l		<0.005	<0.005		<0.002	<0.002	<0.002	<0.003		<0.003	<0.003	<0.003		<0.003	<0.003	<0.0025		<0.002	<0.010	<0.002	<0.002	<0.002	
Thallium	mg/l		<0.002	<0.002		<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	<0.01		<0.010	<0.04	<0.010		<0.002	<0.010	<0.002	<0.002	<0.002	
Vanadium	mg/l		<0.002	<0.002		<0.02	<0.02	<0.02	<0.02		<0.02	<0.02	<0.02		<0.020	<0.02	<0.020		<0.020	<0.020	<0.020	<0.020	<0.020	
Zinc	mg/l	0.018	<0.010	<0.01		<0.01	<0.01	<0.01	<0.01		<0.01	<0.01	0.04		<0.01	<0.005	<0.050		<0.050	<0.010	<0.010	<0.010	<0.010	
SW846/2608 VOC	ug/l		ND	<0.01		ND	<0.01	<0.01	ND		<0.01	<0.01			<0.01	<0.005	ND			ND				
Naphthalene	ug/l											6.5												

* Arsenic - dissolved arsenic form.
* Cadmium (0.85)exp(0.7852 [ln (hardness)]-2.715
* Chromium (0.86)exp(0.819 [ln (hardness)]+0.6848
* Copper (0.96)exp(0.8545 [ln (hardness)]-1.702
* Lead (1.46203-[ln (hardness)] (0.145712))exp(1.273 [ln (hardness)]-4.297
* Nickel (0.997)exp(0.846 [ln (hardness)]+0.0584)
* Beryllium - Class GA Standard is 11 ug/l when hardness < 75 ppm, 1100 ug/l when hardness > 75 ppm.
exp(0.85 [ln (ppm hardness)]-+ .5)
* Zinc
**dichlorobenzenes- applies to the sum of 1,2-, 1,3-, and 1,4-dichlorobenzene

LEACHATE HISTORICAL ANALYTICAL DATA

Parameter	Units	Monitoring Frequency		9/27/2000	10/16/2001	5/7/2002	9/4/2003	10/14/2004
Cadmium	mg/l	Each Discharge		<0.010	<0.010	<0.010	<0.010	<0.02
Chromium	mg/l	Each Discharge		0.115	<0.020	<0.020	0.025	<0.02
Copper	mg/l	Each Discharge		<0.020	0.12	0.034	0.042	0.044
Cyanide	mg/l	Each Discharge		<0.004	<0.004	<0.004	<0.004	<0.004
Iron	mg/l	Each Discharge		0.976	1.4	0.66	0.577	0.79
Lead	mg/l	Each Discharge		<0.005	0.032	0.01	0.004	0.001
Mercury	mg/l	Each Discharge		<0.001	<0.001	<0.0008	<0.001	<0.0008
Nickel	mg/l	Each Discharge		0.064	<0.040	<0.040	<0.040	<0.02
Zinc	mg/l	Each Discharge		0.156	0.7	0.069	0.117	0.117
O&G	mg/l	Each Discharge	50	15.9	<5	<5	<5	<5
PCBs	mg/l	Each Discharge		ND	ND	ND	ND	<0.065
pH	SU	Each Discharge		7.76	7.09	7.92	7.34	7.83
Arsenic	mg/l	Each Discharge		<0.010	<0.010	<0.010	<0.010	0.02
Silver	mg/l	Each Discharge		<0.010	0.012	<0.010	<0.010	<0.01
Ammonia	mg/l	Each Discharge		0.05	0.75	0.02	0.2	0.16
TKN	mg/l	Each Discharge		<0.5	1.26	<0.5	0.51	2.27
TSS	mg/l	Each Discharge		65	10	19	12	5
BOD5	mg/l	Each Discharge		2	<2	<2	<2	8
Flashpoint	mg/l	Each Discharge		>176	>176	>176	>176	>176
TTOS	mg/l	Each Discharge	ND	ND	ND	ND	ND	ND

SITE INSPECTION RECORD FORM

This summary inspection checklist is to be completed during each site inspection at least once per month. Note all items which require repair or maintenance. Use the last page to annotate any additional comments, unusual events or information observed during this inspection.

Name of Inspector(s): Dennis R. Shuman

Date of Inspection: 3/19/98

Arrival Time: 2:00 Departure Time: 2:45

Weather Conditions: Cloudy Temperature: 40 °F

Reason For Visit: B-JC STP Sampling & Inspection

General Inspection (Monthly)

	<u>OK:</u>	<u>Comments:</u>
Site Entrance	☒	
Access Roads	☒	
Overall Appearance (litter/trash)	☒	
Treatment Building Exterior	☒	
Building Interior		
Heater	☒	
Heat Tracing	☒	
Exhaust Ventilation	☒	
Lighting	☒	
Building Sump	☒	
Bar Grating	☒	
Perimeter Fence and Gates	☒	

Leachate Storage System Inspection (Monthly)

	OK:	Comments:
Storage Tank and Pipe Venting	☒	
Secondary Containment Dike	☒	
De-Icing System	☒	
Level Control System	☒	
Treatment Building Sump Pump	☒	
Transfer Pump	☒	} not used
Filtration Canisters	☒	
Bag filters	☒	

Leachate Collection System Inspection (Monthly)

	OK:	Comments:
Pump Station (Structure)	☒	
Leachate Collection Trench Manholes	☒	
Leachate Collection Trench Piping	☒	
Pump Station Pump	☐	Level High!
Recovery Wells		
Well Pumps	☒	
Well Casing	☒	
Monitoring Wells (casings)	☒	Check Headkeeps
Recovery Well Metering Pit		
Flow Meters	☒	
Meter Control Panel	☒	
Meter Pit (Structure)	☒	
Pump Control Panel	☒	

+/- 8000 gal in Tank

Landfill Cover Inspection (Monthly)

	<u>OK:</u>	<u>Comments:</u>
Final Cover	_____	_____
Landfill Slope	_____	_____
Gas Vents	_____	_____
Vegetative Cover	_____	_____
Drainage Down Chute	_____	_____
Perimeter Drainage	_____	_____

Inspection Data Measurements

Flow Meter/Totalizer Readings (Monthly)

	<u>Flow Rate (gpm)</u>	<u>Current Reading</u>	<u>Previous Reading</u>	<u>= Total(gallons)</u>
RW-1	_____	_____	_____	_____
RW-2	_____	_____	_____	_____
RW-3	_____	_____	_____	_____
Pump Station Pump	_____	_____	_____	_____

Leachate Level in Storage Tank

Pneumercator Level Indicator	_____ gallons
Pump Control Panel Meter	_____ gallons
Leachate Discharge to Sewer	_____ gallons

Well Level Measurements (Quarterly)

	<u>Top of Casing Elev. (ft)</u>	<u>-</u>	<u>Depth to Water (ft)</u>	<u>=</u>	<u>Water Level Elev. (ft)</u>
MW-1	947.30	-	_____	=	_____
MW-2	926.92	-	_____	=	_____
MW-3	891.88	-	_____	=	_____
MW-4	898.72	-	_____	=	_____
MW-12	901.51	-	_____	=	_____
MW-37	909.01	-	_____	=	_____
MW-38S	889.49	-	_____	=	_____
MW-38D	888.61	-	_____	=	_____
LW-14	926.24	-	_____	=	_____

Notes/Explanations:

(Please indicate additional information on those items which require attention indicated above)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION		FOR STATE USE ONLY	
APPLICATION FOR VARIANCE FROM 6 NYCRR 360 SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE		PROJECT NO.	DATE RECEIVED
		DEPARTMENT ACTION ☐ Approved ☐ Disapproved	DATE
1. OWNER'S NAME TOWN OF CONKLIN	2. ADDRESS (Street, City, State, Zip Code) 1271 Conklin Road, Conklin, New York 13748	3. Telephone No. 607-775-1434	
4. OPERATOR'S NAME TOWN OF CONKLIN	5. ADDRESS (Street, City, State, Zip Code) 1271 Conklin Road, Conklin, New York 13748	6. Telephone No. 607-775-1434	
7. ENGINEER'S NAME C&S ENGINEERS, INC.	8. ADDRESS (Street, City, State, Zip Code) 499 Col. Eileen Collins Boulevard, Syracuse, NY 13212	9. Telephone No. (315) 455-2000	
10. PROJECT/FACILITY NAME Town of Conklin Landfill (Closed); Owner Name: Town of Conklin			
11. PROJECT STATUS ☒ Public ☐ Private ☐ Proposed ☐ Existing		12. COUNTY IN WHICH FACILITY IS LOCATED Broome County	
		13. ENVIRONMENTAL CONSERVATION REGION Region 7	
14. DESCRIBE SPECIFIC LOCATION OF FACILITY The Town of Conklin Landfill is located west of Broome Parkway (County Road 322) in the Town of Conklin, Broome County, New York.			
15. TYPE OF PROJECT FACILITIES: ☐ Composting ☐ Transfer ☐ Shredding ☐ Baling ☐ Sanitary Landfill ☐ Incineration ☐ Pyrolysis ☐ Resource Recovery-Energy ☐ Resource Recovery-Materials ☒ Other INACTIVE HAZARDOUS WASTE SITE			
16. BRIEFLY DESCRIBE THE PROJECT INCLUDING THE BASIC PROCESS AND MAJOR COMPONENTS The Town of Conklin Landfill is a 37-acre parcel owned by the Town of Conklin. Previously, the Town of Conklin Landfill site consisted of two landfilled areas, referred to as the Upper and Lower Landfills. Landfilling operations began at the site in 1964 and consisted of approximately 47,000 cubic yards of waste contained in the Lower Landfill and 55,000 cubic yards of waste contained in the Upper Landfill. The Town of Conklin Landfill accepted primarily municipal solid waste; however some industrial wastes may have been disposed of within the Upper Landfill. In 1975, the NYSDEC issued a closure order for the Landfill.			
17. SPECIFIC PROVISION OF 6 NYCRR 360 FROM WHICH A VARIANCE IS REQUESTED: Section: 6 NYCRR Part 360-2.11(c) (4) (ii) (a)		Paragraph	Variance Request No.
18. BRIEFLY DESCRIBE PROPOSED VARIANCE The Proposed Variance is to modify the current Town of Conklin Landfill Post-Closure monitoring program from quarterly monitoring to a fifth quarter monitoring schedule. As part of the Proposed Variance, monitoring for baseline parameters would be completed on the 6 existing groundwater monitoring wells and 1 surface water monitoring locations on a fifth quarter rotating basis. Consistent with the existing monitoring program, landfill leachate would continue to be monitored on an annual basis.			
19. IMPACTS OF VARIANCE APPROVAL OR DISAPPROVAL: a. Environmental Impact: Approval of the Proposed Variance will have no substantive impact on environmental conditions. Post-Closure monitoring, as indicated by the historic monitoring database, has adequately defined groundwater quality characteristics proximate to the site. As groundwater quality conditions have stabilized following closure of the landfill, it is anticipated that monitoring every fifth quarter will provide sufficient information for assessing groundwater quality characteristics and provide an adequate "warning" of potential impacts to the local groundwater quality and/or identify the need to initiate contingency water quality monitoring. b. Economic Impact: Continued compliance with the requirements of 6 NYCRR Part 360-2.11(c)(4)(ii)(a) would continue to impose a financial burden on the Town of Conklin. NYSDEC acceptance of this Proposed Variance, however, would be expected to provide relief to the Town of Conklin in terms of Post-Closure Financial requirements.			
20. CERTIFICATION: I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statement made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. _____ Date _____ Signature and Title			