Environmental Monitoring Plan

for the

Weiland Road Landfill

Eastman Kodak Company

Rochester, New York

June 1998

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1.0 Introduction

Eastman Kodak Company (Kodak) owns and operates the Weiland Road Landfill (WRL). The WRL is located adjacent to the KPM section of Kodak Park in the Town of Greece, Monroe County, New York. This portion of the WRL is classified as an industrial solid waste landfill and is currently permitted under 6 NYCRR Part 360, issued on July 11, 1986. It is scheduled for closure in April 1998 and is subject to Part 360 post-closure requirements. At this time, the operation, closure, and post-closure care requirements for the WRL are governed by an Order on Consent established by the NYSDEC and Kodak (Index No. R8-1046-95-02) which pertains to the current permitted area of the landfill. This Environmental Monitoring Plan has been developed to comply with Part 360 and Consent Order requirements for the portion of the landfill that was permitted and is being closed.

Other areas of the WRL were closed in the 1960's and as such are not subject to Part 360 post-closure requirements. These areas are now used for parking and recreational purposes and are not included within the scope of this Environmental Monitoring Plan. The entire WRL has been identified as a solid waste management unit (SWMU) within the Kodak Park Corrective Action Program (KPCAP). However, environmental monitoring for the formerly closed areas will be conducted under the direction of the KPCAP and in accordance with the Kodak Park Groundwater Sampling and Analysis Plan. KPCAP activities will also include the permitted area, but monitoring will be performed in accordance with this Environmental Monitoring Plan.

Kodak began actively monitoring groundwater quality at the WRL in 1978 as a part of the Monroe County Health Department and NYSDEC evaluation of disposal sites in Monroe County. In 1991, Kodak performed an extensive hydrogeologic investigation which resulted in the expansion of the groundwater monitoring well network at the WRL site. In January 1992, Kodak began implementation of the Part 360 environmental monitoring requirements for the permitted active area of the landfill. Kodak has continued to monitor the groundwater and surface water quality at the site and has developed an extensive historical database.

1.1 Objectives

The objectives of the Environmental Monitoring Plan are to:

- Monitor the impacts of the permitted area of the WRL on groundwater, surface water runoff and leachate during the remaining operational life and the closure and post closure period in compliance with the Order on Consent.

- Identify the appropriate monitoring points, sampling schedule, constituents, analytical methods, and reporting requirements for groundwater, surface water runoff and leachate in the permitted area.

The locations of monitoring points selected to satisfy the objectives of this Environmental Monitoring Plan are presented in Figure 1.

1.2 Site Hydrogeologic Conditions

Several hydrostratigraphic zones have been identified at the WRL area. They include:

- Overburden;
- Top-of-Rock (TOR);
- Rochester Shale
- Irondequoit Limestone
- Williamson Shale
- Lower Sodus Shale
- Reynales Limestone
- Maplewood Shale
- Thorold Sandstone
- Grimsby Sandstone; and
- Queenston Shale

Groundwater flow occurs predominantly in the overburden and top-of-rock zones. The lower bedrock units listed above exhibit substantially reduced permeability and minimal groundwater flow. Accordingly, the majority of monitoring wells associated with this Environmental Monitoring Plan provide groundwater monitoring coverage in the overburden and top-of-rock. However, deeper wells have been included in this plan to monitor for potential impacts to the lower bedrock units.

The primary direction of groundwater flow at the permitted area of the WRL is vertical, with groundwater flowing vertically down through the overburden to the TOR and lower bedrock units. When groundwater reaches the TOR, flow remains largely vertical, but takes on a horizontal component which is generally to the northwest. Groundwater flow in the lower bedrock units is minimal with slight vertical and horizontal components. These groundwater flow characteristics are due primarily to the influence of natural hydrogeologic features at the WRL facility. However, groundwater flow is also influenced by man-made features which were installed to minimize off-site migration of leachate and groundwater from the landfill.

The WRL fractured bedrock trench IRM controls off-site migration of groundwater in the overburden and top-of-rock in the northwest portion of the permitted landfill. Typical capture zone boundaries are shown in Figure 1. The WRL leachate collection system acts to suppress the water table across the facility in order to minimize contact of groundwater with waste materials and to control migration of leachate in downgradient locations.

2.0 Water Quality Monitoring Program

Consistent with Section 360-2.11, which requires monitoring of groundwater, surface water and leachate, water quality monitoring will be performed at the monitoring points identified in this Environmental Monitoring Plan throughout the operation, closure and post-closure periods of the WRL. The monitoring program for water quality, including sampling frequency and analytical parameters is presented in Table 1. Analytical data for all groundwater monitoring points identified in this Environmental Monitoring Plan will be

interpreted by comparison of current measured water quality data with existing water quality values (Appendix B) and upgradient water quality data.

2.1 Groundwater Monitoring

Based on the site hydrogeologic conditions described in Section 1.3, the groundwater monitoring network established for this Environmental Monitoring Plan consists of 26 groundwater monitoring wells which have been identified as routine sampling points. They include 25 monitoring wells and 1 IRM pumping system located at or within the facility perimeter. The locations of the monitoring wells are shown on Figure 1 and a list of the wells is provided in Appendix A. The selected groundwater monitoring wells are screened in overburden (8 wells), top-of-rock (11 wells) and lower bedrock units (6 wells) and therefore, will provide sufficient information to monitor groundwater conditions at the WRL site. Sampling and analysis will be conducted quarterly, alternating between routine and baseline parameters. The monitoring parameters required are presented in Table 1. Specific details pertaining to operational water quality monitoring are provided in Section 3.0 of this document.

2.2 Surface Water / Storm Water Monitoring

Surface water at the WRL facility consists of storm water runoff from the previously closed portion of the landfill and surface leachate from the currently active portion of the landfill.

Surface leachate is pumped directly to the Kodak Park industrial sewer where it is conveyed to the King's Landing Wastewater Purification Plant for treatment. Since it is not discharged directly to a public waterway, no monitoring is proposed.

Storm water from the previously closed portion of the WRL facility is conveyed through a network of collection systems to a common storm sewer located along the northern perimeter of the landfill (see Figure 1). This storm sewer transports storm water conveyed from the WRL and other areas in the Kodak Park vicinity to a public waterway. Upon closure of the active portion of the landfill, storm water shed from this area will be conveyed

to an on-site storm water retention basin and then to the storm water outfall. After construction, surface water sampling will be conducted at the storm water retention basin.

Kodak storm water discharges have been incorporated into the Kodak Park SPDES Permit (Permit No. NY0001643) and all storm water monitoring will be conducted through the SPDES program. Results will be reported through SPDES required reports (i.e. Discharge Monitoring Reports). The SPDES monitoring parameters and sampling frequencies are presented in Table 1.

2.3 Leachate Monitoring

Leachate from the WRL is collected via a subsurface network of perforated pipes located hydraulically downgradient throughout the landfill and along the southern, western and northwestern boundaries of the permitted landfill. Leachate entering the collection network drains by gravity to a drop inlet at a pumping station where it is pumped to the Kodak Park industrial sewer system. The industrial sewer transports the water to the King's Landing Wastewater Purification Plant for treatment. The monitoring point for the leachate collection system is a collection sump located immediately upstream from the pump station shown on Figure 1. This collection sump will be sampled semi-annually (Spring and Fall) and analyzed for the parameters presented in Table 1.

3.0 Operational Water Quality Monitoring

In July 1991 NYSDEC requested that Kodak implement a hydrogeologic study and groundwater monitoring program to aid with the Part 360 permitting process. The 2 year study characterized the hydrogeologic conditions within the landfill through the installation of overburden, TOR, and bedrock monitoring wells, upgrade or abandonment of selected existing wells, hydrogeologic testing, water level monitoring, and analytical testing. The groundwater monitoring network that was established enabled Kodak to develop a database on groundwater quality within the permitted area of the landfill and along the escarpment at the southern perimeter.

Using the groundwater quality database that was developed as a result of the implementation of the hydrogeologic study, existing water quality values (Appendix B) were determined for the overburden, TOR and lower bedrock units. This was done by calculating the average concentration for each individual parameter within each stratigraphic unit using historical data collected between 1992 and 1997. Data collected prior to 1992 were not used because the monitoring well network utilized during this period was not representative of the current network. Additionally, analytical technological advances occurred which would contribute to differences in data from the two periods. These two factors make statistical evaluation of the data from the two periods inappropriate for the purpose of identifying potential impacts to groundwater.

Consistent with Section 360-2.11, which requires operational water quality monitoring of groundwater, quarterly sampling will be performed at each of the groundwater monitoring locations identified in this Environmental Monitoring Plan for the parameters identified in Table 1. As described in Part 360, within 90 days of completion of the sampling activities the analytical data for the monitoring locations will be interpreted to determine if a significant increase in operational water quality levels has occurred. This interpretation will involve the comparison of current measured groundwater data with existing water quality values and upgradient groundwater data. NYSDEC will be notified of any significant increase in one or more of these parameters within 14 days of such determination.

A significant increase in operational water quality levels has occurred if the measured concentration for any groundwater parameter exceeds the existing water quality value for that parameter within its respective flow regime (overburden, top-of-rock or lower bedrock) by three standard deviations or if the measured concentration exceeds existing water quality values and the applicable water quality standard value for that parameter (as established in either 6 NYCRR Part 703 or TOGS 1.1.1[1]. For parameters which are historically not detected or for which no water quality standard exists, the existing water quality value will be considered as one half the practical quantitation limit (PQL) for that parameter.

If it is determined at any monitoring well, that a significant increase from existing water quality levels for one or more of the baseline parameters presented in Table 3 has occurred, notification of the parameters which show significant increases from existing water quality levels will be provided to NYSDEC within 14 days of this determination.

An attempt may be made to demonstrate to NYSDEC that a source other than the facility caused the significant increase or that it resulted from an error in sampling, analysis, or natural variation in groundwater quality. A report documenting this demonstration will be submitted to NYSDEC for approval. If approved by NYSDEC, normal operational water quality monitoring may continue as described above for subsequent sampling rounds. If after 90 days, NYSDEC does not approve this demonstration, contingency monitoring will be initiated. If it can be demonstrated that the increase was the result of natural variation in groundwater quality, then the existing water quality value for the affected parameter(s) will be revised to include the results for the affected parameter(s).

4.0 Site Analytical Plan

4.1 Analytical Laboratory

Sample analyses and data validation will be performed by a laboratory/firm which is certified under the NYSDOH Environmental Laboratory Approval Program (ELAP) and is acceptable by NYSDEC.

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(1) Technical and Operational Guidance Series (1.1.1), Ambient Water Quality Standards and Guidance Values, NYSDEC Division of Water, October 1993.

4.2 Quality Assurance Plans and Procedures

The water quality sampling and analysis activities described in this Environmental Monitoring Plan will be conducted according to protocols approved by the NYSDEC such as:

- Eastman Kodak Company Environmental Analytical Services Comprehensive Quality Assurance Plan.
- RCRA Facility Investigation Health and Safety Plan for the Kodak Park Corrective Action Program.
- RCRA Facility Investigation Quality Assurance Program Plan for the Kodak Park Corrective Action Program.
- New York State Department of Environmental Conservation, Analytical Services Protocol.

These documents are approved by NYSDEC for use in RCRA facility investigations and as a result, the data quality objectives are generally consistent with NYCRR Part 360 requirements.

4.3 Data Quality Assessment

At the conclusion of each sampling and analysis event, a data quality assessment will be conducted and a data quality assessment report will be submitted with the results from each sampling and analysis event. The data quality assessment will include the following:

4.3.1 Data Validation

Data validation will be conducted on not less than 1 in 20 samples (5 percent) for each sampling event to determine if the analytical data, corrective actions taken during the sampling event, and field records are accurate and defensible.

Data validation for operational water quality sampling for routine parameters will be performed by the laboratory/firm that performed the sample analyses.

Data validation for baseline parameters or other water quality sampling events will be performed by a person/laboratory/firm other than that which performed the sample analyses which is deemed acceptable by NYSDEC.

Field records and analytical data will be reviewed to determine whether the data are accurate and defensible. All QA/QC information will be reviewed along with any corrective actions taken during that sampling event.

Data summaries will be marked to identify any data that are not representative of environmental conditions at the site, or that were not generated in accordance with the site analytical plan.

4.3.2 Data Usability Analysis

A data usability analysis will be performed on analytical data and will consist of the following:

- An assessment to determine if the data quality objectives were met.
- Comparison of the analytical data with the results from previous sampling events to verify consistency.
- Evaluation of field duplicate results to indicate the samples are representative.

- Comparison of the results of trip blanks, equipment blanks, and method blanks with full data sets to provide information concerning contaminants that may have been introduced during sampling, shipping or analysis.

- Evaluation of matrix effects to asses the performance of the analytical method with respect to the sample matrix, and determine whether the data have been biased high or low due to matrix effects.

- Integration of the field and analytical data with geological and hydrogeological data to provide information about the extent of contamination.

- Comparison of the precision, accuracy, representativeness, comparability, completeness, and defensibility of the data generated with that required to meet the data quality objectives established in the site analytical plan.

5.0 Reporting Requirements

Reporting requirements for this Environmental Monitoring Plan, including report frequency and contents, are presented in Table 4.

Water quality monitoring results will be reported to NYSDEC within 90 days of the conclusion of sample collection. A table showing the sample collection date, the analytical results (including results which were below the method detection limit), designation of upgradient wells, well identifier/name, applicable water quality standards, method detection limits (MDL's), and Chemical Abstracts Service (CAS) numbers on all parameters will be provided. In addition, tables or graphs representing the comparison of current water quality with existing water quality and with upgradient water quality will be included. Again, these comparisons may include tables or graphic representations such as Piper diagrams, Stiff diagrams, or other analyses.

A summary of the contraventions of State water quality standards, significant increases in concentrations above existing water quality, discussion of results, and any proposed modifications to the sampling and analysis schedule will also be presented.

All QA/QC documentation will also be submitted to NYSDEC.

The annual report will contain a summary of the water quality information listed above with special note of any changes in water quality which have occurred throughout the year.

Each water quality monitoring report will also include a data quality assessment report as described in Section 4.3 of this Environmental Monitoring Plan.

6.0 Summary

The long-term objectives of the WRL Environmental Monitoring Plan are to:

- comply with the Consent Order / Part 360 requirements;
- track the groundwater conditions using a representative monitoring well network;
- monitor storm water runoff (surface water) where the potential exists to discharge to public waterways; and
- monitor leachate from the facility's leachate collection system.

The monitoring points identified in this Environmental Monitoring Plan are sufficient to identify and evaluate changes in the water quality levels of groundwater, surface water, and leachate associated with the WRL facility.

7.0 Amendments to the Environmental Monitoring Plan

This Environmental Monitoring Plan was developed based on existing knowledge of the site. As new data is generated, monitoring points may either be added or deleted from the Environmental Monitoring Plan. Likewise, the frequency of water quality sampling and the parameters required for various monitoring points may warrant modification. Kodak will submit written notification to NYSDEC for approval prior to implementation of such changes. The Department has the ability to initiate changes to this Environmental Monitoring Plan if deemed appropriate.

TABLE 1

Sampling Frequency and Monitoring Parameters

Monitoring Point Description	Frequency	Parameters
Groundwater	Quarterly * Semi-Annual	• Measurement of the following field parameters: - Static water level; - PH; - Eh; - Dissolved Oxygen; - Conductivity; - Temperature; - Turbidity; - Floaters and Sinkers; and - Field observations • Measurement of the Routine Parameters listed in Table 2. • Measurement of the Baseline Parameters** listed in Table 3. • Static water level measurements.
Surface Water	Semi-Annual (Per KP SPDES Permit)	Per KP SPDES Permit: • Estimated Flow Rate • pH • Oil and Grease • Total Dissolved Solids • Total Suspended Solids • BOD, 5-day • TOC • Conductivity • Iron, total
Leachate	Semi-Annual	• Measurement of the following field parameters: - Static water level; - PH; - Eh; - Dissolved Oxygen; - Conductivity; - Temperature; - Turbidity; - Floaters and Sinkers; and - Field observations • Measurement of the Baseline Parameters** listed in Table 3.

* - Quarterly sampling for Routine Parameters will be done on quarters which alternate between Baseline Parameter sampling events.
** - Analysis for Baseline Parameters will include a laboratory search for Tentatively Identified Compounds (TIC's).

TABLE 2

Kodak Park
Weiland Road Landfill

Routine Parameters List

Leachate Indicators	Inorganic Parameters*
Total Kjeldahl Nitrogen	Cadmium
Ammonia	Calcium
Nitrate	Iron
Chemical Oxygen Demand	Lead
Biochemical Oxygen Demand (BOD_5)	Magnesium
	Manganese
Total Organic Carbon	Potassium
Total Dissolved Solids	Sodium
Sulfate	
Alkalinity	
Phenols	
Chloride	
Bromide	
Total Hardness as $CaCO_3$	

* - Analysis for **total** metals.

TABLE 3

Kodak Park
Weiland Road Landfill

Baseline Parameters List

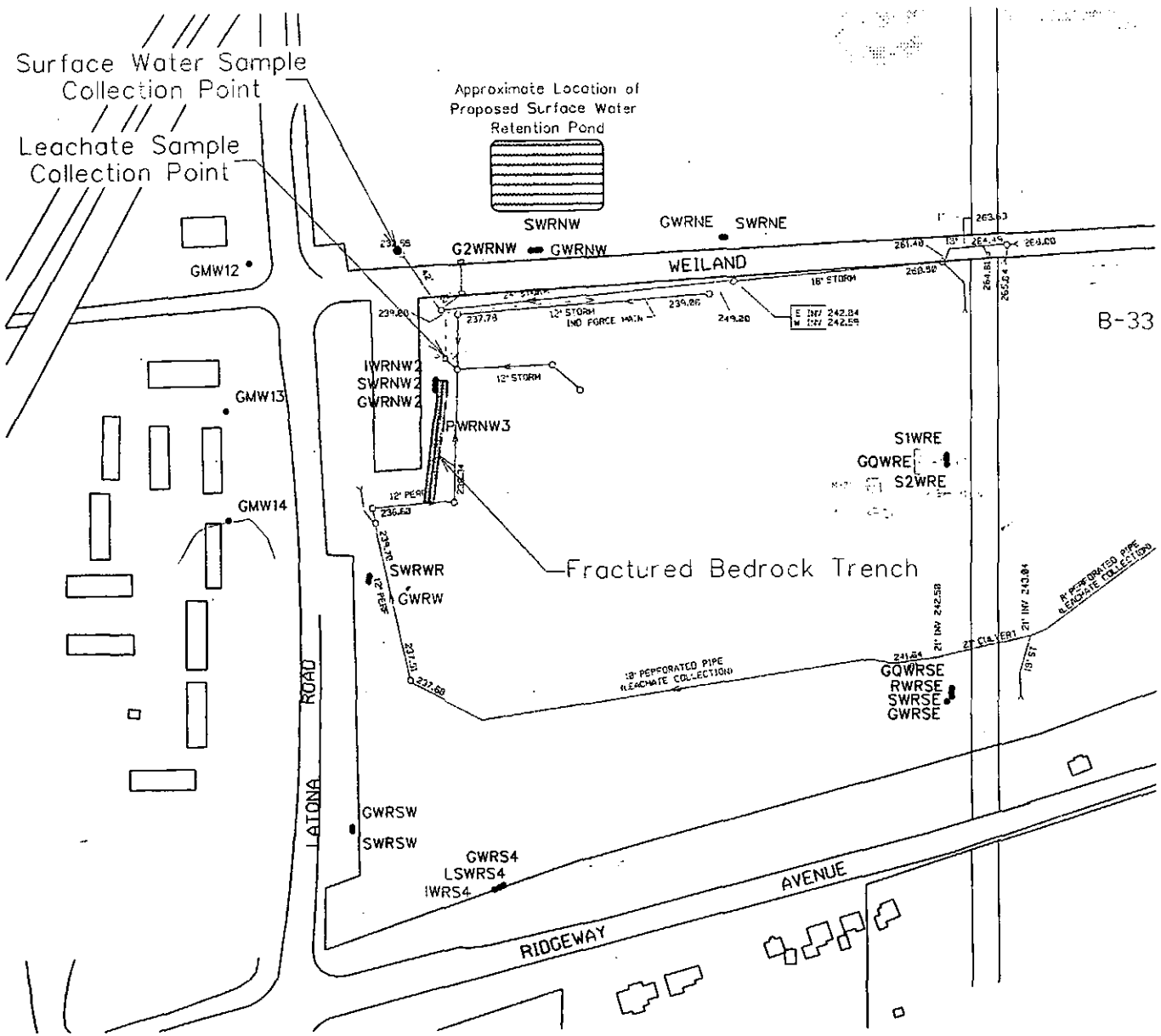
TCL Volatile Organic Compounds	TCL Metals*	Site-Specific Compounds
Chloromethane	Aluminum	Methanol
Bromomethane	Antimony	Isopropyl Ether
Vinyl Chloride	Arsenic	Tetrahydrofuran
Chloroethane	Barium	p-Dioxane
Methylene Chloride	Beryllium	Formaldehyde
Acetone	Cadmium	
Carbon Disulfide	Calcium	
1,1-Dichloroethene	Chromium	
1,1-Dichloroethane	Cobalt	
1,2-Dichloroethene (total)	Copper	
Chloroform	Iron	
1,2-Dichloroethane	Lead	
2-Butanone	Magnesium	
1,1,1-Trichloroethane	Manganese	
Carbon Tetrachloride	Mercury	
Bromodichloromethane	Nickel	
1,2-Dichloropropane	Potassium	
cis-1,3-Dichloropropene	Selenium	
Trichloroethene	Silver	
Dibromochloromethane	Sodium	
1,1,2-Trichloroethane	Thallium	
Benzene	Vanadium	
trans-1,3-Dichloropropene	Zinc	
Bromoform		
4-Methyl-2-pentanone		
2-Hexanone		
Tetrachloroethene		
Toluene		
1,1,2,2-Tetrachloroethane		
Chlorobenzene		
Ethyl Benzene		
Styrene		
Xylenes (total)		
Vinyl Acetate		

* - Analysis for **total** metals.

TABLE 4

Reporting Requirements

Report	Frequency	Timing	Contents
WRL Environmental Monitoring Plan - Operational Water Quality Monitoring Analytical Report	Quarterly	Within 90 days of completing sample collection	• Analytical results summary for groundwater monitoring wells including a listing of any TIC's detected, when applicable. This summary will include: – sample collection date, – the analytical results for detected compounds, – designation of upgradient wells, – well identifier/name, – applicable water quality standards, – method detection limits (MDL's), and – Chemical Abstracts Service (CAS) numbers on all parameters. • Analytical results summary for surface water monitoring point, when sampled. • Analytical results summary for leachate monitoring point, when sampled • Comparison of data to existing water quality values, water quality standards and upgradient well data. • Discussion of results and proposed monitoring modifications. • Discussion of any significant increases over existing water quality values. • Discussion of any contraventions of water quality standards. • Diskette containing analytical data in electronic format. • The annual report will contain a summary of the water quality information listed above with special note of any changes in water quality which have occurred throughout the year. • Data quality assessment report.



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WEILAND ROAD LANDFILL
ENVIRONMENTAL MONITORING PLAN

EASTMAN KODAK COMPANY
ROCHESTER, NEWYORK

KEY

- OVERBURDEN MONITORING WELL
- TOR MONITORING WELL
- LOWER BEDROCK MONITORING WELL

0 ft 125 ft 250 ft 500 ft

LOCATION DIAGRAM

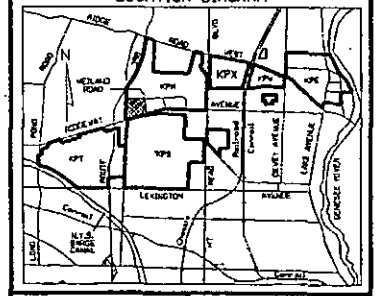

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FIGURE 1

KODAK PARK
CORRECTIVE ACTION PROGRAM
EASTMAN KODAK COMPANY
ROCHESTER, NEW YORK

WEILAND ROAD LANDFILL
WATER QUALITY MONITORING POINTS

APPENDIX A

WRL
List of Groundwater Monitoring Wells

WELL ID
SWRNW
GWRNW
G2WRNW
SWRNE
GWRNE
SWRNW2
IWRNW2
GWRNW2
SWRWR
GWRW
SWRSW
GWRSW
IWRS4
LSWRS4
GWRS4
SWRSE
RWRSE
GWRSE
GQWRSE
S1WRE
S2WRE
GQWRE
GMW12
GMW13
GMW14
PWRNW3

APPENDIX B
WEILAND ROAD LANDFILL
EXISTING GROUNDWATER QUALITY VALUES
OVERBURDEN

PARAMETER NAME	N	AVG CONC (MG/L)	STD DEV	3 X STD DEV	AVG + 3 X STD DEV (MG/L)	MIN CONC (MG/L)	MAX CONC (MG/L)
ACETONE	8	0.021	0.008	0.023	0.044	0.011	0.033
BENZENE	5	0.013	0.016	0.048	0.060	0.005	0.041
CHLOROFORM	2	0.005	0	0	0.005	0.005	0.005
ETHYL BENZENE	1	0.031		0	0.031	0.031	0.031
ISOPROPYL ETHER	1	0.006		0	0.006	0.006	0.006
METHYL ETHYL KETONE	1	0.12		0	0.12	0.12	0.12
TOLUENE	1	0.012		0	0.012	0.012	0.012
XYLENE, TOTAL	1	0.36		0	0.36	0.36	0.36
1,4-DIOXANE	5	0.023	0.018	0.053	0.076	0.01	0.051
PHENOL	2	0.048	0.021	0.064	0.11	0.033	0.063
ALUMINUM, TOTAL	77	6	12	35	41	0.11	89
ANTIMONY, TOTAL	38	0.013	0.028	0.085	0.098	0.002	0.13
ARSENIC, TOTAL	63	0.023	0.029	0.086	0.11	0.0004	0.12
BARIUM, TOTAL	69	0.32	0.21	0.64	0.97	0.047	1.3
BERYLLIUM	35	0.002	0.0007	0.002	0.004	0.001	0.003
CADMIUM, TOTAL	19	0.003	0.003	0.009	0.012	0.001	0.01
CALCIUM, TOTAL	82	274	139	416	690	74	765
CHROMIUM, TOTAL	53	0.015	0.023	0.070	0.085	0.001	0.14
COBALT, TOTAL	43	0.013	0.026	0.078	0.091	0.001	0.17
COPPER, TOTAL	58	0.041	0.049	0.15	0.19	0.007	0.311
IRON, TOTAL	82	10	19	56	66	0.079	152
LEAD, TOTAL	68	0.032	0.071	0.21	0.25	0.0005	0.41
MAGNESIUM, TOTAL	75	62	24	72	135	5	134
MANGANESE, TOTAL	82	1	1	3	4	0.036	5
MERCURY	51	0.002	0.011	0.032	0.034	0.00004	0.071
NICKEL, TOTAL	53	0.032	0.031	0.093	0.12	0.003	0.17
POTASSIUM, TOTAL	72	15	16	49	64	2	79
SELENIUM, TOTAL	37	0.010	0.044	0.13	0.14	0.0002	0.27
SILVER, TOTAL	44	0.008	0.01204896	0.036	0.044	0.001	0.057
SODIUM, TOTAL	80	509	288	863	1372	48	1080
THALLIUM, TOTAL	24	0.097	0.17	0.52	0.61	0.0002	0.73
VANADIUM, TOTAL	47	0.015	0.031	0.094	0.11	0.001	0.2
ZINC, TOTAL	78	0.16	0.23	0.69	0.85	0.006	2

APPENDIX B
WEILAND ROAD LANDFILL
EXISTING WATER QUALITY VALUES
TOP-OF-ROCK

PARAMETER NAME	N	AVG CONC (MG/L)	STD DEV	3 X STD DEV	AVG + 3 X STD DEV (MG/L)	MIN CONC (MG/L)	MAX CONC (MG/L)
ACETONE	14	0.028	0.021	0.062	0.090	0.01	0.077
BROMODICHLOROMETHANE	1	0.008		0	0.008	0.008	0.008
CARBON DISULFIDE	1	0.006		0	0.006	0.006	0.006
CHLOROFORM	3	0.009	0.003	0.008	0.017	0.007	0.012
METHANOL	18	2	2	6	8	0.37	6
TETRAHYDROFURAN	1	0.016		0	0.016	0.016	0.016
1,4-DIOXANE	34	0.090	0.068	0.20	0.29	0.01	0.3
ALUMINUM, TOTAL	94	2	6	18.4409254	21	0.017	42
ANTIMONY, TOTAL	47	0.009	0.007	0.020	0.029	0.001	0.03
ARSENIC, TOTAL	69	0.014	0.011	0.032	0.046	0.0004	0.052
BARIUM, TOTAL	69	0.20	0.15	0.46	0.66	0.025	0.53
BERYLLIUM	37	0.001	0.001	0.004	0.006	0.001	0.009
CADMIUM, TOTAL	16	0.004	0.004	0.011	0.014	0.0004	0.01
CALCIUM, TOTAL	107	206	102	305	511	21	662
CHROMIUM, TOTAL	56	0.007	0.008	0.024	0.032	0.001	0.035
COBALT, TOTAL	48	0.079	0.18	0.54	0.62	0.001	0.63
COPPER, TOTAL	59	0.022	0.017	0.052	0.074	0.004	0.079
IRON, TOTAL	107	4	7	21	25	0.1	61
LEAD, TOTAL	74	0.011	0.017	0.052	0.063	0.0003	0.1
MAGNESIUM, TOTAL	97	64	31	92	156	2	131
MANGANESE, TOTAL	106	0.44	1	3	4	0.033	7
MERCURY	56	0.0002	0.0003	0.0008	0.001	0.00001	0.002
NICKEL, TOTAL	53	0.011	0.011	0.033	0.044	0.001	0.05
POTASSIUM, TOTAL	105	21	19	57	78	1	101
SELENIUM, TOTAL	43	0.003	0.004	0.012	0.015	0.00003	0.017
SILVER, TOTAL	45	0.007	0.014	0.042	0.049	0.001	0.08
SODIUM, TOTAL	107	509	476	1428	1937	18	2070
THALLIUM, TOTAL	32	0.031	0.085	0.25	0.29	0.0001	0.32
VANADIUM, TOTAL	50	0.009	0.031	0.094	0.10	0.001	0.21
ZINC, TOTAL	90	0.076	0.097	0.29	0.37	0.002	0.557

APPENDIX B
WEILAND ROAD LANDFILL
EXISTING WATER QUALITY VALUES
LOWER BEDROCK

PARAMETER NAME	N	AVG CONC (MG/L)	STD DEV	3 X STD DEV	AVG + 3 X STD DEV (MG/L)	MIN CONC (MG/L)	MAX CONC (MG/L)
ACETONE	19	0.025	0.015	0.046	0.071	0.012	0.08
CARBON DISULFIDE	1	0.005		0	0.005	0.005	0.005
CHLOROFORM	1	0.007		0	0.007	0.007	0.007
METHANOL	30	10	21	64	74	0.39	110
METHYL ETHYL KETONE	4	0.18	0.32	0.96	1	0.014	0.66
TETRAHYDROFURAN	6	0.45	0.73	2	3	0.027	2
1,4-DIOXANE	4	0.015	0.002	0.005	0.020	0.013	0.017
PHENOL	3	0.012	0.002	0.007	0.019	0.009	0.013
ALUMINUM, TOTAL	47	3	6	19	22	0.082	40
ANTIMONY, TOTAL	19	0.047	0.11	0.33	0.38	0.001	0.5
ARSENIC, TOTAL	30	0.021	0.039	0.12	0.14	0.002	0.21
BARIUM, TOTAL	43	2	5	15	17	0.057	30
BERYLLIUM	16	0.012	0.013	0.038	0.050	0.001	0.053
CADMIUM, TOTAL	10	0.014	0.017	0.051	0.064	0.001	0.047
CALCIUM, TOTAL	46	1005	2019	6058	7062	6	8680
CHROMIUM, TOTAL	33	0.021	0.042	0.13	0.15	0.001	0.22
COBALT, TOTAL	22	0.16	0.28	0.85	1	0.001	1.138
COPPER, TOTAL	35	0.067	0.070	0.21	0.28	0.002	0.27
IRON, TOTAL	52	5	10	31	35	0.07	73
LEAD, TOTAL	40	0.082	0.26	0.78	0.86	0.0003	1
MAGNESIUM, TOTAL	42	109	148	445	554	0.30	737
MANGANESE, TOTAL	48	7	42	125	131	0.001	289
MERCURY	22	0.0002	0.0001	0.0004	0.0006	0.00004	0.0006
NICKEL, TOTAL	33	0.036	0.089	0.27	0.30	0.001	0.48
POTASSIUM, TOTAL	54	183	216	648	831	11	942
SELENIUM, TOTAL	24	0.019	0.060	0.18	0.20	0.0002	0.3
SILVER, TOTAL	28	0.021	0.028	0.083	0.10	0.001	0.12
SODIUM, TOTAL	45	3453	6625	19874	23327	115	25100
THALLIUM, TOTAL	29	0.089	0.22	0.67	0.76	0.0002	0.93
VANADIUM, TOTAL	29	0.008	0.015	0.045	0.054	0.001	0.078
ZINC, TOTAL	41	0.12	0.19	0.56	0.68	0.004	0.87

Contingency Water Quality Monitoring Program

Within 90 days of triggering a contingency water quality sampling event, each groundwater monitoring well (upgradient and downgradient) will be sampled and analyzed for the expanded parameters listed in NYCRR Part 360, Subpart 360-2.11(d)(6). If any of the expanded parameters are detected in the downgradient wells, a minimum of two samples from each well (upgradient and downgradient) will be collected within 30 days of obtaining the results of the expanded parameter analysis and analyzed for the detected constituents. These samples will be collected within 2 weeks of each other and then compared to the existing groundwater quality values listed in Appendix B. If an increase in the existing water quality values is indicated by this comparison, the existing water quality values for the affected parameter(s) will be revised to include the results for the affected parameter(s). The Department may delete any of the expanded parameters if it can be shown that the removed parameters are not reasonably expected to be in, or derived from the wastes contained in the landfill.

Within 14 days after obtaining the results of either the initial or subsequent sampling described above, NYSDEC will be notified of any parameters that were detected. Additionally, within 90 days, and on a quarterly basis, all wells will be sampled and analyzed for the baseline parameters listed in Table 3 and all expanded parameters which were detected in the initial or subsequent sampling described above. Subsequently, all wells will be sampled and analyzed on an annual basis for the expanded parameters.

If the concentrations of any of the expanded parameters are shown to be at or below the existing water quality for 2 consecutive sampling events, NYSDEC will be notified and, if approved by NYSDEC, the parameter(s) may be removed from the contingency water quality monitoring program. If the concentrations of all the expanded parameters are shown to be at or below existing water quality values for 2 consecutive sampling events, NYSDEC will be notified and, if approved by NYSDEC, normal operational water quality monitoring may resume.

If the concentrations of any expanded parameters are above existing water quality values, but all concentrations are below the applicable water quality standard value for that parameter (as

established in either 6 NYCRR Part 703 or TOGS 1.1.1), contingency water quality monitoring as described above will continue.

If one or more of the expanded parameters are detected at significant levels above the applicable water quality standard value for that parameter (as established in either 6 NYCRR Part 703 or TOGS 1.1.1) in any sampling event, NYSDEC will be notified within 14 days of this finding to identify the expanded parameters that have exceeded the groundwater quality standard. Additionally, all appropriate local government officials will be notified that this notification has been sent to NYSDEC. Efforts will be undertaken to characterize the nature and extent of contaminant migration. This may involve the installation of additional monitoring wells, if necessary. If practicable, at least one well will be installed at the facility boundary in the direction of contaminant migration. All persons who own land or reside on land that is directly over the contaminant plume, if contaminants have migrated off-site, will be notified. An attempt may be made to demonstrate to NYSDEC that a source other than the facility caused the contamination or that the significant increase resulted from an error in sampling, analysis, or natural variation in groundwater quality. A report documenting this demonstration will be submitted to NYSDEC for approval. If approved by NYSDEC, normal operational water quality monitoring may resume as described in Section 3 of this Environmental Monitoring Plan for subsequent sampling rounds. If, after 90 days, NYSDEC does not approve this demonstration, an assessment of corrective measures will be initiated in accordance with NYCRR Part 360, Subpart 360-2.20.

June 25, 1998

Mr. Thomas Marriott, P.E.
Director of Kodak Projects
New York State Department of
Environmental Conservation
6274 East Avon Lima Road
Avon, NY 14414

Dear Mr. Marriott:

Subject: Submission of the Weiland Road Landfill Environmental Monitoring Plan (EMP).

Enclosed please find the revised "Environmental Monitoring Plan for the Weiland Road Landfill", June 1998. The EMP contains modifications based on Department comments (Marriott to Loberg, June 9, 1998) pertaining to the Draft EMP previously submitted in February 1998.

The following summarizes Kodak's responses to the Department comments described in the June 9, 1998 letter. NYSDEC comments are included in bold followed by the Kodak response.

General Comments:

The monitoring plan will cover only "Section 1" of the landfill. However, the monitoring plan for Sections 2 and 3 will have to be tailored to address the needs for monitoring upgradient of Section 1 and those paramenters appropriate to landfill monitoring. A similar set of analytes will have to be monitored along with TICs. Please consider this when developing the RCRA Facility Investigation for the old landfill area and be advised that analytes detected in Sections 2 and 3 may need to be added to Section.

As discussed at the June 11, 1998 KPCAP meeting between Kodak and the Department, the RCRA Facility Investigation (RFI) for Areas 2 and 3 (Sections 2 and 3) will be monitored according to the current monitoring requirements for the WRLF contained within the Kodak Park Groundwater Sampling and Analysis Plan (KPGSAP). These parameters are consistent with the Baseline Parameters List, Table 3, in the EMP. Additionally, formaldehyde and tentatively identified compounds

EASTMAN KODAK COMPANY KP Health, Safety and Environment Services
Environmental Corporate Services Section
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(TICs) will be included for the initial RFI sampling round. The WRS4 and WRSE monitoring well clusters are considered upgradient of landfill operations in Area 1 (Section 1) and will be monitored as part of the EMP and RCRA RFI activities. The RCRA RFI Work Plan for the WRLF is being submitted June 25, 1998.

Specific Comments:

1.) Section 4.3.1 Data Validation

Page 9 – Please provide a proposed third-party data validator to perform the required data validations.

Kodak proposes to use Golder Associates, Inc. as the third-party data validator for Weiland Road Landfill EMP sampling and analysis activities. Golder Associates, Inc. is currently involved in other activities associated with the closure of the WRLF.

2.) Section 7.0 Amendments to the Environmental Monitoring Plan

Page 12 – The Department is in the process of developing revised surface and groundwater values and these may require an update of the existing water quality database for this facility in the future.

The existing water quality database will be modified as appropriate upon receipt of the revised surface and groundwater guidance values.

3.) Table 1 Sampling Frequency and Monitoring Parameters

Routine and Baseline Lists need to include pH, Eh, DO, Floaters/sinkers, per Part 360-2.11(d)(6).

Table 1 has been modified to include these parameters.

In addition to the above modifications, the Existing Groundwater Quality Values listed in Appendix B of the EMP have been updated. These revisions included the elimination of compounds which are not listed in Tables 2 and 3 of the plan and the combination of previous "double-listings" (e.g. Iron total and Iron Total Recoverable, etc.).

If you have any questions regarding this submittal, please contact Mr. Kurt Roser at (716) 588-3472.

Sincerely,

Bryan P. Gallagher

Bryan P. Gallagher
Kodak Park Corrective Action Program Manager

cc: R. Elliott (MCDOH)
E. Miles (NYSDEC, Albany)
D. Napier (NYSDOH)

bcc: KPCAP Central File (w/plan)
J. Gabriel (w/plan)
J. Gould (w/o plan)
P. Loberg (w/o plan)
D. Rice (w/plan)

NPEC, Inc.
3400 Ridge Road West, Suite 5-341, Rochester, New York 14626

October 9, 2002

Central File Copy

Mr. Thomas Marriott, P.E.
Director of Kodak Projects
New York State Department of
Environmental Conservation
6274 East Avon Lima Road
Avon, NY 14414-9519

Dear Mr. Marriott,

Subject: Proposed Modification to Weiland Road Landfill 6NYCRR Part 360 Environmental Monitoring Plan; Kodak Park, Rochester, New York

In an effort to provide consistency between the Kodak Park RCRA groundwater monitoring program and the Weiland Road Landfill Environmental Monitoring Plan (EMP), Kodak is proposing a modification to the EMP.

Kodak began actively monitoring groundwater quality at the Weiland Road Landfill (WRL) in 1978. In 1991, Kodak performed an extensive hydrogeologic investigation which resulted in the expansion of the groundwater monitoring well network at the WRL site. In January 1992, Kodak began implementation of the 6NYCRR Part 360 environmental monitoring requirements for the permitted active area of the landfill. Beginning in the third quarter of 1997, Kodak initiated quarterly sampling of the existing monitoring network for WRL consistent with the requirements of the EMP that was submitted in June 1998 and approved by the Department in October 1998.

Section 360-2.15 of 6NYCRR allows for revisiting the EMP following completion of 5 years of post-closure monitoring of a site. The last active area of the WRL was closed in 1998. As stated above, Kodak has been performing quarterly monitoring for the WRL since 1997, consequently, 5 years of quarterly groundwater monitoring have been performed consistent with the requirements of the EMP. Considering this history of monitoring, in addition to the history of recent groundwater quality, Kodak is requesting modifications to the EMP. These proposed modifications are presented below.

Proposed EMP Modifications

The following presents the proposed modifications to the EMP and future approach to monitoring of the site:

David J. Mitchell, P.G., P.E., Kodak Park Corrective Action Program Manager, Tel: (585)588-2117 Fax: (585)588-2161

- Sample the existing EMP wells in the Spring (2nd quarter) and Fall (4th quarter);

- The analysis suite for the Spring and Fall rounds will include field parameters, volatile organic compounds (VOCs), inorganic parameters, metals, and tentatively identified compounds (TICs) consistent with the existing EMP; and

- Leachate indicators will be added to the Spring and Fall rounds with the exception of Phenols, Total Hardness and Alkalinity. Phenol data will continue to be available through semi-volatile TIC analysis (USEPA 8270) which provides parts per billion (ppb) sensitivity as opposed to the parts per million (ppm) sensititvity provided by the current phenols method (USEPA 420.2). Monitoring of Alkalinity and hardness indicators would be maintained through alkaline earth metals analyses (SW 846 – Method 6010).

Under this approach, all monitoring wells currently in the EMP would be retained. The proposed modifications would only result in the elimination of 8 routine metals analyses and field parameters (e.g. pH, turbidity) included in the existing 1st and 3rd quarter monitoring events for the landfill. As noted, leachate indicators have been retained and shifted to the 2nd and 4th quarter events. Reporting of the Spring and Fall sampling events would remain as currently provided to the Department and would include a third party data validation review.

As you are aware, an extensive groundwater monitoring program is in place for Kodak Park and administered under the RCRA program. The sitewide RCRA monitoring events are conducted in the Spring and Fall of each year. As acknowledged in the EMP, the older portions of the WRL which were not closed under Part 360 are monitored in accordance with the site's RCRA groundwater monitoring program. The proposed modifications to the EMP would result in consistency of monitoring frequency between the two programs for the landfill.

Should you have any questions regarding the approach presented in this letter, please call me at (585) 588-2117.

Sincerely,

David J. Mitchell

\beb

c: Richard Elliott, MCDOH
Edward Miles, NYSDEC
David Napier, NYSDOH
File Copy

New York State Department of Environmental Conservation
Division of Air Resources/Kodak Projects, Region 8
6274 East Avon-Lima Road, Avon, New York 14414-9519
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Erin M. Crotty
Commissioner

December 5, 2002

Mr. David Mitchell
Kodak Park Corrective Action Program Manager
360 North Pastoria Environmental Corporation
3400 Ridge Road West - Suite 5-341
Rochester, NY 14626

Dear Mr. Mitchell:

Subject: Proposed Modifications to Weiland Road Landfill 6NYCRR Part 360 Environmental Monitoring Plan; Kodak Park, Rochester, New York

The Department has reviewed your request dated October 9, 2002, and approves the proposed modifications the Weiland Road Landfill Environmental Monitoring Plan (EMP).

Kodak's approach is to provide for future post-closure monitoring for the portion of the Weiland Road Landfill included under this plan. If it is deemed appropriate, the Department has the ability to initiate changes to this Environmental Monitoring Plan.

If you have any questions please contact Mark Domagala at (585) 226-5305.

Sincerely,

Thomas L. Marriott, P.E.
Director, Kodak Project

TLM/MD/pn
cc: M. Domagala
R. Elliot (MCDOH)
E. Miles
D. Napier (NYSDOH)