



State of Ohio Environmental Protection Agency

Northwest District Office

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Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

March 3, 2010

Mr. Douglas E. Roberts, President
Envirosafe Services of Ohio, Inc.
876 Otter Creek Road
Oregon, Ohio 43616-1200

**Subject: Hazardous Waste Permit Modification
Class 1A Approval & Classification
Envirosafe Services of Ohio, Inc.
U.S. EPA ID# OHD 045 243 706 / Ohio Permit #03-48-0092**

Dear Mr. Roberts:

On January 25, 2010, Ohio EPA received a request for a Class 1A (Class 1 requiring prior approval) hazardous waste permit modification (tracking number – OHD045243706-100125-1A-1) from Envirosafe Services of Ohio, Inc. (ESOI). Ohio EPA has evaluated the permit modification classification using the criteria found in paragraph (E)(2) of Ohio Administrative Code (OAC) Rule 3745-50-51 and in accordance with OAC Rule 3745-50-51(E)(1)(b) has determined that the permit modification meets the criteria of a class 1 modification requiring prior approval of the director. In addition, with this letter, Ohio EPA approves the above referenced Class 1A modification submitted pursuant to OAC Rule 3745-50-51.

The following modification revises Module K, *Integrated Ground Water Monitoring Program*, of your December 29, 2005, Ohio Hazardous Waste Facility Installation and Operation Permit to add Permit Condition K.2(b)(iii)(d)(v). The purpose of the modification is to establish a schedule for periodic re-evaluation of the prediction limits for ground water monitoring wells. The permit condition establishes a four-year cycle for re-evaluation beginning in calendar year 2010. The revised procedure will allow a number of re-evaluated statistically calculated prediction limits to be submitted to Ohio EPA simultaneously on a defined schedule. The following pages in Ohio EPA's records have been changed accordingly:

- Replaced Module K permit pages 140 to 156 with revised pages having the same page number.

Enclosed is a copy of the permit terms and conditions. This has been included to ensure that all involved parties have written confirmation of the change.* Please note that only page 140 contains changes to the text. The remaining pages are included due to formatting changes.

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Mr. Douglas E. Roberts
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If you have any questions concerning this action, please contact Lynn Ackerson at the Ohio EPA, Northwest District Office, at (419)373-4112.

Sincerely,



Shannon Nabors
District Chief

*Also, in accordance with OAC Rule 3745-50-51(D)(1)(a)(ii), ESOI shall send a notice within 90 days of an approved Class 1A Modification to all persons on the Agency mailing list. An updated mailing list can be obtained by contacting Jeremy A. Carroll, P.E., Manager, Regulatory and Information Services Section at (614) 644-2917, or by e-mail at jeremy.carroll@epa.state.oh.us.

LA/cs

Enclosure

pc: Mike Allen, RISS, DHWM, CO (w/enc.)
Cindy Lohrbach, DHWM, NWDO (w/o enc.)
Gary Deutschman, DHWM, NWDO (w/enc.)
Chris Maslo, DHWM, NWDO (w/enc.)
DHWM, NWDO File: ESOI Permit Terms and Conditions (enc. only)
DHWM, NWDO File: Permit (w/enc.)

ec: Jeremy Carroll, RISS, DHWM, CO (w/enc.)
Lynn Ackerson, DHWM, NWDO
Michael Terpinski, Supervisor, DHWM, NWDO
Gary Deutschman, DHWM, NWDO
Mike Beal, DDAGW, NWDO
Mary Setnicar, U.S. EPA, Region V
Jae Lee, U.S. EPA, Region V

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- (iv) When a trend in background data has been identified and it has been adequately demonstrated to not be the result of a release from the facility, then a moving window background should be used. The size of the moving window will be dependent upon the rate of change and the best balance between background size and variance.
 - (v) Background data for wells with established statistical comparison standards and a background size less than 16 must be re-evaluated on a fixed schedule of every four years, beginning in calendar year 2012. Data points available to the Permittee on July 1, 2012 (and on the first day of July every four years thereafter) will be used for recalculation of comparison standard values, provided that four or more new data points are available for the constituent-well combination being monitored as required in K.2(b)(iii)(d)(i). Recalculated statistical comparison standards must be submitted to Ohio EPA in the form of a Permit modification by the last day of the calendar year during which the recalculation is performed, based on the four-year schedule beginning in 2012. The Permittee may elect to recalculate individual statistical comparison standards at any well more frequently than specified herein, provided that the Permittee complies with the requirements of K.2(b)(iii)(d)(i) through K.2(b)(iii)(d)(iv).
- (iv) In addition to the constituents in Tables K-1 and K-2, the Permittee must collect and analyze samples from each well for the parameters listed in Table K-3 below.

Table K-3. Ground Water Quality Parameters

Parameters
pH
specific conductance
temperature
turbidity

Note: The parameters in Table K-3 will be measured in the field in accordance with the Permittee's Standard Operating Procedures for the collection of ground water samples as described in Appendix E.9 of the Part B Permit Application. These parameters will be collected to demonstrate that the collected ground water samples are representative of formation water.

(c) Concentration Limits

In lieu of establishing individual concentration limits for elevated constituents determined in Permit Condition K.2(b)(i), (ii) and (iii), K.6(c), (d), (e)(iii) and (g), per OAC Rule 3745-54-94 for the affected wells and their constituents, the Permittee must apply the ACL Model in accordance with Appendix E-11 of the approved Part B permit application.

(d) Compliance Period

The Permittee must monitor for the constituents identified in Tables K-1, K-2 and K-3 in Permit Condition K.2(b) during the compliance period described in Permit Condition I.1(c).

K.3 Corrective Action Program

OAC Rules 3745-54-98, 3745-54-99, 3745-54-100 and 3745-54-101.

When target risk levels, calculated in accordance with the ACL model in Appendix E-11 of the approved Part B permit application, are exceeded in the wells listed in Permit Condition K.2(a), the Permittee must:

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- (a) In accordance with OAC 3745-54-99(H), notify the director in writing within seven days of this finding.
- (b) Within 90 days of this finding, submit a permit modification to establish and implement a corrective action program that prevents constituents in the ground water from exceeding the risk standards specified in Permit Condition K.6(I)(i) by removing the hazardous waste constituents or by treating them in place. If corrective action pursuant to OAC Rule 3745-54-101 and Permit Module E is already occurring, then any corrective action necessary in response will be coordinated with Permit Module E to the extent practical.
- (c) The Permittee may demonstrate that a source other than the facility caused exceedance of the ACL risk goal or that the exceedance is an artifact caused by an error in sampling, analysis or statistical evaluation or natural variation in the ground water. In making such a demonstration, the Permittee must:
 - (i) Notify the director in writing, within seven (7) days of determining that the facility has reached or exceeded the ACL risk goal of the intent to make a demonstration.
 - (ii) Include in the Final Report in Permit Condition K.7(c)(v) a report which successfully demonstrates that a source other than the facility caused the standard to be exceeded of that the apparent noncompliance with the standards resulted from error in sampling, analysis or evaluation.
 - (iii) Include in the Final Report in Permit Condition K.7(c)(v) an application for a permit modification to make any appropriate changes to the IGWMP at the facility.
 - (iv) The Permittee may make this demonstration in addition to, or in lieu of, submitting a permit modification application to modify the IGWMP for corrective action as required by Permit Condition K.3(b) and OAC Rule 3745-54-99(H)(2). However, the same period of ninety (90) days is required for both a successful "Other Source Demonstration" and the submittal of the permit modification application in accordance with Condition K.3(b). The Permittee is not relieved of the ninety (90) day requirement for a permit

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modification unless the "Other Source Demonstration" is deemed successful by the Agency prior to the ninety (90) day time limit.

- (v) Continue to monitor in accordance with the IGWMP at the facility.

K.4 Sampling and Analysis Procedures
OAC Rule 3745-54-97(D) and (E)

The Permittee must use the following techniques and procedures when obtaining and analyzing samples from the ground water monitoring wells described in Permit Condition K.1:

- (a) Ground water elevations must be measured using the techniques described in Appendix E.9 of the approved Part B permit application.
- (b) Each well must be checked for the present of immiscible layers using an interface probe prior to purging where dissolved concentrations of any site-specific parameter indicates that immiscible layers could be present using the methods described in Appendix E.9 of the approved Part B permit application.
- (c) Sample Collection
 - (i) Samples must be collected and handled (including well evacuation, sample withdrawal, preservation, containerization, filtration and shipment) to ensure representative samples are obtained using the techniques and equipment described in Appendix E.9 of the approved Part B application.
 - (ii) The Permittee must collect samples from the wells least likely to exhibit ground water contamination prior to collecting samples from wells with known or suspected ground water contamination.
- (d) Field analysis must be performed using instruments, procedures and forms described in the approved Part B permit application. Instruments must be calibrated as described in Appendix E.9 of the approved Part B permit application.
- (e) Sampling equipment must be decontaminated using techniques described in Appendix E.9 of the approved Part B permit application.

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- (f) Purge water must be disposed in accordance with procedures described in Appendix E.9 of the approved Part B permit application.
- (g) Laboratory Analysis
 - (i) Laboratory analytical methods, detection limits and sample holding time must be in accordance with techniques described in Appendix E.9 of the approved Part B permit application.
 - (ii) Laboratory selection for sample analysis shall not be contingent upon Ohio EPA approval of laboratories.
- (h) Quality Assurance/Quality Control
 - (i) Quality assurance, including field/lab/equipment blanks, duplicate samples and identification of potential interferences, must be in accordance with the methods described in Appendix E.9 of the approved Part B permit application.
 - (ii) Field and analytical data must be validated in accordance with the procedures specified in Appendix E.12 of the approved Part B permit application and reported as specified in Permit Condition K.7(b)(vi) and (vii).
 - (iii) Chain of custody procedures, including standardized field tracking reporting forms, and sample labels, must be in accordance with Appendix E.9 of the approved Part B permit application.

K.5 Ground Water Surface Elevation
OAC Rule 3745-54-97(F)

- (a) The Permittee must determine the ground water surface elevation at each well, including chart recorder wells DUG-1, DUG-2, DDG-3, DDG-1 and CR-1, each time ground water is sampled, and submit the information in accordance with Permit Condition K.7(b)(xv).
- (b) The Permittee must report, in writing to the Ohio EPA, Northwest District Office, the surveyed elevation of the tops of casing, ground surface and/or aprons, and protective casings of any new or replacement monitoring

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wells specified in Permit Condition K.1(c) within 30 days of the date of installation.

K.6 Monitoring Program and Data Evaluation

OAC Rules 3745-54-96, 3745-54-98, 3745-54-99 and 3745-54-100

The Permittee must establish and implement an IGWMP as effective as the programs for detection monitoring under OAC Rule 3745-54-98 (ability to detect releases from the facility); compliance monitoring under OAC Rule 3745-54-99 (ability to determine if corrective action is required); and, where necessary, corrective action monitoring under OAC Rules 3745-54-100 and 3745-54-101 (ability to return the ground water to concentrations meeting the acceptable target risk levels using the ACL model). The Permittee must determine ground water quality as follows:

- (a) The Permittee must collect, preserve and analyze samples in accordance with Permit Condition K.4.
- (b) The Permittee must semi-annually determine the concentrations of the constituents specified in Tables K-1, K-2 and K-3 in Permit Condition K.2(b) throughout the compliance period and any extensions due to corrective action implementation, to demonstrate conformance with the ground water protection standard. Sampling for this determination must occur in April and October of each year. The permittee may utilize analysis of wells which are sampled in accordance with this permit and in the calendar month prior to an April or October semi-annual sampling event to meet the requirements of this condition. Analysis results for the samples must be submitted to Ohio EPA Northwest District Office and entered into the operating record in accordance with OAC Rule 3745-54-73 and Permit Condition K.7.
- (c) During each semi-annual sampling event, the Permittee must compare the concentrations of the constituents in Permit Condition K.2(b)(i) and (ii) in each well to the comparison standards specified or established in Permit Condition K.2(b)(i) and (ii) as indicated in Section E-6b of the approved Part B permit application. When the initial sample concentration of a constituent is equal to or exceeds its associated comparison standard in Permit Condition K.2(b)(i) or exceeds its associated comparison standard in Permit Condition K.2(b)(ii), the Permittee must re-sample the well(s) in question in duplicate. The duplicate samples will be analyzed by two

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independent laboratories. If the independent laboratory results have a relative percent difference of 30% or less, then the exceedence will be considered confirmed only if the analysis results from both laboratories exceed the associated comparison standard. If the independent laboratory results have a relative percent difference greater than 30%, then the exceedence will be considered confirmed if either result exceeds the associated comparison standard. If the exceedence is confirmed, the constituent will be considered to be elevated and the well will be considered to be affected. If the exceedence is not confirmed, the constituent will be considered to be not elevated and the well will remain unaffected and in detection monitoring, except as described in Permit Condition K.6(d), below:

- (d) If multiple non-naturally occurring constituents are confirmed in an unaffected well but at concentrations less than their associated comparison standards, then the Permittee must note this occurrence in the sampling report for that event. Ohio EPA will determine on a case-by-case basis whether such constituents and wells must be considered elevated constituents and affected wells.
- (e) Elevated Constituents
 - (i) Sampling and analysis of constituents listed in Appendix to OAC Rule 3745-54-98 must be conducted in accordance with the following:
 - (a) Whenever the concentration of a hazardous constituent listed in Permit Condition K.2(b)(i) is confirmed to be equal to or greater than its associated comparison standard, or whenever the concentration of a constituent listed in Permit Condition K.2(b)(ii) is confirmed to exceed its associated comparison standard at an unaffected well, the Permittee must conduct Appendix to OAC Rule 3745-54-98 sampling at all of the monitoring wells in that particular cluster and at adjacent wells screened in the same horizon as described in Section E.8b of the approved Part B permit application, initiated no later than the next regularly scheduled sampling event.

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- (ii) The Permittee may confirm the initial results of Appendix to OAC Rule 3745-54-98 sampling conducted pursuant to Permit Condition K.6(e)(i) in the same manner as described in Permit Condition K.6(c); otherwise any constituents reported initially will be assumed to be present.
- (iii) All non-naturally occurring constituents reported to be present at or above the practical quantitation limit (PQL) during the Appendix to OAC Rule 3745-54-98 sampling in accordance with Permit Condition K.6(e)(i) and (ii) must be considered elevated. For naturally occurring constituents the Permittee must determine if the constituents are elevated by developing comparison standards in accordance with the requirements of Permit Condition K.2(b)(iii).
- (iv) The Permittee must report to the director in writing, according to the schedule in Permit Condition K.7:
 - (a) The change in status from unaffected to affected for the wells found to have elevated constituents in accordance with Permit Conditions K.6(c) through (g);
 - (b) The concentrations of all constituents reported following the Appendix to OAC Rule 3745-54-98 sampling in Permit Conditions K.6(e)(i) and (ii), K.6(f) and K.6(g).
 - (c) A list of elevated constituents for each well; and
 - (d) A permit modification request to add the elevated constituents to the constituent list for the affected wells and the wells monitoring the vertical and horizontal extent of elevated constituents (adjacent wells in the same horizon and wells in the same cluster monitoring the zone above or below). The Permittee must begin sampling for the elevated constituents in the associated affected wells and adjacent (vertical and horizontal) wells during the next semi-annual sampling event.
- (f) If the results of Appendix to OAC Rule 3745-54-98 sampling in accordance with Permit Condition K.6(e) indicate constituents are present exceeding comparison standards, in accordance with Permit Condition

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K.6(e)(iii), in any of the wells adjacent to the well with the initial exceedence of a comparison standard, determined in accordance with Permit Condition K.2.(b)(i), (ii) and (iii), then the Permittee must conduct additional Appendix to OAC Rule 3745-54-98 sampling using the well sampling strategy described in Permit Condition K.6(e) not later than the next regularly scheduled sampling event at these adjacent wells. A well need only be sampled once within a given sampling event, excluding resampling or confirmation considerations, to meet the requirements of this Permit Condition, even if it is identified for this sampling more than once due to overlap.

- (g) The Permittee must analyze samples from all affected monitoring wells for all constituents contained in the Appendix to OAC Rule 3745-54-98 annually to determine if there are any new elevated constituents. The Permittee may confirm the initial results of this sampling in the same manner as described in Permit Condition K.6(c); otherwise, any constituents reported initially will be assumed to be present. The Permittee must identify the constituents that are elevated in accordance with the procedures in Permit Conditions K.2(b)(iii) and K.6(e)(iii). The Permittee must report the analysis results and identify any new elevated constituents to the director in writing as well as submit a modification request to add any newly identified elevated constituents to the constituent list for the affected wells and the adjacent wells (vertical and horizontal), according to the schedule in Permit Condition K.7(c)(iii). The Permittee must begin sampling and analyzing for the new constituents in the associated affected wells during the next semi-annual sampling event.
- (h) Affected well will revert to unaffected status when there have been no elevated constituents detected at the well for three consecutive sampling events. Non-naturally occurring constituents at the site listed in Permit Condition K.2(b)(i) or the Appendix to OAC Rule 3745-54-98 are no longer considered elevated when they have not been detected at or above the practical quantitation limit (PQL) for three consecutive sampling events. Naturally occurring constituents listed in Permit Condition K.2(b)(i) or K.2(b)(ii) or the Appendix to OAC Rule 3745-54-98 are no longer considered elevated when they are less than the associated comparison standard for three consecutive sampling events. Constituents that were added to a well's sampling and analysis list must remain on the well's sampling and analysis list.

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- (i) If a constituent's analytical result is equal to or greater than its comparison standard for non-naturally occurring constituents, or greater than its comparison standard for naturally occurring constituents, then in accordance with OAC Rule 3745-54-98(G)(1), the Permittee must notify the director, in writing, within seven (7) days of this finding. Comparison standards are determined in accordance with Permit Conditions K.2(b), K.6(c), (e), (f) or (g). The notification must indicate what chemical parameters or hazardous constituent have shown statistically significant evidence of contamination. The Permittee may demonstrate that a source other than the facility caused the contamination or that the detection is an artifact caused by an error in sampling, analysis or statistical evaluation or natural variation in the ground water. In making such a demonstration, the Permittee must:
- (a) Notify the director, in writing, within seven (7) days of determining that a constituent has reached or exceeded its comparison standard, of the intent to make a demonstration.
 - (b) Include in the Final Report in Permit Condition K.7(c)(v) a report which successfully demonstrates that a source other than the facility caused the newly elevated constituent(s), or that the newly elevated constituent(s) exceedance resulted from error in sampling, analysis or evaluation.
 - (c) Include in the Final Report in Permit Condition K.7(c)(v) an application for a permit modification to make any appropriate changes to the IGWMP at the facility.
 - (d) If this exceedance also causes an exceedance of the risk standard in the ACL model in Appendix E.11 of the approved Part B permit application, the Permittee may make this demonstration in addition to, or in lieu of, submitting a permit modification application to modify the IGWMP for corrective action as required by Permit Condition K.3(c) and OAC Rule 3745-54-99(H)(2). However, under Permit Condition K.3(c), the same period of ninety (90) days is required for both a successful "Other Source Demonstration" and the submittal of the permit modification application. The Permittee is not relieved of the ninety (90) day requirement for a permit modification unless this "Other Source Demonstration" is deemed successful by the Agency prior to the ninety (90) day time limit.

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- (e) Continue to monitor in accordance with the IGWMP at the facility.
- (j) For each elevated constituent the Permittee must report the extent of the plume. The report must include an isoconcentration map and isoconcentration cross section for each elevated constituent. The concentration or value of the parameter must be printed on the map and cross section next to the appropriate well location and concentration contours must be drawn on the map and cross section. The estimated extent of the plume must be indicated on the map and cross section. The report must include an evaluation of the need for additional monitoring wells to determine the full extent of the plume. If additional wells are needed to determine the extent of the plume, a Class 2 permit modification in accordance with Permit Condition K.1(c) must be included in the report. This report information must be included in each Final Data Report and Evaluation submitted in accordance with the schedule in Permit Condition K.7(c)(vi).
- (k) The Permittee will evaluate all elevated constituents in accordance with the ACL model in Appendix E.11 of the approved Part B permit application.
- (l) When evaluating the results of the ACL model:
 - (i) The comparison standard for noncarcinogenic risk is a hazard index of unity. The comparison standard for carcinogenic risk is 1.0×10^{-5} . The Permittee must calculate the total noncarcinogenic and carcinogenic risks for all of the constituents detected (and confirmed, optionally or as required) in all of the unaffected and affected wells, in accordance with the scenarios described in Appendix E.11 and Data Usability Guidelines in Attachment F of Appendix E.12 of the approved Part B permit application.
 - (ii) If the total noncarcinogenic and carcinogenic risks in a particular vicinity do not exceed their respective standards in Permit Condition K.6(l)(i), then routine monitoring will continue.

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(m) Applying the ACL Model

- (i) If the results of the ACL model indicate that the Permittee has not met the risk standards in Permit Condition K.6.(l)(i), then corrective action will apply, and must be conducted in accordance with Permit Condition K.3.
- (ii) Once the results of the ACL model have been evaluated for an area, and that area is determined to be subject to Corrective Action in accordance with Permit Condition K.3, it is not necessary to reevaluate the ACL for that area unless one or more of the following condition apply:
 - (a) New constituents of concern or wells are added to the affected well listing,
 - (b) Significant changes in constituent concentrations are observed, or
 - (c) New information regarding model input becomes available (e.g., toxicity data, fate and transport parameters).
- (iii) In addition to the risk standards for the ACL model, no concentrations in the uppermost aquifer in excess of maximum concentration levels (for constituents that have them) are permitted to leave the facility, including easements and rights-of-way. If such an exceedence occurs, then corrective action will apply, and must be conducted in accordance with Permit Condition K.3.
- (n) The Permittee must determine and report the ground water flow rate and direction in the uppermost aquifer semi-annually in accordance with Permit Condition K.7(b)(xvi).

K.7 Record Keeping and Reporting
OAC Rule 3745-54-75

- (a) The Permittee must submit semi-annually both a Preliminary Data Report and a Final Data Report and Evaluation for each semi-annual sampling and analysis event, conducted in April and October each year. Preliminary Data Reports must be submitted on or before July 1st for April

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events and January 2nd for October events. Final Data Reports and Evaluations must be submitted on or before September 1st for April events and March 1st for October events. If any of these dates fall on a weekend or state holiday, the reports will be due no later than the following business day. The reports must be submitted to Ohio EPA Northwest District Office and entered into the operating record in accordance with OAC Rule 3745-54-73. The Permittee must maintain all documentation from the laboratories regarding analysis of ground water samples. Ohio EPA may require submittal of a copy of the full quality assurance/quality control (QA/QC) report for a particular event if circumstances warrant; but, in general, this will not be required except as described in Permit Conditions K.7(b) and (c).

- (b) Preliminary Data Reports required by Permit Condition K.7(a) must include all the information listed below for: 1. Replacement well sampling required by Permit Condition K.1(e); 2. Background sampling for statistics required by Permit Condition K.2(b)(iii)(c); 3. Semi-annual sampling and analysis events required by Permit Condition K.6(b); 4. Appendix to OAC Rule 3745-54-98 sampling and analysis required by Permit Condition K.6(e)(i) and K.6.(f); and, 5. Annual Appendix to OAC Rule 3745-54-98 sampling and analysis required by Permit Condition K.6(g).
- (i) The laboratory results from each of the wells, including duplicates, and their associated data qualifiers;
 - (ii) The date each well was sampled (tabulated);
 - (iii) The date, time and identification of all blanks and duplicates (tabulated);
 - (iv) Any field log documenting deviation from the procedures in Appendix E.9 of the approved Part B permit application including documentation of parameter omissions during the sampling event;
 - (v) The date the Permittee received the results from the laboratory.
 - (vi) The date the owner or operator completed their preliminary review of the analytical laboratory's verification of the accuracy and precision of the analytical data and determined its quality. This review must be based upon the elements in Permit Condition

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K.7(b)(vii) and the data validation procedures in Appendix E.12 of the approved Part B permit application. Compliance will be facilitated by referring to:

Ohio EPA Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring, February 1995;

- (vii) The results of the preliminary data validation review per K.7(b)(vi) including: report completeness, chain of custody, sample receipt form, technical holding time review, data qualifiers including their definitions, dilutions, blank data, spikes, spike recovery %, surrogate recovery, and an explanation of any rejected results consistent with the U.S. EPA and Ohio EPA guidelines for data review;
- (viii) The results from all blanks (temperature, trip, field, equipment, method, etc.), matrix spike analysis, and laboratory control samples;
- (ix) Results of the field parameters;
- (x) All Chains-of-Custody;
- (xi) A list of affected wells;
- (xii) The constituent lists for the affected wells;
- (xiii) Identified of the person(s) performing the statistical evaluation;
- (xiv) Ground water elevation data, tabulated and evaluated as required by Permit Conditions K.5(a) and K.6(n);
- (xv) Potentiometric surface maps for each monitored zone based on the ground water elevation data [one map for each zone based on data from all wells and five maps (one for each month preceding the sampling event) for the bedrock aquifer based on data from DUG-1, DUG-2, DDG-3, DDG-1 and CR-1], whether the data are contourable or not; and,

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- (xvi) A discussion of flow characteristics, including any changes in ground water flow direction in the bedrock zone.
- (c) Final Data Reports and Evaluations required by Permit Condition K.7(a) must include the following:
- (i) The information specified in Permit Condition K.7(b)(i) through (xiii) for all resampling and analysis and confirmation sampling and analysis conducted to satisfy the requirements of the Permit Conditions referenced in paragraph K.7(b);
 - (ii) The date of completion of all data evaluation (ACL model, statistical analysis, etc.);
 - (iii) In accordance with Permit Condition K.6(c) and (g), identification of elevated constituents for each well; in accordance with Permit Condition K.6(d), identification of non-naturally occurring constituents that are confirmed in an unaffected well but at concentrations less than their associated comparison standards; in accordance with Permit Condition K.6(e)(iv), notice of change in well status from unaffected to affected; and, in accordance with Permit Condition K.6(h) notice of change in well status from affected to unaffected, and change in constituent from elevated to non-elevated;
 - (iv) The date the owner or operator completed their final review of the analytical laboratory's verification of the accuracy and precision of the analytical data and determined its quality and a signed statement of validity. This review must be based upon the elements in Permit Condition K.7(b)(vii) and the data validation procedures in Appendix E.12 of the approved Part B permit application.
 - (v) Plan maps, cross sections, and evaluations for each elevated constituent showing the extent of the plume in accordance with permit Condition K.6(j);
 - (vi) The results of applying the ACL model, including a discussion of the effect of using any qualified data;

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- (vii) A report on the effectiveness of the IGWMP, performed by a qualified hydrogeologist; and,
- (viii) A report on, and schedule for, any permit modification requests to be submitted in accordance with Permit Condition K.8. Permit modification requests may include, but are not limited to, those required by Permit Conditions:
 - (a) K.1(c), to add, remove or replace wells;
 - (b) K.1(e)(vi), for changes to the program as a result of a difference in ground water quality between a well and a replacement well;
 - (c) K.3(b) and (c)(iii), to establish a corrective action program meeting the requirements of OAC Rules 3745-54-100 and 3745-54-101;
 - (d) K.6(e)(iv)(d) and K.6(g), to add constituents to sampling and analysis lists for affected wells and adjacent wells;
 - (e) K.6(i)(iii), for changes to the program as a result of a demonstration;
 - (f) K.6(j), add wells to determine extent; and,
 - (g) K.8 changes as a result of the Permittee or the director determining that the IGWMP established by this Permit no longer satisfies the regulatory requirements.
- (d) The Permittee must submit an annual report to the director by March 1st of each year. The Permittee may submit this report in conjunction with the October sampling event Final Data Report [see Permit Condition K.7(a)]. Annual reports must reference the titles and dates of the semi-annual reports and any updates to those reports (for example, due to confirmation sampling, comments by Ohio EPA, etc.), but generally do not need to include duplicates of hard copies previously submitted. The annual reports must include at least a copy on disk of all ground water analyses and elevations, blank data, and a hard copy of well-specific information (location, depth, etc.) for any new/replacement wells in the format selected

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by Ohio EPA, as well as any other information specified in the instructions for the annual report not addressed in this Permit Condition.

K.8 Request for Permit Modification

OAC Rules 3745-54-98(H), 3745-54-99(J), 3745-54-100(H) and 3745-54-101

If the Permittee or the director determines that the IGWMP established by this Permit no longer satisfies the regulatory requirements, then the Permittee must submit an application for a permit modification within 90 days of this determination to make any appropriate changes to the program.

K.9 Compliance Schedule

The Permittee must submit to Ohio EPA within ninety (90) days after permit journalization an updated Section E of the permit application which addresses all the comments outlined in Attachment A of the permit.