UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
UNDERGROUND INJECTION CONTROL PERMIT: CLASS I NON-HAZARDOUS

Permit Number: MI-009-1I-0001

Facility Name: Beeland Disposal Well #1

Pursuant to the Underground Injection Control regulations of the U.S. Environmental Protection Agency codified at Title 40 of the Code of Federal Regulations (40 CFR), Parts 124, 144, 146, and 147,

Beeland Group, LLC of Jackson, Michigan

is hereby authorized to construct and operate a newly drilled Class I non-hazardous injection well located in Michigan, Antrim County, T30N, R5W, Section 14, SE Quarter Section, for injection into the Dundee Limestone and Detroit River Group at depths between 2150 feet and 2450 feet upon the express condition that the permittee meet the restrictions set forth herein. The injection of any hazardous fluid as specified in 40 CFR Part 261 is prohibited. Injection shall not commence until the operator has received authorization in accordance with Part I(J) of this permit.

All references to Title 40 of the Code of Federal Regulations are to all regulations that are in effect on the date that this permit is effective. The following attachments are incorporated into this permit: A, B, C, D, E, F, and G.

This permit shall become effective on MAR 12 2008, and shall remain in full force and effect during the life of the permit, unless this permit is revoked, terminated, modified or reissued pursuant to 40 CFR §§144.39, 144.40 or 144.41. The permit will expire in one (1) year if the permittee fails to commence construction, unless a written request for an extension of this one (1) year period has been approved by the Director. The permittee may request an expiration date sooner than the one (1) year period, provided no construction on the well has commenced.

This permit and authorization to inject shall expire at midnight on March 12, 2018, unless terminated prior to the expiration date.

Signed and Dated: February 7, 2008

Robert A. Kaplan
For

Tinka G. Hyde
Acting Director, Water Division

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PART I
GENERAL PERMIT COMPLIANCE

A. EFFECT OF PERMIT

The permittee is allowed to engage in underground injection in accordance with the conditions of this permit. Notwithstanding any other provisions of this permit, the permittee authorized by this permit shall not construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that allows the movement of injection, annulus or formation fluids into underground sources of drinking water (USDWs). The objective of this permit is to prevent the introduction of contaminants into USDWs if the presence of that contaminant may cause a violation of any primary drinking water regulation under 40 CFR Part 141 or may otherwise adversely affect the health of persons. Any underground injection activity not specifically authorized in this permit is prohibited. For purposes of enforcement, compliance with this permit during its term constitutes compliance with Part C of the Safe Drinking Water Act (SDWA). Such compliance does not constitute a defense to any action brought under Section 1431 of the SDWA, or any other common or statutory law other than Part C of the SDWA. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Nothing in this permit shall be construed to relieve the permittee of any duties under applicable regulations.

B. PERMIT ACTIONS

1. **Modification, Revocation, Reissuance and Termination** - The Director of the Water Division of the United States Environmental Protection Agency (USEPA), hereinafter, the Director, may, for cause or upon request from the permittee, modify, revoke and reissue, or terminate this permit in accordance with 40 CFR 144.12, 144.39, and 144.40. Also, the permit is subject to minor modifications for cause as specified in 40 CFR Section 144.41. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes, or anticipated noncompliance on the part of the permittee does not stay the applicability or enforceability of any permit condition.

2. **Transfer of Permits** - This permit is not transferable to any person except in accordance with 40 CFR Section 144.38.

C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

D. CONFIDENTIALITY

In accordance with 40 CFR Part 2 and Section 144.5, any information submitted to the USEPA pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, the USEPA may make the information available to the public without further notice. If a claim is asserted, the validity of the claim will be assessed in accordance with the procedures in 40 CFR Part 2 (Public Information). Claims of confidentiality for the following information will be denied:

1. The name and address of the permittee; and

2. Information which deals with the existence, absence or level of contaminants in drinking water.

E. DUTIES AND REQUIREMENTS

1. **Duty to Comply** - The permittee shall comply with all applicable Underground Injection Control (UIC) Program regulations and conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit issued in accordance with 40 CFR Section 144.34. Any permit noncompliance constitutes a violation of the SDWA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application.

2. **Penalties for Violations of Permit Conditions** - Any person who violates a permit requirement is subject to civil penalties, fines and other enforcement action under the SDWA. Any person who willfully violates permit conditions may be subject to criminal prosecution.

3. **Continuation of Expiring Permits**

   (a) **Duty to Reapply** - If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must submit a complete application for a new permit at least 60 calendar days before this permit expires.

   (b) **Permit Extensions** - The conditions of an expired permit may continue in force in accordance with 5 U.S.C. 558(c) and 40 CFR Section 144.37.

   (c) **Effect** - Permits continued under 5 U.S.C. 558(c) and 40 CFR Section 144.37 remain fully effective and enforceable.

(d) **Enforcement** - When the permittee is not in compliance with the conditions of the expiring or expired permit, the Director may choose to do any or all of the following:

(1) Initiate enforcement action based upon the permit which has been continued;

(2) Issue a notice of intent to deny the new permit in which case, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operation without a permit;

(3) Issue a new permit under 40 CFR Part 124 with appropriate conditions; or

(4) Take other actions authorized by the UIC regulations.

(e) **State Continuation** - A USEPA-issued permit does not continue in force beyond its expiration date under Federal law if at that time a State has primary enforcement responsibility under the SDWA. A State authorized to administer the UIC program may continue either USEPA or State-issued permits until the effective date of the new permits, if State law allows. Otherwise, the facility or activity is operating without a permit from the time of expiration of the old permit to the effective date of the State-issued new permit. Furthermore, if the State does not continue the USEPA permit upon obtaining primary enforcement responsibility, the permittee must obtain a new State permit or be authorized to inject by State rule. Failure to do so while continuing to operate the well constitutes unauthorized injection and is a violation subject to enforcement action.

4. **Need to Halt or Reduce Activity Not a Defense** - It shall not be a defense for the permittee in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. **Duty to Mitigate** - The permittee shall take all timely and reasonable steps necessary to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

6. **Proper Operation and Maintenance** - The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control and related appurtenances which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or

similar systems only when necessary to achieve compliance with the conditions of this permit.

7. **Duty to Provide Information** - The permittee shall furnish to the Director, within a time specified, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

8. **Inspection and Entry** - The permittee shall allow the Director or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

   (a) Enter, at reasonable times, upon the permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this permit;

   (b) Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;

   (c) Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

   (d) Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the SDWA, any substances or parameters at any facilities, equipment or operations regulated or required under this permit.

9. **Records**

   (a) The permittee shall retain records and all monitoring information, including all calibration and maintenance records and all original chart recordings for continuous monitoring instrumentation and copies of all reports required by this permit for a period of at least three (3) years from the date of the sample, measurement or report, unless these materials are submitted to the Director as part of reporting requirements under this permit.

   (b) The permittee shall maintain records of all data required to complete the permit application form for this permit and any supplemental information submitted under 40 CFR Sections 144.27, 144.28, and 144.31 for a period of at least three (3) years from the date the permit application was signed.

   (c) The permittee shall retain records concerning the nature and composition of all injected fluids until three (3) years after the completion of plugging and abandonment of this injection well.

(d) The retention period specified in Part I(E)(9)(a) through (c) of this permit may be extended by request of the Director at any time. The permittee shall continue to retain records after the retention period specified in Part I(E)(9)(a) through (c) of this permit or any requested extension thereof expires unless the permittee delivers the records to the Director or obtains written approval from the Director to discard the records.

(e) Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;

(2) The name(s) of individual(s) who performed the sampling or measurements;

(3) A precise description of both sampling methodology and the handling of samples;

(4) The date(s) analyses were performed;

(5) The name(s) of individual(s) who performed the analyses;

(6) The analytical techniques or methods used; and

(7) The results of such analyses.

10. **Monitoring** - Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The permittee shall use the methods described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (available from Solid Waste Information, USEPA, 26 W. St. Claire St., Cincinnati, Ohio 45268), or equivalent methods approved by the Director, to take representative samples. Monitoring results shall be reported at the intervals contained in Part II(D)(1) through (3) and Part III(A) of this permit.

(a) Monitoring of the nature of injected fluids shall comply with applicable analytical methods cited and described in Table I of 40 CFR Section 136.3 or in certain circumstances by other methods that have been approved by the Director.

(b) Sampling and analysis shall comply with the specifications of the Waste Analysis Plan required in Part II(C)(3) of this permit.

11. **Signatory Requirements** - All reports or other information, required to be submitted by this permit or requested by the Director shall be signed and certified in accordance with 40 CFR Section 144.32.

12. **Reporting Requirements**

(a) **Planned Changes** - The permittee shall give written notice to the Director, as soon as possible, of any planned physical alterations or additions to the permitted facility other than minor repair/replacement maintenance activities.

(b) **Anticipated Noncompliance** - The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) **Compliance Schedules** - Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted by the permittee no later than thirty (30) calendar days following each schedule date.

(d) **Twenty-four Hour Reporting**

(1) The permittee shall report to the Director any permit noncompliance which may endanger human health or the environment. See, e.g., Part I(G)(5) of this permit. Any information shall be provided orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances. Such reports shall include, but not be limited to the following information:

(i) Any monitoring or other information which indicates that any contaminant may cause an endangerment to a USDW; and

(ii) Any noncompliance with a permit condition, or malfunction of the injection system, which may cause fluid migration into or between USDWs; and

(iii) Any failure to maintain mechanical integrity.

(2) A written submission shall also be provided within five (5) working days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance.

(e) **Other Noncompliance** - The permittee shall report all other instances of noncompliance not otherwise reported at the time monitoring reports are submitted. The reports shall contain the information listed in Part I(E)(12)(d)(2) of this permit.

(f) **Other Information** - When the permittee becomes aware of failure to submit any relevant facts in the permit application or that incorrect information was submitted in a permit application or in any report to the Director, the permittee shall submit such facts or corrected information within ten (10) calendar days.

(g) **Report on Permit Review** - Within thirty (30) calendar days of receipt of this permit, the permittee shall certify to the Director that he or she has read and is personally familiar with all terms and conditions of this permit.

F. PLUGGING AND ABANDONMENT

1. **Notice of Plugging and Abandonment** - The permittee shall notify the Director at least sixty (60) calendar days before conversion or abandonment of the well. At the discretion of the Director, a shorter notice period may be allowed.

2. **Plugging and Abandonment** - The permittee must receive the approval of the Director before plugging the well and shall plug and abandon the well consistent with 40 CFR Sections 144.52(a)(6) and 146.10, as provided for in the Plugging and Abandonment Plan contained in Part III(B) of this permit. Within sixty (60) calendar days after plugging a well, the permittee shall submit a Plugging and Abandonment report to the Director. The report shall be certified as accurate by the permittee and by the person who performed the plugging operation (if other than the permittee), and shall consist of either:

   (a) A statement that the well was plugged in accordance with the Plugging and Abandonment Plan previously approved by the Director; or

   (b) If the actual plugging differed from the approved plan, a statement defining the actual plugging and explaining why the Director should approve such deviation. If the Director determines that a deviation from a previously approved plan may endanger underground sources of drinking water, the permittee shall replug the well as required by the Director.

3. **Temporary Abandonment** - If the permittee ceases injection into the well for more than twenty-four (24) consecutive months, the well is considered to be in temporary abandoned status, and the permittee shall plug and abandon the well in accordance with the approved plan and 40 CFR Section 144.52 (a)(6), or make another demonstration of non-endangerment (e.g., a standard annulus pressure test). During any periods of temporary abandonment or disuse, the well will be tested to ensure that it maintains mechanical integrity. Demonstrations of non-endangerment/testing will be due every two years from the last successful test (unless the permit requires more frequent demonstrations of mechanical integrity). If the well loses mechanical integrity prior to the next test due date, then the well must either be plugged or repaired and retested within 30 days of losing mechanical integrity. The permitttee

shall continue to comply with the conditions of this permit, including all monitoring and reporting requirements according to the frequencies outlined in the permit.

4. **Revision of Plugging and Abandonment Plan** - If the permittee finds it necessary to change a Plugging and Abandonment Plan, a revised plan shall be submitted to the Director for approval at the time of the next monthly report.

5. **Standards for Well Closure** - Prior to plugging and abandoning the well:

   (a) The permittee shall observe and record the pressure decay for a time specified by the Director and shall report this information to the Director.

   (b) The permittee shall conduct appropriate mechanical integrity testing to ensure the integrity of that portion of the long string casing and cement that will be left in the ground after closure. Testing methods must include:

      (1) Pressure tests with liquid;

      (2) Noise, temperature, or oxygen activation logs; or

      (3) Any other test required to evaluate mechanical integrity issues of concern identified by the Director.

   (c) Prior to well closure, the well shall be flushed with a buffer fluid.

G. MECHANICAL INTEGRITY

1. **Standards** - The injection well must have and maintain mechanical integrity consistent with 40 CFR Sections 146.8(a)(1) and (2). Mechanical integrity demonstrations must be witnessed by an authorized representative of the Director.

2. **Periodic Mechanical Integrity Testing [§146.8]** - The permittee shall conduct the mechanical integrity testing as follows:

   (a) Long string casing, injection tubing and annular seal shall be tested by means of an approved pressure test in accordance with 40 CFR Section 146.8(b)(2). This test shall be performed upon completion of this well, and at least once every twelfth month beginning with the date of the last approved demonstration and whenever there has been a well workover in which tubing is removed from the well, the packer is reset, or when loss of mechanical integrity becomes suspected during operation;

   (b) An approved temperature, noise, oxygen activation, or other approved log shall be run upon completion of this well and at least once every sixty (60) months from the date of the last approved demonstration to test for movement of fluid along the bore hole. The Director may require such tests whenever

the well is worked over. The permittee must submit logging procedures to the Director for approval before running logs for the purpose of meeting this requirement.

(c) The permittee may request the Director to use any other test approved by the Director in accordance with the procedures in 40 CFR Section 146.8(d).

3. **Prior Notice and Reporting** - The permittee shall notify the Director of his or her intent to demonstrate mechanical integrity at least thirty (30) calendar days prior to such demonstration. At the discretion of the Director a shorter time period may be allowed. Reports of mechanical integrity demonstrations which include logs must include an interpretation of results by a knowledgeable log analyst. The permittee shall report the results of a mechanical integrity demonstration within forty-five (45) calendar days after completion thereof.

4. **Gauges** - The permittee shall calibrate all gauges used in mechanical integrity demonstrations to an accuracy of not less than one-half (0.5) percent of full scale, prior to each required test of mechanical integrity. A copy of the calibration certificate shall be submitted to the Director or his or her representative at the time of demonstration and every time the gauge is calibrated. The gauge shall be marked in no greater than five (5) psi increments.

5. **Loss of Mechanical Integrity** - If the permittee or the Director finds that the well fails to demonstrate mechanical integrity during a test, or fails to maintain mechanical integrity during operation, or that a loss of mechanical integrity as defined by 40 CFR Section 146.8(a)(1) and (2) is suspected during operation, the permittee shall halt the operation immediately and follow the reporting requirements as directed in Part I(E)(12) of this permit. The permittee shall not resume operation until mechanical integrity is demonstrated and the Director gives approval to recommence injection.

6. **Mechanical Integrity Testing on Request From Director** - The permittee shall demonstrate mechanical integrity at any time upon written notice from the Director.

H. FINANCIAL RESPONSIBILITY

1. **Financial Responsibility** - The permittee shall maintain financial responsibility and resources to close, plug, and abandon the underground injection operation in a manner consistent with 40 CFR Section 144.52(a)(7). The approved financial assurance mechanism is found in Part III(C) of this permit.

(a) The permittee must maintain a written cost estimate, in current dollars, for the Plugging and Abandonment Plan as specified in 40 CFR Section 146.10. The plugging and abandonment cost estimate at any point in the life of the facility operation must equal the maximum cost of plugging and abandonment at that time.

(b) The permittee must adjust the cost estimate of plugging and abandonment for inflation within thirty (30) calendar days after each anniversary of the first estimate. Values may be adjusted based on an independent third-party cost estimate or bid, or the application of an inflation factor. The inflation factor is the result of dividing the latest published annual U.S. Department of Labor Producer Price Index (PPI) for the oil and gas extraction industry or the Oil and Gas Field Equipment Cost Index by the same index for the previous year.

(c) The permittee must revise the plugging and abandonment cost estimate whenever a change in the Plugging and Abandonment Plan increases the cost of plugging and abandonment.

(d) If the revised plugging and abandonment estimate exceeds the current amount of the financial assurance mechanism, the permittee shall submit a revised mechanism to cover the increased cost within thirty (30) calendar days after the revision specified in Part I(H)(1)(b) and (c) of this permit.

(e) The permittee must keep on file at the facility a copy of the latest plugging and abandonment cost estimate prepared in accordance with 40 CFR Section 144.52(a)(7), during the operating life of the facility.

2. **Insolvency** - The permittee must notify the Director within ten (10) business days of any of the following events:

(a) The bankruptcy of the trustee or issuing institution of the financial mechanism; or

(b) Suspension or revocation of the authority of the trustee institution to act as trustee; or

(c) The institution issuing the financial mechanism losing its authority to issue such an instrument.

3. **Notification** - The permittee must notify the Director by certified mail of the commencement of voluntary or involuntary proceedings under Title 11 (Bankruptcy), U.S. Code naming the owner or operator as debtor, within ten (10) business days after the commencement of the proceeding. A guarantor of a corporate guarantee must make such a notification if he or she is named as debtor, as required under the terms of the guarantee.

4. **Establishing Other Coverage** - The owner or operator must establish other financial assurance or liability coverage acceptable to the Director, within sixty (60) calendar days of the occurrence of the events in Part I(H)(2) or (H)(3) of this permit.

I. CORRECTIVE ACTION

1. **Compliance** - The permittee shall comply with 40 CFR Sections 144.55 and 146.7.

2. **Corrective Action Plan** - The permittee shall file a Corrective Action Plan for approval by the Director within thirty (30) days of a written determination by the Director that improperly plugged, completed, or abandoned wells, or wells for which plugging or completion information is unavailable and that have the potential to cause endangerment of a USDW, are present in the area of review and penetrate the confining zone of the permitted well, as defined in the administrative record for this permit.

3. **Prohibition of Movement of Fluids into USDWs [§144.12]** Should upward migration of fluids through the confining zone of this permitted well be discovered within the two mile area of review due to injection activities at this facility, and should this migration of fluids cause the introduction of any contaminant into a USDW pursuant to 40 CFR Section 144.12, the permittee shall immediately cease injection into this well until the situation has been corrected and reauthorization to inject has been given by the Director.

J. COMMENCING INJECTION

The permittee may not commence injection until:

1. Results of the formation testing and logging program as specified in the administrative record of this permit are submitted to and approved by the Director; and

2. Mechanical integrity of the well has been demonstrated in accordance with 40 CFR Sections 146.8(a)(1) and (2) and in accordance with Part I(G)(1) through (3) of this permit; and

3. Results from ambient monitoring as required in Part II(C)(4) of this permit have been submitted and approved by the Director; and

4. All required corrective action has been taken in accordance with 40 CFR Section 144.55 (b)(2); and

5. Construction is complete and the permittee has submitted to the Permit Writer, by certified mail with return receipt requested or equivalent document delivery method of originals with signatures required, a notice of completion of the construction using EPA form 7520-10,

6. Written authorization to commence injection has been granted by the Director.

PART II
WELL SPECIFIC CONDITIONS FOR UIC PERMITS

A. CONSTRUCTION

1. **Siting [§146.12(a)]** - The injection well shall inject only into the formation at the depths listed on the cover page of this permit. At no time shall injection occur into a formation which is or is above the lowermost formation containing, within one quarter mile of the well bore, an underground source of drinking water.

2. **Casing and Cementing [§146.12(b)]** - Notwithstanding any other provisions of this permit, the permittee shall case and cement the well in such a manner so as to prevent the movement of fluids into or between USDWs for the expected life of the well. The casing and cement used in the construction of this well are shown in Part III(E) of this permit and in the administrative record for this permit. Any change shall be submitted for approval by the Director before installation.

3. **Tubing and Packer Specifications [§146.12(c)]** - The permittee shall inject only through tubing with a packer set within the long string casing at a point within or below the confining zone. The tubing and packer used in the well are represented in engineering drawings contained in Part III(E) of this permit. Any changes shall be submitted by the permittee for the approval of the Director before installation.

4. **Wellhead Specification [§144.51(i)(4)]** - The permittee shall install and maintain a female coupling and valve on the wellhead, to be used for independent injection pressure readings. Further, the permittee shall install a sampling port for waste sampling consistent with the permittee's waste sampling procedures, if applicable.

B. OPERATIONS [§146.13]

1. **Injection Pressure Limitation** - Except during stimulation, the permittee shall not cause or permit the injection pressure at the wellhead to exceed the maximum limitation which is specified in Part III(A) of this permit. In no case shall injection pressure initiate fractures or propagate existing fractures in the confining zone or cause the movement of injection or formation fluids into an USDW.

2. **Additional Injection Limitation** - No waste streams other than those identified in Part III(F) of this permit shall be injected. Every twelfth month the permittee shall submit a certified statement attesting to compliance with this requirement.

3. **Annulus Fluid and Pressure** - The permittee shall fill the annulus between the tubing and the long string casing with a fluid approved by the Director and identified in the administrative record of this permit. Any change in the annulus fluid, except during workovers or times of annulus maintenance, shall be submitted by the permittee for the approval of the Director before replacement. Except during

workovers or times of annulus maintenance, the permittee shall maintain a positive pressure on the annulus as specified in Part III(A) of this permit.

4. **Annulus/Tubing Pressure Differential** - Except during workovers or times of annulus maintenance, the permittee shall maintain, over the entire length of the tubing, a pressure differential between the tubing and annulus as specified in Part III(A) of this permit.

5. **Automatic Warning and Automatic Shut-off System** - The permittee shall continuously operate and maintain an automatic warning and automatic shut-off system to stop injection in any of the following situations:

   (a) Pressure changes in the annulus or annulus/tubing differential signifying or identifying possible deficiencies in mechanical integrity; or

   (b) Injection pressure, annulus pressure, or annulus/tubing differential pressure reaches the pressure limits as specified in Part III(A) of this permit.

   The permittee must test the automatic warning and automatic shut-off system at least once every twelfth month. This test must involve subjecting the system to simulated failure conditions and must be witnessed by the Director or his or her representative, unless the Director approves alternative arrangements. Unless a trained operator is on site who is able to perceive shut-down alarms and is able to respond to the well controls or the wellhead within fifteen (15) minutes of a compliance alarm condition at all times when the well is operating, the special permit conditions related to the remote monitoring of the well in Part III(G) of this permit shall apply.

6. **Precautions to Prevent Well Blowouts** - In order to prevent the migration of fluids into underground sources of drinking water, the permittee shall maintain on the well at all times a pressure which will prevent the return of the injection fluid to the surface. The well bore must be filled with a high specific gravity fluid during workovers to maintain a positive (downward) gradient and/or a plug shall be installed which can resist the pressure differential. A blowout preventer must be kept in proper operational status during workovers wherein the potential exists for the well to backflow or blowout. In cases where the injected wastes have the potential to react with the injection formation to generate gases, the permittee shall follow the procedures below to assure that a backflow or blowout does not occur:

   (1) Limit the temperature, pH or acidity of the injected waste; and

   (2) Develop procedures necessary to assure that pressure imbalances do not occur.

C. MONITORING

1. **Sampling Point** - The injection fluid samples shall be taken at the sampling location as specified in Part III(A) of this permit.

2. **Continuous Monitoring Devices** - The permittee shall maintain continuous monitoring devices and use them to monitor injection pressure, flow rate, and the pressure on the annulus between the tubing and the long string of casing. If the well is equipped with a fluid level indicator, the permittee shall monitor the fluid level daily. The monitoring results shall be submitted to the Director as specified in Part II(D) of this permit. The permittee shall maintain for USEPA's inspection at the facility an appropriately scaled, continuous record of these monitoring results as well as original copies of any digitally recorded information pertaining to these operations. For the purpose of compliance with the requirement for continuous monitoring, continuous shall be defined as the analog recording of one data point for each monitored value a minimum of once every 10 seconds on a graphical paper record or the data sampling of each monitored value at a minimum rate of once every 5 seconds and the digital recording of the maximum, minimum and actual instantaneous value of each monitored value a minimum of once every 150 seconds.

3. **Waste Analysis Plan [§144.52(a)(5)]** - The permittee shall comply with the written Waste Analysis Plan which describes the procedures used to monitor the nature of injected fluids and the procedures which will be carried out to comply with Part (I)(E)(10) of permit. A copy of the approved plan shall also be kept at the facility.

4. **Ambient Monitoring [§146.13(d)(1)]** - The permittee shall monitor the pressure buildup in the injection zone initially upon completion of the well, and at least once every twelfth month thereafter, including at a minimum, a shut down of the well for a time sufficient to conduct a valid observation of the pressure fall-off curve. From this observation, the permittee shall submit a report including at least a calculation of pressure build-up in the injection zone, injection zone transmissivity, and wellbore skin factor.

D. REPORTING REQUIREMENTS [§146.13(c)]

The permittee shall submit all required reports to the Director at:

United States Environmental Protection Agency
77 West Jackson Boulevard (WU-16J)
Chicago, Illinois 60604-3590
ATTN: UIC Branch, Direct Implementation

1. **Monthly Reports** - The permittee shall submit monthly reports of the following information no later than the end of the month following the reporting period:

(a) Waste analysis results per the approved waste analysis plan as applicable. Laboratory reports must be submitted with the first monthly monitoring report following their receipt by the operator. This report must include statements showing that the requirements of Part I(E)(10) and Part II(C)(3) have been met;

(b) A tabulation of maximum injection pressure, a daily measurement of annulus tank fluid level, and minimum differential between simultaneous measurements of injection pressure and annulus pressure for each day of the month;

(c) Appropriately scaled graphs showing injection pressure and flow rate and annulus tank fluid level. One graph must include, at a minimum, daily maximum injection pressure and daily average flow rate, on a single, monthly chart.

(d) A statement of the total volumes of the fluid injected to date, in the current calendar year, and the current month;

(e) A tabulation of the dates, amounts and types of liquid added to or removed from the annulus system during the month, and the cumulative additions and cumulative subtractions for the current month and each of the past 12 months;

(f) Any noncompliance with conditions of this permit, including but not limited to:

(1) Any event that exceeds operating parameters for annulus pressure or injection pressure or annulus/tubing differential as specified in the permit; or

(2) Any event which triggers an alarm or shutdown device required in Part II(B)(5) of this permit.

2. **Annual Reports** - The permittee shall report the following at least every twelfth month:

(a) Results of the injection fluid analyses specified in the approved waste analysis plan as recorded in the administrative record for this permit as applicable. This report must include statements showing that the requirements of Part I(E)(10), Part II(B)(2) and Part II(C)(3) have been met;

(b) Results of ambient monitoring required by 40 CFR 46.13(d)(1) and Part II(C)(4) of this permit; and

(c) A certified statement attesting that no waste streams other than those identified in Part III(F) of this permit were injected into the well.

3. **Reports on Well Tests and Workovers** - Within forty-five (45) calendar days after the activity, the permittee shall report to the Director the results of demonstrations of mechanical integrity, any well workover, and/or results of other tests required by this permit.

PART III
ATTACHMENTS

These attachments include, but are not limited to, permit conditions and plans concerning operating procedures, monitoring and reporting, as required by 40 CFR Parts 144 and 146. The permittee shall comply with these conditions and adhere to these plans as approved by the Director, as follows:

A. SUMMARY OF OPERATING, MONITORING AND REPORTING REQUIREMENTS

B. PLUGGING AND ABANDONMENT PLAN

C. FINANCIAL ASSURANCE MECHANISM

D. CONTINGENT CORRECTIVE ACTION

E. CONSTRUCTION DETAILS

F. APPROVED WASTE ANALYSIS PLAN

G. SPECIAL CONDITIONS RELATED TO REMOTE MONITORING

ATTACHMENT A

SUMMARY OF OPERATING, MONITORING AND REPORTING REQUIREMENTS

SUMMARY OF OPERATING, MONITORING AND REPORTING REQUIREMENTS

CHARACTERISTIC	LIMITATION	MINIMUM MONITORING FREQUENCY	MINIMUM REPORTING FREQUENCY
Injection Pressure	150 psig maximum*	continuous	monthly
Annulus Pressure	100 psig minimum	continuous	monthly
Annulus/Tubing Differential	100 psig minimum above operating injection pressure	continuous	monthly
Flow Rate		continuous	monthly
Annulus Fluid Level		daily****	monthly
Cumulative Volume		continuous	monthly
Annulus Fluid Loss		monthly	monthly
Chemical Composition of Injected Fluids**		monthly	monthly
Physical Characteristics of Injected Fluids***		monthly	monthly

---

Sampling Location: The sample location is at the well head or from the flowline downstream of the final storage tank and downstream of any filtration equipment used in the system.

* The maximum injection pressure was determined using the following formula: [{0.80 psi/ft - (0.433 psi/ft x specific gravity)} x depth] - 14.7 psi. The maximum injection pressure is dependent upon depth, specific gravity of the injection fluid, and fracture gradient of the injection zone. The Dundee Limestone at 2150 feet was used as the depth and a specific gravity of 1.10 was used for the injection fluid. The fracture gradient of 0.80 psi/ft is used as a default value, unless a site-specific value is determined pursuant to Part III(A)(B) of this permit, in which case the maximum injection pressure will be modified to reflect the specific value of the fracture gradient in this well. Such modification shall be considered a minor modification as allowed for at 40 CFR §144.41(f). The limitation on injection pressure will serve to prevent injection-formation fracturing. Based upon this calculation the maximum injection pressure should be 681 psi, however the company requested a lower maximum injection pressure of 150 psi.

** As specified in the Waste Analysis Plan, found in the administrative record for this permit.

*** The daily monitoring of the physical characteristics of the injected fluids shall include the following parameters: Turbidity, pH and Specific Gravity, with monthly reporting of each.

**** See Attachment G for additional clarification associated with the frequency required for monitoring annulus fluid level.

Maximum Injection Pressure (146.13)

During construction of this well, the permittee shall determine if the maximum injection pressure as specified at Part III(A) of this permit allows sufficient operational flexibility. If sufficient flexibility is allowed by the initial maximum injection pressure, the permittee may opt not to proceed with additional testing and the requirements of this permit shall be met. If the maximum injection pressure requested prior to direct testing proves insufficient, or another need is identified that requires modifying the maximum injection pressure, the permittee shall conduct one or more of the following tests to ensure that the maximum injection pressure exerted during operation will not propagate existing or open new fractures in any part of the injection zone. In all cases, the permittee shall submit a plan, for the Director's approval, describing the detailed procedures to be followed during any test designed to determine maximum injection pressure. Modification of the maximum permitted injection pressure following a test conducted under this permit shall follow the procedures set forth for minor permit modifications, as specified at 40 CFR Section 144.41(f).

(a) **In-Situ Stress Tests**

The permittee shall isolate zones for testing the fracturing pressure by means of a straddle packer assembly, or other comparable means. The zones chosen for testing shall be those predicted to have the lowest fracturing value. The permittee shall use either fresh water to conduct this test or a fluid that is permissible for injection into this well as allowed by this permit. At a minimum, the permittee shall measure the test fluid for its specific gravity and viscosity during the In-Situ Stress test. The results of this test shall be submitted to the USEPA within 30 days of its completion. Failure to report test results maybe considered grounds to deny a requested permit modification.

(b) **Step Rate Test**

The permittee shall isolate the entire injection zone by means of a packer assembly, or other comparable means. The permittee shall inject either fresh water for this test or a fluid that is permissible for injection into this well as allowed for in this permit. At a minimum, the permittee shall measure the test fluid for its specific gravity and viscosity during the Step Rate Test. The permittee shall inject into the well at increasing rates, holding each rate step constant. Each rate step shall span the same amount of time (at least 30 minutes per rate step is recommended). The permittee shall attempt to inject at three (3) rates that result in a pressure higher than the injection zone fracture pressure during this test. A Cartesian plot of rate against the final stabilized pressure at each step shall be included as part of the data package submitted to the USEPA. The results of this test shall be submitted to the USEPA within 30 days of its completion. Failure to report test results maybe considered grounds to deny a requested permit modification.

(c) **Other Test(s) Approvable by the Director**

The permittee may choose to conduct test(s) other than the two described above. If so, the permittee shall submit a plan to conduct alternative test(s) to the Director for approval prior to conducting the test(s).

OMB No. 2040-0042 Approval Expires 1/31/05

United States Environmental Protection Agency
Washington, DC 20460

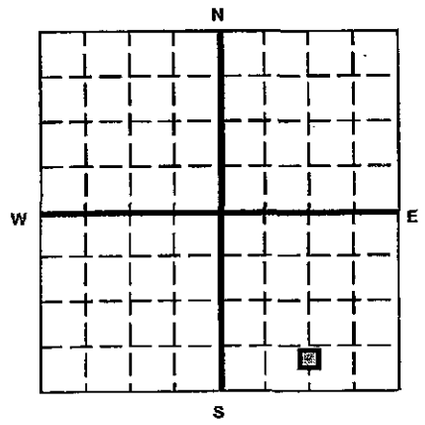
PLUGGING AND ABANDONMENT PLAN

Name and Address of Facility
Beeland Group, LLC
10577 Alba Highway Alba, Michigan 49611

Name and Address of Owner/Operator
Beeland Group, LLC
One Energy Plaza Jackson, MI 49201

State: Michigan
County: Antrim
Permit Number:

Locate Well and Outline Unit on Section Plat - 640 Acres



Surface Location Description
[ ] 1/4 of [ ] 1/4 of [S] 1/4 of [SE] 1/4 of Section [14] Township [30N] Range [5W]

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location [495] ft. frm (N/S) [S] Line of quarter section
and [132] ft. from (E/W) [E] Line of quarter section.

TYPE OF AUTHORIZATION
- [x] Individual Permit
- [ ] Area Permit
- [ ] Rule

Number of Wells [1]

WELL ACTIVITY
- [x] CLASS I
- [ ] CLASS II
  - [ ] Brine Disposal
  - [ ] Enhanced Recovery
  - [ ] Hydrocarbon Storage
- [ ] CLASS III

Lease Name
Well Number: Beeland Disposal No. 1

CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT (LB/FT)	TO BE PUT IN WELL (FT)	TO BE LEFT IN WELL (FT)	HOLE SIZE
13 3/8"	61#	--	175	driven
9 5/8"	36#	--	950	12 1/4"
7"	26#	--	2150	8 1/2"

METHOD OF EMPLACEMENT OF CEMENT PLUGS
- [ ] The Balance Method
- [ ] The Dump Baller Method
- [ ] The Two-Plug Method
- [x] Other

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Size of Hole or Pipe in which Plug Will Be Placed (inche	6 1/4"	7"	7"				
Depth to Bottom of Tubing or Drill Pipe (ft	2450, TD	2150	2100				
Sacks of Cement To Be Used (each plug)	48	7	291				
Slurry Volume To Be Pumped (cu. ft.)	74	11	451				
Calculated Top of Plug (ft.)	2150	2100	surface				
Measured Top of Plug (if tagged ft.)	---	---	---				
Slurry Wt. (Lb./Gal.)	14.1	14.1	14.1				
Type Cement or Other Material (Class III)	A, 4% bei	A, 5% bei	A, 5% bei				

LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS AND INTERVALS WHERE CASING WILL BE VARIED (If any)

From	To	From	To
none			

Estimated Cost to Plug Wells
Estimated cost of workover rig, cement and equipment: $26,700.00 DRAFT

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Joseph Tomasik, Vice President	Joseph P Tomasik	10/05/2006

EPA Form 7520-14 (Rev. 8-01)

(○) CEMENT, VOLUMES, FLUIDS and HOLE SIZE

[ ] TUBULARS and COMPONENTS

(A) 12 1/4" Hole, Cemented to Surface with 301 sacks*

(B) 8 1/2" Hole, Cemented to Surface with 289 sacks*

(C) 291 Sacks Cement, 2,100' to surface

(D) 7 Sacks Cement, 2,150' - 2,100'

(E) 48 Sacks Cement, 2,450' - 2,150'

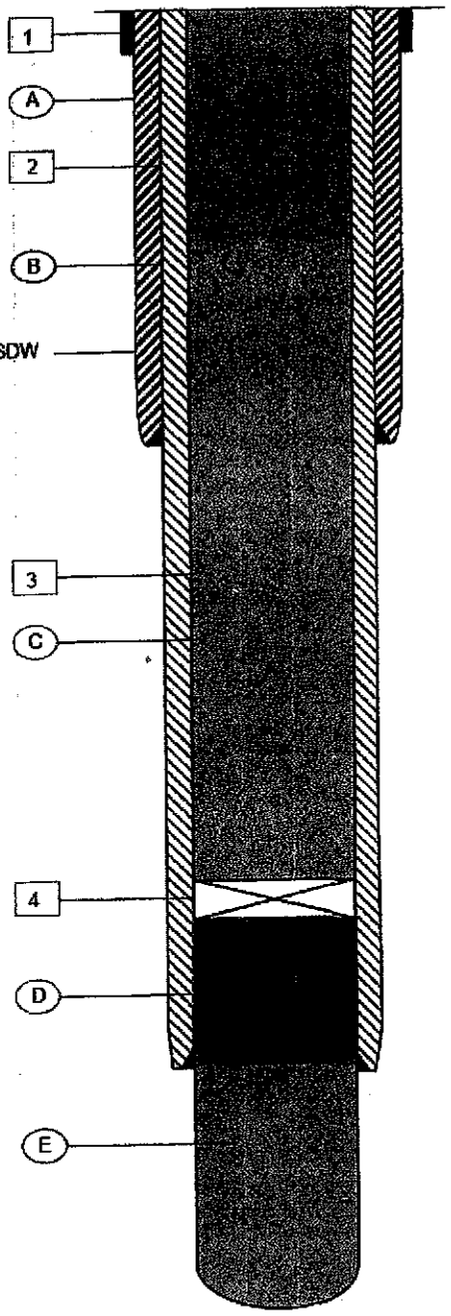
[1] Surface Casing: 13 3/8", Driven to refusal

[2] Intermediate Casing: 9 5/8", 36 lb/ft., K-55 or J-55, Set @ 950'

[3] Long String Casing: 7", 26 lb/ft., J-55 or K-55, Set @ 2,150'

[4] Mechanical Plug: Set @ 2,100' on top of cement retainer or original packer

*Annulus cement volumes based on 20% excess for gauge diameter openhole



Petrotek Engineering Corporation

Figure Q-1

Beeland Group, LLC.
Alba, Michigan Facility

WELL SCHEMATIC
DISPOSAL WELL NO. 1

SCALE: NONE DATE: Rev. 2/07

ATTACHMENT C
FINANCIAL ASSURANCE MECHANISM

Beeland Group, LLC has demonstrated adequate financial responsibility to properly plug and abandon the Class I non-hazardous well.

ATTACHMENT D
CONTINGENT CORRECTIVE ACTION

Currently a corrective action plan for any artificial penetrations is not required.

Should the potential for fluid migration to occur through the confining layer develop via any future well, the corrective action plan that the Beeland Group, LLC will pursue is as follows:

1. Beeland Group, LLC injection well will be shut-in.

2. The USEPA, Region 5 UIC Section and the Michigan Department of Environmental Quality (MDEQ) will be notified. Notification shall be in a timely fashion, as stated in Part 1(E)(12)(d) of this permit.

3. Following well shut-in, waste will be shipped to alternative permitted facilities for off-site treatment and/or disposal as necessary.

4. A contingency plan will be prepared as follows:

    a. Locate well and identify present operator or owner, if any.

    b. Identify mode of failure.

    c. Prepare remedial plan outlining course of action.

    d. The remedial plan will be submitted to the USEPA, Region 5 and MDEQ for approval.

    e. Upon authorization, the remediation plan will be implemented.

ATTACHMENT E
CONSTRUCTION DETAILS

(1) CEMENT, VOLUMES, FLUIDS and HOLE SIZE

[1] TUBULARS and COMPONENTS

(A) 12 1/4" Hole, Cemented to Surface with 301 sacks* Class A (MI equiv.)

(B) 8 1/2" Hole, Cemented to Surface with 289 sacks* Class A (MI equiv.)

(C) Annulus Fluid: Fresh water with Inhibitor and scavenger

(D) Completion: 6 1/4" Open Hole, total depth @ +/-2,450'

[1] Surface Casing: 13 3/8", 61#/ft., Driven to refusal as deep as 175'

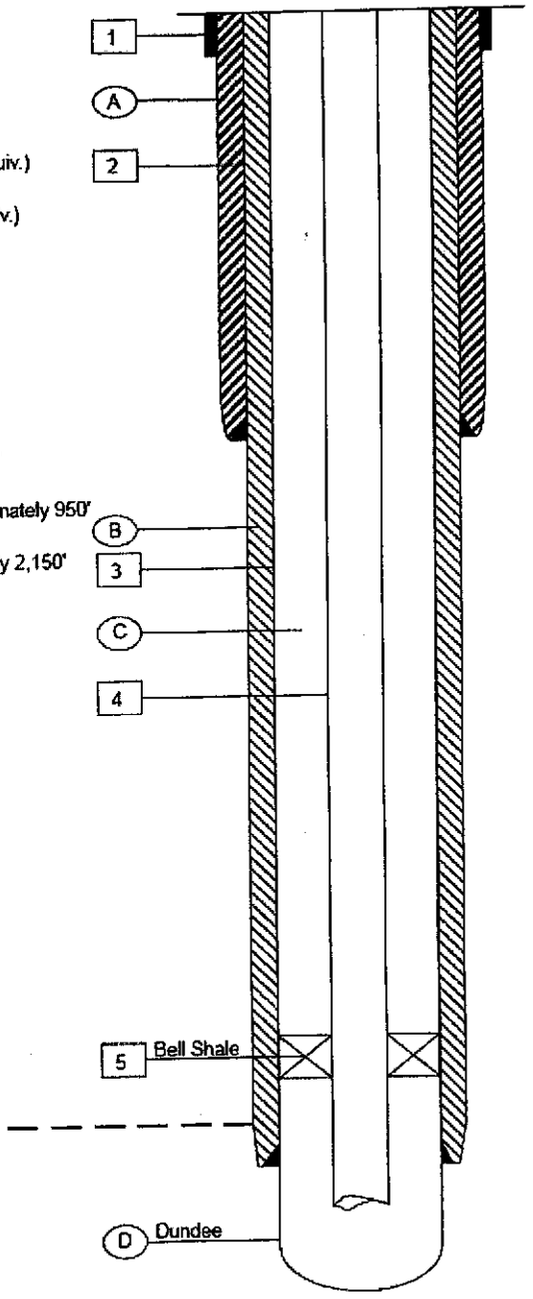
[2] Intermediate Casing: 9 5/8", 36 lb/ft., K-55 or J-55, Set @ approximately 950'

[3] Long String Casing: 7", 26 lb/ft., J-55 or K-55, Set @ approximately 2,150'

[4] Injection Tubing: 4 1/2", 11.6#/ft., J-55

[5] Packer: 7" x 4 1/2" Large Bore, Set @ approximately 2,100'

*Cement volumes based on 20% excess for gauge diameter openhole



Petrotek Engineering Corporation
Figure M-1
Beeland Group, LLC. Alba, Michigan Facility
WELL SCHEMATIC. DISPOSAL WELL NO. 1
SCALE: NONE DATE: Rev. 2/07

ATTACHMENT F
APPROVED WASTE ANALYSIS PLAN

1.0 INTRODUCTION

1.A. Background

The purpose of this Waste Analysis Plan (WAP) is to characterize the non-hazardous waste water that is injected into the proposed new Beeland Group, LLC (Beeland) No. 1 well at the Alba, Michigan facility. Beeland will be responsible for ensuring this WAP is implemented. The well is a proposed as a non-hazardous, non-commercial Class I industrial disposal well that is to be dedicated to the injection of fluids generated in association with a groundwater remediation project. Beeland will operate the well under this Waste Analysis Plan in accordance with Title 40 of the Code of Federal Regulations (40 CFR), Section 146.13 that requires operators of Class I underground injection wells to monitor and analyze the fluids injected into the well "to yield representative data of their characteristics." This Waste Analysis Plan has been prepared to fulfill the specifications of 40 CFR 146.68 such that the plan presents parameters for which the waste will be analyzed, methods that will be used to test for these parameters, and methods that will be used to obtain a representative samples of the waste to be analyzed.

1.B. Waste Source

The Class I non-hazardous waste to be injected into the Beeland Well No. 1 under this Waste Analysis Plan include fluids that are to be recovered at the Bay Harbor, Michigan Remediation Project along with fluids generated at the disposal well facility operation itself. These fluids are to be comprised of recovered groundwater and surface waters, both treated and untreated, storm-water run-off from the Bay Harbor project and at the well facility, along with any fluids generated during the operation and maintenance of the Class I injection well and the related unloading pad and surface facilities. No commercial or oilfield waste is to be managed at the facility.

1.C. Summary

Major portions of the Beeland waste characterization and monitoring program related to the acceptance and injection of off-site fluids consist of:
Volume Monitoring Generator Certification Sampling and Analysis Quality Assurance/Quality Control

2.0 PROCEDURES

2.A. Waste Unloading and Volume Monitoring

Offloading of fluid transports delivered from the Bay Harbor collection facilities will only be conducted with a trained operator physically present on site. A log sheet will be maintained on the site documenting that a trained well operator allowed waste to be unloaded. At a minimum, log sheet entries are to include operator name, date, time, approximate volume, truck or transport identification. Similar data may be obtained and recorded by filing manifest forms for the deliveries. The log sheet(s) and/or manifests will be considered part of the plant monitoring records regarding the injection well.

As discussed in the main text of the permit application, a recorder will be utilized to continuously monitor injection pressure, annulus pressure, flow rate and totalized cumulative volumes. A summary of recorded data will be provided to the EPA and/or MDEQ per applicable permit requirements. Records of daily volume accepted from the remediation project and any fluids managed from the onsite facility will be recorded and a total monthly volume of injectate calculated based on data maintained in the records will be noted in the monthly well reports made to EPA.

2.B. Waste Characterization
At a minimum, the following composition parameters will be monitored monthly for any month that fluid is injected. These parameters shall include:

pH
total dissolved solids
total suspended solids
specific gravity
specific conductance
total organic carbon
BTEX (if unloading pad fluids are being actively managed)
aluminum
arsenic
bicarbonate alkalinity
bromide
calcium
chloride
chromium
fluoride
iron
mercury
potassium
silica
sodium
sulfate

If fluids are not injected into the Beeland well during a calendar year, sample or analyses will not be required.

2.C. Sampling and Analysis
Beeland, or contracted personnel will collect necessary waste stream samples. All sampling procedures will be conducted at the direction of the selected, certified analytical laboratory and in accordance with acceptable US EPA procedures. The sampler's name, sampling point, and date sampled will be documented in chain-of-custody paperwork. Samples will be collected with the grab method.

The table included below summarizes the analytical method and sampling frequency for typical parameters that may be included in the waste sampling for a particular waste source.

WASTE SAMPLING METHODS

Test Parameter	Test Method	Units
Total Dissolved Solids, TDS	EPA 160.1	mg/L
Total Suspended Solids, TSS	EPA 160.2	mg/L
Specific Gravity	ASTM2710F	-
Total Organic Carbon, TOC	415.1,415.2	mg/L
Specific Conductance	120.1	-

Sodium	EPA 601 OB	mg/L
Calcium	EPA 601 OB	mg/L
Bicarbonate	EPA 310.1	mg/L
Sulfate	EPA 300.0	mg/L
Chloride	EPA 325.3	mg/L
BTEX	EPA 5030/8020	ug/l
Iron (Fe)	EPA 200.7	mg/L
Mercury (Hg)	EPA 7470	mg/L
Arsenic (As)	EPA 601 OB	mg/L
Chromium (Cr)	EPA 601 OB	mg/L
Corrosivity (D002)	SW-846 1110,9045	pH units

Notes: Beeland reserves the right to select use of the cited method or method with equal or greater detection limit
Samples will be collected at the point of generation or at the Beeland facility from transport tanks prior to unloading wastes into the storage or injection facilities.

3.0 QUALITY ASSURANCE/QUALITY CONTROL

3.A. General Sampling and Analytical Information

The sampling protocol will be followed by properly trained personnel conducting the sample collection and analysis. Beeland will adhere to guidelines set forth in "Test Methods for Evaluating Solid Waste", SW-846 and 'Methods for Chemical Analysis of Water and Wastes", EPA 600/4-79/020 as appropriate. Approved sample preservation techniques from 40 CFR 136.3 will be followed as appropriate. These will include preservation in plastic or glass sample containers provided by the laboratory and storage in a sample refrigerator or cooler for shipment to the laboratory. Beeland reserves the option to choose suitable laboratories for testing provided equivalent QA/QC standards are met.
Standard chain of custody protocols will be followed for waste collection, transport and analysis. Below are summaries of the minimum sampling and analysis protocols which will be followed for each characterization parameter:

Labeling
1. Sample name, date and time
2. Name of sample collector; (include sampling company name if not Beeland);
3. Sample collection method;
4. Sample collection point;

Reporting
1. Sample preservation technique, as appropriate;
2. Analytical method for parameter detection/quantification;
3. Analytical method accuracy and quantification limits; and
4. Field documentation of sampling.

The following are QA/QC parameters which will be followed to ensure the adequacy of the sampling and analytical techniques for wellhead sampling and analysis described in this plan.

3.B. Sampling Controls

1. Equipment Blanks

If possible, samples will be obtained directly from the sample tap or valve being used to access the tank or containment vessel and not be transferred to any secondary container or device before being stored in the sample container to be shipped to the laboratory. In this case, no equipment blanks will be required. If not, equipment blanks will be taken as deemed appropriate by Beeland for the purpose of detecting potential cross contamination due to improper decontamination of sampling equipment. After sampling, any secondary container or sampling device used will be decontaminated according to the sampling plan protocol. The sampling device will then be rinsed with deionized water and the rinsate collected in a sample container for transport to the laboratory for analysis of, at a minimum, the same parameters chosen in the sampling plan above.

2. Trip Blanks

In the case of suspect analysis from any laboratory, trip blanks will be used and will be sample containers filled with Type II reagent grade water at the laboratory, sealed at the laboratory, which accompany the sample containers used throughout the sampling event. The sample containers shall be handled in the same manner as the samples. Trip blank(s) will be sent to the laboratory for analysis of, at a minimum, the same parameters chosen in the sampling plan above. A minimum of one (1) trip blank per sampling event will be utilized, if necessary.

3. Sample Duplicates

On advance written demand of EPA, duplicate samples will be taken to assess the QA/QC of the laboratory conducting the analysis. Such samples will be drawn from the same site from which primary samples are taken. Duplicate samples, if taken, will be split from the original sample in a manner to emphasize sample representativeness. The duplicate will be labeled with a sample number that will not conflict with the other samples, but will not be discernable to the laboratory as a duplicate sample. If requested by EPA or MDEQ, one duplicate sample per sampling event will be taken and analyzed for the same parameters listed in the sampling plan.

4. Sample Chain-of-Custody Protocol

Sample chain-of-custody will be followed at all times during the sampling and subsequent analysis. Chain-of-custody will be used to document the handling and control necessary to identify and trace a sample from collection to final analytical results.

3.C. Analytical Controls

1. Equipment Calibration

Selected laboratories will maintain QA/QC data in accordance with that laboratory's Q/A plan regarding the frequency and type of instrument calibration performed at the laboratory and in the field. Any calibration of thermometers, gauges, chromatographs, spectrometers and other meters will be conducted according to appropriate instrument manufacturer specifications and manufacturer recommended frequencies or as dictated by applicable laboratory Q/A plans.

2. Data Reduction
The process of transcription of the raw data into the reportable units will be conducted by the laboratory in accordance with that laboratory's Q/A plan. Data reduction utilized in the analysis and reporting process will be presented in the reports to the US EPA for each sampling event and parameter tested by the specific laboratory used at the time.

3. Data Verification
Data verification will be conducted in accordance with the selected laboratory's Q/A plan after each sampling event by assigned laboratory personnel. Typical procedures will include review of chain-of-custody forms, equipment calibration records and data completeness. Spot checks of raw data versus reported data may be performed to review math accuracy, significant numbers and reporting units. In addition, certified laboratory standard quality assurance/quality control checklists will be utilized per the selected laboratory's Q/A plan for individual test methods such as blanks, standards, and comparisons of internal lab test duplicate results. Problems with any of these items will be indicated in the report to the agency.

4. Internal Quality Control
Certified quality control samples may be run periodically in accordance with the selected laboratory's Q/A plan with sample batches obtained from appropriate commercial sources, or appropriate regulatory entities. Internal quality control will be addressed as required by the selected laboratory's Q/A plan and will typically include disclosure of the laboratory's use of blanks, blind standards, matrix spikes and matrix spike duplicates, preparation of reagents, and laboratory duplicate or replicate analyses.

3.D. Actions
1. Corrective Actions
Corrective actions will be implemented by laboratories if the analytical or sampling method does not achieve laboratory standards or Beeland objectives. Actions may entail re-sampling the waste stream and/or re-analyzing the fluid for a particular parameter, re-calibrating an analytical device, or other appropriate actions. Action levels will be taken in accordance with SW 846 or other approved EPA methods.

2. Reports to US EPA, Region 5 and MDEQ
Reports to US EPA and MDEQ will contain results, data and sampling descriptions regarding the accuracy, completeness and repeatability of the reported analytical results. The report will contain a table that specifies the type of sample (blank, waste, etc.), sampling date, sampling location, analytical method, method detection limit and analytical result. The results of analyses and all accompanying data, including chain-of-custody forms, will be reported to US EPA with the next monthly operating report submitted to the agency after the receipt of the final sample analysis report from the laboratory. This submittal to the agency will typically be within sixty (60) days of the sampling event, unless prior arrangements have been made with the agency due to conditions beyond the control of the operator that prohibit such reporting.

ATTACHMENT G
SPECIAL CONDITIONS RELATED TO REMOTE MONITORING

If this well is monitored remotely, the following conditions shall be applicable.

For the purpose of this permit, remote monitoring is defined as injection into the well when a trained operator is not present on site property and able to perceive shut-down alarms and able to physically respond to the well controls or the wellhead within 15 minutes of a compliance alarm condition.

1. Local operating system and remote monitoring system: If remote monitoring is to be used to operate the well, an automatic pager designed to alert designated on-call, off-site personnel in the event of a well alarm or shut-in shall be onsite and equipped with a back-up power supply.

2. Response to automatic shut-downs: Alarm shut-downs of the operating well related to permit compliance conditions of the well under Part II(B)(5) shall be investigated on-site by a trained operator within one hour of pager notification of the occurrence.

3. Loss of power to the control system: In the event of a power failure beyond the capability of the back-up power supply shuts down the control system, the well shall be shut-in.

4. Loss of dial tone: If the automatic pager cannot get a dial tone for 15 minutes, the well shall automatically be shut-in.

5. Restart of the well after an automatic shut-in: Restart of the well after a shut-in related to a permit condition alarm (including, but not limited to, injection pressure, annulus differential pressure, loss of dial tone for more than 30 minutes or control system power failure) shall require the physical presence of the operator on-site before the well can be restarted.

6. Restart of the well after non-permit condition related or scheduled shut-ins: If the well is shut-in for more than 48 hours for circumstances unrelated to permit conditions, restart of the well shall require the physical presence of the operator on-site.

7. Weekly operator inspections: If fluid injection occurs during the period of any week and the well is being monitored remotely, a trained operator shall physically visit the site to inspect the facility at a minimum frequency of not less than once per week. This inspection shall verify the correct operation of the remote monitoring system by review of items such as, but not limited to, a comparison of the values shown on mechanical gauges with those reported by the remote operating system. Unless annulus pressure changes by more than 10 percent per week while the well is injecting, only one annulus fluid level per week shall be required to be taken, recorded and reported when injection takes place.

8. When the well is not actively being used for injection, one annulus tank fluid level measurement shall be taken, recorded and reported per week unless annulus fluid pressure decreases more than 10 percent per week. In such cases of increased annulus pressure

change, annulus fluid level measurements shall be taken, recorded and reported twice per week.

9. When not in use by a trained well operator, offloading connections shall be secured and shall be locked at the valves leading to waste water tanks so that access is restricted to trained well operators.

10. Offloading of fluid from transports can only occur with a trained operator physically present on site. A waste related log sheet and/or waste manifest file will be maintained documenting that a trained well operator allowed fluid to be unloaded. At a minimum, waste log entries are to include operator name, date, time, truck identification and approximate volume.