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

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA)
UNDERGROUND INJECTION CONTROL PERMIT: CLASS II

Permit Number: MI-055-2D-0042

Facility Name: Cherry Berry B1-25 SWD

Pursuant to the provisions of the Safe Drinking Water Act, as amended (42 U.S.C. 300f et seq., commonly known as the SDWA) and implementing regulations promulgated by the United States Environmental Protection Agency (USEPA) at Parts 124, 144, 146 and 147 of Title 40 of the Code of Federal Regulations (40 CFR),

O.I.L. Energy Corp. of Traverse City, Michigan

is hereby authorized to drill and operate an injection well located in Michigan, Grand Traverse County, T28N, R10W, Section 25, 1/4 Section NW, for injection into the Dundee Limestone at depths between 1920 and 2130 feet, upon the express condition that the permittee meet the restrictions set forth herein. Injection shall not commence until the operator has received authorization in accordance with Part I(E)(10) of this permit.

The purpose of the injection is limited to noncommercial brine disposal from production wells owned or operated by O.I.L. Energy Corp..

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.

NOV 9 2009

This permit shall become effective on _____ and shall remain in full force and effect during the operating life of the well, unless this permit is otherwise revoked, terminated, modified or reissued pursuant to 40 CFR §§ 144.39, 144.40 and 144.41. This permit shall also remain in effect upon delegation of primary enforcement responsibility to the State of Michigan, unless that State chooses to adopt this permit as a State permit. 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 will be reviewed at least every five (5) years from the effective date specified above.

Signed and dated: _____



Tinka G. Hyde
Director, Water Division

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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 conditions of this permit, except to the extent and for the duration such non-compliance is authorized by an emergency permit pursuant to 40 CFR § 144.34. Any permit noncompliance constitutes a violation of the SDWA and is grounds for enforcement action, permit termination, revocation and reissuance or modification.

2. **Penalties for Violations of Permit Conditions**

Any person who operates this well in violation of permit conditions is subject to civil penalties, fines, and other enforcement action under the SDWA and may be subject to such actions under the Resource Conservation and Recovery Act. Any person who willfully violates a permit condition is subject to criminal prosecution.

3. **Need to Halt or Reduce Activity not a Defense**

It shall not be a defense for a permittee in an enforcement action to state that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. **Duty to Mitigate**

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

5. **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

contained in Part III(B) of this permit. The owner or operator shall continue to retain the records after the three (3) year retention period unless he delivers the records to the Regional Administrator or obtains written approval from the Regional Administrator to discard the records.

- c. Records of monitoring information shall include:
- (i) The date, exact place, and the time of sampling or measurements;
 - (ii) The individual(s) who performed the sampling or measurements;
 - (iii) A precise description of both sampling methodology and the handling of samples;
 - (iv) The date(s) analyses were performed;
 - (v) The individual(s) who performed the analyses;
 - (vi) The analytical techniques or methods used; and,
 - (vii) The results of such analyses.

9. **Notification Requirements**

- a. **Planned Changes** - The permittee shall notify and obtain the Director's approval at least thirty (30) days prior to any planned physical alterations or additions to the permitted facility, or changes in the injection fluids. Within ten (10) days prior to injection, an analysis of new injection fluids shall be submitted to the Director for approval in accordance with Parts II(B)(2) and II(B)(3) of this permit.
- b. **Anticipated Noncompliance** - The permittee shall give at least thirty (30) days advance notice to the Director for his/her approval of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- c. **Transfer of Permits** - This permit is not transferable to any person except after notice is sent to the Director at least thirty (30) days prior to transfer and the requirements of 40 CFR § 144.38 have been met. The Director may require modification or revocation of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the SDWA.
- d. **Compliance Schedules** - Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any

The permittee shall not commence injection into any newly drilled or converted well until:

- a. Formation data and injection fluid analysis have been submitted in accordance with Parts II(A)(6) and II(B)(2), respectively;
- b. A report on any logs and tests required under Parts II(A)(5) and III(D) of this permit has been submitted.
- c. Mechanical integrity of the well has been demonstrated in accordance with Part I(E)(17);
- d. Any required corrective action has been performed in accordance with Parts I(E)(16) and III(C); and,
- e. Construction is complete and the permittee has submitted to the Permit Writer, by certified mail with return receipt requested, a notice of completion of construction using EPA Form 7520-10 and either:
 - (i) The Director has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the permit; or,
 - (ii) The permittee has not received, within thirteen (13) days of the date of the Director's receipt of the report required above, notice from the Director of his or her intent to inspect or otherwise review the new injection well, in which case prior inspection or review is waived and the permittee may commence injection.

11. **Signatory Requirements**

All reports or other information requested by the Director shall be signed and certified according to 40 CFR § 144.32.

12. **Notice of Plugging and Abandonment**

The permittee shall notify the Director at least forty-five (45) days before conversion or abandonment of the well.

13. **Plugging and Abandonment**

The permittee shall plug and abandon the well as provided in the plugging and abandonment plan contained in Part III(B) of this permit. Plugging shall occur as soon as practicable after operation ceases but not later than two (2) years thereafter. During the period of non-operation, the well must be tested to ensure

permit. If the permittee or the USEPA determines that the permitted well is not in compliance with 40 CFR § 146.8, the permittee will immediately shut in the well until such time as appropriate repairs can be effected and written approval to resume injection is given by the Director. In addition, the permittee shall not commence injection until any and all corrective action has been taken in accordance with any plan contained in Part III(C) of this permit and the requirements in Part I(E)(10) of this permit have been met.

17. **Mechanical Integrity**

- a. The permittee must establish (prior to receiving authorization to inject), and shall maintain mechanical integrity of this well, in accordance with 40 CFR § 146.8.
- b. A demonstration of mechanical integrity, in accordance with 40 CFR § 146.8, shall be performed at least every five (5) years from the date of the last approved demonstration. The permittee shall notify the Director of his/her intent to demonstrate mechanical integrity at least thirty (30) days prior to such demonstration.
- c. The permittee shall demonstrate the mechanical integrity of the well by pressure testing whenever:
 - (i) the tubing is removed from the well or replaced;
 - (ii) the packer is reset; or,
 - (iii) a loss of mechanical integrity occurs. Operation shall cease whenever one of the aforementioned conditions occurs and not resume until the Director gives approval to recommence injection.
- d. The Director may, by written notice, require the permittee to demonstrate mechanical integrity at any time.
- e. The permittee shall cause all gauges used in mechanical integrity demonstrations to be calibrated prior to the demonstration.
- f. The permittee shall cease injection if a loss of mechanical integrity occurs or is discovered during a test, or a loss of mechanical integrity as defined by 40 CFR § 146.8 becomes evident during operation. Operations shall not be resumed until the Director gives approval to recommence injection.
- g. The permittee shall notify the Director of the loss of mechanical integrity, in accordance with the reporting procedures in Parts II(B)(3)(d) and I(E)(9)(e) of this permit.

PART II

WELL SPECIFIC CONDITIONS FOR UNDERGROUND INJECTION CONTROL PERMITS

A. CONSTRUCTION REQUIREMENTS

1. **Siting**

Notwithstanding any other provision of this permit, the injection well shall inject only into a formation which is separated from any USDW by a confining zone that is free of known open faults or fractures within the area of the review.

2. **Casing and Cementing**

Injection wells shall be cased and cemented to prevent the movement of fluids into or between underground sources of drinking water. The casing and cement to be used in the construction of the well shall be as contained in Attachments L and M of the administrative record corresponding to this permit action which is hereby incorporated by reference as if they appeared fully set forth herein.

3. **Tubing and Packer Specifications**

Injection shall only take place through tubing with a packer set in the long string casing within or below the nearest cemented and impermeable confining system immediately above the injection zone. Tubing and packer specifications shall be as represented in engineering drawings contained in Attachments L and M of the administrative record corresponding to this permit action which are hereby incorporated by reference as if they appeared fully set forth herein. Any proposed changes shall be submitted by the permittee in accordance with Part I(E)(9)(a) and (b) of this permit.

4. **Wellhead Specifications**

For every injection well, the operator shall provide a female fitting, with a cutoff valve, to the tubing at the wellhead, so that the amount of injection pressure being used may be measured by a representative of the USEPA by attaching a gauge having a male fitting.

5. **Logs and Tests**

Upon approval of the surface casing and cementation records by the Director, any logs and tests noted in Part III of this permit shall be performed, unless already provided. Prior to commencement of injection, the permittee shall submit a descriptive report prepared by a knowledgeable log analyst interpreting the results

2. **Monitoring Requirements**

- a. Samples and measurements, taken for the purpose of monitoring as required in Part II(B)(3), shall be representative of the monitored activity. Grab samples shall be used to obtain a representative sample of the fluid to be analyzed. Part III(A) of this permit describes the sampling location and required parameters for injection fluid analysis. The permittee shall identify the types of tests and methods used to generate the monitoring data. The monitoring program shall conform to the one described in Part III(A) of this permit.
- b. **Analytical Methods** - Monitoring of the nature of injected fluids shall comply with applicable analytical methods cited and described in Table I of 40 CFR § 136.3 or in Appendix III of 40 CFR Part 261 or by other methods that have been approved by the Director.
- c. **Injection Fluid Analysis** - The nature of the injection fluids shall be monitored as specified in Part III(A) of this permit. An initial analysis of the injection fluid is contained in Attachment H of the administrative record corresponding to this permit action which is hereby incorporated by reference as if it appeared fully set forth herein. The Director may, by written notice require the permittee to sample and analyze the injected fluid at any time.
- d. **Injection Pressure, Annulus Pressure, Annulus Liquid Loss, Flow Rate and Cumulative Volume** - Injection pressure, annulus pressure, flow rate and cumulative volume shall be recorded at least weekly and shall be reported monthly as specified in Part III(A) of this permit. Annulus liquid loss shall be recorded at least quarterly and shall be reported in accordance with the provisions of Part II(B)(3)(b), as the volume of liquid added to the annulus to keep it filled in accordance with Part II(B)(1)(d). All gauges used in monitoring shall be calibrated in accordance with Part I(E)(17)(e) of this permit.

3. **Reporting Requirements**

Copies of the monitoring results and all other reports shall be submitted to the Director at the following address:

**U.S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3590
Attn: UIC Branch, Direct Implementation (WU-16J)**

PART III

SPECIAL CONDITIONS

These special conditions include, but are not limited to plans for maintaining correct operating procedures, monitoring conditions and reporting, as required by 40 CFR Parts 144 and 146. These plans are described in detail in the permittee's application for a permit, and the permittee is required to adhere to these plans as approved by the Director, as follows:

- A. OPERATING, MONITORING AND REPORTING REQUIREMENTS (ATTACHED)
- B. PLUGGING AND ABANDONMENT PLAN (ATTACHED)
- C. CORRECTIVE ACTION PLAN (ATTACHED)

OPERATING, MONITORING AND REPORTING REQUIREMENTS

Characteristic	Limitation	Minimum Monitoring Requirements		Minimum Reporting Requirements
		Freq.	Type	Freq
*Injection Pressure	554 psig (maximum)	weekly		monthly
Annulus Pressure		weekly		monthly
Flow Rate		weekly		monthly
Cumulative Volume		weekly		monthly
Annulus Liquid Loss		quarterly		quarterly
**Chemical Composition of Injection Fluid		annually	grab	annually

SAMPLING LOCATION: The sample location is at the well head.

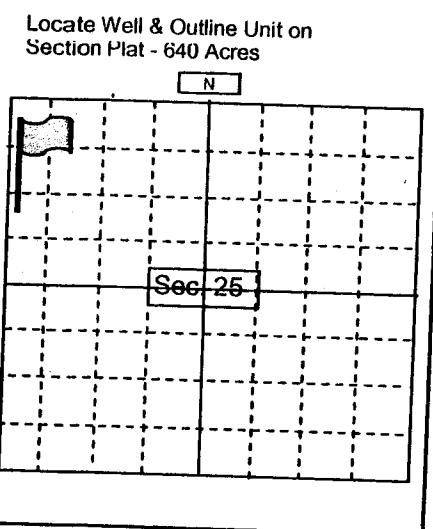
*The limitation on wellhead pressure serves to prevent confining-formation fracturing. This limitation was calculated using the following formula: [$\{.80 \text{ psi/ft} - (0.433 \text{ psi/ft})(\text{specific gravity})\} \times \text{depth}] - 14.7 \text{ psi}$. The maximum injection pressure is dependent upon depth and specific gravity of the injected fluid. The Dundee Limestone at 1920 feet was used as the depth and a specific gravity of 1.16 was used for the injected fluid.

**Chemical composition analysis shall include, but not be limited to, the following: Sodium, Calcium, Magnesium, Barium, Total Iron, Chloride, Sulfate, Carbonate, Bicarbonate, Sulfide, Total Dissolved Solids, pH, Resistivity (ohm-meters @ 75°F), and Specific Gravity.

PLUGGING & ABANDONMENT PLAN

WELL NAME & NUMBER, FIELD NAME, LEASE NAME & NUMBER
 CHERRY BERRY B1-25 SWD

NAME, ADDRESS, & PHONE NUMBER OF OWNER / OPERATOR
 O.I.L. Energy Corp.
 954 Business Park Dr., Suite #5
 Traverse City, MI 49636



STATE MI COUNTY Antrim STATE PERMIT NUMBER Pending

SURFACE LOCATION DESCRIPTION
NW 1/4 of SW 1/4 of NW 1/4 of Section 25 Township T28N Range R10W

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION & DRILLING UNIT
 Surface Location 1428 ft. From (N/S) NORTH Line of Quarter Section
 & 23 ft. From (E/W) EAST Line of Quarter Section

TYPE OF AUTHORIZATION
 Individual Permit
 Rule
 Area Permit

Number of Wells in Area Permit 1
 US EPA Permit Number pending

WELL ACTIVITY

Class I
 Hazardous
 Nonhazardous
 Class II
 Brine Disposal
 Hydrocarbon Storage
 Enhanced Recovery
 Class III
 Class IV

CASING/TUBING/CEMENT RECORD AFTER PLUGGING & ABANDONMENT

Size	Wt (lb/ft) TBG/CSG	Original Amount (CSG)	CSG to be Left in Well	Hole Size	Sacks Cement Used	Type
13 3/8"	Conductor	50'	50'	Driven	Driven	none
8 5/8"	20#	515'	515'	12 1/4"	C to S	Cl A/Lite
5 1/2"	14#	1935'	1935'	7 7/8"	C to S	Cl A/Lite

METHOD OF EMPLACEMENT OF CEMENT PLUGS

Balance Method
 Dump Bailer Method
 Two Plug Method
 Other

CEMENT TO PLUG & ABANDON DATA

Size of Hole or Pipe in Which Plug Will Be Placed (inches)	Plug # 1	Plug #	Plug # 2	Plug# 3	Plug # 4	Plug #	Plug #
Calculated Top of Plug (ft.)	4 3/4" & 5 1/2"		5 1/2"	5 1/2"			
Measured Top of Plug (ft.)	1900'		1650'	0'			
Depth to Bottom of Plug (ft.)	2130'						
Sacks of Cement to be Used	34		1900'	565'			
Slurry Volume to be Used (cu. Ft.)	38.04		30	66			
Slurry Weight (lb./gal.)	15.6		34.25	77.41			
Type of Cement, Spacer or Other Material Used	Class A		15.6	15.6			
Type of Preflush Used	FW		FW	FW			

DESCRIPTION OF PLUGGING PROCEDURE

Pull tubing & packer, TIH to total depth 2130' & circulate 35 sx Class A. cement to a depth of 1900'. TOOH w/tubing & pick up Cmt. Ret. TIH & set Ret. 1900'. Release from Cmt. Ret., circulate 30 sx Class A cmt to 1650'. Trip up hole to 565'. Circulate 66 sx Class A cmt to surface. Cut casing off 4' below ground level & weld 1/2" steel plate in stub with permit number welded on it. Back fill & restore location.

ESTIMATED COST OF PLUGGING & ABANDONMENT

Cement	\$ 700.00	Cast Iron Bridge Plug	\$ -
Logging	\$ -	Cement Retainer	\$ -
Rig or Pulling Unit	\$ 3,000.00	Miscellaneous	\$ 1,000.00
	\$ -	Total	\$ 1,300.00
			\$ 6,000.00

CERTIFICATION

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

NAME & OFFICIAL TITLE: Michael N. Coy, President
 SIGNATURE: *Michael N. Coy*
 DATE SIGNED: 10-15-08

CORRECTIVE ACTION PLAN

No corrective action is required at this time.

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RESPONSE TO COMMENTS

Date: September 30, 2009

REGARDING UNDERGROUND INJECTION CONTROL (UIC) PERMIT #MI-055-2D-0042, ISSUED TO O.I.L. ENERGY CORPORATION FOR INJECTION WELL CHERRY BERRY B1-25 SWD, GRAND TRAVERSE COUNTY, MICHIGAN, FOR THE PURPOSE OF NONCOMMERCIAL DISPOSAL OF SALT WATER.

Introduction

The United States Environmental Protection Agency (EPA) is providing this response to comments on EPA's Underground Injection Control (UIC) draft permit #MI-055-2D-0042. EPA proposed to issue the permit to O.I.L. Energy Corporation ("O.I.L. Energy") to construct and operate a Class II injection well in Grand Traverse County, Michigan for the noncommercial disposal of brine. This response to comments is in accordance with Section 124.17 of Title 40 of the Code of Federal Regulations (40 C.F.R. Section 124.17), which requires EPA to issue a response to comments when it issues a final permit decision. That response must: (1) describe and respond to all significant comments raised during the public comment period, (2) specify which provisions, if any, of the draft decision have been changed and the reason for the change, (3) include in the administrative record any document cited in the response to comments, and (4) make the response to comments available to the public.

Background

The scope of the Federal UIC regulations is limited to the determination of the soundness of construction and operation of injection wells as they relate to the protection of all underground sources of drinking water (USDWs). Any aquifer or portion of an aquifer which contains less than 10,000 mg/l of total dissolved solids is USDW under the UIC regulations.

Prior to receiving a permit, all injection wells must meet UIC siting requirements. The UIC siting regulations (40 C.F.R. Section 146.22) require that all new Class II wells be sited in such a fashion that they inject into a formation which is separated from any USDW by a confining zone that is free of known open faults or fractures within the area of review. The proposed Class II well complies with this siting requirement. In particular, the proposed injection well is to be drilled to approximately 2,130 feet below ground surface and the top of the proposed injection zone is at a depth of approximately 1,920 feet with an impermeable confining zone immediately above the injection zone. The base of the lowermost underground source of drinking water in this area is approximately 415 feet below ground surface. This means that there are approximately 1,505 feet of sedimentary rock between the proposed injection zone and the lowermost underground source of drinking water. Although not specified in the UIC siting requirements, EPA also requires a confining layer between the injection zone and the bottom of the lowermost formation containing an underground source of drinking water, based on the well operating requirements found at 40 C.F.R. Section 146.22. The proposed injection well also complies with this requirement. In this case the confining zone, which lies directly above the injection zone, is the Bell Shale. The Bell Shale is composed of shale, a type of sedimentary rock that is highly impermeable.

In addition to being sited in an area in which the geological formations are appropriate for injection, injection wells must be constructed and operated to prevent the injection fluid from contaminating an underground source of drinking water. The proposed well will be constructed with three casing strings (steel pipe). Each pipe is inside the previous one and the outside of each pipe is

**Public Comments regarding the proposed Cherry Berry Class II injection well
RESPONSE TO COMMENTS**

cemented. This will prevent any movement of fluid either outside the casing to the surface or inside between casings.

As additional protection, injection will take place through tubing which is set within the steel casing. A packer will be set at the bottom of the tubing to seal off the space between the casing and tubing (the annulus), which will be filled with a liquid mixture containing a corrosion inhibitor, and will allow the pressure in the space to be monitored. The ability of the annulus to hold pressure (mechanical integrity) will be tested initially after the completion of the well to ensure that the well has mechanical integrity and monitored weekly thereafter to ensure that the well maintains mechanical integrity. Any loss of annulus fluid is monitored at least quarterly. If a well fails a mechanical integrity demonstration, it must be shut down immediately until corrective actions have been taken and the well has been brought back into compliance. The well must also be shut down if any work which requires the moving and/or removal of the tubing or packer is necessary. The well must pass a mechanical integrity test again before authorization to resume injection will be given. If a well fails a mechanical integrity demonstration, it must be shut down immediately until corrective actions have been taken and the well has been brought back into compliance. The well must also be shut down if any work which requires the moving and/or removal of the tubing or packer is necessary. The well must pass a mechanical integrity test again before authorization to resume injection will be given.

In addition, the pressure at which the fluid is injected must be limited to ensure safe operation of the well. The maximum injection pressure for each well is determined based on the depth of the well, the specific gravity of the injected fluid, and the fracture gradient. This is done to ensure that the confining zone is not fractured due to injection. In this case, the maximum injection pressure (MIP) was set at 554 pounds per square inch (psi) which is less than the calculated MIP of 596 psi. Monthly reports of pressure and flow rates must be submitted to our office for review.

The public comment period for this permitting decision began on February 18, 2009 and ended on July 3, 2009, a total of 135 days. Under 40 C.F.R. Section 124.10, the minimum public comment period is 30 days. Public notices were published on April 23, 2009 in the Traverse City Record Eagle and mailed to interested parties who had contacted EPA, Region 5, UIC Branch. A joint public hearing with the Michigan Department of Environmental Quality (MDEQ) was held on May 19, 2009, at the Mill Creek Elementary School gymnasium in Williamsburg, Michigan. About 25 members of the public attended. Upon closure of the public comment period, EPA reviewed the issues raised by the public, gathered information to clarify those issues, and developed this response to comments document.

RESPONSE TO COMMENTS

Determination

After consideration all public comments, EPA has determined that none of the comments submitted have raised issues which would alter EPA's basis for determining that it is appropriate to issue O.I.L. Energy a permit to construct and operate the Cherry Berry B1-25 injection well. Therefore, EPA has determined that the permit decision will be to issue a final permit to O.I.L. Energy. There are no changes in the final permit from the draft permit.

Comments and Response

Comment #1:	From our research, large trucks will be routinely accessing the deep injection well to dump their brine. That creates additional noise and dust. We are concerned about the spillage of brine and leaking tanks.
Response #1:	O.I.L. Energy is planning to inject waste brine into the proposed well via pipeline rather than via tanker truck. EPA only has jurisdiction to regulate the underground injection well, and not the surface facilities or conveyances, which are regulated under State authority.
Comment #2:	Underground injection wells can leak. Any leakage would affect our streams, rivers, lakes, and all wetlands that act as tributaries to those waters. Leakage could spill into drinking water. Brine has a very strong, objectionable odor.
Response #2:	<p>Underground injection wells are designed with multiple safeguards to prevent, minimize, and internally contain leaks within the well. Injection wells are constructed with multiple steel casings cemented into place. Injection takes place through tubing located at the center of the innermost steel casing. A device called a packer seals off the bottom of the tubing, and the space between the innermost steel casing and tubing (called the annulus) is filled with a fluid containing a corrosion inhibitor. To assure that no leaking occurs in the well, the pressure within the annulus space is tested after the well is completed and then re-tested periodically. If this test fails, the well is shut down immediately, and the cause of the leak is isolated and repaired. Once shut down, a successful pressure test must be demonstrated before EPA will allow the operator to resume well injection. Although small leaks can happen due to a loss of seal between the packer and the well casing, this does not mean that any fluid leaks out into the formation because the fluid will go into the injection zone.</p> <p>Brine is mostly salt water which does not usually contain any additional chemicals. There is usually no odor associated with brine injection operations. Because the brine at this well gets there by pipeline rather than by tanker truck, odor should not be detected during injection of brine.</p>

**Public Comments regarding the proposed Cherry Berry Class II injection well
RESPONSE TO COMMENTS**

Comment #3:	Many citizens of Acme Township have expressed concerns regarding the potential impacts of injection wells on surface waters, ground waters used as drinking sources, wildlife, the impacts of well failures, and the impacts of well operation on nearby land uses and users such as odors, noise, and accidental spills and road deterioration due to hauling wastes to and from the site.
Response #3:	EPA regulations at 40 C.F.R. Parts 144 and 146 state the requirements and standards that a permit applicant must meet to have a UIC permit application approved. These regulations deal primarily with the geologic siting, well engineering, operating, and monitoring standards for deep injection wells. Transportation of waste is not addressed by the UIC regulations. Clean-up of spills in the course of transportation to the site is regulated under State regulations and is the responsibility of the transporter.
Comment #4:	Because we own property adjacent to the proposed well site, and because we swim near this area and our drinking water comes from groundwater near the Yuba Creek, we are concerned about anything that could perhaps impact the quality of water flowing down the Yuba Creek.
Response #4:	An EPA permit for an injection well conveys permission to inject fluids based on EPA's finding that the construction and operation details of the well are such that injection may be done in an environmentally safe manner. MDEQ also issues permits for underground injection wells within the State of Michigan. Although not directly a part of the permit, MDEQ administrative rules require the permittee to develop a secondary containment area, to conduct a hydrological study of the area, and to construct a monitoring well down gradient from the facility that would be monitored on a regular basis. Surface spills and/or leakage are under the jurisdiction of the MDEQ. If you have any questions regarding surface facilities, such as the requirements and safeguards MDEQ has established to prevent or address surface spills and/or leakage, we suggest that you contact Rick Henderson at the MDEQ. He can be reached by telephone at (231) 876-4435 or by e-mail at hendersonr@michigan.gov .
Comment #5:	Our township's future land map would not find this well consistent with its area plans. This area is rural residential, and it certainly does not fit the criteria for residential use.
Response #5:	EPA regulations at 40 C.F.R. Parts 144 and 146 state the requirements and standards that a permit applicant must meet to have a UIC permit application approved. These regulations deal primarily with the geologic siting, well engineering, operating, and monitoring standards for deep injection wells. Land use is not addressed by the UIC regulations, but the operator must comply with all state and local laws and regulations.

RESPONSE TO COMMENTS

<p>Comment #6:</p>	<p>We have grave concerns regarding the permitting of any further injection wells in Michigan and we wonder if EPA has considered any alternatives regarding the permitting [of any further injection wells] such as utilizing existing wells that are currently being used for brine disposal during the oil and gas recovery process.</p> <p>There are alternatives - for example, the Hubbell well operated by the same applicant - that currently accepts brine. This alternative should be examined.</p>
<p>Response #6:</p>	<p>While EPA encourages treatment of waste as an alternative to disposal, the UIC regulations do not require the permit applicant to demonstrate the lack of alternatives, nor do they require that other alternatives (including existing Class II wells, such as the Hubbell well) be used. Returning the brine to a confined formation below the lowermost Underground Source of Drinking Water (USDW) through a properly constructed and operated injection well is an environmentally sound procedure.</p>
<p>Comment #7:</p>	<p>The statement [in the permit] that says "<i>This permit shall become effective on and shall remain in full force and effect during the operating life of well, unless this permit is otherwise revoked, terminated, modified or reissued pursuant to 40 CFR 40 Sections 144.39, 144.40 and 144.41.</i>" The words "modified" or "reissued" serve as loopholes for a change to take place. A modification could mean the Permittee wants to change the Class II well to a Class I well, that accepts industrial waste, at some later date. Could "modified" or "reissued" in that sentence allow for a change in the classification?</p> <p>It appears that there is a trend to permit wells as Class II for oil and gas brine disposal and then, as we are seeing with the Hubbell permit, reclassify the well to accept other wastes that may pose a greater hazard to water resources. This is a concern because once the well is permitted, that reclassification could be granted more easily, and with less public knowledge of the new waste stream.</p>
<p>Response #7:</p>	<p>In general, Class I wells have more stringent construction and permit compliance requirements than do Class II wells; historically, physical "conversions" from existing Class II to Class I wells are rare. Under EPA UIC regulations, an existing Class II well injection permit cannot simply be modified, reclassified, nor reissued as a Class I well permit. Instead, a separate, new permit application for a Class I well would have to be submitted to EPA by the permittee, subject to technical and regulatory review and approval. The formal public notice process is required to allow public comment on the new draft Class I permit, as was done with the Hubbell permit. Once the new Class I permit is issued, the prior Class II permit is terminated.</p>
<p>Comment #8:</p>	<p>Another statement I am concerned with is: "<i>This permit shall also remain in effect upon delegation of primary enforcement responsibility to the State of Michigan, unless the State chooses to adopt this permit as a State permit.</i>" I interpreted this statement to mean once this permit is approved, the federal government turns the permit over to the State of Michigan to police.</p>

**Public Comments regarding the proposed Cherry Berry Class II injection well
RESPONSE TO COMMENTS**

Response #8:	Primary enforcement authority regarding a federal UIC permit still resides with EPA. Delegation, in this context, is the formal transfer of regulatory and/or enforcement authority from the federal government (EPA) to the state government (MDEQ). There are no plans at this time for delegation of the UIC program from EPA to the MDEQ. MDEQ has developed its own regulations. However, since MDEQ did not apply to the EPA for this authority, these regulations have not been evaluated against the Federal regulations. EPA directly implements the UIC program in Michigan.
Comment #9:	Only minimal monetary protection is in place for the Cherry Berry Class II well should a shutdown occur. The permit shows a total cost of plugging and abandonment for the well is \$6000.00. Who pays and who is responsible for the what if's that can occur? I do not think that \$6,000.00 is enough monetary protection for any well in our area; it should be minimally 15 times that amount.
Response #9:	Before a permit is issued by EPA, the owner/operator of a Class II injection well must demonstrate that the funds necessary to plug and abandon the well are available. This ensures that the well will be plugged in accordance with State and Federal requirements. EPA has no information at this time indicating that the estimated \$6,000 cost for plugging and abandonment of the well would be insufficient; however, EPA can require a larger amount in the future if the cost to plug the well, due to inflation or other information, exceeds the amount set aside. EPA, under section 1431 of the Safe Drinking Water Act, and MDEQ, under Act 307, can require owners/operators to clean-up any contamination due to injection, and/or supply alternative water supplies to affected parties. This clean-up cost would be additional to the \$6,000 set aside to plug and abandon the well.
Comment #10:	The proposed Cherry Berry injection well site is only 1,900 feet west of the Yuba Creek, and only 1 mile northwest of Grand Traverse Bay. I don't see anything good coming from a well that is proposed to be drilled at a site on or near a former gravel pit that, by its very nature, is made up of highly permeable soils. Even the MDEQ's own report on the Grand Traverse County wetlands inventory says that wetland soil is present and in the vicinity of the proposed well site, which translates to a high water table. Any waste flowing into the high water table will easily form a plume and work its way down to the next body of water, be it a neighboring well, creek, or lake. The probability of leakage is likely to be a given in such an area.

RESPONSE TO COMMENTS

<p>Response #10:</p>	<p>The proposed injection well will be constructed and operated in such a manner so as to confine the injected fluids to the permitted interval and prevent the migration of any fluids into and between USDWs. As a result, there should be no connection between the operations of this injection well and the water table. Drinking water sources are particularly protected at sites where there is a large separation between the top of the injection zone and the lowest potable water bearing aquifer. The proposed injection well is to be drilled to approximately 2,130 feet below ground surface and the top of the proposed injection zone is at a depth of approximately 1,920 feet with an impermeable confining zone immediately above the injection zone. The base of the lowermost underground source of drinking water in this area is approximately 415 feet below ground surface. This means that there are approximately 1,505 feet of sedimentary rock between the proposed injection zone and the lowermost underground source of drinking water.</p>
<p>Comment #11:</p>	<p>(a) Since the mid-continent rift runs approximately through the proposed site, (b) and the target injection zone probably vents into Lake Michigan about a mile away, (c) can the conclusion that no significant environmental impact will result from the proposed injection be made based merely on the applicant's statement that he knows of no open faults or fractures?</p>
<p>Response #11:</p>	<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> </div> <div style="flex: 2; padding-left: 20px;"> <p>(a) The existence of the mid-continent rift in this area does not lead to any concerns related to the proposed injection operation. The mid-continent rift is a geologic feature that formed around one billion years ago. The layers of rock deposited following the end of rifting cannot be faulted by activity that preceded their creation</p> <p>(b) We have found no evidence that the target injection zone (the Dundee Limestone) is exposed or capable of venting injection well pollutants into Lake Michigan. Many features will prevent the injection fluid from entering Lake Michigan. The Antrim Shale outcrops at the surface near Grand Traverse Bay, however the much more deeply buried Dundee Limestone intersects with the lake bottom more than 20 miles away from the proposed injection well location. In addition, there is a layer of sediment between the water of Lake Michigan and the bedrock beneath it that will minimize any possible flow. Near the site of the proposed well, the bottom of Grand Traverse Bay and East Bay has a maximum depth of about 500 feet but the top of the Dundee Limestone is at approximately 1920 ft. This means that there is 1400 feet of rock between the top of the injection zone and the bottom of these bays.</p> </div> </div>

**Public Comments regarding the proposed Cherry Berry Class II injection well
RESPONSE TO COMMENTS**

	<p>To show further reason why the injection operation will not cause pollutants to enter Lake Michigan, we can consider the size of the plume that results from the injection of the brine. We use very conservative numbers to calculate the volume of this plume. The average expected injection rate is 1000 barrels of water per day but we assume a maximum injection rate of 3000 barrels of water per day. We also assume that the effective thickness of the Dundee is only one-half the total thickness (105 feet instead of 210 feet), that the porosity (the space within the rock into which the brine will flow) averages 5.5%, and that diffusion and dispersion will increase the size of the plume to three times what it would be without these factors. If we project 30 years of injection under these conditions, the radius of the plume will be slightly more than one mile (5525 ft). This is still 19 miles from the subcrop of the Dundee Limestone under Lake Michigan. As mentioned above, at Grand Traverse Bay, the Dundee Limestone lies deep beneath the rocks of the confining zone, which extend many miles in all directions.</p> <p>(c) Yes, we can make the determination that no significant environmental impact will result from the proposed injection. EPA does not rely solely on the statements of permit applicants concerning the existence of faults and fractures. Maps have been published showing locations of faults. EPA reviews these maps when reviewing permit applications. There have been no identified faults in the area of this proposed well.</p>
<p>Comment #12:</p>	<p>The area of review is given here as land within a quarter-mile radius from the proposed well site. In another application up for comment the area of review is given as a 2-mile area. Are these intended to be alternate ways of saying the same thing, or are there meaningful differences between the requirements for this well and the requirements for another nearby?</p>
<p>Response #12:</p>	<p>The size of the Area of Review (AOR) is set by EPA regulation and policy. It differs depending upon the class of injection well. The radius of the AOR for Class II wells is 1/4 mile, while for Class I wells it is 2 miles.</p>
<p>Comment #13:</p>	<p>Is the standard petroleum industry barrel of 42 gallons the measurement used here? If so, does that indicate an injection of 126,000 gallons of fluid per day? How many day's worth of injection at that rate would it take for the injected fluid to vent into East Bay, where the Dundee layer comes to the ground surface and terminates?</p>
<p>Response #13:</p>	<p>Yes, the standard petroleum industry barrel is used. O.I.L. Energy has stated in their application that they anticipated a maximum injection rate of 3000 barrels (126,000 gallons) per day. As explained in Response #11, the Dundee Limestone does not "vent" into East Bay but more than 20 miles away. The NOAA bathymetric map shows East Bay at much a shallower depth (500 feet or less) than the top of the injection zone (1920 feet depth).</p>

RESPONSE TO COMMENTS

Comment #14:	Personnel from the DEQ's Geological Survey Division have explained that there is virtually no resistance to fluids pumped into the Dundee Limestone formation, since it is an open vascular network with a porosity of 0.1 on a scale running from zero to 1.0. Why use such a hefty injection pressure? Does the lack of resistance and lack of pressure build-up in the Dundee over long periods cause any concern in considering such applications?
Response #14:	The Dundee Limestone has a relatively high porosity due to naturally occurring void spaces that are relatively empty (not already occupied by ancient sea water), making it a good injection zone for underground disposal. Despite a relative lack of resistance in the injection zone, sufficient injection pressure may still be needed to compensate for the 1920 feet depth of the well. Based upon the specific gravity of the injection fluid, and the depth of the injection zone, the calculated injection pressure is limited to 554 pounds per square inch, which will ensure that the pressure during injection does not initiate fractures in the confining zone adjacent to the lowermost USDW during injection operations. This in turn ensures that the injection pressure will not cause the movement of injection or formation fluids into a USDW as prohibited by 40 CFR Section 146.23(a)(1). In practice, most permittees inject fluids into a permitted well at a pressure considerably below the maximum level. The lack of resistance and lack of pressure build-up in the Dundee Limestone should not be a cause for concern.
Comment #15:	Are the fluids that are proposed to be injected here allowed to be disposed of in the open water of Lake Michigan?
Response #15:	No. The discharge of pollutants into the surface waters of the United States, including Lake Michigan, are not allowed unless specifically authorized by a permit issued under the National Pollutant Discharge Elimination System (NPDES) program authorized by Section 402 of the Clean Water Act. Further, any discharge of pollutants must be controlled so that the applicable water quality standards are met, not only in the vicinity of the discharge but in all downstream waters. NPDES permits must also require compliance with technology-based requirements applicable to the discharge. Class II brines do not meet these standards.

Comment #16:	Does the applicant have the right to displace fluid minerals under neighboring property that applicant doesn't own or lease?
Response #16:	Issues relating to property ownership, lessee rights, or unitization are legal issues between these two parties, and are not governed by the UIC regulations. However, issuance of a Class II injection well permit by EPA is based on consideration of siting, construction and proposed operation of the well. Under Federal UIC regulations, a permittee is not required to demonstrate ownership or legal access to all properties, only that the operation will not allow contaminants into a USDW. Issuance of a permit neither confers the right to trespass nor conveys 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.

**Public Comments regarding the proposed Cherry Berry Class II injection well
RESPONSE TO COMMENTS**

Comment #17:	Where are the laboratory analyses of fluids anticipated to be injected available for public review?
Response #17:	Since the Cherry Berry B1-25 well is not yet in operation, a representative water analysis from the existing Hubbell C1-9 Class II well was submitted with the permit application. However, prior to receiving authorization to commence injection, the permittee is required to submit the actual injection fluid analysis as required under Part I (10) (a) of this permit. These analyses are public documents and may be requested under the Freedom Of Information Act (FOIA).
Comment #18:	Why is there no automatic monitoring and shut-off devices required?
Response #18:	The EPA UIC regulations do not require automatic monitoring or shut-off devices for Class II wells.
Comment #19:	Is it correct that the only substances to be permitted injection down this well are those brought to the surface in connection with conventional oil or natural gas production or those fluids used in the enhancement of oil and gas production?
Response #19:	Yes. Based upon the information submitted along with the permit application, only produced brine will be injected into the well. Injection of other fluids besides those noted in the permit file is a violation of permit conditions and may subject the permittee to civil and criminal penalties. Class II wells are wells which inject fluids which are brought to the surface in connection with conventional oil or natural gas production and may be commingled with waste waters from gas plants which are an integral part of production operations. Such fluids are naturally occurring fluids that are separated from the oil and/or gas and then returned to the rock formations from which they originated or to a deeper rock formation via Class II injection wells.
Comment #20:	Where may one see and copy the calculations mentioned in A6, Formation Data?
Response #20:	Please refer to the permit application, Attachment G ("Geological Data on Injection and Confining", enclosed).
Comment #21:	What is the source of the map provided in this notice? Is the Route 32 shown in the map the same road shown on other local maps as Route 31?
Response #21:	The map shown in the Public Notice for the draft permit is derived from digital maps generated by the U.S. Geological Survey and the Census Bureau. It appears that, due to the re-scaling of the map image, the text font used to indicate Highway "US 31" may have distorted to appear to read as "US 32."
Comment #22:	Based on the permitting information provided, there has been no examination of the potential impacts to surface and groundwater from a potential surface or near-surface spill or leak from the well operation. Groundwater pollution could impact both drinking water and surface waters where groundwater is discharged. There has been no detailed hydrologic study of groundwater flow to determine potential impacts to nearby aquifers, residential wells or surface waters.

RESPONSE TO COMMENTS

Response #22:	<p>Surface spill prevention and remediation are regulated by MDEQ. The proposed injection well will be constructed and operated in such a manner so as to confine the injected fluids to the permitted interval and prevent the migration of any fluids into and between USDWs. The proposed injection well is to be drilled to approximately 2,130 feet below ground surface and the top of the proposed injection zone is at a depth of approximately 1,920 feet with an impermeable confining zone immediately above the injection zone. The base of the lowermost underground source of drinking water in this area is approximately 415 feet below ground surface. This means that there are approximately 1,505 feet of sedimentary rock between the proposed injection zone and the lowermost underground source of drinking water. As a result, there should be no connection between the operations of this injection well and the water table. Drinking water sources are particularly protected at sites where there is a large separation between the top of the injection zone and the lowest potable water bearing aquifer. Most water wells are completed in aquifers with waters of 500 mg/l of total Dissolved Solids (TDS) or less. The UIC program protects USDWs of up to 10,000 mg/l TDS, which is much too saline for human consumption. An EPA permit for an injection well conveys permission to inject fluids based on EPA's finding that the construction and operation details of the well are such that injection may be done in an environmentally safe manner.</p> <p>The MDEQ also issues permits for underground injection wells within the State of Michigan. Although not directly a part of the permit, MDEQ administrative rules require the permittee to develop a secondary containment area, to conduct a hydrological study of the area, and to construct a monitoring well down gradient from the facility that would be monitored on a regular basis. Surface spills and/or leakage are under the jurisdiction of the MDEQ. If you have any questions regarding surface facilities, such as the requirements and safeguards MDEQ has established to prevent or address surface spills and/or leakage, we suggest that you contact Rick Henderson at the MDEQ. He can be reached by telephone at (231) 876-4435 or by e-mail at hendersonr@michigan.gov.</p>
Comment #23:	<p>A surface facility plan has not been provided to EPA for the evaluation of this proposed permit. Specifically, a surface facility plan, including plans to contain and prevent surface spillage, pipeline loss or other potential releases to the environment from production brine waste conveyance, has apparently not yet been provided for public or EPA evaluation or review. It is also recommended and strongly urged that EPA, in fulfilling its Safe Drinking Water Act obligations to protect subsurface water resources, deny this permit until such groundwater data is generated to properly locate and determine the appropriate screen intervals of sentinel well or wells.</p>

**Public Comments regarding the proposed Cherry Berry Class II injection well
RESPONSE TO COMMENTS**

Response #23:	Surface spill prevention and remediation (which may include documentation such as a surface facility plan) are regulated by MDEQ. MDEQ also issues permits for underground injection wells within the State of Michigan. Although not directly a part of the permit, MDEQ administrative rules require the permittee to develop a secondary containment area, to conduct a hydrological study of the area, and to construct a monitoring well down gradient from the facility that would be monitored on a regular basis. Surface spills and/or leakage are under the jurisdiction of the MDEQ. If you have any questions regarding surface facilities, such as the requirements and safeguards MDEQ has established to prevent or address surface spills and/or leakage, we suggest that you contact Rick Henderson at the MDEQ. He can be reached by telephone at (231) 876-4435 or by e-mail at hendersonr@michigan.gov.
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Appeal

In accordance with 40 C.F.R. Section 124.19, any person who filed comments on the draft permit or participated in the public hearing may petition the Environmental Appeals Board to review any condition of the final permit decision. Such a petition shall include a statement of the reasons supporting review of the decision, including a demonstration that the issue(s) being raised for review were raised during the public comment period (including the public hearing) to the extent required by these regulations. The petition should, when appropriate, show that the permit condition(s) being appealed are based upon either, (1) a finding of fact or conclusion of law which is clearly erroneous, or (2) an exercise of discretion or an important policy consideration which the Environmental Appeals Board should, in its discretion, review.

If you wish to request an administrative review, you must submit such a request by regular mail to the United States Environmental Protection Agency, Clerk of the Board, Environmental Appeals Board (MC 1103B), Ariel Rios Building, 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20460-0001. Requests sent by express mail or hand-delivered must be sent to the United States Environmental Protection Agency, Clerk of the Board, Environmental Appeals Board, Colorado Building 1341 G Street, NW, Suite 600, Washington, D.C. 20005.

The request must arrive at the Board's office on or before September 30, 2009. The request will be timely if received within this time period. For this request to be valid, it must conform to the requirements of 40 C.F.R. Section 124.19. A copy of these requirements is attached (Attachment A).

B-9

CLASS II TECHNICAL REVIEW SHEET

Permit application number: MI-055-2D-0042

County: Antrim	Owner: O I L ENERGY CORP
Township: 28N Range: 10W	Owner Phone #: 6169333600
Section: 25	Well Name: Cherry Berry B1-25 SWD
NW qtr of SW qtr of NW qtr section	State Permit #:
1428 Ft from N Quarter Section line	Permit Writer: TONG WILLIAM
23 Ft from W Quarter Section line	
Latitude: N	
Longitude: W	

Status:	Proposed new
Date Converted:	
Date Drilled:	

Number of wells penetrating the injection zone in AOR using calculated radius:	0
Number of wells penetrating the injection zone in AOR using fixed radius:	0
AOR map showing well(s) attached to application?	Yes

Of these wells, number:

T.A.'ed.	Construction adequate?	NA
P.A.'ed	Construction adequate?	NA
Producers	Construction adequate?	NA
Injectors	Construction adequate?	NA

This permit covers:

	2R	2D	DP
Number of existing wells:	0	0	0
Number of proposed wells:	0	1	0

Number of wells in AOR requiring corrective action:

P&A'd wells:	0
Other wells:	0

Number of wells requiring:

Casing repair:	0
P&A of active wells:	0
Replugging of P&A'd wells:	0
Other Actions:	0

List submitted naming owner(s) of record within AOR and local governments?	Yes
Map showing land owners within the AOR?	Yes
Permit withdrawn due to AOR requirements?	No

Part I Mechanical Integrity:

Type of MIT to be conducted upon well completion: Standard Annular Pressure Test

Part II Mechanical Integrity:

Cement Records/Data

Proof of cement is or will be demonstrated by submitting:

-or- No-Flow Demonstration

Demonstration None Other Logs Run

Plug of at least 250 feet set immediately above the top of the injection zone.

50 feet of cement immediately above cast iron bridge plug. 250 feet is required above cement retainer if situated adjacent to the injection zone. Lowest possible top is 1670 ft deep.

If surface casing is cemented to surface and extends below the lowermost USDW, a cement plug from at least 50 feet above the USDW base to 50 feet below the shoe is required. (365 ft to 50ft)

Explain any variation from the above

Wild and Scenic Rivers Act

Any designated Wild and Scenic Rivers within the quarter mile AOR? No

Endangered Species Act

Has the Permit Writer contacted U.S. Fish and Wildlife Service for a list of Endangered or Threatened Species? No

Written response from U.S. FWS? No

Any listed species present? No

National Historic Preservation Act

State Historic Preservation Office contacted? Yes

Historic Resources present? No

Coastal Zone Management Act

Is the well located within a Coastal Zone? No

If yes, then has the permit writer contacted the

Michigan Coastal Management Program (CMP) in writing? NA

Fish and Wildlife Coordination Act

Does permit application call for diverting, impounding, deepening or controlling any surface water body in excess of 10 acres? No

Type of Financial Assurance	
Provider	Irwin Union Bank, Traverse City
Standby Trust provided	Yes
Amount	6000

If Blanket coverage

Is Form VII-10 acceptable? **NA**

Is the amount equal to 10 times the cost to plug the most expensive injection well in the field or 75% of the total cost to plug all wells? **10 Times the cost of the most expensive well**

List of all wells covered under the blanket bond provided? **No**

If State Bond Coverage

Has a letter of intent to use this type of bond been submitted by the operator? **No**

Has a copy of the state bond been provided? **NA**

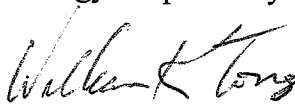
Has any part(s) of this permit application been declared confidential by the operator? **No**

Permit writer signature: **Yes**

Date: **02/09/2009**

B-10

ENDANGERED SPECIES ACT COMPLIANCE DETERMINATION

1. **TO:** Well file, #MI-055-2D-0042, O.I.L. Energy Corp. Cherry Berry #B1-25 SWD
FROM: William K. Tong, permit writer 
RE: Endangered Species Determination
DATE: January 23, 2009

2. The endangered, threatened, and candidate species present in Grand Traverse County as of September 18, 2008, are:

Species	Status	Habitat
<i>Sistrurus catenatus catenatus</i> (Eastern Massasauga rattlesnake)	Candidate	Wetland habitats, including bogs, fens, shrub swamps, wet meadows, marshes, moist grasslands, wet prairies, and floodplain forests. The proposed well site is located in an upland area that is already excavated and partly used as a gravel pit; it is unlikely to be a favorable habitat for the Eastern Massasauga.
<i>Cirsium pitcheri</i> (Pitcher's thistle)	Threatened	Open sand dunes and occasionally on lag gravel associated with shoreline dunes. No such critical habitat was found at the proposed well site.
<i>Dendroica kirtlandii</i> (Kirtland's Warbler)	Endangered	Prefers to nest in large stands (1000 acres +) of young jack pine. There are no jack pine stands within miles of the proposed well location.

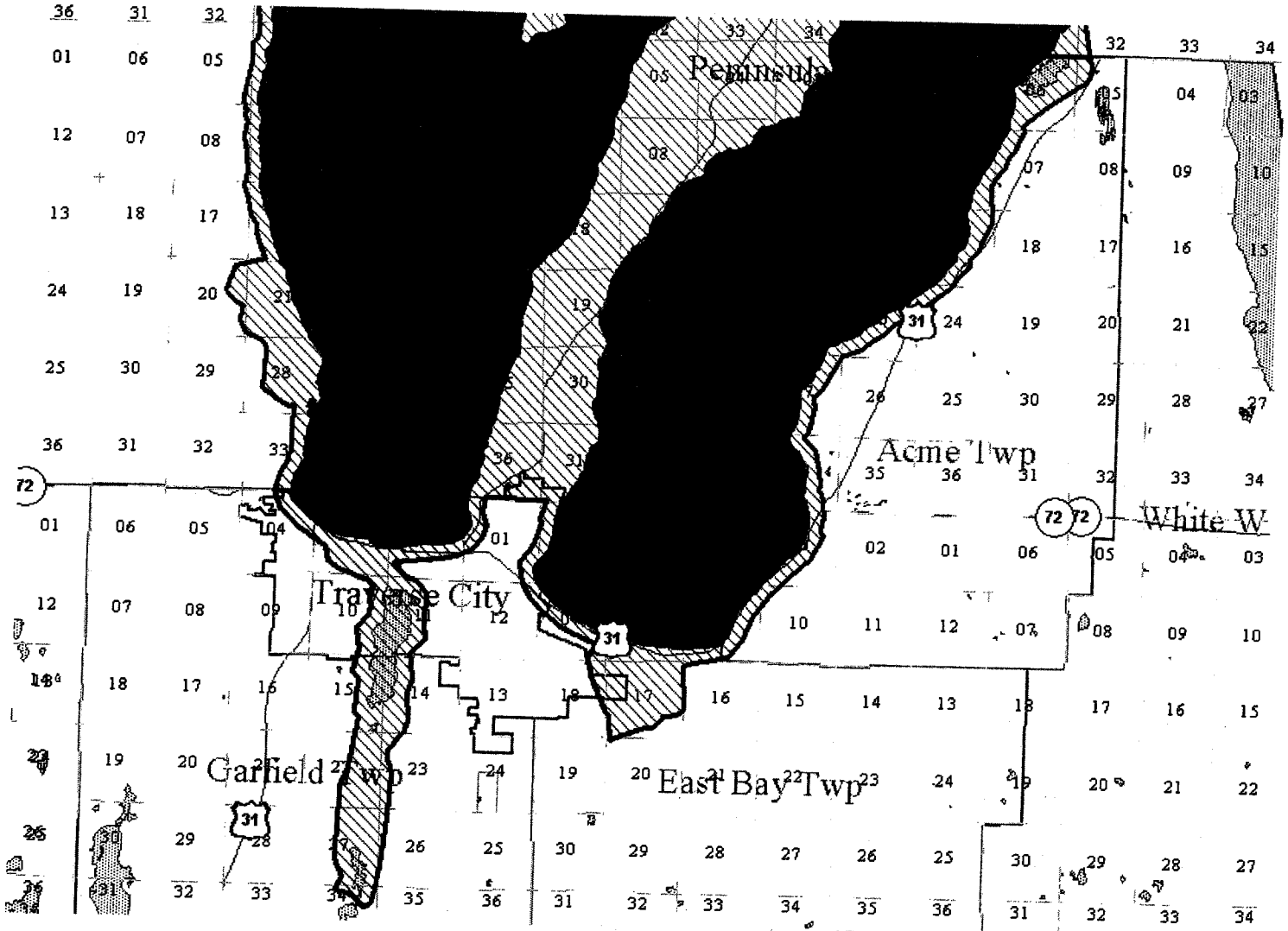
Source of information: Addendum to Cherry Berry B1-25 U.S.E.P.A. Application, Endangered Species Act Information, by Ben Croftchik, OIL Energy Corporation.

3. The action area (land to be impacted by construction and/or operational activities) includes a well pad that is approximately 300' x 250'. The access road to this well site already exists, and the well pad is a part of a former farm that has been cleared and worked for years as a gravel pit by farmers.
4. Due to: 1) there being no critical habitat in the action area, 2) there being no endangered species in immediate proximity to the action area, or 3) the non-disruptive and limited nature of the activities in the action area), I have determined that this well will have NO ADVERSE EFFECT on endangered species.

B-11

Grand Traverse County
Acme Township, T28N R9W, T28N R10W, and T27N R10W
East Bay Township, T27N R10W
Garfield Township, T27N R10W and T27N R11W
Traverse City, T27N R10W and T27N R11W

The heavy red line is the *Coastal Zone Management Boundary*
The red hatched area is the *Coastal Zone Management Area*



B-12



JENNIFER M. GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



STEVEN E. CHESTER
DIRECTOR

November 21, 2008

Mr. Ben Croftchick
O.I.L. Energy Corp
954 Business Park Drive, Suite 5
Traverse City, Michigan 49686

Dear Mr. Croftchick:

SUBJECT: Federal Consistency Determination for Proposed Salt Water Disposal Well, Cherry Berry B1-25 SWD, Acme Township, Grand Traverse County

Staff of the Land and Water Management Division has reviewed this phase of the project for consistency with Michigan's Coastal Management Program (MCMP), as required by Section 307 of the Coastal Zone Management Act, PL 92-583, as amended. Thank you for providing the opportunity to review this proposed activity.

Our review indicates that this project is located outside of Michigan's coastal management boundary. No adverse impacts to coastal resources are anticipated from this proposed activity as described in the information you forwarded to our office. Therefore, this phase of the project is consistent with MCMP.

This consistency determination does not waive the need for permits that may be required under other federal, state, or local statutes.

Sincerely,

Chris Antieau
Great Lakes Shorelands Unit
Land and Water Management Division
517-373-3894

cc: Ms. Catherine Ballard, DEQ

B-13



STATE OF MICHIGAN
DEPARTMENT OF HISTORY, ARTS AND LIBRARIES
LANSING

JENNIFER GRANHOLM
GOVERNOR

DR. WILLIAM ANDERSON
DIRECTOR

RECEIVED

October 30, 2008

LISA PERENCHIO
EPA REGION 5
77 WEST JACKSON BLVD WU 16J
CHICAGO IL 60604

NOV 03 2008

UIC BRANCH
EPA REGION 5

RE: ER-03-1043 Cherry Berry B1-25 SWD, Section 25, T29N, R10W, Acme Township, Grand
Traverse County (EPA)

Dear Ms. Perenchio:

Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, we have reviewed the above-cited undertaking at the location noted above. Based on the information provided for our review, it is the opinion of the State Historic Preservation Officer (SHPO) that no historic properties are affected within the area of potential effects of this undertaking.

The views of the public are essential to informed decision making in the Section 106 process. Federal Agency Officials or their delegated authorities must plan to involve the public in a manner that reflects the nature and complexity of the undertaking, its effects on historic properties and other provisions per 36 CFR § 800.2(d). We remind you that Federal Agency Officials or their delegated authorities are required to consult with the appropriate Indian tribe and/or Tribal Historic Preservation Officer (THPO) when the undertaking may occur on or affect any historic properties on tribal lands. In all cases, whether the project occurs on tribal lands or not, Federal Agency Officials or their delegated authorities are also required to make a reasonable and good faith effort to identify any Indian tribes or Native Hawaiian organizations that might attach religious and cultural significance to historic properties in the area of potential effects and invite them to be consulting parties per 36 CFR § 800.2(c-f).

This letter evidences the EPA's compliance with 36 CFR § 800.4 "Identification of historic properties", and the fulfillment of the EPA's responsibility to notify the SHPO, as a consulting party in the Section 106 process, under 36 CFR § 800.4(d)(1) "No historic properties affected".

The State Historic Preservation Office is not the office of record for this undertaking. You are therefore asked to maintain a copy of this letter with your environmental review record for this undertaking. If the scope of work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.

If you have any questions, please contact Brian Grennell, Environmental Review Specialist, at (517) 335-2721 or by email at ER@michigan.gov. **Please reference our project number in all communication with this office regarding this undertaking.** Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,


Martha MacFarlane Faes
Environmental Review Coordinator

for Brian D. Conway
State Historic Preservation Officer

MMF: JRH: kam

Copy: Ben Croftchik