



# Grobbel Environmental & Planning Associates L.L.C.

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a Beckett & Raeder company

November 4, 2009

U.S. Environmental Protection Agency  
Clerk of the Board, Environmental Appeals Board (MC1103B)  
Ariel Rios Building  
1200 Pennsylvania Ave. N.W.  
Washington, D.C. 20460-0001

RECEIVED  
U.S. EPA.  
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ENVIR. APPEALS BOARD

**RE: Appeal of U.S. EPA Final Decision Regarding Permit #MI-055-2D-0042, Cherry Berry B1-25 SWD, Class II Injection Well, NW ¼, SW ¼, NW ¼, Section 25, T28 R10W, Acme Township, Grand Traverse County, Michigan.**

Dear Clerk of the Environmental Appeals Board (MC1103B),

Grobbel Environmental & Planning Associates provided written and verbal public comment on May 19, 2009 regarding the above-referenced deep injection well proposed within Section 25, Acme Township, Grand Traverse County, Michigan. U.S. EPA is authorized to regulate the underground injection of waste fluids through underground drinking water sources pursuant to the Safe Drinking Water Act, 40 C.F.R., Parts 144 and 146.

In accordance with 40 C.F.R. Section 124.19, we are now writing to formally appeal the U.S. EPA's October 9, 2009 final decision to approve this permit. This appeal is being made to the Environmental Appeals Board as the final U.S. EPA decision to approve the above-referenced permit is based in part on clearly erroneous findings of fact, and because findings made by the U.S. EPA represent an exercise of discretion that warrant review by the Environmental Appeals Board.

## **Proposed Cherry Berry Deep Injection Well**

O.I.L. Energy Corp. of Traverse City, Michigan proposed a new deep injection well within Section 25, Acme Township, Grand Traverse County to dispose of an expected maximum daily volume of 3,000 barrels (or 126,000 gallons) of noncommercial, waste brine into a bedrock formation at between 1,920 and 2,130 feet below ground surface (b.g.s.). Waste natural gas production brines are permitted thereby to be injected into the Dundee limestone formation at a maximum 554 pounds per square inch gauge (psig).<sup>1</sup>

## **Erroneous Findings of Fact**

1) **The U.S. EPA failed to adequately demonstrate its fulfillment of its Safe Drinking Water Act obligations to protect subsurface drinking water resources at this location.** The review of residential well logs within Section 25, Acme Township, indicates that near surface geology is typified by a surficial sand layer (i.e. an unconfined sandy aquifer, 57.5 feet in average thickness). This surface sandy aquifer is underlain by a thick confining, clay layer (i.e. 77.6 feet average thickness). These geologic conditions have resulted in a high, near

<sup>1</sup> Statement of Basis for Issuance of Underground Injection Control (UIC) Permit, Class 2, Permit Number MI-055-2D-0042, Facility Name Cherry Berry B1-25 SWD, U.S. Environmental Protection Agency, Region 5, 77 West Jackson Boulevard, Chicago, IL.

**Environmental and Planning Consultants**

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- surface water table immediately east of the proposed Cherry Berry well site, discharging to Yuba Creek and its riparian wetlands approximately 1,900 feet east of the proposed well site.

All nearby and downgradient residences rely on groundwater as a sole source of drinking water. All residential water wells in Section 25 and 26 of Acme Township are screened within glacial drift, about half of which in Section 25 are screened within an upper aquifer at 85 feet below ground surface on average and slightly more than one-half within a deeper confined sandy aquifer and screened at an average 302 feet b.g.s. Importantly, wells screened within the upper aquifer possess an average static water level of 34 feet b.g.s. and 153 feet b.g.s. within the deeper aquifer. Based on site geology, hydrogeology, topography and soils, near surface groundwater resources are interpreted to flow generally easterly, northeasterly toward Yuba Creek, and deep groundwater aquifer is interpreted to flow generally westerly toward East Grand Traverse Bay. Importantly, the proposed Cherry Berry deep injection well site exists approximately one-thousand (1,000') feet north-northwest of a potable water well at an adjacent residence located at 7490 Lautner Road, parcel No. 01-225-011-00. Similarly, the proposed Cherry Berry well site exists near, slightly north of and up groundwater flow direction from within the wellhead protection area (WHPA) as defined for the Lochenheath residential and golf course development.<sup>2</sup>

Natural Resources Conservation Service soils maps and U.S. Geological Survey topographic maps also indicate that the proposed deep well injection site is located within or near a former gravel pit. Gravel pits by their very nature possess highly permeable soils that allow surface infiltration of precipitation or other fluids released to the ground surface.<sup>3</sup> The vicinity of the proposed deep well steeply slopes eastward toward Yuba Creek, dropping a total of more than one-hundred and fifty (150) feet in elevation from approximately 750 feet above mean sea level (m.s.l.) at the proposed well site to approximately 600 feet above m.s.l. to the east-southeast at Yuba Creek. Importantly, drainage ways which include Emmet sandy loam (18-25% slope) and the wetland soil Tonkin sandy loam, exist at and near the site, and slope steeply from west to east toward a broad wetland complex along to Yuba Creek.<sup>4</sup> Good site planning principles would preclude the potential for any spillage of waste brines or other hazardous materials at or near these natural drainage features.

Importantly, a surface facility plan, including plans to secondarily contain and prevent surface spillage, pipeline loss or other potential releases to the environment from production brine waste conveyance, has not yet been provided for public or U.S. EPA evaluation or review prior to approval of the subject permit. Based on our experience, such plans are fundamental to adequately assess potential environmental risk from proposed deep injection well facilities. *Such plans, if provided, would have enabled the U.S. EPA to verify appropriate engineering design and operation and maintenance practices to protect drinking water at and downgradient of the proposed well site, and within all storage and conveyance apparatus or practices, i.e. above ground tanks, pipelines, truck on-loading and off-loading, truck routes, on-site truck circulation, etc.*<sup>5</sup>

**2) The U.S. EPA failed to adequately assess the Applicant's need for the proposed well, i.e. existing alternatives to accommodate the Applicant's safe disposal of waste brine.** Alternatives currently exist to Applicant's proposed disposal of natural gas development wastes at a new Cherry Berry well. Plans provided by the Applicant to the MDEQ indicate that it owns mineral rights, and owns/operates and plans to expand an existing natural gas well and pipeline network (i.e. O.I.L. Energy Corps' Acme 18, Acme 25, Acme 31 and Whitewater 9 Antrim natural gas production units) that leads to a central production facility (CPF) within Section 9, Acme Township.<sup>6</sup> This CPF facility includes an existing brine deep disposal well (i.e. the Hubbell B1-9 SWD). It is therefore recommended and strongly urged that the Cherry Berry UIC permit be vacated. The reversal of the U.S.

<sup>2</sup> Lochenheath Wellhead Protection Area, Michigan Department of Environmental Quality, Drinking Water and Radiological Protection Division, Ground Water Supply Section, Wellhead Protection Unit, January 2002.

<sup>3</sup> Soil Survey of Grand Traverse County, Michigan, USDA, issued 1966, updated and reprinted August 1990.

<sup>4</sup> Natural Resources Conservation Service, Web Soil Survey 2.1, National Cooperative Soil Survey, April 13, 2009.

<sup>5</sup> O.I.L. Energy Corporation, Morrison A3-18 & Whitewater 9, Grand Traverse County Antrim Gas Units & Projects map dated May 30, 2008 indicates that O.I.L. Energy owns/operates production and brine pipelines at production facility A2-20 within the NW ¼, NW ¼, NW ¼ of Section 20, Acme Township, approximately 4.75 miles away from the proposed Cherry Berry deep well as measured along Lautner, Brackett, and Bates Road right of ways.

<sup>6</sup> O.I.L. Energy Corporation, Acme & Whitewater 9 Projects, Grand Traverse County Antrim Gas Units & Projects map, undated.

- EPA's decision on the Cherry Berry well permit would have the effect requiring the Applicant to continue with its ongoing plan to use the existing Hubbell B1-9 SWD deep well for natural gas production waste (i.e. brine).

**3) The U.S. EPA failed to adequately assess the ultimate intended use of the proposed well, i.e. the likely future reclassification to accept liquid industrial waste.** Section 18 of the Cherry Berry permit states that "the permittee shall be restricted to the injection of fluids 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...Further, no fluids other than those from sources noted in the administrative record for this permit and approved by the (U.S. EPA) Director shall be injected."<sup>7</sup> However, the permit allows for changes in permitted injection fluids following the notice and approval of the U.S. EPA. We remain very concerned that owners/operators of the Cherry Berry well may seek reclassification as a Class I deep injection well to be used for the disposal of liquid industrial wastes (i.e. "nonhazardous"<sup>8</sup> chemical, food processing, petroleum refining, environmental remediation and/or other wastes) – without the input of adjoining landowners or any public involvement.

### Summary

In summary, the U.S. EPA has failed to adequately demonstrate its fulfillment of its Safe Drinking Water Act obligations to protect subsurface drinking water resources at this location; failed to adequately assess the need for the proposed well as alternatives exist to accommodate the Applicant's need to safely dispose of waste brine; and the U.S. EPA failed to adequately assess the likely intended use of the proposed well to eventually accept liquid industrial waste.

Finally, environmental conditions (i.e. site soils, topography, and hydrogeology) -- including the presence of a natural drainage way, vulnerable surficial aquifer, and steeply sloping site from west to east toward Yuba Creek and its associated wetlands, and existing neighboring resident's reliance upon groundwater as the sole source of drinking water -- render this site unsuitable for the proposed liquid waste disposal facility. Thank you in advance for your consideration of this appeal.

If you have any questions regarding this assessment, please contact me at 231-933-8400 or [cgrobbel@grobbelenvironmental.com](mailto:cgrobbel@grobbelenvironmental.com).

Sincerely,

**Grobbel Environmental & Planning Associates, L.L.C.**



Christopher P. Grobbel, Ph.D.  
Sr. Associate

file 1009-07

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<sup>7</sup>DRAFT: United State Environmental Protection Agency (USEPA), Underground Injection Control Permit: Class II, Permit Number: MI-055-2D-0042, Facility Name: Cherry Berry B1-25 SWD, Region 5, 77 West Jackson Boulevard, Chicago, IL, p. 10.

<sup>8</sup>"Nonhazardous waste" as defined within the federal Resource Conservation and Recovery Act, 40 C.F.R., Part 261 et seq.