

**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

In the Matter of:)	
West Bay Exploration Company)	
of Traverse City, Michigan,)	
Haystead #9 SWD,)	
Permit No. MI-075-2D-0010,)	
Jackson County, Michigan.)	
)	

Appeal No. UIC 14-67

EPA REGION 5 RESPONSE TO PETITION FOR REVIEW

John P. Steketee
Associate Regional Counsel
Office of Regional Counsel
U.S. Environmental Protection
Agency, Region 5 (C-14J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590
Tel. No. (312) 886-0558
Fax. No. (312) 582-5888
steketee.john@epa.gov

TABLE OF CONTENTS

Table of Authorities	iii-vi
Table of Attachments.....	vii
Statement of Compliance with Word Limitation.....	viii
Introduction.....	1
Standard of Review.....	3
Statutory and Regulatory Background.....	5
Factual and Procedural Background.....	6
Argument.....	9
1. The Petitioner has satisfied the standing requirements for obtaining review under 40 C.F.R. § 124.19(a)(2).....	9
2. The Petitioner has not satisfied the petition content requirements for obtaining review or her arguments are not reviewable under 40 C.F.R. § 124.19(a)(4).....	9
a. MIP calculation.....	10
b. Permit termination.....	12
c. Earthquakes.....	13
3. The Petitioner’s three substantive permit challenges raise issues that have no merit.....	15
a. The Petitioner raises the issue of the calculation of the maximum injection pressure of the subject well but has not shown that the calculation is erroneous and it has no merit.....	16
b. The Petitioner’s raise the issue that the Permittee failed to disclose all relevant facts or misrepresented relevant facts but she has no demonstrated the truth of her assertion and it has no merit.....	19
c. Petitioner raises the issue of “earthquakes,” i.e. the issue of seismicity, which is an issue the Region addressed in its response to comments document and it has no merit.....	23
Conclusion.....	26

TABLE OF AUTHORITIES

Cases

<u>In re Avenal Power Ctr., LLC,</u> PSD Appeal Nos. 11-03 through 11-05 (EAB Aug. 18, 2011).....	3
<u>In re Beeland Group, LLC,</u> UIC Appeal Nos. 08-01, 08-02 & 08-03 (EAB Oct. 3, 2008).....	3, 4, 9, 11, 13
<u>In re Beckman Prod. Servs.,</u> 5 E.A.D. 10 (EAB 1994).....	3, 11, 12
<u>In re Cherry Berry B1-25 SWD,</u> UIC Appeal No. 09-02 (EAB Aug. 13, 2010).....	3, 11, 13, 14, 15
<u>In re Chevron Michigan, LLC,</u> UIC Appeal No. 12-01 (EAB Mar. 5, 2013), 15 E.A.D. ____	14
<u>In re City of Moscow,</u> 10 E.A.D. 135 (EAB 2001).....	4
<u>In re Core Energy, LLC,</u> UIC Appeal No. 07-02 (EAB Jan. 15, 2008).....	11
<u>In re City of Palmdale,</u> PSD Appeal No. 11-07 (EAB Sep. 17, 2012), 15 E.A.D. ____	3, 10, 11, 13, 15
<u>In re Dominion Energy Brayton, LLC,</u> 12 E.A.D. 490 (EAB 2006).....	13, 14
<u>In re Encogen Cogeneration Facility,</u> 8 E.A.D. 244 (EAB 1999).....	11
<u>In re Environmental Disposal Sys., Inc.,</u> 12 E.A.D. 254 (EAB 2005).....	3, 4, 11, 12, 15
<u>In re Envotech, LP,</u> 6 E.A.D. 260 (EAB 1996).....	11
<u>In re Federated Oil & Gas of Traverse City, Michigan,</u> 6 E.A.D. 722 (EAB 1997).....	15
<u>In re Indeck-Elwood, LLC,</u> 13 E.A.D. 126 (EAB 2006).....	3

<u>In re Knauf Fiber Glass, GmbH,</u> 8 E.A.D. 121 (EAB 1999).....	3
<u>In re NE Hub Partners, L.P.,</u> 7 E.A.D. 561 (EAB 1998).....	15
<u>In re Newmont Nev. Energy Inv., LLC,</u> 12 E.A.D. 429 (EAB 2005).....	12
<u>In re Presidium Energy, L.C.,</u> UIC Appeal No. 09-01 (EAB July 27, 2009).....	4, 11, 12, 13
<u>In re Puna Geothermal Venture,</u> 9 E.A.D. 243 (EAB 2000).....	15
<u>In re Seneca Resources Corp.,</u> UIC Appeal Nos. 14-01, 14-02 & 14-03 (EAB May 29, 2014).....	3, 4, 11
<u>In re Scituate Wastewater Treatment Plant,</u> 12 E.A.D. 707 (EAB 2006).....	4
<u>In re Steel Dynamics Inc.,</u> 9 E.A.D. 740 (EAB 2001).....	12
<u>In re Sunoco Partners Marketing & Terminals, LP,</u> UIC Appeal No. 05-01 (EAB June 1, 2006).....	13
<u>In re Sutter Power Plant,</u> 8 E.A.D. 680 (EAB 1999).....	15
<u>Greenpeace, Inc. v. EPA,</u> 43 F.3d 701 (D.C. Cir. 1995).....	5
<u>Statutes</u>	
42 U.S.C. §§ 300h – 300h-8 (2014).....	1, 5
42 U.S.C. §§ 300h(b) (2014).....	5
42 U.S.C. §§ 300h(b)(1)(A) (2014).....	5
<u>Regulations</u>	
40 C.F.R. § 124 (2014).....	1, 3, 4, 15
40 C.F.R. § 124.2(a) (2014).....	5

40 C.F.R. § 124.10 (2014).....	5
40 C.F.R. § 124.10(a)(1) and (b)(1) (2014).....	6
40 C.F.R. § 124.10(b)(2) (2014).....	6
40 C.F.R. § 124.11 (2014).....	5
40 C.F.R. § 124.12 (2014).....	5
40 C.F.R. § 124.13 (2014).....	9
40 C.F.R. § 124.14 (2014).....	5
40 C.F.R. § 124.15(a) (2014).....	7
40 C.F.R. § 124.19 (2014).....	1, 2, 3, 14
40 C.F.R. § 124.19(a) (2014).....	9, 24
40 C.F.R. § 124.19(a)(1) (2014).....	5
40 C.F.R. § 124.19(a)(2) (2014).....	1, 9
40 C.F.R. § 124.19(a)(3) (2014).....	5
40 C.F.R. § 124.19(a)(4) (2014).....	1, 4, 9, 13, 14
40 C.F.R. § 124.19(a)(2) - (4) (2014).....	3
40 C.F.R. § 124.19(f) (2014).....	1
40 C.F.R. Part 144, Subpart D.....	12
40 C.F.R. Parts 144 and 146 (2014).....	19
40 C.F.R. Parts 144 – 148 (2014).....	1
40 C.F.R. § 144.40 (2014).....	12
40 C.F.R. § 144.40(a)(2) (2014).....	2, 10, 17, 18
40 C.F.R. § 144.54 (2014).....	19
40 C.F.R. § 146.8 (2014).....	19
40 C.F.R. § 146.23 (2014).....	19

40 C.F.R. § 146.24 (2014).....15
40 C.F.R. § 146.24(a)(4)(iii) (2014).....18
40 C.F.R. § 147.1151 (2014).....5

Federal Register Notices

Consolidated Permit Regulations, 45 Fed. Reg. 33,290 (May 19, 1980)4

TABLE OF ATTACHMENTS

Appendix A: Certified Index of the Administrative Record.....	Tab A1
Appendix B: Documents in the Administrative Record Referenced in Region 5's Response to Petition for Review	
1. April 27, 2011 West Bay Exploration Co. Permit Application.....	Tab B-1
2. January 26, 2012 West Bay Exploration Co. Amended/ Re-Submitted Application.....	Tab B-2
3. February 10, 2012 EPA Request for Information to West Bay Exploration Co.....	Tab B-3
4. March 19, 2012 West Bay Exploration Co. Endangered Species Site Assessment.....	Tab B-4
5. April 9, 2012 West Bay Exploration Co. Drilling and Formation Records.....	Tab B-5
6. May 21, 2012 West Bay Exploration Co. Cementing Record.....	Tab B-6
7. March 27, 2013 Statement of Basis for Draft Decision	Tab B-7
8. March 27, 2013 Public Notice of Draft Permit.....	Tab B-8
9. March 27, 2013 Draft Permit MI-075-2D-0010 for the Haystead #9 SWD	Tab B-9
10. Comments Submitted to EPA by Sandra K. Yerman, May 10, 2013.....	Tab B-10
11. Addendum to Comments Submitted to EPA by S. Yerman, May 14, 2013.....	Tab B-11
12. August 6, 2013 Letter from EPA to U.S. DOI, Fish and Wildlife Service.....	Tab B--12
13. August 15, 2013 Seismic Cross Section.....	Tab B-13
14. September 4, 2013 Letter from U.S. DOI, Fish and Wildlife Service, to EPA.....	Tab B-14
15. Transcript of April 30, 2013 EPA Public Hearing.....	Tab B-15
16. April 9, 2014 Notification to S. Yerman of EPA's Response to Comments Document and Final Permit.....	Tab B-16
17. April 9, 2014 EPA Response to Public Comment Document.....	Tab B-17
18. April 9, 2014 Notification to West Bay Exploration of EPA's Response to Comments and Final Permit.....	Tab B-18
19. April 9, 2014 Class II UIC Permit, Haystead #9 SWD (Permit No. MI-075-2D-0010) issued by EPA to the West Bay Exploration Company	Tab B-19

STATEMENT OF COMPLIANCE WITH WORD LIMITATION

This response brief complies with the 30-page limitation found at 40 C.F.R. § 124.19(d)(3). *See* 40 C.F.R. § 124.19(d)(1)(iv).

INTRODUCTION

Pursuant to 40 C.F.R. § 124.19(f), Region 5 of the U.S. Environmental Protection Agency (the Region or Region 5) hereby responds to the May 14, 2014 Petition for Review (Petition) filed with the Environmental Appeals Board (EAB or the Board) by Ms. Sandra K. Yerman (Petitioner) [Appeal No. UIC 14-67]. The Petition seeks review, pursuant to 40 C.F.R. § 124.19, of an April 9, 2014 permit issued by the Region, pursuant to the Underground Injection Control (UIC) Program, Part C of the Safe Water Drinking Act (“SDWA”), 42 U.S.C. §§ 300h – 300h-8, and the regulations found at 40 C.F.R. Parts 124 and 144 – 148, to the West Bay Exploration Company, Traverse City, Michigan (“WBEC”) for a UIC Class II well to be located in Jackson County, Michigan and known as the “Haystead #9 SWD” well (Haystead #9 well) [Permit No. MI-075-2D-0010] (Haystead #9 Permit or Permit). Attached to this Response is a certified index of the administrative record for the subject permit.

While the Board may deem the Petition timely filed, and the Petitioner has met the standing requirements of 40 C.F.R. § 124.19(a)(2) in order to submit her Petition, the Petition nevertheless fails to meet the threshold procedural standards of issue preservation and specificity, found at 40 C.F.R. § 124.19(a)(4), and, therefore, should be denied.

More specifically, the Petitioner fails to identify any specific contested permit conditions or challenges for Board review and does not provide the requisite issues of law and fact to support her contentions. The Petition fails to identify any findings of fact or conclusions of law that are clearly erroneous; and it fails to identify any decision or any important policy consideration the EAB should in its discretion review. In addition, the Petition does not cite any documents in the administrative record demonstrating that the issues raised by the Petitioner were previously raised during the public comment or public hearing period, nor does the Petition explain why any issues

not previously raised are now being raised. Also, the Petition does not cite or address any of the Region's prior responses to comments on these issues or explain why those responses were erroneous or otherwise warrant review. Lastly, the Petition raises an issue which is not ripe and is currently misplaced under 40 C.F.R. § 124.19. For these procedural reasons, her Petition should be denied.

Even if the Petitioner were to have met the required procedural thresholds, the Board should deny the Petition on substantive grounds, for the reasons discussed below. Petitioner argues first that the Region erred by not correctly calculating the maximum injection pressure (MIP) of the Haystead #9 well. Second, she argues that the Haystead #9 Permit should be terminated for cause, under 40 C.F.R. § 144.40(a)(2), because the Permittee allegedly failed to disclose all relevant facts to the Region related to the mechanical integrity of the proposed well. Third, she summarily states that the well may cause earthquakes without providing a basis for this assertion. To the extent that any of these issues were raised in comments, the Region properly addressed them in its responses to comments, and the Petitioner has failed to explain why such responses were inadequate. To the extent that these issues are being raised for the first time in the Petition, EPA explains below why such issues, even if they were to be considered, still have no merit, based on information provided in the administrative record, or why they are beyond the purview of 40 C.F.R. § 124.19.

For the reasons set forth in more detail below, the Petitioner has failed to meet her burden to obtain review by the Board, and, therefore, her Petition should be denied, or, in the alternative, her substantive arguments should be rejected by the EAB.

STANDARD OF REVIEW

The standard of review for appeal of a permit (petition for review) issued under 40 C.F.R. Part 124 is governed by 40 C.F.R. § 124.19 (2014). The Board has the discretion either to grant or deny review of a permit decision. *See In re Avenal Power Ctr., LLC*, PSD Appeal Nos. 11-03 through 11-05, slip op. at 14-15 (EAB Aug. 18, 2011). In considering a petition for review filed under 40 C.F.R. § 124.19, the EAB must first evaluate whether the petitioner has met certain threshold requirements of the applicable regulations such as “timeliness, standing, issue preservation and specificity.” 40 C.F.R. § 124.19(a)(2) – (4); *see also In re Seneca Resources Corp.*, UIC Appeal Nos. 14-01 through 14-03, slip op. at 2 (EAB May 29, 2014) (citing *In re Indeck-Elwood, LLC*, 13 E.A.D. 126, 143 (EAB 2006)).

While the Board may relax some of the more technical pleading standards for *pro se* petitioners who are unrepresented by legal counsel, as is the case in this matter, even under this more liberal standard, a petitioner must still identify the elements at issue in the permit and articulate how EPA erred or how it exercised its discretion in a manner that warrants Board review. 40 C.F.R. § 124.19. *See Seneca Resources Corp.*, slip op. at 2-3; *In re Env'tl. Disposal Sys., Inc.*, 12 E.A.D. 254, 292 n.26 (EAB 2005); *In re Beckman Prod. Servs.*, 5 E.A.D. 10, 19 (EAB 1994); *In re Presidium Energy, LC*, UIC Appeal No. 09-01, slip op. at 4-5 (EAB July 27, 2009) (citing *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 127 & n.72 (EAB 1999); *In re Envotech, L.P.*, 6 E.A.D. 260, 267-69 (EAB 1996).

The Petitioner has the burden of demonstrating that review by the Board is warranted. *In re City of Palmdale*, PSD Appeal No. 11-07, slip op. at 9 (EAB Sept. 17, 2012). 15 E.A.D. _____. To satisfy this burden, petitioners must meet their threshold pleading requirements. *See In re Cherry Berry B1-25 SWD*, UIC Appeal No. 09-02, slip op. at 2 (EAB Aug. 13, 2010) (quoting *In*

re Beeland Group, LLC, UIC Appeal Nos. 8-01 through 8-03, slip op. at 8 (EAB Oct. 3, 2008 14 E.A.D. ___). If the EAB finds that a petitioner has failed to meet a threshold pleading requirement, the Board “typically denies or dismisses the petition for review.” *Seneca Res. Corp.*, slip op. at 2 (citations omitted). The EAB “has frequently dismissed petitions that failed to meet these standards.” *Cherry Berry*, UIC Appeal No. 09-02 at 2 (citations omitted).

Should the EAB determine that a petitioner has met its threshold pleading obligations, then the Board determines the appropriate standard of review and decides whether the issues raised in the subject petition have any merit. *See Seneca Res. Corp.*, slip op. at 2. Typically, the EAB declines to review a UIC permit decision unless the petitioner demonstrates that the permit decision is either: 1) based upon a “clearly erroneous” finding of fact or conclusion of law; or 2) involves an “important policy consideration” or “exercise of discretion” that warrants review by the Board. 40 C.F.R. § 124.19(a)(4); *see In re Env'tl. Disposal Sys.*, 12 E.A.D. at 263 (citations omitted). The Petitioner must demonstrate that either of the above-listed conditions of 40 C.F.R. § 124.19(a)(4) have been met by: identifying the permit conditions at issue and to be reviewed; showing that the Petitioner commented on the subject condition and that the issue was raised during the public comment period; and addressing the Region’s response to Petitioner’s comments and explaining why such response was inadequate. *In re Presidium Energy*, slip op. at 3-4 (EAB July 27, 2009).

The EAB has in the past also looked to the preamble to 40 C.F.R. Part 124, which says that the Board’s review should only be exercised “sparingly” and that “most permit conditions should be finally determined” by the Regions. Consolidated Permit Regulations, 45 Fed. Reg. 33,290, 33,412 (May 19, 1980); *accord In re Scituate Wastewater Treatment Plant*, 12 E.A.D. 707, 717 (EAB 2006); and *In re City of Moscow*, 10 E.A.D. 135, 140-41 (EAB 2001).

STATUTORY AND REGULATORY BACKGROUND

Congress enacted the Safe Drinking Water Act, 42 U.S.C. §§ 300f–300j-26, as amended (“SDWA”), to safeguard the public’s drinking water. Part C of the SDWA provides for the protection of underground drinking water sources through underground injection control (“UIC”) programs that regulate the injection of fluids underground. 42 U.S.C. §§ 300h–300h-8. EPA was directed to promulgate regulations establishing minimum requirements for UIC programs. *Id.* § 300h(b). One such requirement is that any person who intends to operate an underground injection well must obtain a permit. *Id.* § 300h(b)(1)(A). EPA Region 5 has responsibility for administering the UIC permit program in the State of Michigan.¹ 40 C.F.R. § 147.1151.

Any interested person may submit comments on a proposed UIC permit during a public comment period—including a re-opened public comment period or a public hearing—that occurs before EPA issues the final permit. *See* 40 C.F.R. §§ 124.11, 124.12, 124.14. Any person who timely provides such comments may then challenge the final UIC permit by filing a petition for review with the Board within the 30 day period after the Regional Administrator serves notice of the issuance of the final UIC permit decision.² *Id.* § 124.19(a)(1), (a)(3).

¹ The SDWA directed EPA to promulgate regulations establishing minimum requirements for states to administer their own UIC programs, subject to EPA approval. 42 U.S.C. §§ 300h(a), 300h-1(b). If a state did not apply for approval to administer its own UIC program, or applied but did not receive EPA approval, then EPA was required to implement UIC regulations for that state. *Id.* § 300h-1(c); 40 C.F.R. § 144.1(e). The State of Michigan has not been approved to administer its own UIC permit program. Thus, EPA Region 5 administers Michigan’s UIC program. *See* 40 C.F.R. § 147.1151.

²The Administrator delegated her authority to review UIC and other permit decisions to the Board. *See* 40 C.F.R. § 124.2(a); *Greenpeace, Inc. v. EPA*, 43 F.3d 701, 705 n.8 (D.C. Cir. 1995).

FACTUAL AND PROCEDURAL BACKGROUND

On April 27, 2011, West Bay Exploration Company, of Traverse City, Michigan (Permittee), submitted an application to EPA for the construction and operation of a new Class II well for brine disposal, to be known as the Haystead #9 SWD and located in Jackson County, Michigan. Ex. B-1. The Permittee subsequently re-submitted an amended application for the Haystead #9 SWD well on January 26, 2012. Ex. B-2. The Region reviewed the application, and, on February 10, 2012, Region 5 requested additional information from the Permittee regarding the proposed disposal well. Ex. B-3. The Permittee provided the Region with the requested information on March 19, April 9, and May 21, 2012. Ex. B-4, B-5 and B-6. The Region then developed a statement of basis and a draft permit for the issuance of the subject UIC permit. Ex. B-7 and B-9.

On March 27, 2013, the Region issued a public notice of its preparation of the draft permit and public comment period in accordance with 40 C.F.R. § 124.10(a)(1) and (b)(1). Ex. B-8. The Region also announced that it had scheduled a public hearing, to be held on April 30, 2013, on the proposed permit action pursuant to 40 C.F.R. § 124.10(b)(2). Region 5 published the public notice in the Jackson Citizen Patriot, a local newspaper, and mailed it to: (1) interested parties who had contacted the Region to be placed on the mailing list; (2) people who had made comments during a previous public comment period in 2012 for a nearby proposed well, the West Bay #22 (EPA Number MI-075-2D-0009); and (3) residents within a ¼ mile radius of the proposed Haystead #9 well. EPA also provided a draft of the Haystead #9 Permit to the Jackson Public Library for public viewing.

The public comment period lasted for 47 days, beginning on March 29, 2013 and ending on May 14, 2013. On April 30, 2013, Region 5 held an informational session and public hearing

at Columbia Central High School in Brooklyn, Michigan. Approximately 30 members of the public attended, with 16 participants providing verbal comments and two attendees submitting written comments. Over the course of the Region's comment period, five commenters sent Region 5 comments via U.S. Postal Service Standard Mail, and five commenters sent the Region comments via email. On August 6, 2014, Region 5 separately notified the U.S. Department of Interior's Fish and Wildlife Service (USFWS) in writing of the Region's proposed decision to issue a permit for the Haystead #9 SWD well and provided 30 days for the USFWS to comment on the draft permit. Ex. B-12. On September 4, 2014, USFWS concurred with Region 5 in writing and agreed with the Region's determination that the issuance of the subject permit would not impact any federally listed species under the Endangered Species Act. Ex. B-14.

Subsequently, Region 5 reviewed all of the comments made by the public and USFWS, gathered additional documentation necessary to clarify certain issues raised during the comment period, and developed a Response to Public Comments document (RTC), responding to each individual comment made in the matter. Ex. B-17.

On April 9, 2014, Region 5 issued a final permit to Permittee for the Haystead #9 well. Ex. B-18 and B-19. As part of the public notice, the Region also issued the RTC summarizing the Agency's responses to all of the public comments received on the proposed permit action. Region 5 mailed the notice of the final permit and RTC to all persons who provided the Region with comments and to other State and federal officials, including the Petitioner. *See* 40 C.F.R. § 124.15(a). The Region's notice of the final permit and RTC included detailed information regarding how persons who filed comments on the draft permit or participated in the public hearing may petition the EAB to review any condition of the final permit decision. Exhibit B-16.

On May 8, 2014, Mr. Peter Bormuth, Jackson, Michigan (Petitioner Bormuth) filed a Petition for Review with the EAB, seeking review of the Haystead #9 Permit [EAB Appeal No. UIC 14-66]. EAB Docket No. MI-075-2D-0010, Filing #1. On May 14, 2014, Petitioner filed her Petition seeking review of the Haystead #9 Permit [EAB Appeal No. UIC 14-67]. EAB Docket No. MI-075-2D-0010, Filing #4. On May 16, 2014, Petitioner filed an affidavit with the EAB asserting that she sent her Petition to the EAB on May 10, 2014, via U.S. Postal Service “express mail,” to the EAB’s express mail mailing address. EAB Docket No. MI-075-2D-0010, Filing #5. Petitioner filed a motion on May 22, 2014, seeking leave to allow the filing of her Petition with the EAB, despite the fact that her Petition was submitted on May 14, 2014, two days after the May 12, 2014 deadline for filing an appeal in this matter. EAB Docket No. MI-075-2D-0010, Filing #6. On May 28, 2014, Petitioner filed a letter with the Board memorializing certain conversations she had with the Clerk of the Board regarding the filing of her Petition and attached copies of several documents intended to support the assertions made in her May 22, 2014 Motion. EAB Docket No. MI-075-2D-0010, Filing #10. On May 28, 2014, the Region filed a reply to Petitioner’s motion concurring with the motion, not objecting to the filing of the Petition and reserving the Region’s right to seek an order from the Board denying review of the Petition for procedural reasons other than timeliness. EAB Docket No. MI-075-2D-0010, Filing #11. On June 5, 2014, Petitioner filed an objection to the Region’s Reply Motion seeking withdrawal of the Haystead #9 Permit. EAB Docket No. MI-075-2D-0010, Filing #15.

In reaching its final permit decision, the Region determined that the draft permit met all federal UIC requirements and that there would be no impact to underground sources of drinking water (“USDW”) as a result of injection into the Haystead #9 well. The Region determined that the geologic siting; engineering and construction; and operating and monitoring standards applied

to the Haystead #9 well are sufficient to protect the USDW. The Agency also determined that the public comments submitted did not demonstrate a deficiency in the application based on UIC Program regulatory requirements for approval. It also determined that the public comments did not raise issues that would alter EPA's basis for determining that it is appropriate to issue to West Bay Exploration Company's permit for the proposed injection well.

ARGUMENT

1. The Petitioner has satisfied the standing requirements for obtaining review under 40 C.F.R. § 124.19(a)(2).

The Region acknowledges that Petitioner meets the standing requirements for the filing of a petition for review of the subject UIC permit with the EAB per 40 C.F.R. § 124.19(a). Any person who filed comments on the draft UIC permit at issue during the public comment period or who participated in the public hearing is entitled to submit such a petition to the Board pursuant to 40 C.F.R. § 124.19(a)(2). *See Beeland*, UIC Appeal Nos. 08-01 et al, slip op. at 3-5. Petitioner Yerman submitted comments on the draft UIC permit to the Region on May 10 and 14, 2013. Ex. B-10 and B-11.

2. The Petitioner has not satisfied the petition content requirements for obtaining review under 40 C.F.R. § 124.19(a)(4).

Petitioner has not met the procedural requirements of issue preservation and specificity, found at 40 C.F.R. §§ 124.13 and 124.19(a)(4), needed to obtain review by the Board. More specifically, the Petition does not meet the content requirements of 40 C.F.R. § 124.19(a)(4) because the Petition does not: 1) identify a contested permit condition or specific challenge to the Permit and clearly provide legal or factual support for Petitioner's contentions as to why the Region's permit decision should be reviewed; 2) identify any finding of fact or conclusion of law that is clearly erroneous; 3) identify any exercise in Agency discretion or important policy

consideration to be reviewed by the Board; 4) show that the issue was raised previously and provide the requisite citations in the administration record; 5) explain why any issue not previously raised was not required to be raised during the public comment period; or 6) explain why the Region's prior responses to comments addressing the Petitioner's concerns are clearly erroneous or otherwise warrant review. Lastly, in appealing a UIC permit decision, a petitioner may only raise issues that fall within the scope of 40 C.F.R. § 124.19.

With regard to the three issues raised by the Petitioner in her Petition, each of these issues does not meet some or all of the six requirements listed above. The Petitioner's issues are: (a) that the Region erred by not correctly calculating the maximum injection pressure ("MIP") of the Haystead #9 well (MIP Calculation), Petition at Pgs. 1-2; (b) that the Haystead #9 Permit should be terminated for cause under 40 C.F.R. § 144.40(a)(2), because the Permittee allegedly failed to disclose all relevant facts to the Region related to the mechanical integrity of the proposed well (Permit Termination), Petition at Pgs. 3 -4; and (c) "earthquakes" (Earthquakes), Petition at Pg. 2. EAB Docket No. MI-075-2D-0010, Filing #4.

a. MIP calculation.

While the MIP is a condition of the Permit, or related thereto, nevertheless, the Petitioner has not explained why the Region's MIP calculation warrants review or explained why the Region's prior explanation of the MIP value selection failed to address her concerns and is clearly erroneous. In addition her general concerns about the well pressure are vague and unclear. For example, at page 2 of her Petition, she states "Therefore, more calculation must be done because Haystead #9 SWD well does not fracture – but can accept fracturing fluids from horizontal fracturing operations that may have used tons of ('of) proppants" The Region presumes she is arguing that Region 5's MIP calculations did not consider sand as potential proppant in the

injection fluid, however, the Region's calculation was based upon a representative brine analysis submitted by the Permittee, and, therefore, her concern is speculative at best. *See* Section 3.a below and Ex. B-1, Pg. 46.

Even though the Petitioner is *pro se*, she must still clearly identify the elements at issue in the permit and articulate how the Region erred with regard to its MIP calculation; explain how the Region, when calculating the MIP, exercised its discretion in a manner that warrants Board review; or show how the Region's explanation of its MIP calculation is clearly erroneous. *See Seneca*, slip op. at 2-3; *Envtl. Disposal Sys.*, at 292; *Beckman* at 19; *Presidium*, slip op. at 4-5; *Envotech* at 267-69.

A petitioner is not only required to specify objections to the permit; he or she must also explain why the permit issuer's previous response to comments is clearly erroneous or otherwise warrants review. *City of Palmdale*, PSD Appeal No. 11-07 at 10; *see In re Core Energy, LLC*, UIC Appeal No. 07-02, slip op. at 2 (EAB Jan. 15, 2008). The EAB has frequently denied review of petitions that are "merely 'based on numerous general concerns, without a single citation to a permit term or condition' – a general expression of concern is simply not sufficient to show clear error in the Region's permitting decision." *Presidium*, slip op. at 4 (quoting *Beeland* at 11 (Order Denying Review)). *See also Cherry Berry*, UIC Appeal No. 09-02 at 3-4 (citations omitted). Remarking that, "it is not incumbent upon the Board to scour the record to determine whether an issue was properly raised," the Board imposes a burden on the petitioner to demonstrate in the petition that the issues raised therein were first raised during the public comment period on the draft permit. *Presidium*, slip op. at 2, n.4 (quoting *In re Encogen Cogeneration Facility*, 8 E.A.D. 244, 250 n.10 (EAB 1999)). The Board has further stated:

The requirement that the petitioner must show that an issue was raised during the public comment period in order to preserve it for review on appeal is not an arbitrary hurdle placed

in the path of potential petitioners. Rather, the requirement serves an important function related to the efficiency and integrity of the overall administrative permitting scheme. The rule's intent is to ensure that the permitting authority has the first opportunity to address objections, and to give some finality to the permitting process. [Presidium Energy, UIC Appeal No. 09-01 at 2 n.3 (citations omitted)]

A petitioner may not simply repeat objections made during the comment period but “must demonstrate why the [permit issuer’s] response to these objections (the [permit issuer’s] basis for its decision) is clearly erroneous or otherwise warrants review.” *In re Newmont Nev. Energy Inv., LLC*, 12 E.A.D. 429, 472 (EAB 2005) (quoting *In re Steel Dynamics Inc.*, 9 E.A.D. 740, 744 (EAB 2001)). Petitioner must comply with the minimal pleading standards and articulate some supportable reason why the [permit issuer] erred in its permit decision in order for the petitioner’s concerns to be meaningfully addressed by the Board.” *Envtl. Disposal Sys.*, at 292 n. 26 (quoting *In re Beckman Prod. Servs.*, 5 E.A.D. 10, 19 (EAB 1994)). For this issue, she has not met the required standard.

b. Permit Termination.

As a threshold matter, Petitioner’s second challenge to the Permit, is not ripe and it is misplaced under 40 C.F.R. § 124.19. As citizen may only request termination from the Region, not the Board, and only after a final permit has been issued and is effective. 40 C.F.R. Part 144, Subpart D. Accordingly, Petitioner must wait for the Permit to be issued and become effective before requesting that it be terminated under 40 C.F.R. §144.40.

Regardless, Petitioner has not identified, nor does her issue involve, any specific permit condition of the Haystead #9 Permit at issue as part of this challenge to the Permit; she has not identified any finding or fact or conclusion of law that is clearly erroneous; or shown the issue involves any discretionary exercise or important policy consideration that should be reviewed by the Board. This issue is ether not reviewable or she has not met the required standard.

c. Earthquakes.

In this challenge to the Permit, the Petitioner has not identified, nor does her issue involve, any specific permit condition of the Haystead #9 Permit; she has not identified any finding or fact or conclusion of law that is clearly erroneous; or shown the issue involves any discretionary exercise or important policy consideration that should be reviewed by the Board. In addition, she does not explain why the Region's response to the issue (seismicity) was clearly erroneous or otherwise warrants review. The Region addressed the issue of seismicity (see discussion at Section 3.c below) in the RTC. See Exhibit B-17, RTC, Responses #5, #7, #8, Pg. 2, 9-13, 15-18, and 71. The Petitioner was not only required to be more specific with regard to the Earthquakes issue, but she was also required to explain why the Region's prior responses to comments on this issue were clearly erroneous or otherwise warrants review and has not met her burden in this regard.

Lastly, the Earthquake issue is impermissibly inexplicit, in that she merely states "Plus Bormuth raised the issue of earthquakes" at page 2 of her Petition. The Board often will not consider the merits of a permit challenge that is unacceptably vague or that is not supported by the requisite facts and law; see *In re Sunoco Partners Mktg. & Terminals, LP*, UIC Appeal No. 05-01 (EAB June 1, 2006), at 11-12. The EAB frequently declines to review permits unless a petition for review clearly identifies the conditions of the permit at issue and argues why such conditions warrant review, including an explanation showing why the Region's responses to comments did not address the petitioner's concerns. See 40 C.F.R. § 124.19(a)(4); see also *Beeland*, UIC Appeal Nos. 08-01 et al, slip op. at 9; *Presidium*, UIC Appeal No. 09-01 at 3 n.4; *Palmdale*, PSD Appeal No. 11-07 at 10. "On appeal, it is not sufficient to repeat objections made during the public comment period; rather, a petitioner must also demonstrate why the permit issuer's response to those objections (i.e., the permit issuer's basis for its decision) is clearly erroneous." *In re*

Dominion Energy Brayton Point, LLC, 12 E.A.D 490, 509 (EAB 2006). Also, in *Cherry Berry*, UIC Appeal No. 09-02, slip op. at 5, the Board rejected a petition consisting of a three page letter asserting that the subject well would not be protective of drinking water sources. The EAB declined to review the petition because it did not reference any specific permit conditions and did not explain how the regional responses in the RTC were clearly erroneous. When a petition for review lacks the requisite specificity, the Board does not consider its merits. *In re Chevron Michigan, LLC*, UIC Appeal No. 12-01, slip op. at 14-16 (March 5, 2013), 15 E.A.D. ____.

In sum, the Petition clearly violates numerous procedural requirements of 40 C.F.R. § 124.19, and should be rejected as was done by the Board in the cases cited above. The Petition is a 5 page handwritten motion that makes vague assertions without identifying the relevant permit conditions or providing any legal or factual support for these assertions. In addition, the Petitioner does not explain why the Region's prior responses to these or similar comments are clearly erroneous or otherwise warrant review. Also, to the extent these assertions are raised for the first time or previously raised, the Petitioner does not adhere to the procedural requirements for presenting such issues before the Board. Lastly, at least one or the issues are beyond the scope of permit review under the UIC program. Accordingly, these three challenges should be rejected on procedural grounds because they do not meet one or more of the content requirements of 40 C.F.R. § 124.19(a)(4).

None of the three issues raised by the Petitioner are clearly articulated in the Petition nor are they supported by facts or law demonstrating either that the Region erred in issuing the subject Permit or why review by the Board is warranted. While the EAB does not require *pro se* petitioners to present sophisticated technical or legal arguments, nevertheless, the Board still requires all

petitions to be explicit enough to apprise the EAB of the issues being raised. *In re Sutter Power Plant*, 8 E.A.D. 680, 687 (EAB 1999). For this issue, she has not met the required standard.

3. The Petitioner's three substantive permit challenges raise issues that have no merit.

After it decides that a petitioner followed the required procedures to raise an alleged ground for review, the Board then determines the standard of review. The preamble to 40 C.F.R. Part 124 states that the Board's power of review "should only be sparingly exercised," and that "most permit conditions should be finally determined at the Regional level." 45 Fed. Reg. at 33,412; *see Env'tl. Disposal Sys.*, 12 E.A.D. at 263-64; *In re Puna Geothermal Venture*, 9 E.A.D. 243, 246 (EAB 2000); *see also Presidium*, at 2, n.4. The Board has repeatedly confirmed this interpretation of its discretionary authority to grant review of permit actions. *See, e.g., In re NE Hub Partners, L.P.*, 7 E.A.D. at 567 (citing *In re Federated Oil & Gas of Traverse City, Mich.*, 6 E.A.D. 722, 725-26 (EAB 1997)); *Cherry Berry*, at 1 n.2; *Palmdale*, at 8. "On matters that are fundamentally technical or scientific in nature, the Board will typically defer to a permit issuer's technical expertise and experience, as long as the permit issuer adequately explains its rationale and supports its reasoning in the administrative record." *Palmdale*, at 9 (citing *Dominion*, 12 E.A.D. at 510).

In this case, should the Board decline to issue an order denying review of the Petition for the reasons set forth above, the Region argues, in the alternative, that none of Petitioner's three substantive arguments have any merit and the EAB should defer to the Regions determinations in this matter. The Petitioner's three challenges to the Permit, described briefly above, are as follows.

- a. The Petitioner raises the issue of the calculation of the maximum injection pressure of the subject well, but has not shown that the calculation is erroneous and it has no merit.**

The first issue raised by the Petitioner, that the Region erred by not correctly calculating the MIP of the Haystead #9 well, is not supported by the required fact or law. Petitioner argues that because the Haystead #9 well is permitted as a Class II disposal well, the Permittee could, in theory, inject waste fluids from hydraulic fracturing operations with high volumes of “frac-sand” proponents or high purity quartz sand into the well. As a result, the Petitioner argues, the Region did not properly consider the specific gravity of “frac-sand” in its MIP calculations for the Haystead #9 well. Petitioner also references Petitioner Bormuth’s comments on this issue, “this issue was raised in EPA’s Response to Peter Bormuth, RTC 5., Pg 10; + mine, 14.1 P.40, 13.1 P30.” (Page 2 of Petition) and EPA’s RTC Response #5. Petitioner argues that EPA’s safety factor added to the specific gravity in calculating the MIP should be increased to account for potential “frac-sand,” and to lower the permitted MIP.

Also, as an aside, Petitioner claims to have not received Attachment A to EPA Permit #MI-075-2D-0010, which sets forth the operating monitoring and reporting requirements of the Permit. This is contradicted by her acknowledgment, at Page 2 of her Petition, of receiving Page A-1 of 1 (which is Attachment A of EPA Permit #MI-075-2D-0010), where she states “What I do have, in my UIC final Permit Pkg., MI-075-2D-0010, Page A-1 of 1....” The Region merely notes that it provided a copy of the complete final permit for the Haystead #9 well (Ex. B-19) along with a copy of the Region’s RTC (Ex. B-17) to everyone who commented during the draft permit comment period or participated in the public hearing. The final Permit for the Haystead #9 well includes pages 1-15 and Attachments A, B, and C, as described under Part III “Special Conditions.” Attachment A to the Permit, “Operating, Monitoring, and Reporting Requirements,”

was included with the copy of the final permit sent to the petitioner on April 9, 2014. This attachment in the final permit, labeled “Page A-1 of 1”, lists the MIP of 737 pounds per square inch gauged (psig) and includes an explanation of how EPA calculated this value. *See* Ex. B-19, Attachment A of April 9, 2014 EPA Permit #MI-075-2D-0010.

As detailed in the draft and final permits in this matter, the limitation on wellhead pressure serves to prevent confining-formation fracturing. Ex. B-9, Attach. A and B-19, Attach. A. 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 Niagaran formation, at 2,870 feet underground, was used as the depth, and a specific gravity of 1.243 was used for the injected fluid. As described in the RTC, the specific gravity of 1.243, used in the equation above, includes a safety factor of .05 added to the specific gravity of a representative brine analysis submitted by the Permittee as part of its application. *See* Ex. B-1, Pg. 45, Appendix 5. As explained on page 10 of the RTC, EPA limits the MIP by calculating the MIP with conservative values. In particular, the Region added a safety factor of .05 to the specific gravity of the Permittee’s representative brine analysis when calculating the MIP. This not only prevents formations from fracturing and creating migration pathways, but also generally minimizes injection pressures. *See* RTC, Ex. B-17, Response 13.1.

The Haystead #9 well is expected to require very little pressure to operate. As documented in the Michigan Hydrogeologic Atlas, the Niagaran formation is permeable and very capable of accepting fluid.³ EPA also typically requires injection pressure monitoring and reporting in Class II UIC permits. In addition, if there were to be any future concerns or issues with increasing

³ AR Item #28, Pg. II-38 – II-40 (Dennis L. Curran et al., Dept’ of Geology, W. Mich. Univ., *Hydrogeologic Atlas of Michigan* (1981).

pressure at this well, the Region could further limit operational injection pressure or request testing to ensure pressures were not increasing in the injection formation.

Furthermore, the representative brine analysis submitted by the Permittee to the Region meets UIC regulatory requirements, as discussed in more detail in Response #8 on page 17 of the RTC. Ex. B-17. In the RTC, Response #8, the Region states that the representative brine sample submitted by Permittee met the UIC regulation requirements at 40 C.F.R. § 146.24 (a)(4)(iii). These regulations require a fluid analysis, but do not include a list of chemicals to be analyzed for Class II wells. Region 5's permitting tool entitled "Example: Underground Injection Control Class II Permit Application" instructs applicants to provide a fluid analysis that includes concentrations of, but is not limited to, the following: Sodium, Calcium, Magnesium, Barium, Total Iron, Chloride, Sulfate, Carbonate, Bicarbonate, Sulfide, Total Dissolved Solids, pH, Resistivity (ohm-meters), and Specific Gravity.⁴ This list contains analytes that help verify that the fluid is oil or gas-production related brine. In this case, the Region determined that the applicant has provided sufficient information, including a representative brine analysis, to allow EPA to make a proper permitting decision with regard to this issue.

Moreover, Attachment A (Page A1 of 1) of EPA Permit #MI-075-2R-0010, details monitoring and reporting requirements for the Haystead #9 well which EPA uses to ensure the injection well is operating with properly calculated permitted MIP. Specifically, annual Chemical Composition of Injection Fluid reporting requirements are explained on Page A1 of 1 and are required to ensure that the injection fluid is representative of brine: "Chemical composition analysis shall include, but not be limited to, the following: Sodium, Calcium, Magnesium, Barium,

⁴ AR Item #94, Pg. 4.

Total Iron, Chloride, Sulfate, Carbonate, Bicarbonate, Sulfide, Total Dissolved Solids, pH, Resistivity (ohm-meters @ 75°F), and Specific Gravity.” Ex. B-19.

Additionally, on page 16 of the RTC, EPA states:

The permit for this well limits injection pressure to prevent the injected fluid from causing fractures in the rock, which could become conduits for the injected fluid to leave the injection zone. In this case, the permit limits the surface injection to 737 pounds per square inch, which EPA calculated using site-specific but conservative figures for waste and rock characteristics. The depth at which injection occurs in this well, 2,653 feet below the deepest source of drinking water in the area, provides another margin of safety, as does the confining layer, other rock formations, and other geologic layers of impermeable shales. EPA also reviewed the deep wells in the ¼ mile AOR surrounding the Haystead #9 SWD well and determined that these wells are properly constructed (or properly plugged and abandoned) and will not act as conduits for injection fluids under pressure to move into the USDW. EPA therefore anticipates that injection at this site will not present unacceptable risks to human health or the environment. Ex. B-17.

Again, MIP is referenced another time in EPA’s RTC on page 71:

This limitation on wellhead pressure serves to prevent confining-formation fracturing. EPA also requires annulus pressure monitoring and mechanical integrity testing, which are designed to detect pressure changes between the tubing and annulus, thereby promptly detecting a leak. If a leak is detected, the UIC regulations require the operator to immediately cease operating the well until the leak is fixed and the repair is confirmed through testing. The operating, monitoring, and reporting requirements incorporated in the Haystead #9 Permit are in accordance with 40 C.F.R. §§ 144.54 and 146.23. Ex. B-17.

In sum, the Petitioner’s assertion that The Region’s calculation of the MIP of the subject well was in error has no merit and the Region’s explanation of how it calculated the value in the RTC is not erroneous.

b. The Petitioner raises the issue that the Permittee failed to disclose all relevant facts or misrepresented relevant facts, but she has not demonstrated the truth of her assertion and it has no merit.

The second issue raised by the Petitioner, that the Haystead #9 Permit should be terminated for cause under 40 C.F.R. § 144.40(a)(2), because the Permittee allegedly failed to disclose all relevant facts to the Region is also not supported by the required fact or law. More specifically,

the Petitioner states that the Permittee failed to disclose that “there are ...vertical channels adjacent to the injection well bore... between the cement and the injection well bore hole...” [EAB Appeal No. UIC 14-67]. *See* EAB Docket No. MI-075-2D-0010, Filing #4, Pg. 3. The petitioner also argues that the Haystead #9 well will not meet the UIC mechanical integrity requirements described at 40 C.F.R. § 146.8, and that fluid could potentially move from the injection zone into underground sources of drinking water. Petitioner further suggests that there is a “vertical channel adjacent to the injection well bore...” and, over geologic time, production fluids and sand proppants injected into the Haystead #9 well “could seep around the injection well outlet in the Niagaran, seep up thru the Salina Group near that well bore channel; seep up into/ thru the impermeable shale layers... into our USDW....” Lastly, Petitioner reiterates that Permittee violated conditions of 40 C.F.R § 144.40 (a)(2) by not disclosing information about “vertical channels adjacent to the injection well bore!” None of these assertions have any merit.

First, the Petitioner’s assertion that Permittee failed to disclose information about the construction of the Haystead #9 well is contradicted by the fact that the Haystead #9 well bore hole has yet to be drilled, i.e. it is impossible to know whether there are vertical channels adjacent to the injection bore hole prior to the well being constructed. *See* Ex. B-19, Haystead #9 Permit, Part II (A)(7), which states: “The construction, including drilling, of any well required to have a permit is prohibited until the permit has been issued.” Also, the RTC, at Pages 2-3, 5, and 30-31, describes the planned construction of the Haystead #9 well in detail and states that the Haystead #9 well will be drilled to 3,100 feet below surface and will be constructed with three casing strings (steel pipe), set to 350, 930, and 2,780 feet underground respectively. All steel casing strings will be cemented over their entire length to preclude the movement of fluids into and between USDWs due to injection operations. Ex. B-16.

Additionally, the Region's RTC explains on Page 7 that once drilled, the drilling report and formation record for the Haystead #9 well will serve as the ultimate geologic record for the well, and that the base of the lowermost USDW is separated from the injection zone by approximately 2,653 feet of rock layers. Also, based on seismic data submitted by Permittee, the Salina Group confining zone at the Haystead #9 well site appears free of fractures and faults. Ex. B-13, Aug. 15, 2013 Seismic Cross Section.

In addition, the UIC regulations are designed to protect USDWs from contamination by: (1) identifying drinking water sources for protection; (2) making sure the geological siting is suitable for injection; and (3) applying standards for well construction, operation, and reporting. EPA regulations at 40 C.F.R. Parts 144 and 146 set forth the requirements and standards that a permit applicant must meet to have a UIC permit application approved. Again, these regulations deal primarily with the geologic siting, well engineering, operating, and monitoring standards for deep injection wells. The permit application and the conditions in the Haystead #9 Permit are consistent with these EPA regulations. *See* Exhibit B-16, RTC, Pgs.1-3, and 15-16.

Furthermore, the Haystead #9 Permit clearly states that "Injection shall not commence until the operator (WBEC) has received authorization in accordance with Part I (E)(10) of this permit." Under Part I (E)(10) of the Permit, "Commencing Injection," 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. Ex. B-19.

Also, with regard to the Petitioner's arguments in her Petition regarding "frac-sand," the Region states the following in the RTC, at Pg. 7:

In response to the petitioner's comments, part of EPA Response 13.1 on page 30 of the RTC is duplicated below: The injected fluid may potentially contain small amounts of other material coming from oil production wells, such as drilling fluids or acid used to clean or complete production wells. These materials, including propanents or sand, are part of the allowable waste fluid, as long as they are produced from the company's oil or gas production wells. Nonetheless, West Bay Exploration has stated that they are not hydraulically fracturing their production wells in Jackson County, Michigan, and EPA does not anticipate large amounts of sand or propanents to be injected into the Haystead #9 SWD. Injection of any fluid at the Haystead #9 SWD is limited to only the Niagaran between the depths of 2,870 and 3,100 feet below surface. No fluid may be injected into the confining zone (i.e. Salina Group). The Haystead #9 SWD well will also be constructed with a long string casing (steel pipe), set to 2,780 feet, and through the entire confining zone. All steel casing strings will also be cemented over their entire length to preclude the movement of fluids into and between USDWs due to injection operations. Furthermore, West Bay Exploration Company has submitted 2D seismic data to further demonstrate the Salina Group confining zone is free of fractures and faults. EPA has evaluated the Company's seismic data and confirms that the Salina Group at the Haystead #9 SWD site appears to be free of fractures and faults (please see EPA Response 5). Ex. B-13.

In sum, the Region clearly addresses the Petitioner's concerns about the mechanical integrity of the Haystead #9 well in the RTC and her assertions that the Permittee failed to disclose certain relevant facts related to the mechanical integrity of the proposed well is also not supported or valid. As discussed above, the Permittee disclosed all factual information required under EPA's UIC regulations; EPA appropriately considered the inclusion of "frac-sand" in establishing the mechanical integrity requirements in the Permit; and the Permittee has not provided any additional

information to indicate that such mechanical integrity requirements are inadequate to protect against endangerment of USDWs or otherwise inconsistent with EPA's UIC regulations and, as a result, her argument has no merit.

c. EPA addressed the issue of induced seismicity in its response to comments, and Petitioner fails to address why such response is inadequate or otherwise fails to address Petitioner's concerns

Third, the Petitioner raises the "issue of earthquakes," and references comments made by Petitioner Bormuth during the Region's public comment period for the Haystead #9. *See* EAB Docket No. MI-075-2D-0010, Filing #4, Pg. 3; and Ex. B-17, RTC, Response 5, Pg. 8-12. The Petitioner also provides three attachments, but makes no references to how the attachments support her argument. In addition the Petitioner makes no technical arguments in support of her assertion that the subject well will cause "earthquakes" nor does she identify any deficiencies in the Region's Response #5 regarding its analysis of the geologic and seismic data at the well site. In particular, the Petitioner fails to note that her concerns over the potential for induced seismicity stem from seismic events that occurred in Youngstown, Ohio in 2011, which, as discussed in EPA's response to comments, are not expected to occur at the subject site, due to significant geological differences *See* RTC, Response 5. Ex. B-17.

As detailed in the Region's RTC, EPA evaluated the potential for the Haystead #9 well to induce seismic events. Based on the absence of faults and fractures under stress in the injection zone, review of site specific seismic data, a small earthquake probability and a history of low seismic activity, it is very unlikely that a seismic event would occur related to this disposal well. Exhibit B-16, RTC, Response 5, Pgs. 8-12. As specifically detailed in RTC, Response #5, the Region 5 UIC program used several sources of geologic and seismic data during its evaluation of the Haystead #9 Permit application, and determined that the geologic siting of the well is suitable

for underground injection. The commenter pointed to Ohio Department of Natural Resources (ODNR) reports on seismic events in Youngstown, Ohio (found at <http://oilandgas.ohiodnr.gov/resources/investigations-reports-violations-reforms>).⁵ EPA is very familiar with these reports, which discuss conditions that could lead to induced seismic activity, including existing faults and the proximity of an injection well to such faults. These reports note that geologists believe it is very difficult for all conditions to be met to induce seismic events.

The geologic setting of the Haystead #9 well is also different than the settings in Youngstown, Ohio, which were drilled into deeper, crystalline rock. Michigan geology has been well documented in the Michigan Hydrogeologic Atlas (1981), and the proposed injection zone for the subject well is not known to have fractures or other faults.⁶ Ex. B-19. In addition, on August 27, 2013, EPA staff experienced in reviewing seismic data, analyzed high quality seismic data.⁷ The staff concluded that these seismic data demonstrate that there are no known fractures or faults present in the Niagaran injection zone within the vicinity of the Haystead #9 well.

Furthermore, the Region's UIC Branch employed U.S. Geological Survey ("USGS") online tools to evaluate both the seismic history and the probability of earthquakes within the area of the proposed well location. More specifically, a search of historic seismic activity of the area using USGS's Global Earthquake Search Application (<http://earthquake.usgs.gov/earthquakes/search/>) revealed only one observed earthquake within 80 km (approximately 50 miles) of the proposed Haystead #9 well during the last 200 years. Exclusively, the only known seismic activity within the region of the proposed well is a 3.5 magnitude earthquake that occurred on September 2, 1994,

⁵ AR Item #76.

⁶ AR Item #28.

⁷ The seismic cross section entitled "Perspective Salt Water Disposal Wells, Napoleon Field, Jackson County, Michigan" is in the Haystead #9 well administrative record and geophysical profiles submitted by West Bay Exploration Company. AR Items #78, 79, and 80.

in Lansing, MI, nearly 50 miles away. This earthquake originated at a depth of approximately 5 km (16,404 feet), much deeper than the proposed Haystead #9 well injection interval of 2,870 feet to 3,100 feet.⁸

Knowledge of seismic events that originated in the vicinity of the proposed well can be informative about whether faults exist in that location. Faults that commonly cause earthquakes are often in crystalline formations (deeper geological formations of igneous or metamorphic rock that underlie layers of sedimentary rock) in the basement rock. In this case, the proposed injection zone is much shallower than the basement rock, and is not in a crystalline formation. The USGS data referenced above documents that the Haystead #9 well site is not seismically active. This evidence supports the determination that the geologic siting is appropriate for injection, and demonstrates that there are not faults in a stressed state in the area, a common criterion taken under consideration when evaluating the potential for seismic activity and induced seismicity. Because earthquakes can be felt miles from their epicenter, earthquakes are not always indicative of faults in all the areas where they are registered; recorded earthquakes, however, serve as a general indicator of seismic activity and the potential existence of a stressed fault.

The Region's UIC staff also utilized the USGS's Earthquake Probability Mapping Application (<http://geohazards.usgs.gov/eqprob/2009/index.php>) to map the probability of an earthquake within 50 km (31.06 miles) of the Haystead #9 well location.⁹ The results of this query indicate that there is less than a 3% chance of a 5.0 magnitude earthquake or greater occurring within 50 km of the proposed well during the next 250 years. Based on the absence of faults and fractures under stress in the injection zone, review of site specific seismic data, small

⁸ See AR Item #37.

⁹ AR Item #36.

earthquake probability, and a history of low seismic activity, it is very unlikely that a seismic event would occur related to this disposal well. Ex. B-17.

In sum, Petitioner's argument that the subject well will cause "earthquakes," i.e. the issue of seismicity, is an issue which the Region properly addresses in its response to comments document, and has no merit.

Accordingly, none of Petitioner's three substantive arguments have any merit and the EAB should defer to the Regions technical determinations in this matter.

CONCLUSION

The Petition makes three arguments, all of which either fail to meet threshold petition content standards of 40 C.F.R. § 124.19(a) or, in the alternative, have no merit. The Region therefore respectfully requests that the Board deny the Petition for Review.

Respectfully submitted,



John P. Steketee
Associate Regional Counsel
U.S. Environmental Protection Agency
77 West Jackson Boulevard (C-14J)
Chicago, Illinois 60604-3590
Tel. No. (312) 886-0558
Fax. No. (312) 582-5888
steketee.john@epa.gov

Dated: June 12, 2014

**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

In the Matter of:)	
)	
West Bay Exploration Company)	Appeal No. UIC 14-67
of Traverse City, Michigan,)	
Haystead #9 SWD,)	
Permit No. MI-075-2D-0010,)	
Jackson County, Michigan.)	
<hr/>		

CERTIFICATE OF SERVICE

I hereby certify that the original of this **RESPONSE TO PETITION FOR REVIEW** in the matter **WEST BAY EXPLORATION COMPANY OF TRAVERSE CITY, MICHIGAN, HAYSTEAD #9 SWD, PERMIT NO. MI-075-2D-0010, JACKSON COUNTY, MICHIGAN, EAB Appeal No. UIC 14-67**, and all associated attachments, were filed electronically, via the Central Data Exchange, with the Board. In addition, certify that one identical paper copy of all of the attachments to the response were sent to the Board, via Express Mail, to the following address:

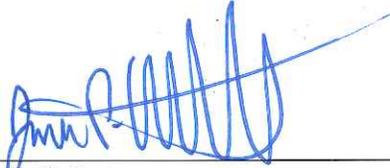
Clerk of the Board
U.S. Environmental Protection Agency
Environmental Appeals Board
1201 Constitution Avenue, NW
WJC East Building, Room 3332
Washington, DC 20004

Further, I hereby certify that one copy of the **RESPONSE TO PETITION FOR REVIEW** in the matter **WEST BAY EXPLORATION COMPANY OF TRAVERSE CITY, MICHIGAN, HAYSTEAD #9 SWD, PERMIT NO. MI-075-2D-0010, JACKSON COUNTY, MICHIGAN, EAB Appeal No. UIC 14-65**, and all associated exhibits, were sent to the Petitioner and Permit Applicant, via express mail, to the following addresses:

Ms. Sandra K. Yerman
6600 Riverside Road
Brooklyn, Michigan 49230

and

Timothy Brock
West Bay Exploration Company
13685 South West Bay Shore Drive, Suite 200
Traverse City, Michigan 49684



John P Steketee

June 12

Date

, 2014