well was plugged with a cast iron bridge plug at 7,250 feet and four cement plugs on top of that. (T. 130-34, 443, 684-86, 695.) In any event, Marshall did not present any witnesses to support her contention that the Carlson well presents a possible pathway for fluid to migrate up the well bore and into the aquifer supplying her water well.

The other well Marshall expresses concern over is the Ginter well, which is also near her property and beyond the quarter-mile area of review. Marshall says that the records for the Ginter well indicate that, during its production life, 67,175 barrels of brine were removed and 612,992,000 million cubic feet of natural gas was produced. Marshall says that the UIC permit allows Windfall to inject 30,000 barrels of fluid per month, and therefore, the injection formation will be filled up in a matter of months. Presumably, Marshall believes that this will result in fluid escaping or being forced out of the target injection formation and moving to other places, such as private water wells. However, Marshall has not produced any evidence or expert testimony to support these concerns. Apart from her gross comparison of a single well's brine production to the Zelman well's permitted waste injection, she has not substantiated her assertions with any evidence that there is not enough space in the target formation, or that injected fluid will travel into other formations, or that, if the fluid does travel, it will travel upward and into the aquifers that supply her drinking water. There is nothing in the record to support the notion that the area of review was inappropriate or should have encompassed a larger radius due to the conventional gas wells. Regardless, the Department's mechanical integrity reviewer evaluated all six of the old gas wells as if they had been within the area of review. (T. 584, 648-49, 683-84, 695-96; DEP Ex. AO.) Without an expert, Marshall cannot credibly contest the Department's conclusion that the wells do not present a risk of fluid migration.

Marshall also contests the zone of endangering influence calculations, criticizing Windfall for not running its own calculations and finding fault in the calculations run by the Department (and the EPA). It is unclear to us of the continuing relevance of the zone of endangering influence since a fixed area of review was ultimately selected for the UIC permit. It would appear to only come into play if the calculations generated a result that exceeded a quarter mile. Stephen Platt, who reviewed Windfall's federal UIC application for the EPA, testified for Windfall that the ZEI calculations yielded a radius from the wellbore of 400 to 450 feet, and so the EPA used the larger quarter-mile radius (1,320 feet) to be more conservative. (T. 451-52.) The Department ran various calculations and used a different input for reservoir pressure to get a ZEI output of around 700 feet, but it was also well-short of the quarter mile. (T. 753-55.) Marshall variously asserts that the calculations are based on "simplified assumptions" and do not account for any faults, but she did not have an expert witness to support these claims. Marshall did not have an expert to testify that the ZEI calculations were wrong, that the correct calculations would have yielded a ZEI that exceeded the quarter-mile, or that the quarter-mile was otherwise insufficient.

There is also no evidence in the record to support Marshall's concern that any geologic faults in the area of the Zelman well will provide a pathway for fluid migration. Windfall and the Department testified that the only fault they found evidence of in the area was non-transmissive, meaning it acts as a structural barrier to the movement of gas or fluid. (T. 249-52, 280, 456, 458, 537-38, 611.) Marshall did not produce any evidence or testimony to challenge that assertion or say that the fault is transmissive or that somehow enough pressure could be exerted on the fault from injection activities to convert it to a transmissive fault, and that the fault could serve as a conduit for the contamination of her water well. Windfall is required to install

automated shutoffs on the well that activate when injection pressures approach the pressure at which rock could fracture or faults could move, known as the fracture gradient. (T. 281, 468-69, 607-08, 672; DEP Ex. K (at 7, 12-13).) Marshall did not have anyone to testify that the facture gradient is incorrect (i.e. too high), or that the shutoffs will not work or are inadequate.

Property Value

Marshall argues that Windfall's UIC operations will result in the devaluation of her property, primarily due to what she sees as the potential for contamination of her water well. Marshall says that this amounts to an unconstitutional taking of her property. However, Marshall did not produce any evidence or testimony to substantiate her claim. First, as just discussed, Marshall did not produce evidence to show that UIC fluids will migrate or are likely to migrate into her well. Second, she did not have the testimony of anyone who could support her argument that underground injection control activities will diminish the value of her home and property (or quantify that diminishment), or demonstrate that the presence of the Zelman UIC well near her property will make it more difficult to potentially sell. She also did not, for instance, produce any documentation establishing a correlation between the presence of UIC wells and the decline of nearby property values in general. Without such evidence she has not supported her claim.

We do, however, feel compelled to note that in its brief the Department once again wrongly asserts that this Board does not have jurisdiction to adjudicate a takings claim. We thought we dispelled this false belief in our earlier Opinion denying the Department's motion for summary judgment in this matter:

> One point in the Department's motion deserves mention. Marshall in her notice of appeal objects that the Department's issuance of the permit to Windfall constituted an unconstitutional taking of her private property without just compensation. She says the value of her property has been reduced because the permitted use poses a risk to her water supply, thereby resulting in a reduction in the value of her property, even in advance of any actual contamination. The

> Department in its motion argues that this Board has no jurisdiction to address this takings claim. The Department is incorrect. It is this Board's responsibility to determine in the first instance whether a Departmental action has resulted in an unconstitutional taking. *Domiano v. Dep't of Envtl. Prot.*, 713 A.2d 713 (Pa. Cmwlth. 1998); *Davailus v. DEP*, 2003 EHB 101; *Sedat, Inc. v. DEP*, 2000 EHB 927.

Marshall v. DEP, slip op. at 3 (Opinion and Order, May 16, 2019). *See also M & M Stone Co. v. DEP*, 2008 EHB 24, 74 n.9 ("The Board has jurisdiction over appeals which raise constitutional challenges to a Department order based upon a takings claim. The Board is empowered to adjudicate the lawfulness of those orders and to set them aside if they amount to an unconstitutional taking."). To the extent we need to reiterate the point, we unquestionably have authority to decide a takings claim. However, Marshall has not met her burden with respect to establishing that the permitting of Windfall's UIC well is an unconstitutional taking of her property.

Seismic Monitoring

The majority of the Department's three-page permit provides conditions related to seismic monitoring, which is designed to detect any seismic event or earthquake that might be induced by underground injection. Marshall complains that this monitoring will only last for five years. She appears to be referring to one or more of the following conditions in the permit:

> (15) The permittee shall maintain all calibration, maintenance and repair records for the seismometer for at least five (5) years.
>
> (16) The permittee shall maintain all calibration, maintenance and repair records for the seismic recorder for at least five (5) years.
>
> (17) The operator may submit a summary report and plan for modification or discontinuation of the seismic Monitoring Plan five (5) years after injection activities commence. The Department's review will be completed as soon as practicable after receipt of the summary report and a written response will be provided to the operator. DEP's assessment of the report will be dependent on, but not limited to, the following criteria:
>
> a. Magnitude and frequency of any events during the monitoring period;
> b. Operational history during the monitoring period (rates, volumes, pressures);

c. Planned operational conditions moving ahead (rates, volumes, pressures);
d. Demonstration through pressure fall-off that system is at equilibrium and behaving in as [sic] a homogenous reservoir;
e. Need for any mitigation/intervention during the monitoring period.

(DEP Ex. AS (at 3).)

Initially, under Condition 17 it does not appear a certainty that seismic monitoring will discontinue five years after injection activities commence. The permit leaves it open-ended (1) for Windfall to potentially submit a plan to modify or discontinue seismic monitoring, and (2) for the Department to approve, disapprove, or modify any plan that Windfall might submit. Harry Wise, P.G., the Department's lead seismic reviewer for the Windfall permit, testified that after five years Windfall could submit to the Department a report detailing its monitoring and request to stop monitoring, but that request would not necessarily be granted. (T. 268.) More fundamentally, Ms. Marshall did not articulate or produce any evidence to support a contention that five years of seismic monitoring is insufficient or otherwise unreasonable, or what the risks are if monitoring were to cease after five years. She has not challenged any of the other conditions regarding, e.g., the seismic monitoring network or the detectable thresholds for seismic events that require Windfall to reduce injection rates or cease all injection activities.

Emergency Plans and Monitoring

Marshall also criticizes the provisions in Windfall's Control and Disposal Plan, which is essentially akin to a Preparedness, Prevention, and Contingency Plan (PPC plan). She says that the plan does not identify the closest emergency response service. She also criticizes the plan for not including an evacuation plan for residents living within one-half mile of the UIC well or a plan for responding to a potential water supply contamination event.

Apart from her assertion based on personal knowledge, Marshall did not present any evidence in support of her contention that the Brady Township Fire Company is closer to the

UIC well than the Adrian Sandy Fire Department listed in the plan, or that it is otherwise the more appropriate emergency responder for UIC-related emergencies. We do not have a map indicating the actual distance between the various fire companies and the Zelman well. Nor do we know, regardless of geographic distance, whether one fire company can get to the well faster than another because of traffic, etc. We also do not know, for instance, the relative capabilities of the different fire departments, and whether they are equally equipped to respond to any potential emergency situation at the well site. The testimony of Windfall's president, Michael Hoover, indicates that he believed he had identified the closest emergency response unit to the site. (T. 224-25.) Ms. Marshall testified that there are several other fire companies that are closer to the site than Adrian Sandy but we have nothing in the record confirming that. (T. 413.)

Marshall also asserts that there are inadequate measures providing for the testing and monitoring of private water supplies after UIC operations have begun. She says the Department needs to revise the permit conditions to protect private water supplies, however, she does not say what those permit conditions should be. Windfall's EPA permit application contains a plan to monitor a handful of private water wells and surface waters. But again, at the risk of repeating ourselves, Marshall did not produce any evidence to show that the plan is inadequate or that, for example, more wells should be sampled or sampled at a greater frequency or sampled for the presence of different or additional contaminants.

She also argues that an evacuation plan needs to be included in Windfall's plan and provided to residents living within a one-half mile radius around the well. She says an evacuation plan is needed because some of the chemicals contained in the injected fluids are hazardous, according to Windfall's EPA permit application. (A. Ex. 29 (at 223-45).) Frankly, we have very little information one way or the other regarding how hazardous these chemicals are,

in what quantities they are likely to be disposed by Windfall, or what the effect would be if there were a spill of these chemicals at the well site. There are Material Safety Data Sheets for the chemicals in Windfall's permit application, but no one explained them to us at the hearing. A residential evacuation plan might well be prudent, but we simply do not have anything to explain why one is needed or what one would look like, or to say that the permit is inadequate due to the lack of an evacuation plan.

Financial Assurances

Marshall next alleges that the financial instruments Windfall has obtained for the Zelman well are inadequate. Windfall has a standby trust agreement and an irrevocable standby letter of credit in the amount of $30,000.00 for the plugging and abandonment of the Zelman well.[2] (A. Ex. 29 (at 257-65).) Marshall testified that she looked at the plugging costs for other UIC wells and found them to be around $60,000. (T. 430.) However, apart from this generalized comparison, Marshall did not introduce any evidence that $30,000 would be insufficient to plug and abandon the Zelman UIC well. She did not have anyone qualified in well plugging to opine that the cost to properly plug and abandon the Zelman well would exceed the amount provided for by Windfall. Windfall testified that its estimated costs are lower because Windfall can use its own equipment and employees to do nearly everything but the cementing. (T. 218.) Marshall did not have any evidence to question that assertion.

Marshall also contends in her brief that if the Department had to plug the well, it would have to pay prevailing wage rates and provide for 30 years of monitoring. Assuming for the sake of argument that this is true, Marshall has not produced any evidence outlining what she believes the true cost of plugging the Zelman well to be, taking into account these considerations. She

[2] It is again unclear to us what the Department's role is with respect to ensuring a permittee has a financial mechanism in place for the plugging of a UIC well. (*See* T. 327-29.) The documentation pertaining to the standby trust and letter of credit appears in Windfall's EPA application materials.

has not shown that $30,000 would not cover the necessary costs even if the Department did have to assume responsibility for plugging it, pay a contractor a prevailing wage rate, and monitor the well for 30 years.

Article I, Section 27

Ms. Marshall also raises a challenge to the UIC permit under Article I, Section 27 of the Pennsylvania Constitution.[3] She says that her neighbors previously experienced issues with their water supply due to oil and gas operations conducted in the 1970s, that the option of extending public water to her home is too costly for her if there is contamination of her well, and that there is not an effective water supply monitoring program in place after UIC operations begin. Although it is not entirely clear, we assume Marshall believes these things render the Department's issuance of the Zelman permit a violation of Article I, Section 27. However, as we explained above, Marshall has fallen well-short of producing enough evidence to substantiate her concerns about water supply contamination or to establish that Windfall's permit is deficient because of the issues raised in this appeal. We have difficulty understanding the relevance of the problems her neighbors had with gas development several decades ago to the operation of this UIC well. For many of the same reasons that her substantive arguments fail, her constitutional claim must fail as well. Apart from her general sense that the Zelman well is an environmental hazard, she has not demonstrated that, in issuing the permit to Windfall, the Department acted in derogation of its duties as a trustee of the Commonwealth's public natural resources.

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[3] Article I, Section 27 reads as follows:

> The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic, and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all people.

PA. CONST. art I, § 27.

Ms. Marshall presented her case without the benefit of having an expert witness. Although expert testimony is not a necessary requirement to prosecute an appeal before the Board, *Morrison v. DEP*, 2016 EHB 717, 722-23; *Casey v. DEP*, 2014 EHB 439, 453, it is often an uphill battle to proceed without one. That is particularly true in a case such as this where Marshall's claims rest on highly technical questions such as whether disposal fluids will migrate up into area water wells and whether geologic faults and old gas wells will provide conduits for migration. Marshall did not have anyone to testify to these questions in the affirmative, which is all but essential to meeting her burden of proof. Instead, she questioned witnesses from the Department and Windfall as on cross, but those witnesses by and large did not support the arguments she was trying to make. Although her efforts in pursuing her appeal without an expert and without the assistance of counsel are certainly laudable, she has not identified any provisions of law that the Department violated in issuing Windfall's permit and she has not met her burden to establish that issuing the permit was otherwise unreasonable or not supported by the facts as reflected by the record created at the hearing.[4]

CONCLUSIONS OF LAW

1. The Environmental Hearing Board has jurisdiction over this matter. 35 P.S. § 7514.

2. As a third-party appellant appealing the Department's issuance of a permit, Darlene Marshall bears the burden of proof. 25 Pa. Code § 1021.122(c)(2); *Gerhart v. DEP*, EHB Docket No. 2017-013-L, slip op. at 13-14 (Adjudication, Sep. 25, 2019); *Joshi v. DEP*,

[4] The Department preserves in its post-hearing brief a motion for a nonsuit that it first raised at the hearing, which was joined in by Windfall. (T. 435-40.) Having decided this case on the merits, the Department's motion is denied as moot.

EHB Docket No. 2017-116-L, slip op. at 9 (Adjudication, May 17, 2019); *Jake v. DEP*, 2014 EHB 38, 47.

3. Ms. Marshall must prove by a preponderance of the evidence that the Department's decision to issue Well Permit No. 37-033-27255-00-00 to Windfall Oil & Gas, Inc. was not reasonable, appropriate, supported by the facts, or in accordance with the applicable law. *Del. Riverkeeper Network v. DEP*, 2018 EHB 447, 473; *United Refining Co. v. DEP*, 2016 EHB 442, 448, *aff'd*, 163 A.3d 1125 (Pa. Cmwlth. 2017); *Shuey v. DEP*, 2005 EHB 657, 691 (citing *Zlomsowitch v. DEP*, 2004 EHB 756, 780).

4. Marshall did not meet her burden to show that the Department acted unlawfully, unreasonably, or that its decision to issue the permit to Windfall is not supported by the facts. *Joshi v. DEP*, EHB Docket No. 2017-116-L (Adjudication, May 17, 2019).

5. Issues not preserved and argued in a party's post-hearing brief are waived. 25 Pa. Code § 1021.131(c); *Wilson v. DEP*, 2015 EHB 644, 682.

COMMONWEALTH OF PENNSYLVANIA
ENVIRONMENTAL HEARING BOARD

DARLENE MARSHALL	:	
	:	
v.	:	**EHB Docket No. 2018-034-L**
	:	**(Consolidated with 2019-036-L)**
COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION and WINDFALL OIL & GAS INC., Permittee	:	

ORDER

AND NOW, this 18th day of February, 2020, it is hereby ordered that the Appellant's consolidated appeal is **dismissed**.

ENVIRONMENTAL HEARING BOARD

s/ Thomas W. Renwand
THOMAS W. RENWAND
Chief Judge and Chairman

s/ Michelle A. Coleman
MICHELLE A. COLEMAN
Judge

s/ Bernard A. Labuskes, Jr.
BERNARD A. LABUSKES, JR.
Judge

s/ Richard P. Mather, Sr.
RICHARD P. MATHER, SR.
Judge

s/ Steven C. Beckman
STEVEN C. BECKMAN
Judge

DATED: February 18, 2020

c: **DEP, General Law Division:**
Attention: Maria Tolentino
(*via electronic mail*)

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