

P17

Neil and Judy Conti
1480 Shamokin Trail
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November 28, 2012

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA, 19103

Dear Mr. Platt,

This letter is to be submitted for Monday's hearing in Brady Township on Dec. 10, 2012. It is not necessary that it be read aloud, as we feel others have very important statements to make.

My wife, Judy, and I have lived in Brady Township on a farm for over 26 years now.

For most of those years, we have relied on well water, to which we still have access on our property, although we now get our drinking water from the township. We are some two miles from the center of Luthersburg.

We are both concerned that waste water from gas drilling may be injected into the ground in our township. Simply put, we do not want this to happen. Again, to be clear, we feel that injecting this water into the ground in our township poses a grave danger to us citizens.

This water is so toxic, drilling companies cannot clean it. It is so toxic, they simply do not know what to do with it.

They have tried dumping it into our streams, all the while denying they were doing so.

They have tried dumping it into our streams, after admitting to it, but after promising us it was somehow cleaned and safe, because it was, in their words, "diluted." We both now know that was never even close to true.

They have tried telling us they would ship it to Ohio!

Since there is no way of neutralizing it, their best idea now is to somehow put it so far away from everyone that, in doing so, they hope it will just go away.

They can't box this toxic water up and send it to the moon, so they decide to dig a hole and hide it there. When considered in those terms, this process seems laughable.

Is it safe to dispose of water in such a way? We say, "No."

Let me ask a simple question: "If this were nuclear waste, would you allow these people to drill a hole and put it in our town?" That would be just crazy. And yet, this water right up there with nuclear waste in its toxic danger. This water will never be safe. It will never be clean.

My wife Judy and I see your position in this affair in, again, very simple terms.

You work for Environmental Protection Agency. I think on the words in that title. We count on you to protect our environment. That is what you promise to do.

We count on you to listen to your citizens' concerns and believe in their abilities to understand and see things clearly. We are professionals with careers, well-informed, civic-minded, and true to our duties, responsibilities, and rights as citizens.

Please protect us. Please listen to us.

The water that may be injected in our township is toxic and deadly. There is no arguing that. What is up for debate is whether or not that water will stay put.

In your heart of hearts, you simply cannot promise that you are 100% certain that water will never, in the next 10, 20 or 100 years, escape . . . to harm the purity of our environment, let alone our drinking water.

Our environment. Our Environmental Protection Agency. This is our legacy, yours and ours. What we decide to do now will affect us and be remembered for generations.

You have a chance to protect us. We are counting on you to do so. We, the people. You, too, are, "We the people."

Thank you for taking the time to consider your constituents' points of view.

Sincerely,

Neil and Judy Conti
1480 Shamokin Trail
Luthersburg, PA 15848
Home Phone: 814-583-7819
Cell: 814-553-8629
email: feathertop@comcast.net

Mr. Stephen Platt
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, Pa 19103

From: Randall R, Baird Sr.
1273 Highland St. EXT
DuBois, Penna. 15801
Ph#:814-583-7180

Dear Mr. Platt,

This is my testimony concerning the proposed Zelman#1 injection well to be located off Tower Lane, in Brady Twp., Clearfield Co., Penna. 15801. (Permit App. # PAS2D020BCLE).

Within ½ mile of the proposed injection well are many old gas wells that were previously fracked. These fractures can open to 600ft according to the Oil & Gas industry. That would put some of these fractures inside the quarter mile review area and create a pathway for injected fluids to flow uncontrolled. Five of these old wells are into the same formation as the proposed injection well and only paces from the ¼ mile review area. Two neighbors experience increased turbidity of their well water when maintenance is performed on one of these wells. One of those neighbors has experienced serious health issues including the removal of a cancerous kidney and a husband who died of cancer at a relatively young age. Another well is supposedly plugged but exhibits gas odors in its vicinity. It has been lit and burned off on occasion by the residents. This well is definitely suspect in my opinion. It is open to 1175 ft. and is 52 yrs. old. Yet another of these wells was plugged in 1960. I would seriously question the integrity of this wells casing and cement plug. Unplugged or poorly plugged wells are a serious obstacle to all potential uses of the subsurface. They provide a direct flow path through which saline waters can reach the surface or other shallow aquifers. These waters may also leach into one of the many mine shafts within the review area and travel toward DuBois/DuBois Mall area where they empty into the Sandy Lick Creek, an approved trout fishery. No question, these wells could contribute to the contamination of many water/ecco systems.

As wells age, a deterioration of the mechanical equipment will undoubtedly happen. The bonding of casing to cement and cement to rock breaks down with time or from voids in the cement and/or poor cementing. Small voids are hard to detect yet are detrimental to well operation and the safety of area water aquifers. There is some evidence that a similar deterioration of integrity may take place in fractures or joints within the rock itself where they are subjected to repeated changes in stress. The joints may literally work themselves open.

Prolonged exposure to acid effluents may dissolve certain formations as well as cement resulting in their collapse or subsequent slumping of superadjacent material allowing effluent to escape through created portals and infiltrate fresh water aquifers.

Many of the cemented well casings in this area have also been compromised due to their age and the occurrence of an earthquake we experienced here within the last 1 ½ years.

The Caledonia syncline is approx. 2750' from the proposed waste well. Synclines are typically bad places to inject fluids because it tends to travel up the arms of the syncline toward upper strata and to who knows where from there, thus threatening fresh water aquifers. This closest point to the syncline from the proposed well is in a northwesterly direction which is also one of the projected paths of toxic waste for this injection well as per the permit. Toxic waste, in the volumes to be injected, could end up anywhere.

One professor contracted to investigate the earthquakes in Youngstown Ohio, that were caused by the injection of fracking waste, said, "this stuff plumes out for miles".

The periodic operation of a water supply well at a cannery is detectable in a gas storage field 10 miles away. Water flooding injection in one pool is reflected in pressure responses in another pool 12 miles away within a few days. Salt water from a ruptured casing in an oil well is detected in a water well two miles away within 2 months.

Oil field and ground water experience shows too many examples of far ranging and unpredictable displacement and pressure responses to justify confidence in simplistic calculations based upon idealized conditions. (See Attachment-A)

The earth is not as stable and as unchanging nor is rock as 'solid' as many people believe. Furthermore, our knowledge of the subsurface is often indirect and incomplete. The complexity of the Geology of Pennsylvania creates particular difficulty in developing a truly reliable interpretation of the subsurface without extensive exploratory testing. (See Attach.-B) There has not been extensive testing of this proposed well site or the "Zone of Endangering Influence". Most of the data collected for this permit comes from areas removed from our area and is many years old. There are too many approximations and assumptions on permit referencing geologic formations removed from this area. Among unsuccessful subsurface disposal projects, the lack of adequate geological investigation and supervision has been a major contributing cause. Some projects are doomed from the outset because of a hostile geological environment and others have been costly failures due to incorrect interpretation of the geologic evidence. I believe this would be this companies first attempt at the construction and operation of a disposal well. We don't want to be the guinea pigs for their first experiment. In almost any kind of commercial endeavor there is a reluctance on the part of the people responsible for an operation to report its failure and defects to their superiors. We saw this just several months ago at the Irwin Injection Well in Bell Twp. Clearfield County where they were fined \$160,000 for over pressurizing in order to inject waste.

Also, I feel the area of review should be extended to 2 miles. That would encompass many more residents and water sources that may eventually be affected by leaks, spills, accidents, well failures and leaching toxic waste from this well.

Within Pennsylvania there are no known reservoirs of truly good disposal quality. Pa.

has few reservoirs of adequate permeability and porosity for feasible liquid waste disposal projects. Its structural geology is complex, creating difficulties in geological interpretation of the subsurface and producing a profusion of mechanical interpretations in rock continuity-faults, joints, and fractures all leading to a higher likelihood of a well failure with catastrophic results.

Earthquakes are a legitimate concern in and around the proposed waste well site. Faulting is in close proximity and referenced in the permit. It also states that there have been earthquakes in this area of Pa. These faults are inside the ¼ mile review area and pose another threat to well casings, cement and thus, our fresh water aquifers. Determination of the stress condition of deeply buried rock is difficult to define. Fluid pressures of lower magnitude may open pre-existing planes of weakness such as joints, bedding plane fractures and faults. Unanticipated avenues of fluid migration are a very real possibility, states the study on "Subsurface Liquid Waste Disposal & its Feasibility in Pa."

Rock below a few hundred feet of depth is often in a state of horizontal tension which may result in vertical fracturing. Under these conditions of high pressure fracturing, oil field history shows "many" cases where fractures have accidentally been induced into higher or lower water bearing formations. Injection pressure can also cause physical expansion of the rock pore space resulting in fracturing or the opening of existing fractures or the opening of fractures from the aforementioned fracked wells thus creating yet another pathway for contamination to reach our aquifers.

Fractured and solution channels are possible in almost all lithologies. The transmissibility of fractures and solution channels may equal or exceed that of the intrinsic system. Furthermore they are directional both vertically and laterally. These fractures and channels may conduct the injected fluid rapidly and in large volume to a wholly different location than that originally anticipated thus threatening fresh water aquifers.

Absolute impermeability is an uncommon condition. Most so-called impermeable formations have measured permeability. While the thru-put may appear small, it must be remembered that the effective areas involved in disposal include tens to hundreds of acres at a minimum. The petroleum industry provides negative evidence of the rarity of truly impermeable rock units. Exploration reveals geological situations which, from all available evidence, should have provided a trap yet have failed to do so. It is important to recognize that while the net flow direction may be predictable the actual path of fluid flow may be in many directions and follow the path of least resistance. The actual flow pattern therefore depends on the path of greatest permeability and may be more complex than that indicated by generalized flow lines inferred from broadly spaced potentiometric data.

The area of effect of an injection operation is considered to be defined by the extent of the effluent in its reservoir. While this area may be difficult to define the area of pressure effect is even greater and more difficult to predict.

The long term injection of large volumes of waste must eventually result in the upward displacement of the brine intraformationally or through fractures into the fresh water zone. It is difficult to predict where an injected liquid will be at any given point in time.

The hidden costs of uncontrolled dumping in the subsurface of Pennsylvania may be infinitely higher, not only to society, but directly to the using industries themselves through loss of investment as well as liability for damages. We must recognize the ever present chance that this will have some unforeseen affect upon the surface and shallow subsurface.(See Attachment-C)

The location and access to this well site is enough to throw up a red flag as far as spills, leaks, accidents and well failures are concerned. All of which would present a high risk of contaminating our fresh water aquifers. Bedrock in the area of the well site shows that any spill, leak or accident would create a flow of poison waste toward residences on Highland St. EXT and their water sources. Since I was once in the employ of Schlumberger Well Service I have a fair understanding of industry operations. In my opinion, spills and failures are all too frequent. They can and do, for the most part, go unreported and untested. Drilling is a risk by this industries own admission, so why place this well in a location where the risk for fresh water supply contamination is magnified ten fold when there are so many other remote areas available.

If our water becomes contaminated from this injection well there are no other sources available to us at this time. The "Northwest Clearfield County Region Comprehensive Plan" for Brady Township states, "No significant expansion of the water system is recommended at this time". The Brady Twp. Water authority says that they are running at or close to their capacity. I don't want a water buffalo in my yard nor can I live here if that becomes a reality. I want the water I have now and have an inalienable right to under the Pa. Constitution, Article 1, Section 27. No one should have the stress and worry that the water they drink, on a daily basis, may have toxins in it that could cause serious illnesses or worse. I have a son at home who has a serious neurological disorder. Many of the chemicals that we know are in frack fluid are highly toxic neurological agents. Obviously, the last thing my son needs is to come into contact with any of these toxins either in the water or the air.

As is demonstrated here, there are many and varied ways this injection well can send highly toxic and sometimes radioactive waste into our aquifers through this geological location of Pa. Protection comes before the fact and I sincerely hope that we warrant that protection.

There are many more concerns with this well and well site which I know the EPA does not address due to regulatory issues. Therefore there is no discussion of them here.

References: Pa. Dept. of Environmental Resources publication, "Subsurface Liquid Waste Disposal and its Feasibility in Pa.", "The New York Times", "U.S.G.S.", "The Wall Street Journal", C.H.E.J. "Center for Health Environment and Justice", "D.C.N.R.", "DuBois Courier Express", "Ohio Dept. of Natural Resources", "Community Environmental Legal Defense Fund", "D.E.P.", "E.P.A.", "Zelman#1 Well Permit", others....

Randall R. Baird
1273 Highland St EXT
DuBois, Penna. 15801

UIC Application and Permit Questions:

1. This is a commercial well yet Attachment "P" states their monitoring program would test well "Mechanical Integrity" every 5 years. This is in error since commercial wells require testing every 2 years.
2. In the "Statement of Basis", there is a statement that, "No wells were found which penetrate the injection zone within the ¼ mile area of review". There are several within paces of the ¼ mile review area that do penetrate the injection zone and are very suspect as mentioned in my "Hearing Testimony". It is hard to believe that this toxic fluid will stop its migration within the "area of review", a few feet short of all of these suspect wells. Could the driller explain how this might be accomplished?
3. In the "Statement of Basis", under "Injection and Confining Zones", he states that the immediate adjacent zone to the injection zone is "approximately 50 feet of limestone". Why are there so many "assumptions" and "approximations" involved in this process? Does this person know that he is dealing with many peoples water and ultimately their lives? Or does he even care??
4. Under the "Statement of Basis", "Seismic Review", it says that the faults referred to are "approximately" at 16,000 feet. Because they are not exposed at the surface it is inferred, which means that he "deduced" or "guesses" from geophysical imagery, that these faults will not interfere with his proposed project. Then he goes on to say "if these faults exist" which in my mind says he doesn't know for sure what he is talking about. My question is, if there are indeed faults in this area and there have been earthquakes recorded in this vicinity, one of which I felt not more than 1½ years ago, then why would an injection well be permitted in this area at all?
5. Under the same section, "Statement of Basis", it is stated that gas production between the fault lines has been productive but outside the faults non-productive. This would indicate that the faults are not transmissive to gas migration is yet another "assumption" on his part. Are there faults or are there not would be my question to him? And how and why would a fault confine liquid waste just because it is assumed to have confined gas migration? Would not a fault act as a fluid channel and distribute liquid waste to other paths of least resistance as well as lubricate the fault and increase the risk of quakes?
6. "Statement of Basis", Geologic and Seismic Review", "the permit does not allow the injection zone to be fractured or fractures in the injection zone to be expanded". How can this possibly be monitored when it is known that even low pressures can propagate existing fractures? (Reference the Feasibility Study)
7. "Basis", "Injection Fluids", since this is a commercial well and has not been constructed yet, how can they have determined the specific gravity of the injection

fluids that is needed for pressure calculations when this fluid is not present yet and can be coming from anywhere?

8. What if the permittee goes bankrupt before plugging and abandonment?
9. What will the operators source of power to run this operation be? Will there be back-up power for this operation? Our Penelec Electric power in this area goes out at least 3 times per month or more, at all times of the year.
10. Who will inform local residents of spills, accidents, well failures and water contamination?
11. Since HazMat has to respond to the spilling, leaking or accidents involving this toxic waste, will a HazMat unit be relocated closer to us since it would take an hour or more for one to respond to our location?
12. Who oversees the "Mechanical Integrity Testing"? This man has a brother who works for DEP and we understand he does some sort of well testing. Would this not be a "conflict of interest" should he be involved with this well in any way?
13. Under the "Permit", "Construction Requirements", the injection well shall inject only into a confining zone that is free of "known" open faults or fractures within the review area. Don't we "know" that there are open faults in the review area per the permit data? How about the "unknown faults and fractures"? (Ref. Feasibility Study)
14. Under the "Permit", "Casing and Cementing". Cemented casing is a huge concern to me since I have personally witnessed its failure. From 3/4" thickness on some to 1 3/4" on other strings and everything in between. Scary to me because this is not a perfect science. Casing is not set perfectly center well bore, therefore cementing is at best imperfect, with some sides of the casing receiving little to no cement. I personally believe that the cementing of this injection well leaves a lot to be desired, and creates a high risk for failure of this project given the geology of our area.
15. "Response to Notice of Deficiencies". Attachment B. Please find attached list of landowners along with a map of their location. There is no map.
16. Under "Hydrogeologic Settings-Attachment B. It states the Caledonia syncline is about 5000 feet from the proposed well site. It is not. According to their map it is about 2750 feet from the proposed well to the axis of the Caledonia syncline and in a direction estimated to be the flow direction of the injected toxic waste.
17. Under "Hydrogeologic Settings". It states, "No apparent surface or deep mining has occurred on or directly adjacent to the Zelman tract". This is not true. Deep mining has occurred adjacent to if not under part of the Zelman tract. Old mine maps of this area show mining activity in that location and continuing to the DuBois Mall area.

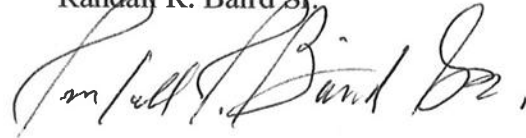
18. Under "Hydrogeologic Settings". Here again we are reminded that there are indeed subsurface faults present throughout the surrounding area. I would have to ask why we are considering putting an injection well here when the permit states they cannot inject into an area with faults?
19. Under "Underground Sources of Drinking Water", Attachment D. There findings show a directional flow of groundwater due to topographic & structural features to be toward the west and northwest. This is directly toward the bulk of the residents located in the village of Highland St. EXT. Should there be a spill, leak or accident the residents will be directly in harms way. Why is this ok?
20. I would like the driller/operator to present a comprehensive plan that would explain exactly how he is going to supply us with water when he contaminates ours. (Cost and time frame included) We cannot go without water for "any" length of time due to circumstances beyond our control. (Family illness)
21. The average water well depth in this are is much deeper than the 73 feet stated in the permit. My well is 200' and many of my neighbors are also this deep or deeper. His information is from 1979 and many things have changed in this neighborhood since then.
22. Under "Background Water Sampling". It states that "Numerous private water supplies are located in the immediate study area of the proposed injection well. These supplies are all down hill of the proposed facility and would receive recharge from infiltrating surface waters in the project area. That means that anything on the ground at the proposed well site would end up in our drinking water. Truck & auto traffic depositing oils, greases, gases, antifreeze and diesel fuel, which contains benzene, will eventually end up in our fresh water supplies. (Wells and springs) This is all in addition to what the proposed well may deposit into our water. One only needs to go look at the nearest truck yard that has been in existence for a period of time. Observe what is on the ground there. This well is going to have, possibly, hundreds of vehicles in and out of it on a daily basis.
23. Under "Background Water Sampling". They talk about the water quality being great in our neighborhood. Then they go on to say, "However, existing iron and manganese concentrations are above established EPA Secondary drinking water limits, established for these parameters, for aesthetic reasons. What does this mambo jumbo mean?
24. Under "Background Water Sampling". Why will they not test for "oil and grease" in their monitoring program during & after construction at the locations specified?
25. Under "General Description". It states they are drilling a gas well in Brady Twp., Clearfield County. Is this correct?
26. Under "Attachment P, "Mechanical Integrity. It states that mechanical integrity will be tested in the "fifth" and "tenth" years. This is in error. It should be tested every

two years because this will be classified a commercial well should it be constructed.

27. One other issue I would like to question in the permit is: I see that the Pa Game Commission, Pa Fish and Boat Commission, Pa. DCNR, and the US Fish and Wildlife all have to sign off that there is no impact to threatened or endangered species. My question then, is who's responsible for doing an impact study on the people, and the residents in the area of the proposed toxic well site?

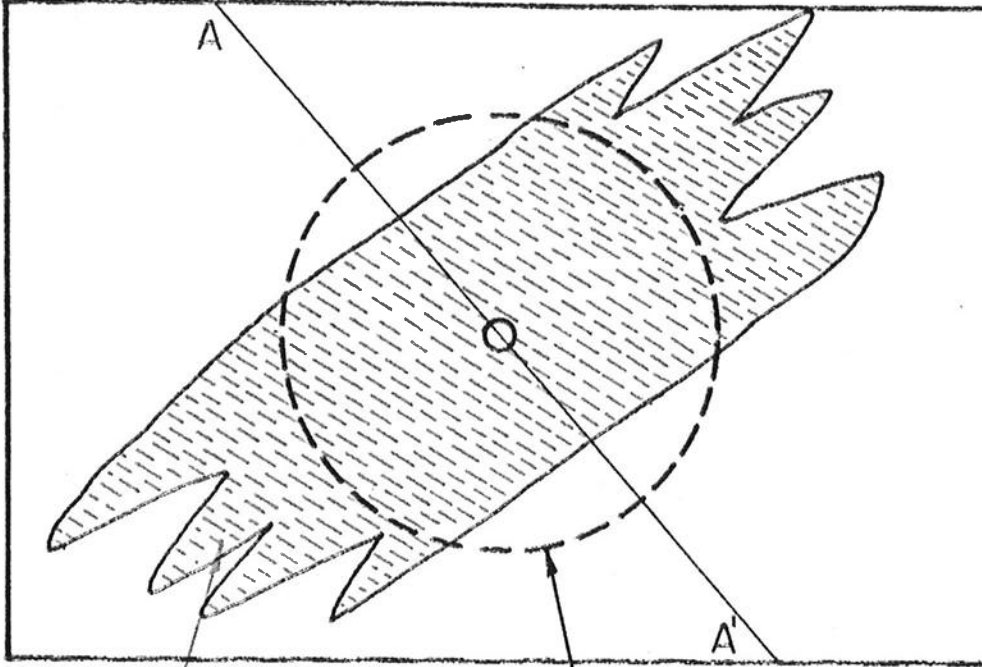
Thank you very much for the opportunity to demonstrate why this injection well should not be located in this densely populated , high risk area of our Beautiful State.

Sincerely,
Randall R. Baird Sr.

A handwritten signature in cursive script that reads "Randall R. Baird Sr." The signature is written in dark ink and is positioned below the typed name.

Attachment - A

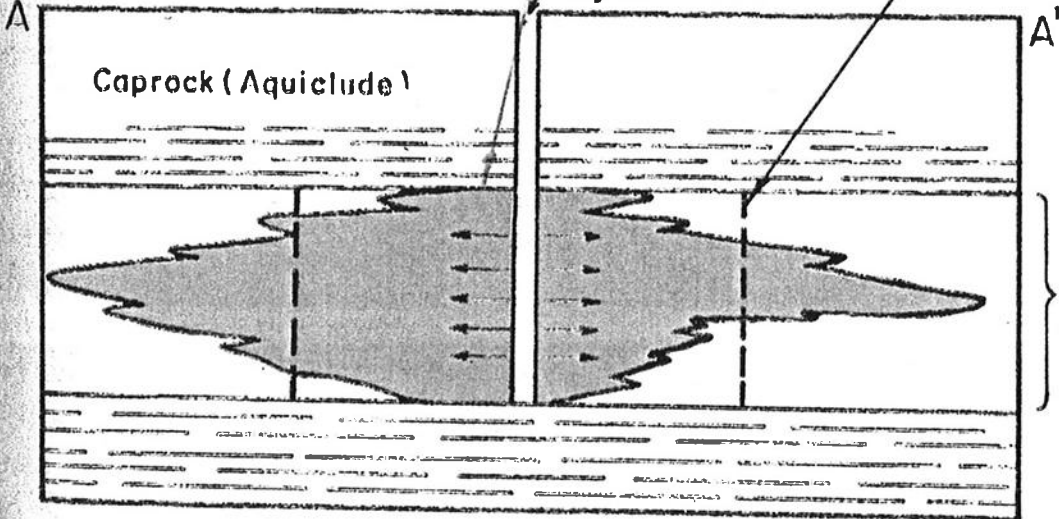
AERIAL VIEW



Distorted
Flow Pattern

Uniform
Flow Pattern
(Rare)

CROSS SECTION



STATIONARY STATE OF FLOW

Attachment - B

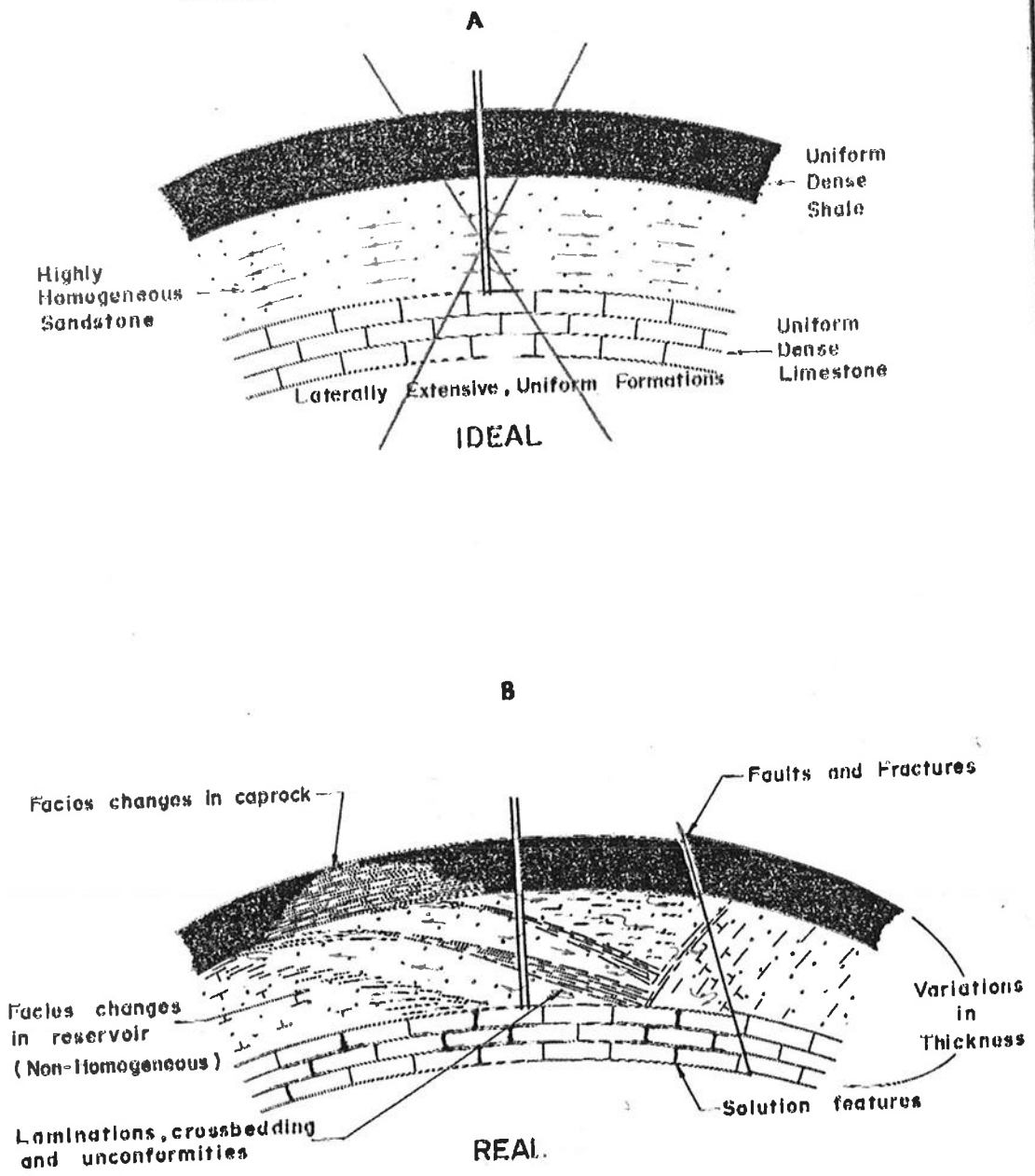
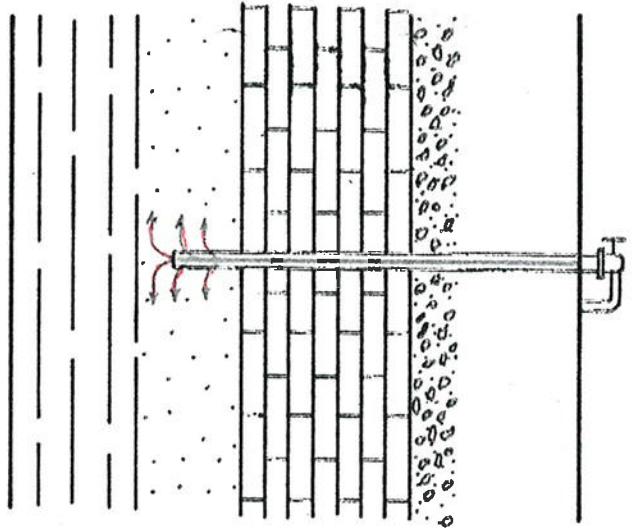
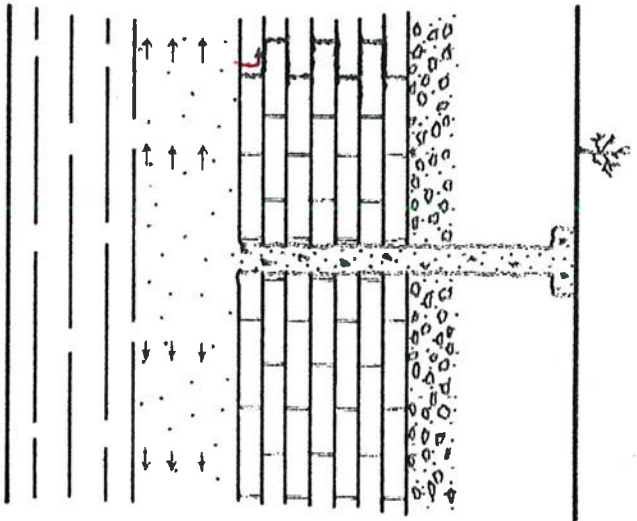


Figure 1. Ideal vs. real subsurface conditions.

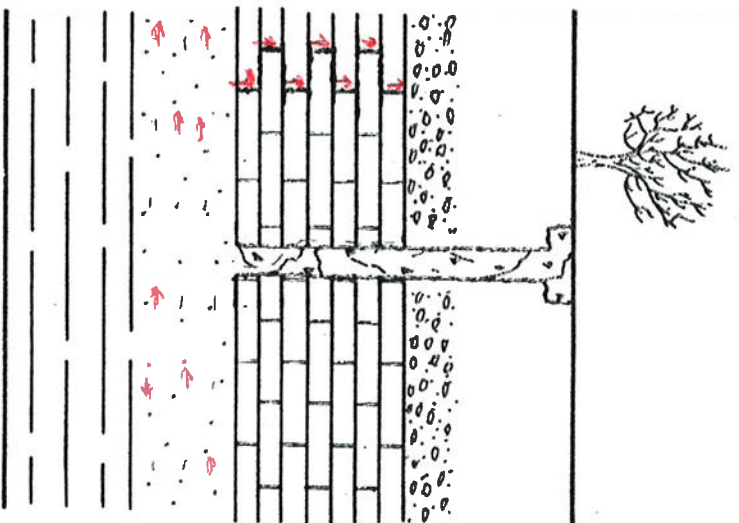
Attachment - C



OPERATING



ABANDONED



LONG AFTER ABANDONMENT

Figure 13. Disposal not completed when injection ceases.



CITY OF DuBOIS, PENNSYLVANIA

P.O. BOX 408

16 W. SCRIBNER AVE.

DuBOIS, PENNSYLVANIA 15801

TELEPHONE: (814) 371-2000

FAX: (814) 371-1290

December 5, 2012

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA 19103

Dear Mr. Platt:

Please consider this letter a request for a public hearing on the Zelman #1 Class 2 Disposal Injection Well proposed for Brady Township, Clearfield County, Pennsylvania. Please also consider this a request to enter these comments on behalf of the City of DuBois Watershed Committee:

The proposed injection well on the Zelman property in Brady Township is not only an issue for the residents of the surrounding communities, but also the state of Pennsylvania, as it would be the first injection well located within a residential area.

The area in question happens to be located near two watersheds – the Susquehanna and Ohio River basins and is also close to the DuBois Reservoir, which is the main water supply for the City of DuBois and neighboring communities.

The DuBois City Council was very quick to respond to the Injection Well Safe Water Act, which was introduced under House Bill 2350 in April 2012. As a municipal water service provider, it was felt that this bill would ensure necessary water protection.

After earthquakes were linked to injection wells near the Youngstown area, the state of Ohio adopted regulations to address Disposal Injection Wells and it is strongly urged that we do the same. Our water is one of our most valuable resources and we must take every step necessary to protect it.

Your time and consideration concerning these comments are greatly appreciated.

Sincerely,


Mike Murray
Chairman - Watershed Committee

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA, 19103

Dear Mr. Platt,

The waste injection well proposed by Windfall Gas and Oil and the Hoover's on the Zelman property in Brady Township is not just a Brady Township Concern. It is an issue for the DuBois Area, Clearfield County and all of Pennsylvania.

Historically, industries have targeted small municipalities with limited financial resources and multiple municipal borders for locating this type of unacceptable land uses which we call ULU. They take advantage of a natural reluctance of municipalities to influence land uses in adjoining municipalities.

Five area municipalities with adjoining borders worked together to formulate the Northwest Clearfield County Regional Comprehensive Plan. Representatives from the City of DuBois, Sandy Township, Brady Township, Huston Township and the Borough of Falls Creek invested in 2 years of planning meetings and the hiring of a professional consultant with the vision of future area growth. The comprehensive plan was unanimously adopted by all 5 municipalities in June 2009.

The Northwest Clearfield County Regional Comprehensive Plan clearly identifies the Highland Street Area as a Village. This neighborhood residential designation of Highland Street, as it crosses the boundaries of DuBois, Sandy Township and Brady Township, has been long standing. Sandy Township and Brady Township neighborhoods are predominately single family homes with on-site wells and septic systems.

If the proposed Hoover Zelman waste disposal well is allowed to locate in this long established residential area, it will be the first such well located in a residential area in Pennsylvania . This action will negate countless hours of hard work on our area's future land planning and will open the door for more of these unacceptable land uses in residential areas.

We have a unique opportunity for local governments to retain some control over land use within their municipalities. It is time we stood together as municipal governments and with a stronger participation by county governments.

Consider this a request to enter the Northwest Clearfield County Comprehensive Plan as part of the comments and testimony at the EPA hearing.

The Northwest Clearfield County Regional Comprehensive Plan
references:

1. The need to preserve the character of our residential neighborhoods.
2. The need to provide more housing.
3. The need to extend water and sewer lines where possible to developable areas.
4. The need to protect our water sources both municipal and on site
5. The need ^{to} encourage development in appropriate areas by enacting land use ordinances.

The waste water injection well proposed by Mike Hoover on the Frank Zelman Property in Brady Township is in direct conflict with the Northwest Clearfield County Regional Comprehensive Plan

Nancy B Moore

It has come to our attention that at a meeting on or about Nov. 14 the applicant for the waste water Injection well stated that they are proposing an office building (pre-fab that can be transferred to the next site. There will be maybe 4 employees who will be on site in relation to the operation of the well.

They are proposing to inject 1000 barrels of waste per day which would equate to 20 to 25 trucks each day between 7 am and 7 pm.

It appears to be in the plans to amend the permit to double the amount which would make it a 24 hour operation. Further this Zelman well is identified as Zelman well number 1. They ^{they} expect more injection wells to be permitted.

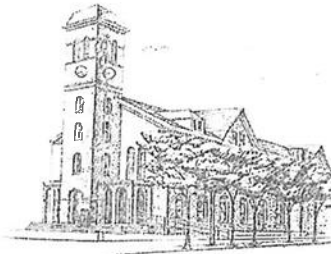
What Information does EPA have on these proposed doubling of amounts of waste water, truck traffic for this well and the expressed intent to increase the number of wells.

The applicant stated they are required to test water wells within 2000ft prior to construction of the disposal well and only annually thereafter. is this sufficient?

This well only leases 3 acres of the Frank Zelman 19 plus acres. The family ^{APPEARS} controls more land in the area. A total of 28-29 acres.

Nancy E Moore

John A. Sobel
Joan Robinson-McMillen
Mark B. McCracken
County Commissioners



Kim C. Kesner
County Solicitor
Lisa McFadden
Chief Clerk

Clearfield County

212 E. Locust Street

Suite 112

Clearfield, PA 16830

Phone 814-765-2642

FAX 814-765-2640

[ccomm@clearfieldco.org](mailto:cocomm@clearfieldco.org)

December 5, 2012

Mr. Stephen Platt
U.S. Environmental Protection Agency, Region 3
Water Protection Division
Office of Water Source Water Protection
Ground Water & Enforcement Branch (3WP22)
1650 Arch Street
Philadelphia, PA 19103

Re: Underground Injection Control Permit PAS200203OLE for Windfall Gas and Oil

Dear Mr. Platt;

Please be advised that we, the Clearfield County Commissioners, are opposed to the construction of the above injection well. The proposed well is to be located in a residential neighborhood stretching along Highland Street, which extends across two (2) townships and up to the City of DuBois. The potential for contamination of the residents' water supply and potential impact of increased truck traffic upon their quality of life causes us to request that you deny final issue of the above draft permit.

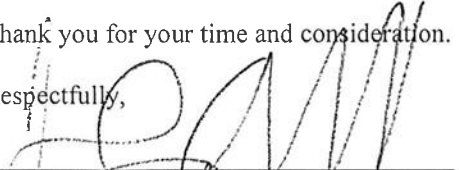
Additionally, we are troubled that the process of fulfilling the EPA's monitoring requirements of the proposed well would be self-reporting in nature. The inmates are, in effect, being asked to run the asylum. There is just too much potential for critical information not to be shared with the EPA, as what happened at the Bell Township, Clearfield County, injection well site.

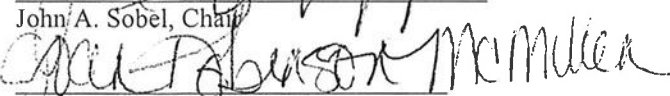
We believe that fracking fluids are better treated and recycled as opposed to being injected underground. Modern treatment plants have the technology to properly dispose of frack water such that the gas industry can develop an environmentally safe manner.

We absolutely support the development of Clearfield County as a leader in the production of energy in the twenty-first century. However, it must be done safely and not at the expense of our citizens' quality of life. Therefore, we would ask that you not approve the proposed permit.

Thank you for your time and consideration.

Respectfully,


John A. Sobel, Chair


Joan Robinson-McMillen


Mark B. McCracken

HESS & FISHER ENGINEERS, INC.

Professional Engineers since 1900

36 NORTH SECOND STREET
CLEARFIELD, PA 16830

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December 10, 2012

Environmental Protection Agency
Region III
Attn: Stephen Platt, (3WP22)
1650 Arch St.
Philadelphia PA 19103-2029

RE: Underground Injection Control Permit #PAS2D020BCLE
Authorization to Operate a Class IID Injection Well
by Windfall Oil & Gas, 63 Hill St., Falls Creek PA 15840
Injection Well Zellman #1
Brady Twp., Clearfield PA

Gentlemen:

On behalf of Brady Township and my professional review of the submittals specific to the above reference, I add the following inquiry and observations.

1. Injecting oil & gas well frac water flowback by injecting into the ground is primitive and not consistent with the federal Clean Water Act objectives of "zero" discharge. It does not aid a better solution to the problem by providing a less expensive option than more technologically advanced methods of redeeming the quality of the water. Recent advances of distillation, reverse osmosis and ultra-filtration to mention a few, have been used singularly or in combination to beneficiate flowback frac water to a high degree.
2. A quarter mile review area appears to be very conservative. There are traditional gas wells just beyond the quarter mile; there is significant coal mining within the general area; there are more private residential water supplies which would be in the area of review if appropriately extended.
3. The casing and cementing of the first groundwater protective string, surface to depth, is planned for 170'. I recommend that the first groundwater protective string should be to a depth of at least 350', given that the elevation of the injection well is approximately 150' above the homes in the nearby valley and their private water supplies, some of which reach to almost 200'. This would provide a greater degree of protection to their water wells.

I also recommend that the long string casing, which extends from the surface to the total depth of approximately 7300', be cemented back to the surface, instead of 5000' below land surface. This would provide more complete cement isolation around the well steels.

4. The fault zones which are mapped are described as creating a confining zone. There appears to be no specific data or evaluation to draw that conclusion. That lack of information creates uncertainty as to the conclusions derived thereof which is that the faults act as an impermeable barrier to the transmission of the injected fluids. General geologic knowledge of faults is that they are typically zones of water transmission due to the fractured rock along the slip planes of the fault. Additionally, increases in hydrostatic or hydrodynamic pressure and/or stresses due to plate movement can cause the faults to move. Such movement is exacerbated and/or lubricated by fluids in or about the fault.
5. Pennsylvania law and regulation have an automatic presumption of liability when a private water supply is negatively impacted by mining or gas and oil drilling. That distance is ½ mile from the mine and/or well. Extensive baseline monitoring is undertaken by the industries in order to insure that they have good comprehensive baseline data.
 - a. Continuous monitoring around the injection well should be comprehensive to ½ mile from the injection well.
 - b. The analysis should include cadmium, strontium, oil & grease, sulfate, methane and ethane, radium 226, lead, and total dissolved solids in addition to those planned.
 - c. Additionally, a complete chemistry workup of the fluids being injected is critical to the determination of impact relative to the water supplies in the area. Is this raw flowback frac water or has it been concentrated, partially or totally? These are key questions relating to the elements being analyzed and a determination by virtue of their concentration whether they constitute a certified hazardous substance per 40 CFR 261.
6. This query goes to the legality of the injection fluids moving under adjoining properties. Does the company performing the injection have the legal right, by way of a lease or other instrument, from all the adjoining subsurface mineral and gas & oil owners? If not, criminal trespass and/or unlawful taking of rights by contamination of resources that would be prohibitive to recover by the rightful owner if and when they elect to do that. No lease appears to have been provided.
7. EPA is the regulatory in charge of issuing the permit. Does EPA bear the responsibility for inspecting the construction to insure the public health and safety?
8. What groundwater protection measures are planned or provided to protect against the potential of faulty well construction, surface spills of frac fluids, well blowback, and fuel spills?
9. Given the high injection pressure, it is reasonable to assume that rock fracturing, in order to provide greater storage capacity of injected fluids, will occur? How far will the microfractures propagate?
10. The assumptions with regard to the porosity and permeability of the two formations (Onondaga Chert and the Oriskany sandstone) being the same is inappropriate. The two formations are mineralogically different; hence, so are their characteristics.
11. Given the variability of geology and lithology from one location to another and despite the fact that the formations may be named the same, it is scientifically inappropriate to utilize

- characteristics from well locations that are significantly removed to extrapolate to this planned injection well. Appropriately, a pilot well should be drilled, sampled and analyzed to discern the appropriate variables.
12. Whenever a construction project is undertaken and/or an industrial activity of significance, a performance bond is required. I see that none has been asked or offered in this particular case. It is only appropriate as an industry standard to compel a performance bond. The bond's characteristic would be specific to a financial guarantee that 1) the well is developed consistent with the plan; 2) if the well fails, there are adequate resources to repair or seal it; 3) private water supply owners have a source of funds, if necessary, to build a public water line extension to their homes; and 4) that nearby public water wells owned by the Brady/Troutville Water Association are adequately protected (financially).
 13. With regard to the maps presented with the application, I did not see the public drinking water wells marked.
 14. Given the public and the municipality concern and anxiety as well as a diminishment in value of the nearby private properties, one would have to question "Why here?"
 15. Pennsylvania has thousands of acres of public lands that have no human dwellings. These properties are much more suitable to this type of frac water disposal.
 16. There was a failed injection well in nearby Bell Township, Clearfield County. What was the basis of the failure? Has it been evaluated relative to the proposed well?
 17. The Pennsylvania Clean Water Act specifies threshold concentrations beyond which no discharge is allowed to surface waters. Pennsylvania also specifies that these standards apply to ground waters of the Commonwealth. How has EPA reconciled Pennsylvania's standards to injection wells?

Wilson Fisher, Jr., P.E., P.G.
Brady Township Engineer



If the drinking water is contaminated by
brine fluids, ~~the is responsible~~ Is Windfall 100%
responsible for furnishing ^{the area resident water} on long term as well as
short term.

~~An~~ Under permit it says that is well will
not be fracked. Since the formation is supposed
to be porous does absorption play a roll in how
large ^{the} formation can get since the fluids going
to the formation is under pressure. If ^{absorption} ~~this~~ comes
into play then over a long period time how large
~~can~~ could the injection formation get.

Charles Smith
Chairman

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA, 19103

November 29, 2012

Dear Mr. Platt,

This letter is to request a public hearing on the Zelman #1 Injection Well proposed for Brady Township, Clearfield County. According to recent information in the news media and information I have received a hearing has been scheduled on December 10, 2012.

I am opposed to the drilling of Zelman #1 Injection Well (Z1IW) in Brady Township Clearfield County for the following reasons. According to a map drawn by Lional Alexander, Professional Land Surveyor 22887-E there are 7 other gas wells in the area within 1800 feet of the proposed (Z1IW). I understand that 3 of these are plugged wells. There is also the deep mines of shaft #1 and shaft #2 located beneath this area. It's my understand that there are numerous private water wells in this immediate area.

My concern is that the pressure that is applied to (Z1IW) while injecting the waste water will make its way to the surface or into one of these areas described above and cause contamination. The 7 wells mentioned above may have been drilled as far back as the 1950's and even if they were properly sealed at the time over the past years the seals could have eroded.

The mine water from shaft #1 and shaft #2 comes to the surface on the DuBois Mall property and runs into Sandy Lick Creek. This is alkaline water with a PH of approximately 7.

If the pressurized water from the injection well makes its way to any of these sources listed above through any type of method it will be disastrous especially those who live close by and obtain their drinking water from the ground.

I respectfully request that the permit for the proposed Zelman #1 Injection Well to be located in Brady Township, Clearfield County be denied.

Sincerely,

Brady R. LaBorde, Sandy Township Supervisor

Cc Brady Township Supervisors
Duane Marshall
file

Matt Gabler, 75th Dist, PA H of R Elk Co, NW Cfd: Brady Twp., Huston, Sandy + Union
Boro Troutville
City of DuBois

The EPA's Underground Injection Control program has shown important success in regulating disposal wells like the proposed well we are discussing tonight.

I am here to express my opposition to the proposed Underground Inj Well in Brady Twp

One of the central themes of the ^{EPA'S} UIC program is to prevent the contamination of drinking water supplies. In fact, the EPA is required under the Safe Drinking Water Act to develop minimum federal requirements in order to prevent contamination of water supplies from injection wells.

In Pennsylvania, the EPA has primacy over the permitting of disposal wells in the state, and so I urge the EPA to error on the side of caution when considering the application for the site here in Brady Township.

I have supported the safe development of our natural resources in Pennsylvania. But in doing so, I have advocated for the proper restrictions on this industry so that the protection of our citizens and the environment is not compromised.

This proposed well presents several challenges that must be considered before the process moves forward.

First, as indicated in the plat that accompanied the permit application, nearly two dozen homes are situated within ¼ mile of the proposed well site. Each of these homes relies on drinking water wells for their drinking and household water. Four of these homes have residences within 1000 feet, which constitutes the liability radius, or area of rebuttable presumption under Title 58, Chapter 3218 of Pennsylvania state law.

for oil + gas wells

Nearby families depend upon clean ground water to meet their everyday needs, and given the proximity of this proposed disposal well to their water sources, it is not unreasonable to be concerned about potential damages that could result if the well were to be installed at this site.

Second, while I recognize that the EPA's primary focus is on subsurface geology, it is important to note that, on the surface, the proposed well site is up gradient (or up hill) from the residential water wells that surround it. Therefore, the possibility that operations at the top of the hill could affect the surrounding properties at the base of the hill -- or at least place them at greater risk -- must be considered.

and water sources

Finally, it must be pointed out that while the area is rural, it is still a residential neighborhood. The access to the site by truck would be seriously disruptive to the neighboring residents who will be affected. The risk of an accident or mishap at some point over the life of the well is unacceptable in this proximity to a residential area. There are better places for a well like this. This site in Brady Township is not ideal, and on behalf of my constituents, I would argue that it should not be approved. Thank you very much.

Darlene Marshall
1070 Highland Street Extension
DuBois, PA 15801
(814) 583-7945
mrdewy@yahoo.com

December 10, 2012

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA, 19103

RE: UIC Permit PAS2D020BCLE (Windfall/Zelman 1)

Dear Mr. Platt,

As a librarian with a Master's Degree the first things I did once learning about this proposed disposal injection well after attending the neighborhood meeting is attend a session at a library conference with Richard Alley, a Penn State geology professor. He explained to me the pumping of waste into the ground has an effect and will cause the subsurface to move. His specific example demonstrated pushing on a desk showing it would eventually move and he related this to the pumping waste underground. His book "Earth" states we have known since the 1960s that pumping waste underground can cause earthquakes.

During this last year I've researched and learned much more so I am presenting a binder for the Highland Street Extension Development residents of all our findings. This binder includes my testimony and attachments, which are supporting documents along with pictures. This written testimony covers:

- ✓ Need more time to review permit application and respond
- ✓ No one mile topographic map was submitted
- ✓ Location of my home outside ¼ mile radius
- ✓ Five deep gas wells, coal mines (~6 acres in ¼ mile radius of review) and faults (Show map - binder; Definitive Boundaries)
- ✓ Coal mines flow into Sandy Lick Creek & not addressed in permit application
- ✓ Significance of the Onondago formation faults (Confining layer above Oriskany)
- ✓ Faults on the permit application map ~~are~~ where two deep gas wells are located in relation

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- ✓ 16 water well sources are near my home and the deep gas well improperly plugged
- ✓ 26 old gas wells in one mile radius with at least five deep gas wells
- ✓ No map in response to deficiencies showing water sources outside ¼ mile radius
- ✓ Cost to replace contaminated water over \$1 million plus connection fees
- ✓ Plugging fees cost well over \$60,000 for a gas well that goes 3,000 feet down based on a Carnegie Mellon Study and more for over 7,000 feet
- ✓ United States General Accounting office found the need to review financial assurances for deep injection wells and this is certainly true for this area
- ✓ Highland Street Extension Development has 57 wells, 5 springs & 1 cistern; Brady Township has over 800 customers; City of DuBois has over 4,485 customers (Township is 684 and the City of DuBois is 3,801); in a one mile radius we have 107 water well users still in use and most homes have a water well on their property with 370 properties in a one mile radius
- ✓ Property values are \$17,545,120 in a one mile radius
- ✓ The proposed site is near headwaters of local water sources
- ✓ This area has deep gas wells all over and needs further study.
- ✓ The Caledonia Syncline goes through this area and synclines bring fluids to the surface.

✓ We have questions on ^{low} permeability (see engineer, Brady Twp + my written testimony)

This is just a brief summary of what the residents have already found in a short amount of time. The three application deficiencies we find lacking: 1) coal mines not addressed in application 2) no one mile topographic map 3) no map of water sources outside the ¼ mile review in response to the deficiencies.

Sincerely,


Darlene Marshall

Duane Marshall
1070 Highland Street Extension
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(814) 583-7325
mrdewy@yahoo.com

November 28, 2012

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA, 19103

RE: UIC Permit PAS2D020BCLE (Windfall/Zelman 1)

Dear Mr. Platt,

This letter is testimony on the Zelman #1 Injection Well proposed for Brady Township, Clearfield County due December 10, 2012. Thank you for holding the EPA hearing in Brady Township, Clearfield County on December 10, 2012 and consider this letter my request to hold this EPA hearing. My specific concerns deal with contamination of the underground sources of water.

Our private water well is approximately 360 feet deep and this proposed disposal injection well outer casing is only going 375 feet deep. It seems in the permit application notice of deficiencies some concerns are discussed about the lower most underground source of water and the best depth for the second string casing almost sounding like a catch twenty-two situation. This raises concerns for us about the actual protection of our water. How can we trust that our water might not be affected if something like the Irvin injection well violation in Clearfield County occurs.

My drinking water source is a private water well right outside the 1/4 mile area of review. This disposal injection well has the potential to contaminate my water well through the disposal of waste underground near my home. Two of my neighbor's water wells are affected when any work is done on the deep well (over 7000 feet into the Oriskany) on the Atkinson property. Another deep well (Carlson Stewart) behind my home gives off gas smells constantly causing me to believe it isn't properly plugged and its depth is over 7,000 feet into the Oriskany and its located just feet outside the 1/4 mile area of review. These old deep well casings may also allow leakage of waste up into underground sources of water.

We have really good water now and we are concerned that this will not be the case if you allow this disposal injection well to be placed in our neighborhood. We request you extend your area of review outside the 1/4 mile because our home is just feet outside this line and we have many private water wells surrounding us near these old deep gas wells. At least fourteen residents are closely located (just feet) directly outside the 1/4 mile area of review near the line and close to the Atkinson and Carlson Stewart deep gas wells. This residential area and all our families rely on private water wells along with all the residents inside the 1/4 mile area of review.

Duane Marshall
1070 Highland Street Extension
DuBois, PA 15801
(814) 583-7325
mrdewy@yahoo.com

Abandoned wells could provide a pathway for methane migration into drinking water wells into the aquifer. Some of these abandoned wells may not be plugged properly for example the Windfall permit application provides information on well logs. The well log information seems like the wells may not actually have been plugged properly. Just a few feet outside the change to 1/4 mile review at least 4 deep wells are located in the same Oriskany formation that are able to transmit toxic fluid into water wells if casings are old, perforated or not plugged properly. We would request all these old wells be reviewed before any permit is issued to Windfall Oil and Gas for a disposal injection well.

At 7,250 feet the Carlson Stewart well is not plugged properly. The smell coming off this well currently isn't coming from a few feet down since natural gas is not found near the surface. The Carlson Stewart well has 1,160 feet unplugged from the surface based on the permit well logs, so it has just an open air pocket. It has been plugged 33 years. The plugging below 1,160 feet was a mixture of salt and water to cement and the metal casing (10% salt stated in well log) no longer is the casing present or if it is it is perforated. Below the air pocket is 15 feet of gravel and then they layered cement and gelled water. After so many years this causes too much chance of the waste coming back up and one accident with the pressures being used would push the waste into our underground sources of water or our well.

The discrepancy between the wells that are plugged in the early 1960's and 1970's aren't sufficient to believe they are plugged correctly. For example, the Carlson Stewart well had 145 bags of cement used and the Ginther well on Atkinson's property had 375 bags of cement used. The well logs state that twice as much cement was used in the Ginther well, which was half the depth of the Carlson Stewart well. We can't take this for granted in the deep wells in our area with waste being injected near these wells.

Attachment G mentions definitive boundaries in the Oriskany. These boundaries may confine the waste and so the waste will follow the path of least resistance. That path will be upwards towards the surface, ground water or coal mines. Any crack or crevice from prior fracturing listed on the permit application well logs could give the waste a place to migrate. It would not be good if the path of least resistance allowed this waste to travel into the deep coal mines and into the old deep gas wells or around the old gas well casings that are probably perforated.

Ground faults are located in the area close to the proposed disposal injection site. The proposed injection well may be located in an earthquake prone area. Taking the chance to lubricate these faults could additionally jeopardize our underground sources of water. An earthquake is the last thing you need near a disposal injection well to crack the casing and leak this into our private water wells or the deep coal mines within the 1/4 mile area of review. Any small fracture or leak has the potential to seep into these mines and carry waste under the City of DuBois and into surrounding areas like Sykesville and Reynoldsville. These mines are full of water and are all over our area, so these deep mines would transmit toxic fluid into water sources.

Taking the chance of a surface spill happening in this area that would go directly into the aquifer is a concern. Due to all the springs feeding off the hill near the proposed disposal injection well site along with area headwaters having their source of water come from near this proposed site is a major concern for our area. Underground sources of water have the potential to be contaminated.

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DuBois, PA 15801
(814) 583-7325
mrdeewy@yahoo.com

We request that the EPA extend the area of review and look beyond the original 1/4 mile area of review. A better understanding of the area should be done due to the all the deep wells in the Oriskany already near our homes and private water wells. The City of DuBois being located so closely is another major consideration. Water supplies for many city and township residents are very close to this proposed site along with many private water wells.

The cost to plug the disposal injection well should be much higher than \$30,000 and we feel this is insufficient. We have heard that some abandoned wells in Pennsylvania could cost over \$100,000 to plug. The company should also have the money in the bank and it shouldn't be a line of credit. Especially, taking the chance so near a residential area full of private water wells. We request residents are ensured funds are available for any potential costs incurred if water becomes contaminated in the area. We know it would cost over one million dollars to bring water to our area from the City of DuBois through Sandy Township based on their projected figures.

This toxic waste dump & industrial activity should not be placed in an area designated residential. The chance being taken is dangerous if our water is contaminated because any emergency in our area would have the potential to need water brought in since we don't have fire hydrants and tanker trucks must be used. Emergency personnel understand this risk more fully and have expressed concerns of any accidents.

Respectfully we request you deny this application due to all the concerns listed with our underground sources of water. Thank you for your consideration of my testimony.

Sincerely,



Duane Marshall

Spoken comments

Duane Marshall
1070 Highland Street Extension
DuBois, PA 15801
(814) 583-7945
mrdewy@yahoo.com

December 10, 2012

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA, 19103

RE: UIC Permit PAS2D020BCLE (Windfall/Zelman 1) Spoken Testimony

Dear Mr. Platt,

All my concerns deal directly with the potential contamination of the underground sources of drinking water (USDWs). Please realize this is a highly developed residential neighborhood with valuable properties on water wells and springs close to the proposed disposal injection wells. The environmental impact on underground sources of drinking water (USDWs) could be affected by truck traffic patterns on our narrow roads and the road into the proposed site due to the permit applications "hydrology report."

Highland Street Extension has over 69 properties that will be affected. These properties have 57 water wells, 5 springs, and 1 cistern. In a one mile radius, we have over 370 properties with over 107 water wells being utilized regularly along with the springs in the area. Property values in a one mile radius total \$17,545,120 based on a final review of all properties and assessed value listings in the deed books this week.

My main concern is the Carlson Stewart deep well into the Oriskany behind my home that gives off gas smells constantly. This makes me believe it isn't plugged properly and its depth is drilled into the Oriskany. All these deep gas wells in the area need reviewed and properly plugged. Five deep wells are just feet outside the ¼ mile area of review. These old deep well casings may also allow leakage of waste up into underground sources of water (USDWs). Faults have been found in the area in the Onondago formation, which is the confining layer above the target injection formation, which is Oriskany.

Sincerely,



Duane Marshall

Ethel Marshall
115⁴ Highland Street Extension
DuBois, PA 15801
(814) 583-7661

December 7, 2012

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA, 19103

RE: UIC Permit PAS2D020BCLE (Windfall/Zelman 1)

Dear Mr. Platt,

This letter is testimony on the Zelman #1 Injection Well proposed for Brady Township, Clearfield County due December 10, 2012. Thank you for holding the EPA hearing in Brady Township, Clearfield County on December 10, 2012. My specific concerns deal with contamination of the underground sources of water.

My drinking water source is directly outside the ¼ mile area of review (feet from the line). We have "outstanding" water now and we are concerned that this will not be the case if you allow this disposal injection well to be placed in our neighborhood. The possibility of a surface spill that would go directly into the aquifer is a concern.

Coal mines are located in the ¼ mile radius of review and any small fracture or leak has the potential to seep into these mines and carry waste under the City of DuBois. These mines are full of water and are all over our area, so these deep mines would transmit toxic fluid into water sources.

Abandoned gas wells are just a few feet outside the ¼ mile review. At least 5 deep wells are located in the same formation (Oriskany) that are able to transmit toxic fluid into water wells. The 1/4 mile area of review is not sufficient to understand the scope of the area and all the deep wells right outside the 1/4 mile review are potential sources of contamination to our drinking water. The City of DuBois being located so closely is another major consideration. Water supplies for many city and township residents are very close to this proposed site along with many private water wells.

The cost to plug the disposal injection well should be much higher than \$30,000 and we feel this is insufficient. It is also important to ensure funds are available for any potential costs incurred if water becomes contaminated in the area.

Sincerely,



Ethel Marshall

Robert Marshall
1154 Highland Street Extension
DuBois, PA 15801
(814) 583-7661

December 7, 2012

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA, 19103

RE: UIC Permit PAS2D020BCLE (Windfall/Zelman 1)

Dear Mr. Platt,

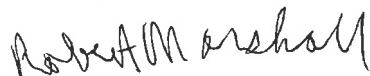
This letter is testimony on the Zelman #1 Injection Well proposed for Brady Township, Clearfield County due December 10, 2012. Thank you for holding the EPA hearing in Brady Township, Clearfield County on December 10, 2012. I'm unable to attend the hearing and I wanted to share my thoughts.

We have always had good drinking water at our home, which is located right outside the ¼ mile area of review. The hydrology report in the permit application you have on file at the DuBois Library shows that the water flows from the proposed disposal injection well towards my home. So I request you expand the ¼ mile review area, especially due to the faults showing on the permit application maps. It states these faults as definitive boundaries, which may confine the waste into our area. The only open space below ground may be towards my home and a deep gas well behind our property.

Additional concerns include the 2011 earthquake felt in our area, Ohio earthquakes due to the deep injection wells and the faults located in our area. These faults could be lubricated and cause an earthquake. Enclosed is an article published in our Penn Lines about a recent United States Geological Survey (USGS) that should be taken into consideration.

Please deny this application for a disposal injection permit in Brady Township. Past history shows we should rethink disposal injection wells in Pennsylvania due to our geology and prior drilling history. This area is covered with deep gas wells and shallow gas wells.

Sincerely,



Robert Marshall

rent

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1 Great Outdoors
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ties, restaurants and

There is no charge to download the mobile app, which can be found at the App Store for iPhone, iPad and iPod touch. The Android app is available from the Google Play Store.

The app is location-based, and turn-by-turn directions are available so tourists can navigate to any location on the app. The navigation feature is satellite-driven so it can be used in areas without cell service.

East Coast earthquakes travel farther than previously thought

U.S. Geological Survey (USGS) scientists have found that East Coast earthquakes can travel much farther and do more damage over larger areas than previously thought.

Studies show that 2011's magnitude 5.8 earthquake in Virginia triggered landslides at distances four times farther — and over an area 20 times larger — than previous research had shown.

"Scientists are confirming with empirical data what more than 50 million people in the eastern U.S. experienced firsthand: this was one powerful earthquake," USGS Director Marcia McNutt reported in a USGS release. "Calibrating the distance over which landslides occur may also help us reach

reader input needed

nding a four-page reader survey to a small sampling of ran-
in *Lines* readers. In fact, you may have already received a copy

re takes just minutes to complete and all responses are kept in

ie of the important ways in which *Penn Lines'* magazine and
uges reader's likes and dislikes and assists them in determining
ising content for the publication.

ceive a survey in the mail, please complete and return it in the
aid reply envelope. As an added bonus, all those members who
survey will be entered for a chance to win an iPad Mini with
alue \$329).

ance for your participation.

back into the geologic record to look for evidence of past history of major earthquakes from the Virginia seismic zone."

The recently released study found that the farthest landslide from the 2011 earthquake was 150 miles from the earthquake's epicenter, which is the greatest landslide distance reported from any earthquake of similar magnitude (earlier studies put the farthest distance about 36 miles from the epicenter of a magnitude 5.8 earthquake).

The USGS reported approximately one-third of the U.S. population could have felt the 2011 earthquake, more than any other earthquake in U.S. history. Reports of shaking came from Canada to Florida and as far west as Texas.

According to the USGS, the difference between seismic shaking in the east versus the west is due in part to the geologic structure and rock properties that allow seismic waves to travel farther without weakening.

State launches free online tool for job seekers, students

Pennsylvania has unveiled "Pennsylvania Career Coach," a first-of-its-kind, statewide, free online tool designed to help Pennsylvania students and job seekers with career choices.

Developed by the Pennsylvania Department of Labor and Industry, Pennsylvania Career Coach will provide up-to-date local employment data such as current and projected job openings, recent job growth areas, estimated earnings and occupations that match with a user's current skills and knowledge, as well as specific educational programs in the local area that will prepare an individual for a given occupation.

"My No. 1 priority as governor is jobs; and today we take another step toward making sure Pennsylvanians are ready for the jobs that become available," Gov. Tom Corbett said during the recent launch of the program.

Pennsylvania Career Coach is part of a more comprehensive job-matching initiative that will be launched soon.

For more information, visit www.pacareercoach.org.



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Outdoor W



Savings
WWW
EARTH MA
WWW.E

**Vivan Marshall
St. Michaels Terrace
111 West Long Avenue
Apartment 5E
DuBois, PA 15801**

December 8, 2012

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA, 19103

RE: UIC Permit PAS2D020BCLE (Windfall/Zelman 1)

Dear Mr. Platt,

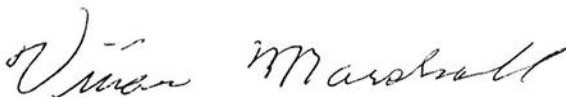
Please accept this letter as testimony on the Zelman #1 Injection Well proposed for Brady Township, Clearfield County. I'm unable to attend the public hearing so I wanted to submit my comments in writing. My specific concerns deal with contamination of the underground sources of water.

My water source comes from the City of DuBois. The dumping of waste products that are toxic near our City is unacceptable. It concerns me because this waste water has the potential to go into deep gas wells and open coal mine shafts in the surrounding DuBois area. It has the potential to move into our sources of underground drinking water.

Much of my life I lived in the Brady Township area in Luthersburg. My family and friends live in the proposed area of the disposal injection well and I know the importance of having water on a daily basis. It is also important to know your water is safe to drink. Pumping waste near this area with faults and prior fractures in the ground would make anyone question if their future water would be safe to drink. My grandchildren and their children should have the right to access safe water.

The source of my water will be less than two and a half miles from this proposed site. Research should be done on this residential area and this permit should be denied.

Sincerely,



Vivian Marshall

Valerie Powers
1235 Highland Street Extension
DuBois, PA 15801

November 28, 2012

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA, 19103

RE: UIC Permit PAS2D020BCLE (Windfall/Zelman 1)

Dear Mr. Platt,

This letter is testimony on the Zelman #1 Injection Well proposed for Brady Township, Clearfield County due December 10, 2012. Thank you for holding the EPA hearing in Brady Township, Clearfield County on December 10, 2012 and consider this letter my request to hold this EPA hearing. My specific concerns deal with contamination of the underground sources of water:

Our private water well is approximately 90 feet deep and 800ft from proposed disposal injection well site. It seems in the permit application notice of deficiencies some concerns are discussed about the lower most underground source of water and the best depth for the actual second string casing almost sounding like a catch twenty-two situation. This raises concerns for us about the actual protection of our water. How can we trust that our water might not be affected if something like the Irvin injection well in Clearfield County would be repeated.

My drinking water source is a private water well is inside the 1/4 mile area of review. This disposal injection well has the potential to contaminate my water well through the disposal of waste underground near my home.

We have really good water now and we are concerned that this will not be the case if you allow this disposal injection well to be placed in our neighborhood. We request you extend your area of review outside the 1/4 mile. At least fourteen residents are closely (just feet) located directly outside the 1/4 mile review near the line and close to the Atkinson and Carlson deep gas wells. These families rely on their water wells besides all the residents within the 1/4 mile area of review.

Abandoned wells could provide a pathway for methane migration into drinking water wells into the aquifer. We ask Windfall Oil and gas to find and plug all older gas wells.

Ground faults are located in the area close to the proposed disposal injection site. The proposed injection well may be located in an earthquake prone area. Taking the chance to lubricate these faults could additionally jeopardize our underground sources of water. An earthquake is the last thing you need near a disposal injection well to crack the casing and leak this into our private water wells or the deep coal mines within the 1/4 mile area of review. Any small fracture or leak has the potential to seep into these mines and carry waste under the City of DuBois and into surrounding areas like Sykesville

and Reynoldsville. These mines are full of water and are all over our area, so these deep mines would transmit toxic fluid into water sources.

Surface spill that would go directly into the aquifer is a concern. Due to all the springs feeding off the hill near the proposed disposal injection well site along with area headwaters having their source of water come from near this proposed site is a major concern for our area. Underground sources of water have the potential to be contaminated.

We request that the EPA extend the area of review and look beyond the original 1/4 mile area of review. A better understanding of the area should be done due to all the deep wells in the Oriskany already near our homes and private water wells. The City of DuBois being located so closely is another major consideration. Water supplies for many city and township residents are very close to this proposed site along with many private water wells.

The cost to plug the disposal injection well should be much higher than \$30,000 and we feel this is insufficient. We have heard that some abandoned wells in Pennsylvania could cost over \$100,000 to plug. The company should also have the money in the bank and it shouldn't be a line of credit. Especially with the chance being taken so near a residential area full of private water wells. We request residents are ensured funds are available for any potential costs incurred if water becomes contaminated in the area. We know it would cost over one million dollars to bring water to our area from the City of DuBois through Sandy Township based on their projected figures.

This toxic waste dump & industrial activity should not be placed in an area designated residential. The chance being taken is dangerous if our water is contaminated because any emergency in our area would have the potential to need water brought in since we don't have fire hydrants and tanker trucks must be used. Emergency personnel understand this risk more fully and have expressed concerns of any accidents. Respectfully we request you deny this application due to all the concerns listed with our underground sources of water. Our families are at risk, please deny this application now.

Sincerely,

Valerie Powers

A handwritten signature in cursive script that reads "Valerie Powers". The ink is dark and the signature is written in a fluid, connected style.

Randell Powers
1235 Highland Street Extension
DuBois, PA 15801

November 28, 2012

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA, 19103

RE: UIC Permit PAS2D020BCLE (Windfall/Zelman 1)

Dear Mr. Platt,

This letter is testimony on the Zelman #1 Injection Well proposed for Brady Township, Clearfield County due December 10, 2012. Thank you for holding the EPA hearing in Brady Township, Clearfield County on December 10, 2012 and consider this letter my request to hold this EPA hearing. My specific concerns deal with contamination of the underground sources of water:

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My drinking water source is a private water well is inside the 1/4 mile area of review. This disposal injection well has the potential to contaminate my water well through the disposal of waste underground near my home.

We have really good water now and we are concerned that this will not be the case if you allow this disposal injection well to be placed in our neighborhood. We request you extend your area of review outside the 1/4 mile. At least fourteen residents are closely (just feet) located directly outside the 1/4 mile review near the line and close to the Atkinson and Carlson deep gas wells. These families rely on their water wells besides all the residents within the 1/4 mile area of review.

Abandoned wells could provide a pathway for methane migration into drinking water wells into the aquifer. We ask Windfall Oil and gas to find and plug all older gas wells.

Ground faults are located in the area close to the proposed disposal injection site. The proposed injection well may be located in an earthquake prone area. Taking the chance to lubricate these faults could additionally jeopardize our underground sources of water. An earthquake is the last thing you need near a disposal injection well to crack the casing and leak this into our private water wells or the deep coal mines within the 1/4 mile area of review. Any small fracture or leak has the potential to seep into these mines and carry waste under the City of DuBois and into surrounding areas like Sykesville

and Reynoldsville. These mines are full of water and are all over our area, so these deep mines would transmit toxic fluid into water sources.

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The cost to plug the disposal injection well should be much higher than \$30,000 and we feel this is insufficient. We have heard that some abandoned wells in Pennsylvania could cost over \$100,000 to plug. The company should also have the money in the bank and it shouldn't be a line of credit. Especially with the chance being taken so near a residential area full of private water wells. We request residents are ensured funds are available for any potential costs incurred if water becomes contaminated in the area.. We know it would cost over one million dollars to bring water to our area from the City of DuBois through Sandy Township based on their projected figures.

This toxic waste dump & industrial activity should not be placed in an area designated residential. The chance being taken is dangerous if our water is contaminated because any emergency in our area would have the potential to need water brought in since we don't have fire hydrants and tanker trucks must be used. Emergency personnel understand this risk more fully and have expressed concerns of any accidents. Respectfully we request you deny this application due to all the concerns listed with our underground sources of water. Our families are at risk, please deny this application now.

Sincerely,

Randell Powers

A handwritten signature in cursive script, appearing to read "Randell Powers", written in dark ink.

Windfall/Zelman #1 DIW ~ Permit # PAS2D020BCLE

Casing & Cementing

Comment: The draft permit (see attachment #1) specifies a simpler casing and cementing system than what was proposed by Windfall Oil & Gas in their permit application (see attachment #2). The EPA should change their casing and cementing requirement to include a 2nd ground water protective string of casing installed from the surface to a depth of 375 feet and cemented back to the surface.

When the Atkinson water well (RMS 8-9-19) was drilled in the fall of 1992, water was initially found at approximately 150 feet. The quantity of water at that depth was insufficient. Water was next encountered at approximately 300 feet.

The quantity of water there was thought to be adequate and the Atkinsons used the well at that depth for about 10 years. However, under heavy use, the well would be sucked dry. In 2009, the driller came back and drilled the well 60 feet deeper in an effort to get a larger reservoir at the bottom. The performance of the well improved.

In my opinion, the permit should require the Zelman injection well to be constructed according to the proposed casing and cementing plan which has 5 telescopic layers of casing outside of the injection tube as opposed to the draft permit plan, which has only 3 layers of casing outside of the injection tube.

The Atkinson water well driller said that they have to worry about the injection well taking their water. First, the DIW driller would install the 170' ground water protective string as specified in the draft permit. Then when he drills through the Atkinson's aquifer and continues drilling to a depth of 1000', that hole could drain the aquifer.

It would be better if the DIW driller drilled down through the second aquifer until a structurally intact rock layer is encountered. Then he should stop drilling, install a casing and seal around the casing with cement. Then he could continue drilling with a smaller bit without draining water from the second aquifer.

There is anecdotal history of neighbors having their well water contaminated or lost temporarily when the local Oriskany gas wells were first drilled in the 1960s.

Attachment #1

From the Draft Permit:

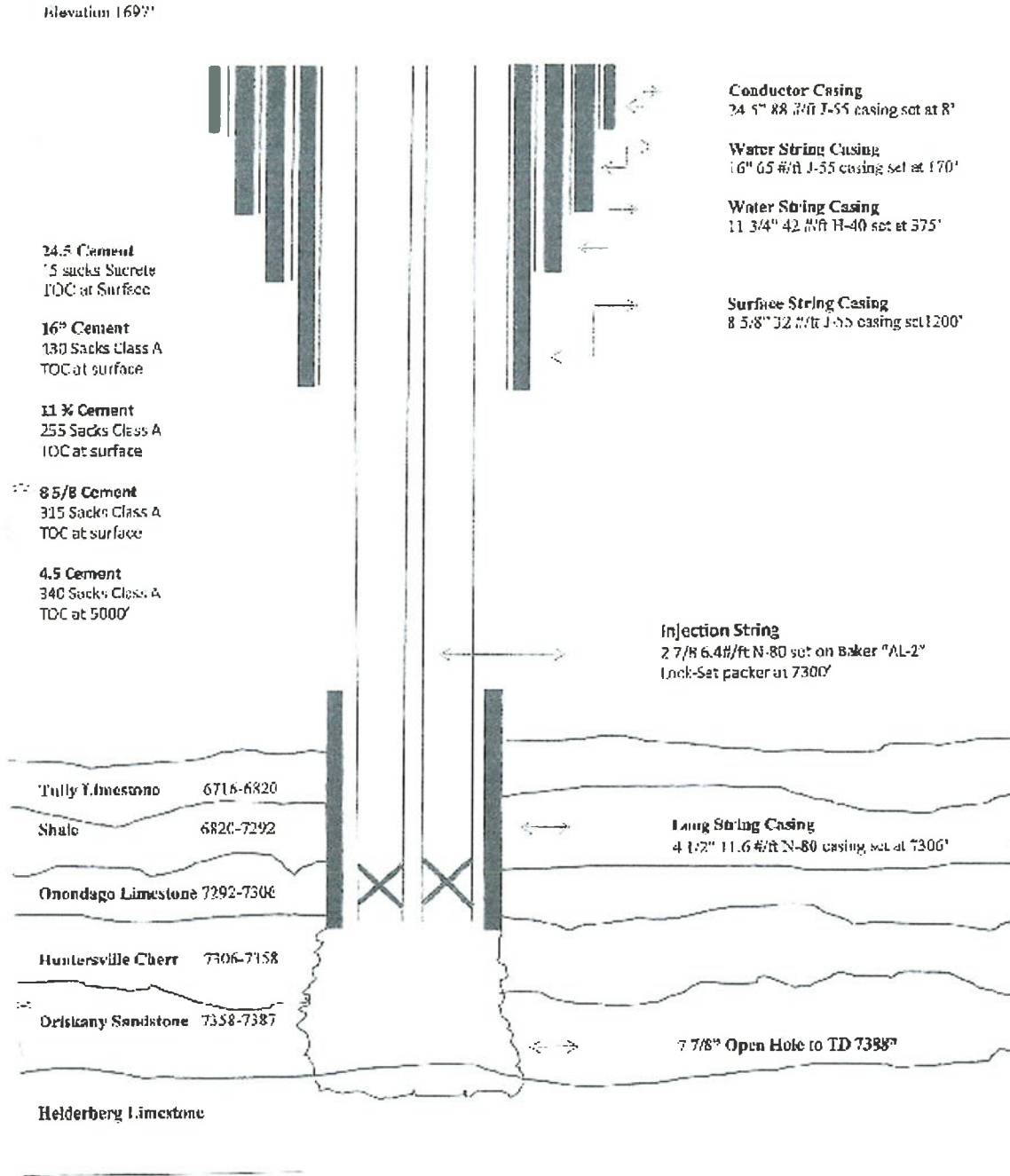
PART III

A. Construction Requirements

2. Casing and Cementing. The permittee shall case and cement the well to prevent the movement of fluids into or between underground sources of drinking water. The casing and cement used in the construction of the well shall be designed for the life expectancy of the well. A ground water protective string of casing shall be installed from the surface to a depth of approximately 170 feet and cemented back to the surface. Surface casing shall be installed from the surface to a depth of approximately 1000 feet and cemented back to the surface. The injection zone shall be isolated by the placement of long string casing to total depth, approximately 7300 feet, and cemented back to approximately 5000 feet below land surface. Injection shall occur through a tubing string and packer installed inside the long string casing and set above the injection zone.

Attachment #2

Attachment "M" Construction Details -subsurface Zelman#1 Injection Well ZELMAN WELLBORE SCHEMATIC



Windfall/Zelman #1 DIW ~ Permit # PAS2D020BCLE

Injection and Confining Zones

Comment: Based on 5 well records from nearby natural gas wells, the Onondaga Limestone confining zone, immediately above the Huntersville Chert/Oriskany injection zone, is only between 14 and 18 feet thick and **NOT** approximately 50 feet thick, as is stated in the Statement of Basis. In addition, the Huntersville Chert/Oriskany formation injection zone is 69 to 84 feet thick and not 87 feet as stated in the Statement of Basis.

The Statement of Basis for the Zelman #1 disposal injection well (DIW) states the following:

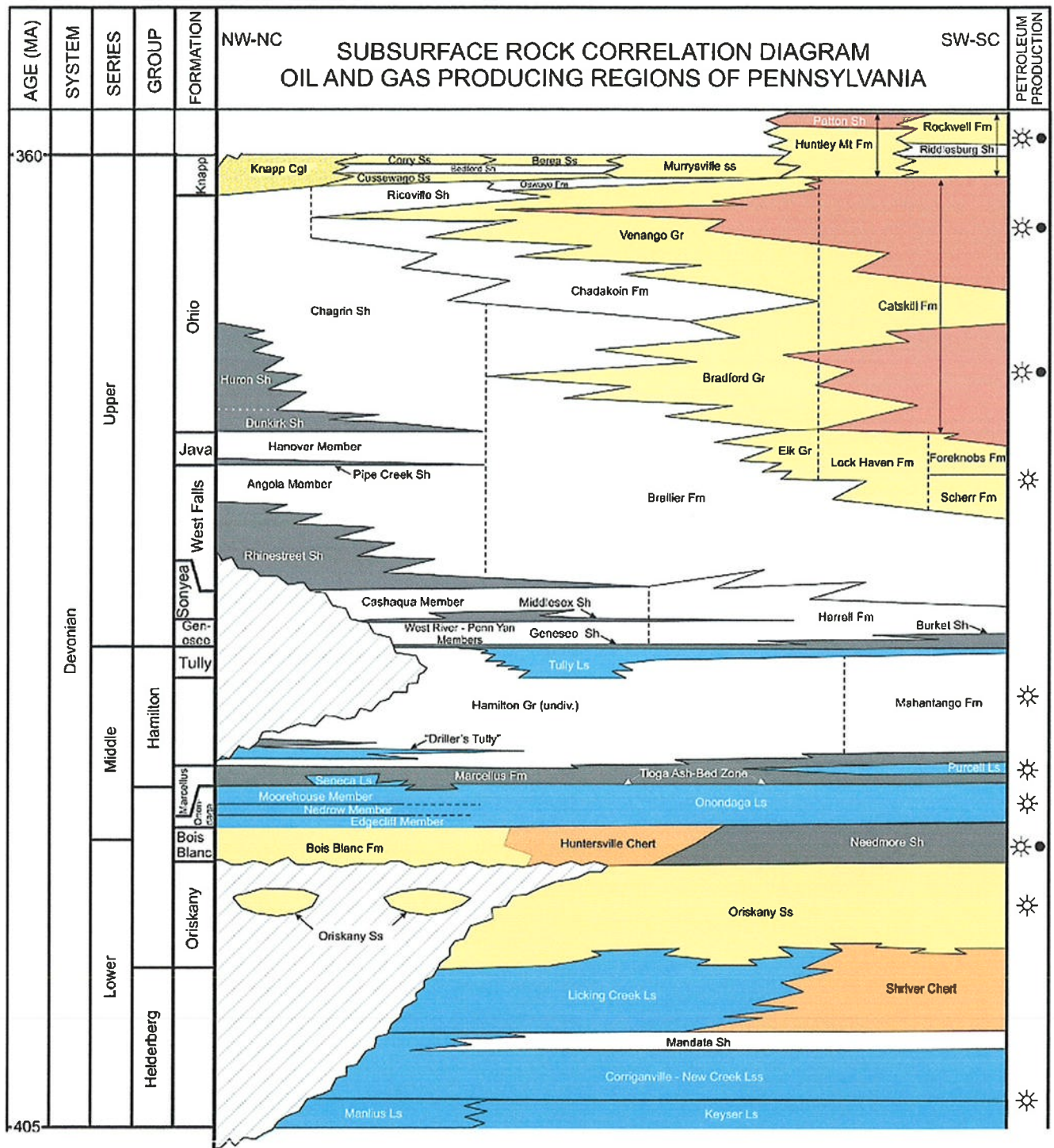
Injection and Confining Zones: Injection of fluids for disposal is limited by the permit to the Huntersville Chert/Oriskany Formation in the interval between approximately 7300 feet through 7387 feet. This injection zone is separated from the lowermost USDW by an interval of approximately 6500 feet, while the confining zone, immediately adjacent to the injection zone, is comprised of approximately 50 feet of limestone.

Refer to Table 1 for a summary of information from gas well records for gas wells that have been drilled in the vicinity of the DIW.







Table 1

Summary of information from gas well records for gas wells that have been drilled in the vicinity of the Zelman DIW

Permit #/ Well Name	Distance (feet) Direction from DIW	Top of Onondaga Limestone (ft)	Top of Huntersville Chert (ft)	Top of Oriskany Sandstone (ft)	Bottom of Oriskany Sandstone (ft)	Actual thickness of confining zone (ft)	Actual thickness of injection zone (ft)
20333 DuBois Deposit National Bank or Ginter	1481 N	7248	7266	7314	7343	18	77
20325-P Potter #1 (plugged)	1476 SSE	7617	7635	---	---	18	---
20327 Potter #2	1380 SSW	7219	7233	7288	7317	14	84
20336 Chapman	2950 SW	7195	7213	7269	7282	18	69
20341-P Carlson (plugged)	1745 NW	7281	7296	7351	7365	15	69



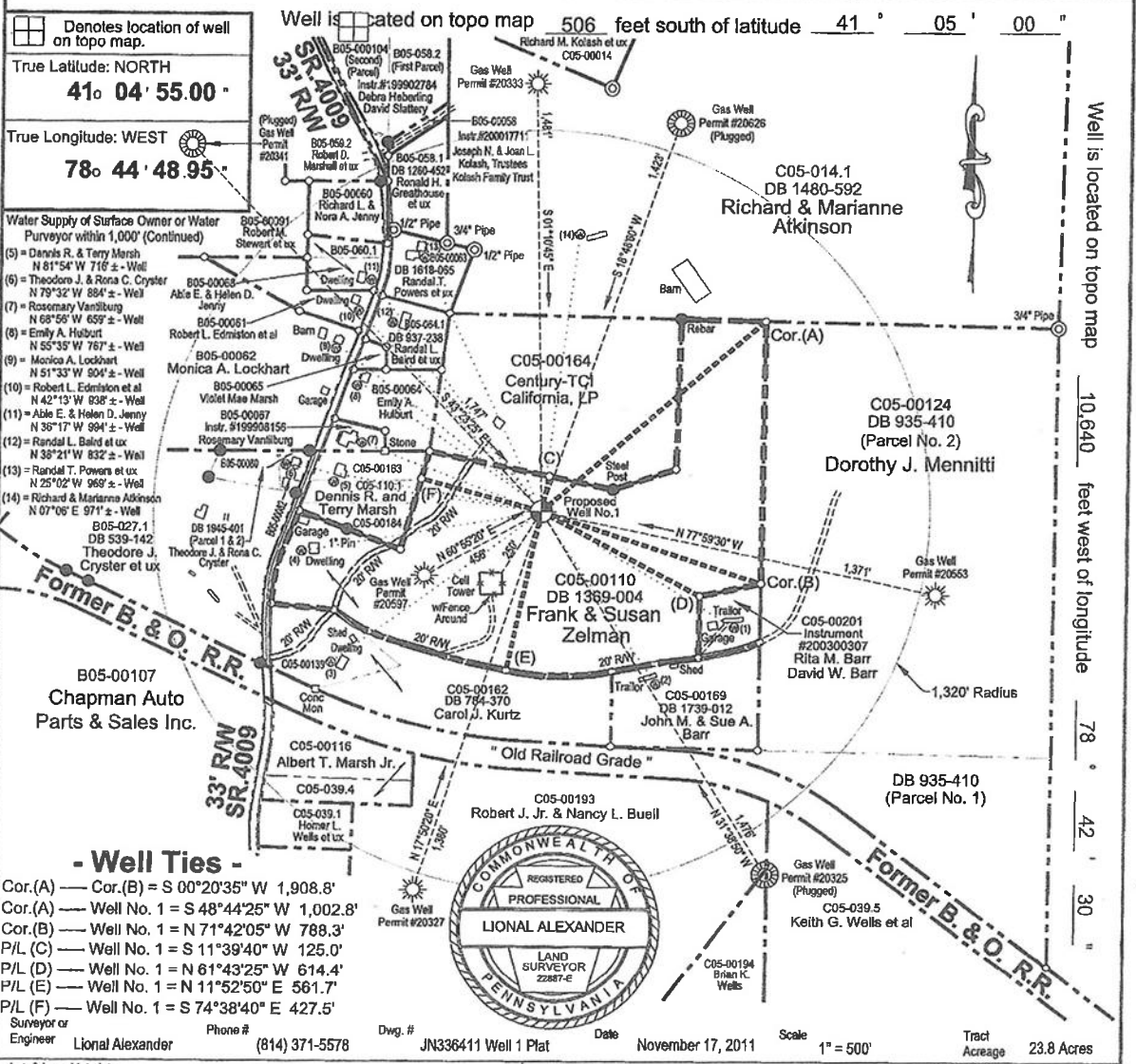
LEGEND

- | | | | |
|---|--------------|--|-----------------|
|  | Conglomerate |  | Coalbed methane |
|  | Sandstone |  | Natural gas |
|  | |  | Oil |



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Oil and Gas Management Program
WELL LOCATION PLAT

DEP USE ONLY	DEP Application Tracking #	G:
	Permit #	C:
	Project #	



- Well Ties -**
- Cor.(A) — Cor.(B) = S 00°20'35" W 1,908.8'
 - Cor.(A) — Well No. 1 = S 48°44'25" W 1,002.8'
 - Cor.(B) — Well No. 1 = N 71°42'05" W 788.3'
 - P/L (C) — Well No. 1 = S 11°39'40" W 125.0'
 - P/L (D) — Well No. 1 = S 61°43'25" W 614.4'
 - P/L (E) — Well No. 1 = N 11°52'50" E 561.7'
 - P/L (F) — Well No. 1 = S 74°38'40" E 427.5'



Surveyor or Engineer: Lional Alexander, Phone # (814) 371-5578
Dwg. # JN336411 Well 1 Plat, Date November 17, 2011, Scale 1" = 500', Tract Acreage 23.8 Acres

Lat. & Long Metadata Method: GPS, Accuracy: Submeter, ft. Datum: NAD 83		Elevation Metadata Method: Topo, Accuracy: 10' ±, ft. Datum: NVD 88		Survey Date: June 15, 2011	
Applicant / Well Operator Name: Windfall Oil & Gas, DEP ID#: 244815		Well(Farm) Name: Frank & Susan Zelman		Well #: 1	Serial #:
Address: 63 Hill Street, Falls Creek, Pa. 15840		County - Code: Clearfield - 17	Municipality: Brady Township	Well Type: Gas	
Surface Landowner / Lessor: Frank & Susan Zelman		USGS 712 Quadrangle Map Name: Luthersburg		Map Section: 4	Surface Elevation: 1697 ft.
Target Formation(s): Chert / Oriskany		Angle & Course of Deviation (Drilling): Vertical		Anticipated Total Depth TVD: 7,500', TMD: 7,500'	
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.		Approximate Course and Distance to Water Supply		Owner, Lessee, or Operator of Workable Coal Seam	
(1) = Rita M. & David W. Barr		S 56°54' E 772' ± - Well			
(2) = John M. & Sue A. Barr		S 33°39' E 715' ± - Well			
(3) = Carol J. Kurtz		S 53°38' W 881' ± - Well			
(4) = Frank & Susan Zelman		S 80°21' W 826' ± - Well			

Windfall/Zelman #1 DIW ~ Permit # PAS2D020BCLE

Injection Pump Net Horse Power Limitation

It can be calculated that the net horse power required to pump 1000 bbls per day of fluid at a surface injection pressure of 2593 psi, is about 45 hp. In my opinion, the EPA permit should restrict the injection pump system to 45 net hp, as an additional safeguard against the temptation to increase the injection pressure and injection rate above the specified maximum amounts.

Richard L. Atkinson ~ 221 Deer Lane, DuBois, PA 15801 marianne5@windstream.net

Windfall/Zelman #1 DIW ~ Permit # PAS2D020BCLE

Zone of Endangering Influence Calculation

Comment: The Zone of Endangering Influence (ZEI) Calculation conducted by the EPA is not realistic based on the presence of nearby non-transmissive geologic faults. Use of the ¼ mile fixed radius Area of Review should be deemed to be unacceptable.

The Statement of Basis for the Zelman #1 disposal injection well (DIW) states the following in the section dealing with **Area of Review**:

To determine whether the one-quarter mile fixed radius was acceptable, EPA conducted a zone of endangering influence (ZEI) calculation using geologic and operational parameters provided in the permit application. The ZEI calculation confirmed that the one-quarter mile fixed radius chosen by Windfall was acceptable.

The formula for a ZEI calculation is given in 40 CFR §146.6. The equation found there is based on the following assumptions:

- (i) The injection zone is homogenous and isotropic;*
- (ii) The injection zone has infinite area extent;*
- (iii) The injection well penetrates the entire thickness of the injection zone;*
- (iv) The well diameter is infinitesimal compared to "r" when injection time is longer than a few minutes; and*
- (v) The emplacement of fluid into the injection zone creates instantaneous increase in pressure.*

In addition, the Statement of Basis for the Zelman #1 disposal injection well (DIW) states the following in the section dealing with **Geologic and Seismic Review**:

The permittee submitted, and EPA Region III has also obtained, geologic information of public record which indicates the possible presence of several faults within one-quarter mile of the injection well site.

Historic gas production results in the vicinity of the injection well site have shown that nearby faults appear to act as a geologic trap for gas production. Gas wells have been productive between the fault lines but non-productive outside these fault lines. This would indicate that the faults are not transmissive to gas migration and would also indicate good confinement of injection fluid and existing formation fluids as well.

Therefore, the presence of non-transmissive faults near the DIW invalidates assumption (i) dealing with a homogenous and isotropic injection zone and assumption (ii) dealing with an infinite injection zone area. The formula for a ZEI calculation given in 40 CFR §146.6 cannot be used in this situation.

The injection zone is not empty. Instead, it is full of brine with natural gas dissolved in it. This assumption is based on the presence of a pump jack on the Deposit Bank well. The operator of this well produces natural gas by pumping brine out of the wellbore thereby reducing the pressure on the brine and allowing the gas to be released out of solution. When wastewater is pumped down the DIW it will not go into empty pore space. Instead, the waste must displace the brine which is already present in those spaces.

The definition of a ZEI boundary is where the pressure in the injection zone is only great enough to raise whatever liquids are present in the injection zone up to the bottom level of the deepest freshwater zone, but no higher, if a conduit through the confining zone were to exist at that location.

To estimate a better ZEI, one could approximate the nontransmissive faults shown on the map submitted by Windfall with their application with two straight lines which form a V-shape. The point of the V would be just to the east of the DIW. Therefore, for any liquid to escape from the injection zone, it must all pass through the opening at the wide end of the "V". Chances are that the ZEI is going to have a shape similar to the sector of a circle with an angle of approximately 60 degrees.

The flow through the rounded end of a sector-shaped ZEI with impenetrable straight sides would have to be equal in quantity to the flow through a $\frac{1}{4}$ mile radius circular ZEI for an equivalent DIW in an isotropic injection zone. Since pressure at both ZEI boundaries must be the same, and since the thickness of the injection zone is the same, the length of the curved end of the sector-shaped ZEI must be the same as the circumference of the ideal $\frac{1}{4}$ mile radius circular ZEI (8290 feet) in order to achieve the same amount of vertical area to transmit the same amount of flow at the same pressure in the injection zone.

The result, if this logical sequence is valid, would be that the EPA should establish an area of review that follows along the fault lines out to the point where the pressure drops low enough to follow a circular curve over to the point on the other fault with the same pressure.

If an equivalent substitute for the $\frac{1}{4}$ mile Area of Review is required, and the equivalent substitute is to be the sector of a circle with impenetrable straight sides intersecting at a 60 degree angle, the length of the sides would have to be 6 times $\frac{1}{4}$ mile which equals $1\frac{1}{2}$ miles. The sector would be $\frac{1}{6}$ of a full 360 degree circle. For the curved end to have the same length as the complete circumference of a smaller circle, the radius of the sector would have to be 6 times as long as the radius of the full circle. Refer to the attached diagram.

According to the diagram, USDWs located up to 1.2 miles from the Disposal Injection Well would be endangered if they were deep enough.

Incidentally, the fluid pressure where the fault lines join together is probably going to be quite high if the fluid cannot escape through the faults.

The Atkinson water well (RMS 8-9-19) is located very close to the northernmost fault shown on the map, and possibly directly over that fault. Therefore, it would not be a surprise if this water well is contaminated by methane or brine as a consequence of high pressure caused by the injection operation.

Also, the plugged Carlson gas well (Permit # 20341-P) would be located in the larger ZEI. This well is famous throughout the neighborhood for the fumes and/or methane that it emits in spite of being plugged. One would conclude that contamination of nearby drinking water aquifers is likely to occur because the casing cement and plugging of this well are suspect.

Windfall/Zelman #1 DIW ~ Permit # PAS2D020BCLE

Injection Fluid

Comment: The Draft Permit states that ...*the permittee shall be restricted to injecting fluids produced solely in association with oil and gas production operations.*

Windfall, in their permit application, states that they intend to add additional fluids to treat the injected fluids. These additional fluids are FE Ox Clear and Alpha 2278W. Windfall says that one is an oxygen scavenging agent and the other is for corrosion control. (See Attachment K below)

Windfall will also add Alpha 3207 after the waste fluids are filtered, which is a corrosion inhibitor, before injecting.

Since the Draft Permit states that Windfall is only permitted to inject fluids produced solely in association with oil and gas production operations, adding the additional fluids would constitute a violation of the permit.

The following is from the Windfall/Zelman #1 DIW Draft Permit. **See B. 2**

B. Operating Requirements

1. Injection Formation. Injection shall be limited to the Huntersville Chert/Oriskany Formation in the subsurface interval between approximately 7300 feet and 7387 feet.
2. Injection Fluid. The permittee shall not inject any hazardous substances, as defined by 40 CFR 261, nor any other fluid, other than the fluids produced solely in association with oil and gas production operations.

Attachment "K" from permit application

Attachment "K" Injection Procedures Zelman#1 Injection Well

The following injection procedures will be utilized during the operation of the Zelman#1 Injection Facility:

The produced fluids will be unloaded from vacuum trucks through a discharge manifold into a epoxy lined steel tanks. It will be treated at this point with an oxygen scavenging agent and corrosion control additives; FE Ox Clear and Alpha 2278W.

Then, the fluid will be pulled from these tanks and filtered to 10 microns nominal particle size and discharged into additional epoxy lined steel tanks.

Next the produced fluids will be pulled from the filtered tanks through the high pressure pump, equipped with shut down switches set at 6500 psi bottom-hole pressure being calculated in real time and low side at 200 psi. Corrosion Inhibitor, Alpha 3207, will be added. Specific gravity, rate and volume will be monitored with a dens-o-meter, flowmeter, and totalizer. Bottom-hole pressure will be calculated and monitored in real time Utilizing Meyers Mwell software package.

The produced fluids will be discharged from the pump through a checkvalve at the wellhead down the tubing and into the Chert/ arkany formation. Surface tubing and tubing annulus pressures will also be recorded with a 2 pen recorder as a back up to the digital data.

Windfall/Zelman #1 DIW ~ Permit # PAS2D020BCLE

Fractures of Confining Zone in Area of Review

Comment: There are 2 deep conventional gas wells that are JUST outside the Area of Review, which go into the Oriskany formation, which is **also** the injection formation. Both of these deep gas wells have been fracked. The **Draft Permit** for the Zelman injection well states the following: ...**the injection well shall inject only into a formation that is free of known open faults and fractures within the Area of Review.**

How can we know that the fractures from fracking these gas wells do not compromise the confining layer and thereby violate the DIW construction requirements? These fractures could provide a conduit for toxic injected fluid to work its way into USDWs. (Underground Sources of Drinking Water)

The **Draft Permit** for the Zelman injection well states the following:

PART III

A. Construction Requirements

1. Notwithstanding any other provision of this permit, the injection well shall inject only into formations which are separated from any underground source of drinking water by a confining zone that is free of known open faults or fractures within the Area of Review.

The Potter #2 gas well goes into the Oriskany Sandstone and was fracked on Sept 27, 1960 and is 60 feet outside Area of Review to the **south**

Gas well depth:

See well records.

Top of Oriskany = 7288 feet

Bottom of Oriskany = 7317 feet

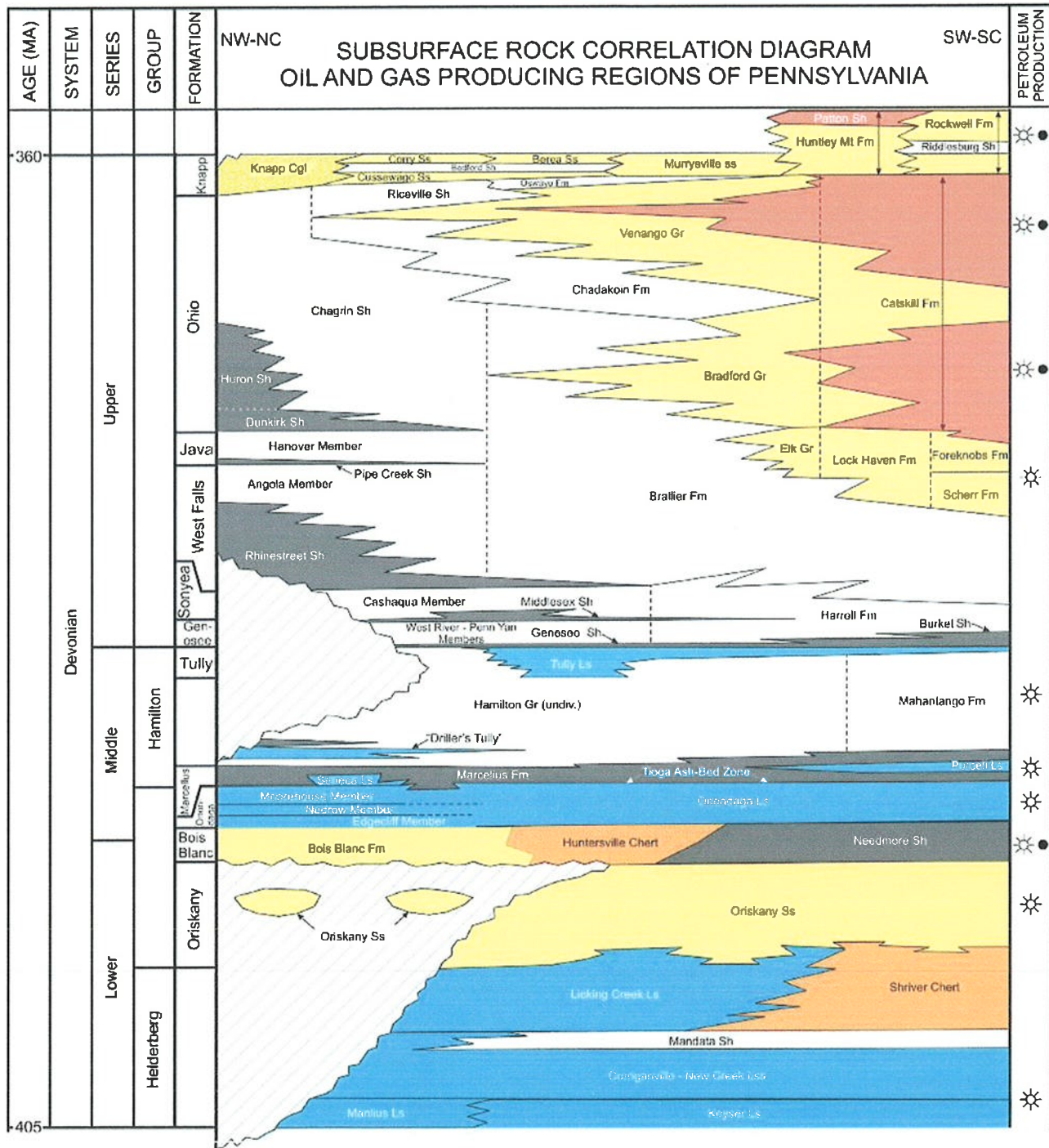
Ginter/Deposit Bank gas well goes into the Oriskany Sandstone and was fracked on December 22, 1960 and is 161 feet outside Area of Review to the **north**

Gas well depth:

Top of Oriskany = 7314 feet

Bottom of Oriskany = 7343 feet

From PA Geologic Survey



LEGEND ☀ Natural gas ● Oil

<http://www.dcnr.state.pa.us/topogeo/drc/correlationchart.pdf>

Marianne Atkinson ~ 221 Deer Lane, DuBois, PA 15801 marianne5@windstream.net

Windfall/Zelman #1 DIW ~ Permit # PAS2D020BCLE

Maps of Well/Area and Area of Review

Comment: There is no single topographic map extending one mile beyond the Zelman property boundaries and no indication that there are subsurface mines within the Area of Review. Therefore, the application is deficient.

The directions for Attachment B are as follows:

B. MAPS OF WELL/AREA AND AREA OF REVIEW - Submit a topographic map, extending one mile beyond the property boundaries, showing the injection well(s) or project area for which a permit is sought and the applicable area of review...Within the Area of Review, the map must show the following:...mines (surface and subsurface)...*ONLY* information of public record is required to be included in this map.

I went to the DuBois Public Library and examined the permit application. I did not find a single topographic map extending one mile beyond the property boundaries.

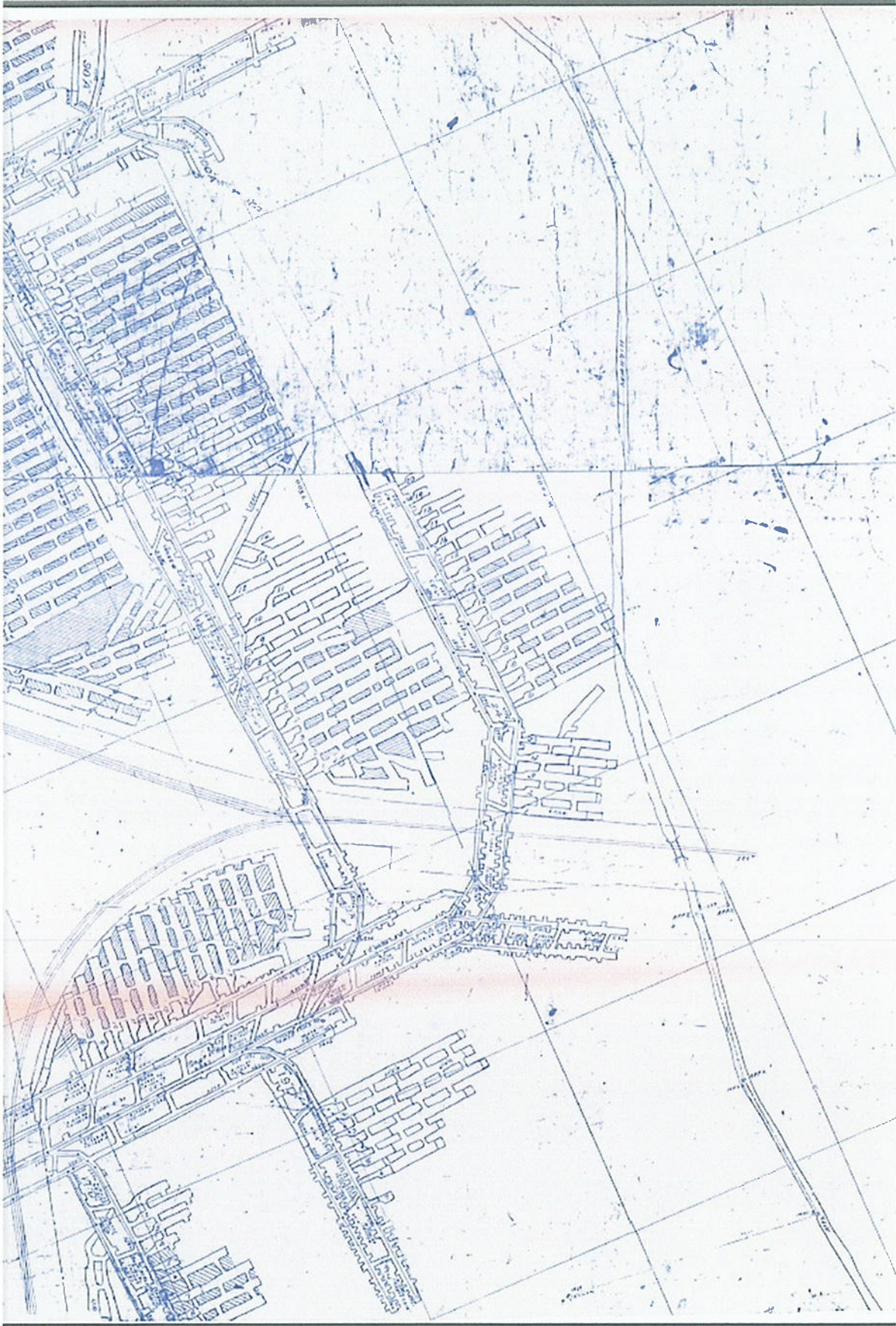
Furthermore, there are approximately 6 acres of subsurface mines within the western side of the area of review. Nowhere in the permit application materials is the presence of these mines shown on a map or even mentioned.

Maps of these subsurface mines are publicly available from the PA DEP District Mining Operations, California District Mining Office (see attachment #1).

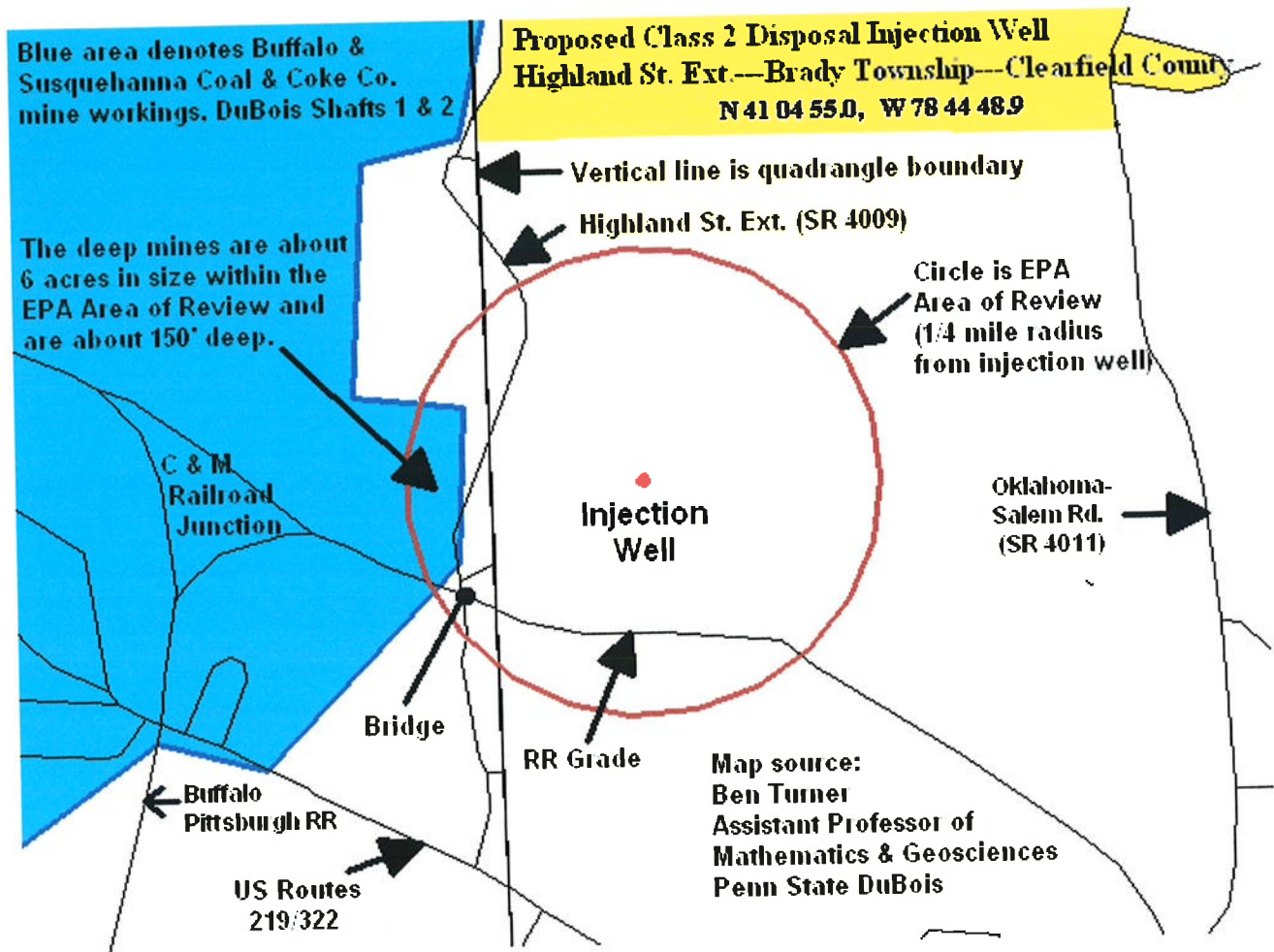
The information on attachment #2 was obtained from Ben Turner, a Penn State University professor and shows the location of the subsurface mines within the area of review.

These subsurface mines are continuous for several miles out to the DuBois Mall where ground water from them is discharged into the Sandy Lick Creek.

Attachment #1 ~ PA DEP map of subsurface mines within Zelman DIW Area of Review



Attachment #2



USDW Replacement or Remediation

Comment: Owners of water wells within the actual Zone of Endangering Influence (ZEI) have no assurance that their water supply will be replaced or remediated if their water wells are contaminated by the construction, operation or plugging and abandonment of the DIW.

It could take many years for brine or frack flowback from the Zelman disposal injection well to work its way through the strata to possibly contaminate USDWs.

1. Is the PA DEP or US EPA responsible to enforce the replacement or remediation of ground water which is used in drinking water wells if it becomes contaminated from toxic fluids?
2. Will the drinking water be replaced or remediated for an indefinite period of time?
3. Will the drinking water be replaced or remediated for an indefinite period of time at no cost to the water well user?
4. Who will be financially responsible to replace or remediate drinking water if Windfall Oil & Gas or any subcontractors who work for Windfall Oil & Gas go bankrupt?
5. Will the water well owner need to hire an attorney and go to court in order to be made whole?



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

DIVISION OF OIL AND GAS
Room 1205 Kossman Building
100 Forbes Avenue
Pittsburgh, Pennsylvania 15222



Carlson

CERTIFICATE OF PLUGGING WELL

TYPE OF WELL Gas

Forney Winner and Mary Winner

Coal Operator or Owner

218 Wheeler St., Lock Haven, PA 17745

Address

Coal Operator or Owner

Address

Coal Operator or Owner

Address

COMPLETE ABOVE SECTION IF APPLICABLE

Mr. John Gerg

DIVISION REPRESENTATIVE SUPERVISING

Felmont Oil Corporation

Name of Well Operator

P.O. Box 590, Olean, N.Y. 14760

Address

August 15,

1979

Date

Brady

Township

Clearfield

County

Farm Josephine Carlson, et al

Well (Farm) No. 1

Serial No. F-128

COAL REPRESENTATIVE OBSERVING

We, the undersigned representatives of the well operator certify that we participated in the plugging of the above well, and that the work was started July 31, 1979, and that the well was plugged as follows:

FILLING MATERIAL AND PLUGS	FROM	TO	Casing and Tubing		
			SIZE	PULLED	LEFT
Cast Iron Bridge Plug @ 7250'	7250'	7249'	13-3/8"	—	228'
20 sks. of 50-50 POZ + 10% salt	7249'	7120'	8-5/8"	—	1312'
Gelled water	7120'	2500'	5-1/2"	2500'	4870'
35 sks. of 50-50 POZ + 10% salt	2500'	2400'			
Gelled water	2400'	1750'			
35 sks. of 50-50 POZ + 10% salt	1750'	1650'			
Gelled water	1650'	1350'	Depth of Coal Seam, if Any		
55 sks. of 50-50 POZ + 10% salt	1350'	1175'	186 - 188'		
Gravel	1175'	1160'	329 - 331'		
Air	1160'	Surface			
			Description of Monument		
*Unable to cut 5-1/2" casing any lower than 2500' because casing was stuck in hole.			2" vent pipe 6' high with 2" tee on top.		

and that the work of plugging and filling said well was completed on the 8th day of August, 1979.

Felmont Oil Corporation

(Well Operator)

PERMIT NO. 033-20341-P

033-341-P

Michael R. Walls

(Qualified Participant)

Michael R. Walls

(Qualified Participant)

PROJECT NO. _____

(Qualified Participant)

One copy of this certificate to be mailed to each coal operator or owner, if any, and one to the Division, by registered mail, upon completion of plugging.

(Signature)

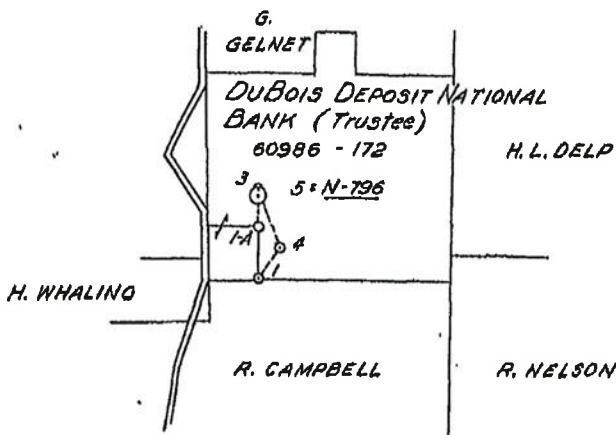
Ginter / DuBois Deposit Bank

DM-OG-2-56

District Central Map 9S 17W N S 63 N W 117 & 118
 Loc. Made 10/24/60 Bk. 1916 Pg. 30 EL. Bk. 1916 Pg. 31
 Approved: J. M. Hendrickson Date October 25, 1960

Latitude 41° 10'

Longitude 70° 40'



STA.	BAG.	DIST.
1-1A	N 7° 00' E	500'
1-3	N 7° 00' E	848'
3-4	S 13° 49' E	591'
4-1	S 42° 06' W	365'
3-3	S 7° 00' W	75'

- New Location
- Drill Deeper
- Abandonment
- Re-drill

Company NEW YORK STATE NATURAL GAS CORPORATION
 Address #2 Gateway Center, Pittsburgh 22, Pa.
 Farm H.E. Ginter
 DuBois Deposit National Bank Trustee era
 Tract _____ Acres 172 Lease No. 60986
 Well (Farm) No. #1 Co. Serial No. N-796
 Angle of Deviation, if any _____
 Elevation 1642.3h Quadrangle Pennfield
 County Clearfield Township Brady
 Engineer R. A. Doman
 Engineer's Registration No. 14016
 File No. _____ Drawing No. _____
 Date 10/25/60 Scale 1"-1320'

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF MINES

Oil and Gas Division
 HARRISBURG

WELL LOCATION MAP
 Dept. File No. 073-2037

⊕ Denotes Values of Well on United States Topographic Maps.

Scale 15' 7 1/2'

WORKABLE COAL SEAMS TO BE PENETRATED

Name of Seam Owner of Seam

Lower Kittanning	DuBois Dep. Nat. Bank
	Trustee, The Union
	Banking and Trust
	Co. of DuBois Penna.

*File under
DuBois Nat'l Bank*

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINES

Oil and Gas Division
HARRISBURG

083-20333

QUADRANGLE: Penfield

W. H. Busby

7 1/2' 15'

PERMIT NO. CLB-999

MAP REFERENCE: 9S 17W 863 W117 & 118

KIND OF WELL: GAS
(Oil, Gas, Other)

WELL RECORD

COMPANY:	Size of Casing and Tubing	Used in Drilling	Left in Well	Packers: Type, Size and Depth
New York State Natural Gas Corporation	13 3/8"	96'	96'	
ADDRESS: 2 Gateway Center, Pgh. 22, Penna.	9 5/8"	1285'	1285'	BHS @ 1287
FARM: <u>H. E. Ginter Est.</u> ACRES <u>172</u>	7"	7335'	7335'	BHS @ 7267
WELL(FARM)NO. <u>1</u> CO. SERIAL NO. <u>N-796</u>				
ELEVATION: <u>1642.34</u> LEASE: <u>60986</u>				
TOWNSHIP: <u>Brady</u> COUNTY: <u>Clearfield</u>				
DRILLING COMMENCED: <u>12-1-60</u> DRILLING COMPLETED: <u>12-23-60</u>				
PRODUCTION: <u>10,504,000</u> cubic feet				PERFORATIONS AT:
ROCK PRESSURE: <u>2340</u> psig <u>70</u> hrs.				
WELL TREATMENT: (Shooting, Acidizing, Fracturing Etc.)				
<u>12-22-60-Fractured w/20,000 gals. water, 200 lb. gel, 1,000 gal acid and 20,000 lb sand. Break-down pressure 3000 lbs; maximum pressure 3750 lbs</u>				
<u>Original open flow of 48,000 cubic ft. in chert and 3825,000 cubic ft. in Oriskany increased to 10,405,000 cubic ft. A/F. R.P. b/f 2450 lbs 24 hrs. dead weight.</u>				
RESULTS AFTER TREATMENT:				
ROCK PRESSURE AFTER TREATMENT:				

CEMENTING DATA: (Size Pipe, Depth, No. Bags, Date)

<u>12-3-60 - 13 3/8" cem. w/90 sax</u>
<u>12-7-60 - 9 5/8" cem. @ 1287 w/50 sax cem & 20 sax aquagel</u>
<u>12-16-60 - 7" cem @ 7267 w/125 sax</u>

REMARKS: * Well Permit Request and all initial Records Referred to this Well as "DuBois Deposit National Bank Trustee Etal". They are in fact Successor Trustee Under the Henry E. Ginter Deed of Trust. In the Interest of Brevity, We have Established and are Using the Farm Name as Recorded Above.

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Surface	0	5				
Sand & shale	5	105				
Shale & Sand	105	150				
Sand & Shale	150	340				
Coal	340	345				
Sand & Shale	345	375				
Shale & Sand	375	468				
Coal	468	474			458	
Shale & Sand	474	532				
Sand & Shale	532	735				
Sand	735	785				
Sand & Shale	785	1720				
Shale & Sand	1770	2165				
Sand & Shale	2165	4310	3385-92 (Show)			
Shale & sand	4310	5170				
Sand & Shale	5170	5405				

(Over)

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Shale & Shells	5405	6150				
Sand & Shale	6150	6425				
Shale & Shells	6425	6686				
Lime	6686	6784				
Shale & Shells	6784	7248				
Lime	7248	7266				
Chert	7266	7314	7267 & 7300			
Sand	7314	7343	7316-25			
Lime	7343					
Total Depth		7344				
<u>Sample Study</u>						
Tully	6686					
Onondaga	7248					
Chert	7266					
Oriskany	7314	7343				

DATE January 24, 1961

APPROVED New York State Natural Gas Corporation OWNER

BY H. R. Baizer TITLE
Superintendent Operations

PENFIELD G 266

DM-OG-4-56

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINES

Potter #1

1,990' S 41°05'00"
10,200' W 78°42'30" (4)

Oil and Gas Division
HARRISBURG

033-20325-P

LUTHERSBURG
QUADRANGLE: Penfield

7 1/2' 15'

PERMIT NO. CHH-325-P

MAP REFERENCE: 10S 17W S64 W117

KIND OF WELL: Gas Dry
(Oil, Gas, Other)

WELL RECORD

COMPANY: New York State Natural Gas Corporation	Size of Casing and Tubing	Used in Drilling	Left in Well	Packers: Type, Size and Depth
ADDRESS: #2 Gateway Center, Pittsburgh 22, Pa.	13-3/8"	60'	60'	
FARM John R. Potter ACRES 68	9-5/8"	1156'	294'	BHS @ 1152
WELL(FARM)NO. #1 CO. SERIAL NO. N-782	Vent 2"		274'	
ELEVATION: 1627.80 LEASE: 58357				
TOWNSHIP: Brady COUNTY: Clearfield				
DRILLING COMMENCED: 8/7/60 DRILLING COMPLETED: 10/13/60				
PRODUCTION: Dry Hole - Plug and Abandon				PERFORATIONS AT:
ROCK PRESSURE: _____ psig _____ hrs.				
WELL TREATMENT: (Shooting, Acidizing, Fracturing Etc.)				
CEMENTING DATA: (Size Pipe, Depth, No. Bags, Date)				
8/8/60 - 13-3/8" cem. w/50 sacks				
8/11/60 - 9-5/8" cem. @ 1152' w/50 sacks cem. and 15 sacks aquagel				
RESULTS AFTER TREATMENT:				
ROCK PRESSURE AFTER TREATMENT:				

REMARKS:

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Cellar	0	18				
Sand & shale	18	210			FW 50	
Lime & shale	210	220				
Sand & shale	220	255				
Coal or shale	255	265				
Sand	265	319				
Sand & shale	319	409				
Coal	409	415				
Sand & shale	415	2885				
Shale & sand	2885	3295				
Sand & shale	3295	4130	3324 (show)			
Shale & sand shells	4130	4515				
Sand & shale	4515	4922				
Shale & sand	5060	5255				
Sand & shale	5255	5555				
Shale & sand	5555	5907				

(Over)

Potter #1

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

CERTIFICATE OF PLUGGING WELL THROUGH WORKABLE COAL SEAMS

John H. Potter
Coal Operator or Owner
D. #1

Jacobus, Pennsylvania
Address
Coal Operator or Owner

Address
Coal Operator or Owner

Address

New York State Natural Gas Corporation
Well Operator

#2 Gateway Center, Room 1032

Pittsburgh 22, Pa.
Address

August 24, 1960
Date

Brady
Township

Clearfield
County

John R. Potter
Farm

Well (Farm) No. #1 Serial No. N-782

W.J. Burns, Jr.
Division Representative Supervising

John R. Potter
Coal Representative Observing

We, the undersigned representatives of the well operator certify that we participated in the plugging of the above well, and that the work was started Oct. 4, 1960, and that the well was plugged as follows:

Filling Material and Plug	From	To	Casing and Tubing		
			Size	Pulled	Left
Total Depth		7637'			
Cavings	7637	7562'	13 3/8"	none	60' 2"
50 sacks of cement	7862	7536'	9 5/8"	861' 9"	294' 15"
50 sacks of cement	3358'	3154'	2" vent	none	273' 10"
Cut 9 5/8" cag at 864' & pulled 861.77'					
Cavings	864'	853'			
380 sacks of cement	853'	300'			Depth of Coal Seams
Stone	300'	275'	Coal or Shale		255-265
Ran 273.81' Vent pipe	275'	0'	Coal		409-415
Gravel	275'	270'			Sample study indicates no true coal found.
45 sacks of cement	270'	220'			Description of Monument
Aquagel	220'	30'			2" vent pipe above ground
Stone	30'	25'			
Cement	25'	0'			

and that the work of plugging and filling said well was completed on the 10 th day of October, 1960.

Qualified Participants

[Signature]

033-20325-P

Permit No. 610-325

- 2 - W.R.C.
- 1 - J.R.P.
- 1 - C.E.A.
- 2 - File

New York State Natural Gas Corporation
Well Operator

By *[Signature]*
Title Superintendent Operations

One copy of this certificate to be mailed to each coal operator or owner, and one to the Division, by registered mail, upon completion of plugging.

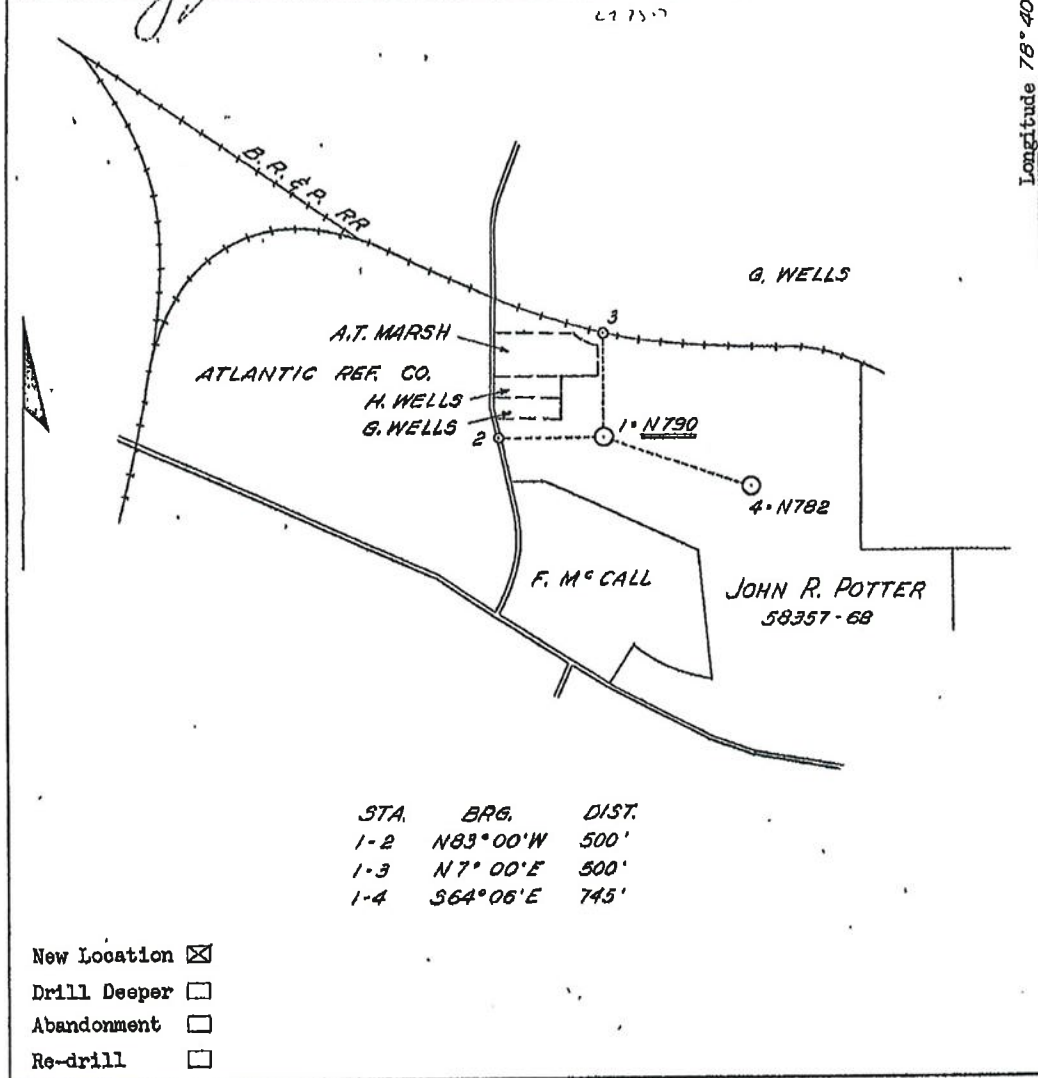
3300
4.37
133

Potter #2 Well Record

1-10/10

DM-OG-2-56

District Central Map 9S-17W NS 63 E W17 Latitude 41° 05'
 Loc. Made 8/24/60 Bk. 1916 Pg. 19 El. Bk. 1916 Pg. 19
 Approved [Signature] Date August 25, 1960



Company NEW YORK STATE NATURAL GAS CORPORATION
 Address #2 Gateway Center, Pittsburgh 22, Pa.
 Farm John R. Potter
 Tract _____ Acres 68 Lease No. 58357
 Well (Farm) No. 2 Co. Serial No. N-790
 Angle of Deviation, if any _____
 Elevation 1640.60 Quadrangle Whiteburg
 County Clearfield Township Brady
 Engineer R. A. Doman
 Engineer's Registration No. 14016
 File No. _____ Drawing No. _____
 Date 8/25/60 Scale 1"=660'

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF MINES
 Oil and Gas Division
 HARRISBURG
 WELL LOCATION MAP
 Dept. File No. 918-387
037-20727
 ⊕ Denotes Values of Well on United States Topographic Maps.
 Scale 15' 7 1/2'
 WORKABLE COAL SEAMS TO BE PENETRATED
 Name of Seam Owner of Seam

John Potter	Lower Kittanning

AUG 31 1960

A Marianne Atkinson
 221 Deer Ln
 Du Bois, PA 15801-4521

Me
DM-OG-4-56

Pennsylvania - Driftwood Field
Helvetia Pool

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINES

1,850' S 41° 05' 00"
11,050' W 78° 42' 30" (4)

Oil and Gas Division
HARRISBURG

033-20327

LUTHERSBURG
QUADRANGLE: Penfield

7 1/2' 15'

PERMIT NO. ONE 327

MAP REFERENCE: 9S 17W 863 W117

KIND OF WELL: Gas
(Oil, Gas, Other)

WELL RECORD

COMPANY:	Size of Casing and Tubing	Used in Drilling	Left in Well	Packers: Type, Size and Depth
New York State Natural Gas Corporation				
ADDRESS: #2 Gateway Center, Pittsburgh 22, Pa.	13-3/8"	59'	59'	
FARM: John R. Potter ACRES 68	9-5/8"	1251'	1251'	BHS @ 1248'
WELL(FARM)NO. 2 CO. SERIAL NO. N-790	7"	7305'	7305'	BHS @ 7234'
ELEVATION: 1640.60 LEASE: 58357				
TOWNSHIP: Brady COUNTY: Clearfield				
DRILLING COMMENCED: 8/31/60 COMPLETED: 9/29/60				
PRODUCTION: 30,370,000 cubic feet				PERFORATIONS AT:
ROCK PRESSURE: 3293 psig 4 days. max				
WELL TREATMENT: (Shooting, Acidizing, Fracturing Etc.)				
9/27/60 - Fractured w/20,500 gals. water, 1,000 gal. MOA, 150 lbs. gel and 20,000 lbs. sand.				
Breakdown pressure 2400 lbs.; maximum pressure 3800 lbs.; minimum pressure. 2350 lbs.; final pressure 3800 lbs. Original open flow of 7,312,000 cubic feet increased to 30,370,000 cu. ft. a/f Rock pressure b/f 3318 lbs. in 11 days	CEMENTING DATA: (Size Pipe, Depth, No. Bags, Date			
	8/31/60 - 13-3/8" cem. @ 70' w/50 sacks			
	9/4/60 - 9-5/8" cem @ 1248' w/50 sacks cem., 15 sacks acmagel, & 25 sacks quadroflos			
RESULTS AFTER TREATMENT:				
ROCK PRESSURE AFTER TREATMENT:	9/13/60 - 7" cem. @ 7234' w/125 sacks.			

REMARKS:

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Surface	0	15				
Sand & shale	15	143			FW 75	
Red shale	143	146				
Sand & shale	146	205				
Coal	205	209				
Sand & shale	209	217				
Shale & sand	217	303				
Coal or black shale	303	306				
Shale & sand	306	320				
Shale	320	340				
Sand	340	550				
Shale & sand	550	580				
Sand	580	650				
Shale & sand	650	692				
Sand	692	733				
Red shale	733	735				

(Over)

Well N 790

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Sand & shale	735	1010				
Black shale	1010	1020				
Sand & shale	1020	2293				
Shale	2293	2295				
Shale & sand	2295	2601				
Sand & shale	2601	3415				
Shale & sand	3415	4015				
Sand & shale	4015	5025				
Shale & sand	5025	5475				
Sand & shale	5475	5680				
Shale & sand	5680	5857				
Sand & shale	5857	6030				
Lime & shale	6030	6137				
Lime	6137	6195				
Shale & shells	6195	6642				
Lime	6642	6750				
Shale & shells	6750	7219				
Onondaga lime	7219	7233				
Chert	7233	7288				
Sand	7288	7317	7291-7303			
Lime	7317					
Total Depth		7318				
<u>Sample Study</u>						
Tully	6642					
Onondaga	7219					
Chert	7233					
Oriskany	7288	7317	7291-7303			

RECEIVED
DEPT. OF MINES
& MINERAL IND.

NOV 29 AM 8:44

DATE October 28, 19 60

APPROVED New York State Natural Gas Corporation TOWNER

BY D. B. Bangler
TITLE

Superintendent of Operations

LUTHERSBURG (7/2) WELL RECORD 033-26327

Name John R. Potter #2 Co. Clearfield Twp. Brady No. 3293
 Owner NYSNG Corp N-790 Contr. OUTSTEP
 Date 9/2/60 Elev. 1649.6 Product Oil Drill Rotary
 Obtained by Authority Quad. Latfield G3

2000' from N
2300' from E

Locate by Sketch


Geol. Name	Thick-ness	From	To	Geol. Name	Thick-ness	From	To
Sept 2, 1960				200 H E 78' 45'			
Sept 16							
Tully		6640		7 5/8" casing at 1250'			
Onondaga		7219		7" casing at 7234 ft			
cherl		7234					
Oriskany		7288	7317	Sept 23 SD to frac			
7300 Mcf gas BF			7319				
TD							
RP 3342 + 56 hrs							
SEP 30 1960 30,370 Mcf gas							
RP 3800 #							
Completed 9-29-60							

Chapman

1-1155

DM-OG-2-56

District Central Map 99 17W N 8 63 E W 118
 Loc. Made 12/2/60 Bk. 1916 Pg. 39 El. Bk. 1916 Pg. 10

Latitude 41° 05'
 1400 
 2000

Approved T. W. Chapman Date December 5, 1960

C. DELANEY

W.M. UTZINGER

T. W. CHAPMAN
 63982-50

C.O. WHITSELL

APPROXIMATE LOCATION
 OF THE RAILROAD

DUBOIS
 11° E RT 2194322

NO.	Bearing	DIST.
1-2	N7°E	400'
2-3	N7°E	930'
2-2A	S83°E	100'
3-2A	S1°W	935'
2A-1	S21°W	412'

- New Location
- Drill Deeper
- Abandonment
- Re-drill

Company Edwards & Kelcey
 Address 227 Lawrence Street, Harrisburg, Penna.
 Farm T. W. Chapman
 Tract _____ Acres 50 Lease No. 63982
 Well (Farm) No. #1 Co. Serial No. N-800
 Angle of Deviation, if any _____
 Elevation 1513.83 Quadrangle DuBois
 County Clearfield Township Brady
 Engineer R. A. Doman
 Engineer's Registration No. 14016
 File No. _____ Drawing No. _____
 Date 12/5/60 Scale 1"=400'

COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF MINES

Oil and Gas Division
 HARRISBURG

WELL LOCATION MAP
 Dept. File No. GLE-336
083-20336

⊕ Denotes Values of Well on United States Topographic Maps.
 Scale 15' 7 1/2'

WORKABLE COAL SEAMS TO BE PENETRATED
 Name of Seam _____ Owner of Seam _____

T. W. Chapman

DEC 19 1960

file

1,300' S 41°05'00"
2,000' W 78°45'00" (F)

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF MINES AND MINERAL INDUSTRIES
OIL AND GAS DIVISION

2/21/61
JR

033-20336

QUADRANGLE: DuBois "F" 7 1/2' 15'

PERMIT NO. 033-236

MAP REFERENCE: 1350 NL 2100 EL

WELL RECORD:

KIND OF WELL: Gas
(Oil, Gas, Other)

COMPANY: <u>Lee E. Minter</u>	Size of Casing and Tubing	Used in Drilling	Left in Well	Packers: Type, Size and Depth
ADDRESS: <u>9 Florence St. Bradford, Pa.</u>	<u>20"</u>	<u>19.60'</u>	<u>19.60'</u>	
FARM: <u>T W Chapman (Little Times Square)</u> <small>ACRES FOOT</small>	<u>13 3/8"</u>	<u>218.08'</u>	<u>218.08'</u>	
WELL (FARM) NO. <u>1</u> CO. SERIAL NO.	<u>9 5/8"</u>	<u>1190.03'</u>	<u>1190.03'</u>	
ELEVATION: <u>1544</u> LEASE:	<u>5 1/2"</u>	<u>7199'</u>	<u>7199'</u>	
TOWNSHIP: <u>Brady</u> COUNTY: <u>Clearfield</u>				
DRILLING COMMENCED: <u>12/20/60</u> DRILLING COMPLETED: <u>1/13/61</u>				
PRODUCTION: <u>1,200 MCF</u>				PERFORATIONS AT:
ROCK PRESSURE: <u>2229</u> psig <u>27 1/2</u> hrs				
WELL TREATMENT: (Shooting, Acidizing, Fracturing Etc.) <u>Hydrofrac 2/2/61</u>				
CEMENTING DATA (Size Pipe, Depth, No. Bags, Date)				
	<u>20"</u>	<u>19.60'</u>	<u>15 sacks</u>	<u>12/20/60</u>
	<u>13 3/8"</u>	<u>218'</u>	<u>215 sacks</u>	<u>12/21/60</u>
RESULTS AFTER TREATMENT: <u>5,876 MCF</u>	<u>9 5/8"</u>	<u>1190'</u>	<u>50 sacks</u>	<u>12/24/60</u>
ROCK PRESSURE AFTER TREATMENT: <u>2,069#</u> <u>66Hrs</u>	<u>5 1/2"</u>	<u>7199'</u>	<u>150 sacks</u>	<u>1/10/61</u>

REMARKS:

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Fresh or Salt Water)	REMARKS
Sand	0	22				
Sand & shale	22	143			82' fresh	
White sand	143	173				
Coal	173	176				
Sand	176	180				
Sand & shale	180	197				
Coal	197	203				
Sand	203	211				
Sand & shale	211	360				
Coal or black shale	360	380				
Sand	380	395				
Coal or black shale	395	410			405' fresh	
Sand	410	470				
Sand & shale	470	595				
Sand	595	820				
Red Rock	820	842				

(Over)

FORMATION	TOP	BOTTOM	GAS AT	OIL AT	WATER AT (Oil & Water)	REMARKS
Sand	842	870				
Sand & shale	870	895				
Sand & shale break	975	1065				
Sand & shale	1065	5715	2825-2	35'		Est. 582 MCF
Shale & shell Gray	5715	6216				
Shale & shell Brown	6216	6624				
Lime Tully	6624	6724				
Shale & shell	6724	7195				
Lime	7195	7213				
Shert	7213	7269				
Sand Oriskany	7269	7282	C D 7271'			

Date February 15, 1961

APPROVED *W. E. Winston*, Owner

BY _____ (Title)

XFINITY Connect**ronated@comcast.net**

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TESTIMONY ON THE ZELMAN#1 INJECTION WELL

From : TED AND RONA <ronated@comcast.net>

Wed, Nov 28, 2012 04:28 PM

Subject : TESTIMONY ON THE ZELMAN#1 INJECTION WELL

To : platt steve <platt.steve@epa.gov>

DEAR MR. PLATT, THIS LETTER IS TESTIMONY ON THE ZELMAN #1 INJECTION WELL PROPOSED FOR BRADY TOWNSHIP, CLEARFIELD COUNTY DUE DECEMBER 10, 2012. MY SPECIFIC CONCERNS DEAL WITH CONTAMINATION OF THE UNDERGROUND SOURCES OF WATER.

WE LIVE WITHIN THE 1/4 MILE RADIUS OF THE PROPOSED INJECTION WELL, IN FACT WE ARE DIRECTLY ACROSS THE STREET FROM IT. WHEN AN ACCIDENT HAPPENS, WHO IS RESPONSIBLE FOR OUR WATER? WHAT DO YOU PROPOSE WE DO THEN?

WE ARE IN A RESIDENTIAL AREA HERE WITH NO PUBLIC WATER ACCESS. WHY IN THE WORLD WE YOU ALLOW A TOXIC WASTE DUMP TO BE LOCATED HERE?

SINCERELY, TED AND RONA CRYTSEY
1500 HIGHLAND ST. EXT.
DUBOIS, PA. 15801

Terry & Carole Lawson
1042 Highland Street Extension
DuBois, PA 15801

November 28, 2012

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA, 19103

RE: UIC Permit PAS2D020BCLE (Windfall/Zelman 1)

Dear Mr. Platt,

The purpose of this letter is to state our concerns about the Zelman #1 injection well proposed for Brady Township, Clearfield County, Pennsylvania.

1 - We would like to know why this injection well has to be placed in a residential area. We realize the need for a waste disposal, but it should be in an isolated area. This well has been designated for Marcellus Wastewater that is hazardous and similar to toxic waste such as hospital waste, etc. Hazardous waste wells have a two mile area of review.

2 - We all have private water wells and history has shown that in 1968 in Erie, this type of waste traveled underground for 5 miles.

3 - The area of concern as noted by the EPA is 1/4 mile radius of the injection well. Every time the gas company does anything to the one deep well near the injection well our water turns murky for several days. We are outside the 1/4 mile radius of review. This radius needs to be expanded to at "least" one mile.

4 - We had our water well redrilled in 1984 by R. L. Cryster drilling. He decided upon looking at topographic maps of the area that if we drilled more than 273 feet, our water would be lost into a mine shaft. There are many mine shafts in the area going in different directions. We are concerned that if a leak or malfunction occurs with the injection well it could enter the mine shafts which travel clear to and under DuBois Mall. Also these could affect the Highland Street School. This would impact an area greater than the 1/4 mile radius and not just Brady Township.

5 - The deep wells in the area and the injection well will all be in the underground formation of Oriskany sand. The pressure of the injection well could compromise the structure of other wells in the area.

6 - There are also 2 fault lines in the area. There have been minor earthquakes here that could possibly crack the fault lines, thereby making a path way for the waste water to travel.

7 - My father worked the gas and oil fields his whole life. Many times he commented that when they sealed a well, it wasn't always done to specifications.

8 - There have been documentations of other injection wells failing. Why then are they putting this in a populated area?

This is like playing Russian roulette. Would you want to take a chance of this injection well being put in your neighborhood?

Sincerely,

Terry & Carole Lawson

Terry Lawson
Carole Lawson

A+ ★

who live in Philadelphia and don't have to live with Frack waste in your yard back

Ladies e

I have to wonder how boring it must be for you gentlemen, to have to listen to the same testimonies and pleas over and over. Does one form some sort of mental callous ~~or just get good at turning it off~~. I don't mean to be disrespectful, but I feel that it must be a certitude that you hear repeatedly about injection wells and earthquakes, injection wells failure rates, injection well violations, injection wells and PA geology etc ad nauseum.

The risks ^{of an injection well in a residential area} are too great especially considering that there are viable alternatives, such as already existing injection wells and waste water treatment facilities. There are now more than 150,000 Class 2 wells in 33 states, into which oil and gas drillers have injected at least 10 trillion gallons of fluid, ^{that's enough!} don't you think there are enough? What happened to the recycling plan? ^{of the marcellus industry} This area of PA is rife with unique geologic features that pose dangers for the successful containment of hazardous waste. In addition most of our aquifers, in this area of coal mining, despite a neutral PH are highly corrosive in nature due to acid mine drainage with can cause steel and cement to prematurely age, corrode, and dissolve. According to the testimony of acid mine drainage expert Robert Hedin.

<http://senatormjwhite.com/PDF/2010/pittsburgh.PDF>

It's indisputable, that injection wells cause earthquakes which therefore could possibly compromise water quality. University of Oklahoma seismologist Katie Keranen reported earlier this year that there was "a compelling link" between injection and the magnitude-5.6 earthquake in November that injured at least two people and damaged up to 200 structures east of Oklahoma City

It's indisputable that the ^{Safe drinking water} ~~Clean Water~~ Act was initiated because of a failed injection well. ProPublica analyzed records summarizing more than 194,000 Class 2 well inspections conducted between late 2007 and late 2010. 1,000 times in the three-year period examined, operators pumped waste into Class 2 wells at pressure levels they knew could fracture rock and lead to leaks. In at least 140 cases, companies injected waste illegally or without a permit.

What will it ever take to have the laws changed to protect human and animal life rather than the profits of a few? Jenny Lisak

I hope Mr. Indall with draws the permit before he may see everyone in a 3 mile circle of the injection well sue them for toxic trespass

Mr. Stephen Platt, EPA Region III

Ground Water & Enforcement Branch

Office of Drinking Water & Source Water Protection (3WP22)

1650 Arch Street

Philadelphia, PA, 19103

Dear Mr. Platt,

RE: UIC Permit PAS2D020BCLE (Windfall/Zelman 1)

This letter is testimony on the Zelman #1 Injection Well proposed for Brady Township, Clearfield County due December 10, 2012. My specific concerns deal with contamination of the underground sources of water:

#1 - My drinking water source is Wellwater and has potential to be contaminated through the disposal of waste underground near my home 1222 HIGHLAND ST. EXT.

#2 - We have really good water now and we are concerned that this will not be the case if you allow this disposal injection well to be placed in our neighborhood.

#3 - Ground faults are located in the area close to the proposed disposal injection site. The proposed injection well may be located in an earthquake prone area.

#4 - Coal mines are located in the ¼ mile radius of review and any small fracture or leak has the potential to seep into these mines and carry waste under the City of DuBois. These mines are full of water and are all over our area, so these deep mines would transmit toxic fluid into water sources.

#5 - The possibility of a surface spill that would go directly into the aquifer is a concern.

#6 - Abandoned wells could provide a pathway for methane migration into drinking water wells into the aquifer. Some of these abandoned wells may not be plugged.

#7 - Just a few feet outside the ¼ mile review at least 6 deep wells are located in the same formation (Oriskany) that are able to transmit toxic fluid into water wells.

#8 - The ¼ mile area of review should be expanded due to deep gas wells and coal mines in the area.

#9 - The concern with only having a \$30,000 line of credit (not sufficient to plug this proposed

disposal injection well).

#10 - Why is a toxic waste dump & industrial activity being put into a residential area?

Sincerely,
Nora Jensen

**John Parsons
St. Michaels Terrace
111 West Long Avenue
Apartment 2K
DuBois, PA 15801**

November 29, 2012

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA, 19103

RE: UIC Permit PAS2D020BCLE (Windfall/Zelman 1)

Dear Mr. Platt,

Please accept this letter as testimony and request to hold the EPA hearing on the Zelman #1 Injection Well proposed for Brady Township, Clearfield County. My specific concerns deal with contamination of the underground sources of water.

My summary of this disposal injection well is defined as backwash. This concerns me since it has the potential to go into the open shafts of coal mines and get into our sources of underground drinking water. The potential to get into our City water or the private water wells in our area is of great concern to me personally. As a water drinker on a daily basis I want to protest against this proposed disposal injection well site.

As a new resident in the City of DuBois, I have city water and I live less than three miles away from the proposed site for the disposal injection well. Yet I realize the source of my water will be less than two and a half miles from this proposed site. We should ensure that we don't repeat history like what happened in Erie in the 1960's where waste from a disposal injection well came up five miles away. As a hunter, I know we have many coal shafts in the area, old gas wells, and many abandoned wells in Pennsylvania that have not been plugged. More research on this residential area should be done and this permit should be denied.

Sincerely,



John Parsons

December 6, 2012

Laurie Wayne
5498A Wayne Rd
DuBois PA 15801

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia PA 19103

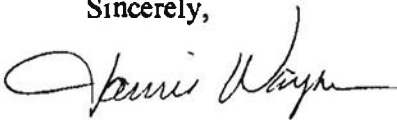
RE: UIC Permit PAS2D02BCLE (Windfall / Zelma 1)

Dear Mr. Platt,

This letter is testimony on the Zelman #1 Injection Well proposed for Brady Township, Clearfield Count. Many local residents are very concerned about the underground sources of water being contaminated and want to have their concerns heard. Just some of our concerns are:

1. Possibility of a surface spill that would go directly into the aquifer.
2. Methane migration into the aquifer
3. Deep mines transmitting toxic fluid into water wells
4. Deep wells transmitting toxic fluid into water wells (near proposed injection well site we already have six deep wells in some formation)
5. Deep coal mines transmitting toxic fluid under the whole City of DuBois out to the DuBois Mall or towards Sykesville.
6. Proposed injection wells could be located in an earthquake prone area
7. Concerns that the gas well on Zelman property needs plugged (site of proposed disposal injection well)
8. Abandoned wells could provide a pathway for methane migration into drinking water wells.
9. Why is a toxic waste dump or toxic industrial activity being put into a residential area?

Sincerely,



Laurie Wayne

Pat Erickson
1673 Main Street
Brockway, PA 15824

December 4, 2012

Mr. Stephen Platt, EPA Region III
Ground Water & Enforcement Branch
Office of Drinking Water & Source Water Protection (3WP22)
1650 Arch Street
Philadelphia, PA, 19103

RE: UIC Permit PAS2D020BCLE (Windfall/Zelman 1)

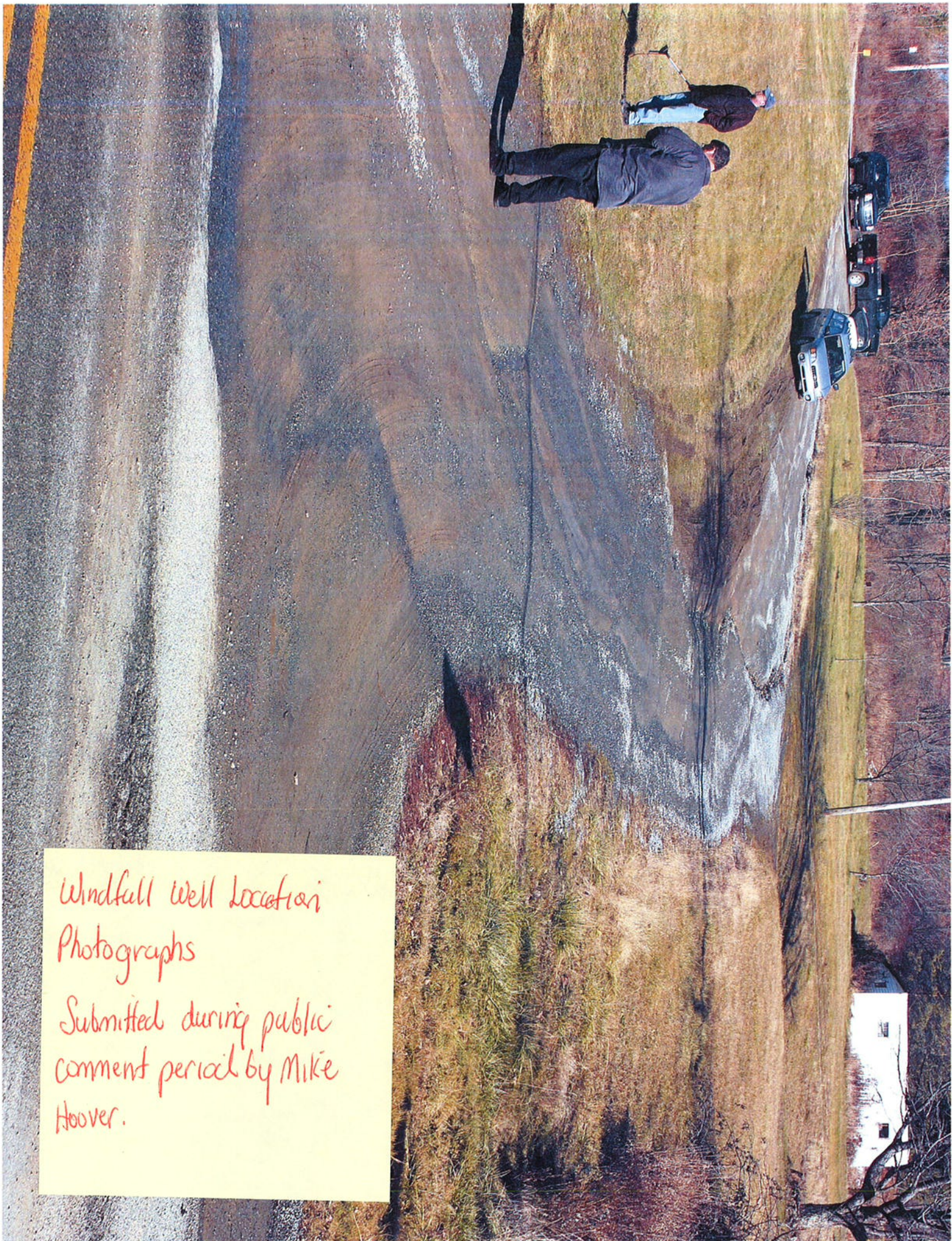
Dear Mr. Platt,

I am writing this letter to express my opinion on the matter of having industrial activity placed in a residential area. This action is wrong since it could be a threat to the drinking water, not only for the present users, but for future generations.

Sincerely,

A handwritten signature in cursive script that reads "Pat Erickson". The signature is written in dark ink and is positioned below the word "Sincerely,".

Pat Erickson



Windfall Well Location
Photographs

Submitted during public
comment period by Mike
Hoover.

