



STATE OF DELAWARE  
**DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL**  
89 KINGS HIGHWAY  
DOVER, DELAWARE 19901

Office of the  
Secretary

Phone: (302) 739-9000  
Fax: (302) 739-6242

**Secretary's Order No. 2017-W-0028**

**Re: Hershel Edwards, Petitioner**  
v.  
**Town of Laurel, Respondent**  
**(Petition submitted under 7 Del. C. Section 6031 seeking replacement water supply from the Respondent)**

**Date of Issuance: October 31, 2017**  
**Effective Date: October 31, 2017**

**BACKGROUND AND PROCEDURAL HISTORY**

Pursuant to 7 *Del. C. §6031*, ("Section 6031") and other relevant authority, the Secretary of the Department of Natural Resources and Environmental Control ("Department") issues this Order on Hershel Edward's ("Petitioner") April 6, 2017 Petition for Alternate Water Supply ("Petition") submitted to the Department's Division of Water, Water Supply Section ("WSS").<sup>1</sup>

The Petition alleged that the Town of Laurel, Sussex County's ("Respondent") groundwater dewatering during the construction of Respondent's water tower caused the depletion or exhaustion of the Petitioner's water supply. The Petition claimed that the Respondent's dewatering began in February 2015 across from the Petitioner's residence at 11051

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<sup>1</sup> The Petitioner initially submitted a petition that the Department received February 2, 2017, but the Department returned this petition because it did not identify anyone who caused the Petitioner's well problem. The Department received the Petition on April 6, 2017 that Petitioner revised to allege that the Respondent caused the problem with the Petitioners' well.

County Seat Highway, Laurel, Sussex County and that the dewatering caused his well to provide water for only a few minutes of use before the flow of water stopped.

Section 6031 grants the Department the authority to determine the merits of a verified petition, which should set "forth factual allegations that an allocation granted pursuant to §6010(f) of this title caused the depletion or exhaustion of petitioner's existing use of water...." Section 6031's reference to Section 6010(f) includes the Department's authority to allocate water supply, which the Department administers by regulations<sup>2</sup> and permits. Section 6031 requires that the Department hold a hearing after providing the Petitioner and the Respondent with twenty days' notice. Section 6031 allows these parties to appear at the hearing with or without counsel and produce any competent evidence.

The Department assigned Robert P. Haynes, Esquire to preside over the Section 6031 hearing. In an April 7, 2017 letter to the Petitioner and the Respondent, Mr. Haynes scheduled an April 18, 2017 prehearing conference call and an April 27, 2017 hearing, directed the Respondent to answer the Petition, and set forth the hearing's procedure for the Department's adjudication of the Petition based on the evidence presented at the hearing.

At the April 18, 2017 prehearing conference call, the WSS intervened as a party to assist the development of the Record and the WSS indicated that it would present an expert at the hearing. In an April 25, 2017 memorandum prepared by the WSS' Scott Strohmeier, P.G., the WSS provided Mr. Strohmeier's research on the Petitioner's well, the Respondent's dewatering wells, and the local aquifer.

The Petitioner, the Respondent, and the WSS presented witnesses at the April 27, 2017 hearing held at the Laurel Town Hall. Mr. Haynes prepared the attached Hearing Officer's

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<sup>2</sup> See *Regulations Governing the Allocation of Water*, 7 DE Admin. Code. 7303, and *Regulations Governing the Construction and Use of Wells*, 7 DE Admin. Code 7301.

Report (“Report”), which sets forth the complete procedural history, establishes and summarizes the Record, proposes findings of fact, and recommends conclusions and reasons.

The Report recommends that the Department deny the Petition because the Petitioner failed to meet his burden of proof to establish that he is entitled to any relief under Section 6031 based on the evidence presented at the hearing. The Report did not find that the Record supported finding that the Respondent's dewatering caused the depletion or exhaustion of Petitioner's water use within the meaning of Section 6031. The Report relied on the testimony and opinions of well driller experts, who opined that the inability of the Petitioner's well to provide water was because the well was over forty-eight years old and likely at the end of its service life. The Record contains evidence of the poor condition of Petitioner's well based upon photographs of the corroded galvanized pipe used to carry water from the available water supply to the surface. The Report finds that the Record shows that Petitioner's well is approximately 25'-27' deep based upon the Petitioner's well driller's testimony. The Report finds that at all times during the dewatering and all other times based upon water table measurements the water at the Petitioner's house was available at a depth of no more than 12' below the surface, which means that Petitioner's well should be able to access water. Thus, the Report finds that the Respondent's dewatering for the water tower's construction in late September through early October 2013 likely did not cause the problems with the Petitioner's well, which is likely attributable to the poor condition of the well due to its age and corrosion. The Record does not support any finding that the Respondent's dewatering reduced the water level below the depth of the Petitioner's well, which would support relief under Section 6031.

## **FINDINGS OF FACT**

The Department finds that the Report accurately reflects the procedural history, establishes the Record that supports this final decision, proposes findings of fact, and recommends conclusions and reasons to support this final decision. The Department finds that the presiding hearing officer properly established hearing procedures under Section 6031. The Department finds that the parties produced witnesses who provided sworn testimony, including from the expert well drillers, and the parties had the opportunity to cross-examine other parties' witnesses.

The Department finds that the Petitioner's well no longer provides adequate water for more than several minutes, or about five gallons, before air in the line causes the flow of water to stop. The Department finds that the Petitioner provided sufficient evidence of the depletion or exhaustion of his "existing water use" within the meaning of Section 6031.

The Petitioner's evidence of a changed quantity of "existing water use" from his well approximately coincided with Respondent's construction activity across the street from his residence. This construction was for Respondent's water tower and associated facilities for Respondent's central water system and a sewer project. The construction entailed excavation that required dewatering wells to remove shallow groundwater to enable building the foundations of the structure and for the pipelines.

The Department finds convincing the testimony of Respondent's experts, who testified to the Respondent's use of a monitoring well near the Petitioner's dwelling and the dewatering wells in order to record the water depth during the dewatering. The monitoring well showed that the dewatering did not deplete the water as measured by the depth of water. The presence of water at a depth of no more than twelve feet below the surface should provide the Petitioner's

well with sufficient water absent some problem with Petitioner's well that is unrelated to the Respondent's dewatering. The Department finds that the Record supports the conclusion that the likely cause of Petitioner's well failure is its poor condition after over forty-eight years of use. This Record supports finding the Petitioner's well has a corroded galvanized pipe that likely is the reason for the well's ability to transport available water to the surface. The Department finds that the Petitioner failed to prove that Respondent caused his loss of water supply because of Respondent's water usage associated with late September, early October 2013 dewatering. Thus, the Department agrees with and adopts the Report's findings that the Petitioner failed to meet his burden of proof to demonstrate that the Respondent's dewatering caused the depletion or exhaustion of the Petitioner's prior water use.

### **CONCLUSIONS AND REASONS**

The above findings supports the conclusion that the Petitioner failed to meet his burden of proof to support his claim to relief under Section 6031. The Petitioner relied upon the fact that his well failed approximately about the same time as the Respondent installed temporary dewatering wells that would pump water from excavated areas to allow construction of the water tower. The Respondent used a monitoring well that provided evidence of the depth of the groundwater below the surface, which did not drop more than twelve feet below the surface at any time during the dewatering. Therefore, the Petitioner's well should have had access to available water, but due to its age and condition of the pipe was unable to transport available water supply to the surface to meet the Petitioner's requirements. The Department concludes that the evidence does not support requiring Respondent to replace the Petitioner's well. The Department concludes that the likely cause of Petitioner's well problem is the well is at the end of its useable service life because of the severe corrosion of the galvanized pipe that carries

available water to the surface. The Petitioner's well is over forty eight years old and the corrosion and other problems associated with such long use likely caused the well difficulty in delivering water to the surface in the same quantities as it once did. The Department's finding do not support the conclusion that the Respondent's dewatering depleted or exhausted the Petitioner's use of water within the meaning of Section 6031.

The Department hereby enters the following ordering conclusions:

1. The Department has jurisdiction under Section 6031 to make a final decision on the Petition following a hearing;
2. The Department established and followed procedures to provide the Petitioner and the Respondent with a proper Section 6031 hearing on the Petition;
3. The Department properly held a hearing on April 27, 2017 and the Petitioner, the Respondent, and the WSS participated as parties with the opportunity to present witnesses and to cross examine the sworn testimony of witnesses;
4. This Order relies exclusively on the information in the Record developed at the hearing, as established in the Report;
5. This Order adopts the Report as further support for this decision; and
6. The Department shall publish this Order on its website and shall serve the Order on the parties to the proceeding.

  
Shawn M. Garvin  
Secretary



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Herschel Edwards, Petitioner  
v.  
Town of Laurel, Respondent,  
(Petition for a Replacement Water Supply under 7 Del. C. §6031)

### Hearing Officer's Report

This Hearing Officer's Report was prepared for the Secretary of the Delaware Department of Natural Resources and Environmental Control ("Department") after a hearing to assist his final decision on Hershel Edwards' ("Petitioner") Petition for a Replacement Water Supply submitted pursuant to 7 Del. C. 6031 ("Section 6031").

#### I. Procedural History

On February 2, 2017, the Division of Water, Water Supply Section ("WSS") received a petition from the Petitioner. The WSS forwarded the petition to the Office of the Secretary for assignment of a hearing officer because Section 6031 requires a hearing.

On February 20, 2017, the Department assigned me to preside over the petition proceeding.

I reviewed the February 2, 2017 petition, which was on a petition form that WSS developed. I determined that Petitioner incorrectly identified himself as the person responsible for the alleged depletion or exhaustion of his water supply from Petitioner's well. I telephoned Mr. Edwards about this error, and sent him a March 30, 2017 email in which I informed him that he needed to identify a party who caused the depletion or exhaustion.

On April 6, 2017, I received a revised petition ("Petition") that alleged that the Town of Laurel, Sussex County ("Respondent") caused the problems with his water use.

In an April 7, 2017 letter emailed to the Petitioner and the Respondent, I provided the Respondent with the Petition. The letter also requested that the Respondent provide an Answer to the Petition by April 18, 2017. The letter also scheduled an April 13, 2017 prehearing conference call and an April 27, 2017 hearing, which satisfied Section 6031's notice requirement. I expedited the scheduling of the hearing based upon the Petitioner's allegations that Petitioner did not have water.

At the prehearing conference, the Petitioner, the Respondent's representatives, and the WSS' John Barndt, WSS' Manager, participated. Mr. Barndt indicated that WSS would intervene and that a staff person would provide a report on the Petitioner's well. I explained the procedures, including the electronic service of documents based upon a service list and that the parties should only send me communication that include all the names on the service list that I provided.

In an April 18, 2017 letter, the Respondent replied to the Petition that provided information on their 2015 dewatering activity and its measurements of the water level taken from a nearby monitoring well used during the construction of the Respondent's water tower.

At the hearing, Petitioner, Respondent and WSS presented evidence through sworn testimony and exhibits. I received the verbatim transcript from the court reporter on May 8, 2017 and this Report shall cite the transcripts as "Tr."

## **II. Summary of the Record**

Under the procedures, all information considered in making this decision was produced at the hearing where the parties had the opportunity to cross-examine the sworn testimony of witnesses. The Record includes Petitioner's original petition that was rejected, the Petition that was accepted, the Respondent's Answer to the Petition, the marked hearing exhibits, and the verbatim transcript with the sworn testimony of the Petitioner's three witnesses, the Respondent's five witnesses, and the WSS' two witnesses. t

### **A. The Petition (Edwards Ex. 1).**

1. On January 31, 2017, Petitioner signed the Petition based upon WSS' form and the Petition's signature was notarized as required by the form that swore the allegations in the Petition were true.
2. The Petition stated that Petitioner resides at 11051 County Seat Highway, Laurel, Sussex County.
3. The Petition alleges that two persons are at the Petitioner's residence are affected by the loss of water supply from a domestic well.
4. The Petition alleges no knowledge of when Petitioner's well was installed and it failed to provide "certified documentation as to how and when the well or other water intake was constructed" as requested by the WSS petition form.
5. The Petition alleges daily water usage from the affected water supply of an estimated 50-60 gallons per day.
6. The Petition alleges that the Petitioner's well has a total depth of 50' below the ground surface.
7. The Petition alleges that the Petitioner's well is 2" diameter.
8. The Petition alleges that the Petitioner uses between 50-60 gallons per day.
9. The Petition did not provide documentation from a certified well driller or certified water operator on information concerning the Petitioner's well. Instead, the Petition states that the Petitioner's deceased brother had the requested information that sought data on the well's water level, the name of the data collector, the well's static water level, and the well's pumping water level.
10. The Petition provided the required location sketch that included a reference to the "City of Laurel dewatered to put tank in." The map shows Respondent's tank located across Route 9 from Petitioner's house and dewatering points along Rt. 9 on Petitioner's side of Route 9. The map shows that Petitioner's house is the sixth house from Rt 13, and that the Petitioner's well is located 60' from the Respondent's closest dewatering point.
11. The Petition named himself in the form's section for identifying the "potentially responsible party."

12. The Petition provides the requested description in detail of the depletion and/or exhaustion:

I had good water pressure and plenty of water until they dewatered to put tank foundation in and now I have no water and now can't draw 5 gal. pail [sic]. My pound [sic] behind my house went dry at same time. I talked to gentlemen when they did dewatering and they said it would not affect my water but now I have none. This was all done at my know [sic] it started in Feb. in 2015. They pumped an 8" line for app. 2 or 3 months. When the Town of Laurel DE started dewatering my well started to go dry. Now all I get is air. Will pump about 5 gal. then no pressure then just air and little water. They dropped camera in my well and said my walls caved in when [unknown word] was pulled out of well.

**B. Respondent's Answer (Laurel Ex. 1)**

13. The Respondent provided a response to the Petition in an April 18, 2017 letter from Respondent's Town Manager, Jamie Smith, which was marked as Laurel Ex. 1. This letter provided the following information:

January 13, 2014 – Electric was applied to the one (1) deep well installed. Very little discharge was present. Note: Because of limited discharge no further deep wells were installed.

On February 17<sup>th</sup>, the deep well was removed.

January 16, 2014 - Set MHS2, located at the entrance near the sliding gate. Water was present at 16.5 ft. below grade. A sump pump was used to remove the ground water that was present.

February 15, 2014 – Started to box out around the pump station site. Site was cut down 5ft in a 50ft x 50 ft area.

February 18-21, & 28, – Starting from the bench, 5 ft. below existing grade, drove well points 20 ft. to a total depth of 25 ft. below existing grade.

March 10, 2014 – Dewatering for the pump station commenced.

March 19, 2014 – Pump Station structure set.

March 24, 2014 – Dewatering operation for the pump station ceased.

The Town took daily measurements of the water level from an existing 2-in well that was located on the pump station site approximately 22 ft. from the edge of the pavement of Rt. 9. The ground water measurements varied between 9 – 12 ft. below grade. Based on the information provided, it is

of the Town's opinion, that Mr. Edwards should have had adequate water supply.

### **C. Testimony at the Hearing**

14. The Department held the April 27, 2017 hearing at the Laurel Town Hall. The Petitioner, his expert well driller Mike Daisey of Daisey Well Drilling, and his other witness, Joyce Longfellow, attended. Attending on behalf of Respondent were Mike Collison of A.C. Schultes of Delaware, a well construction company, James Foskey, the Respondent's Public Works Director, Nick Lloyd, construction services on the Respondent's water tower project and inspector for the Respondent's consulting engineering company, George Miles & Buhr ("GMB"), Jim Hoageson, GMB's project manager for water tower project, Jaime Smith, the Respondent's Town Manager. Attending on behalf of WSS were John Barndt, WSS' Program Manager, and Scott Strohmeier, WSS' hydrogeologist. Tr. 10. The Petitioner presented his direct case first, followed by the Respondent's and the WSS". The court reporter swore in all witnesses, who all were subject to cross-examination.

#### **1. Petitioner's Direct Case**

##### **a) Edwards' Testimony**

15. The Petitioner testified to his first observation of a sign for the future construction of Respondent's water tower. He said that he called the telephone number on the sign and talked the construction manager of the project, GMB. He told an unidentified person "Sir, you're taking my water." Petitioner was not aware of the date of the call other than several years ago before the tank was constructed and when the dewatering started. Tr. 10-11.
16. The Petitioner testified that the GMB's representative replied by saying "Well I don't know what you want me to do, but I will buy you a bottle of water." The Petitioner indicated he considered that response a very smart and bad answer. Tr. 11.
17. The Petitioner testified he also spoke to James Foskey, who said was the Respondent's engineer. The Petitioner said that Mr. Foskey told him that the dewatering would not affect his well because the dewatering was only pulling water from 18" below the ground surface. Tr. 11.
18. The Petitioner testified that the Respondent's Mr. Hoageson inspected Petitioner's well by placing a 5 gallon pail and pulled up 2 gallons of water and waited 15 minutes for the water to pool back up. Tr. 12
19. The Petitioner testified that Mr. Hoageson stated that "well, you have no water" and that then he left. Tr. 12.
20. The Petitioner testified that he met with Ms. Smith, Mr. Hoageson, James Foskey, and a well driller and that he was told that his well was old, and that the Petitioner replied by commenting that being old had nothing to do with the well's problem. Tr. 12.
21. The Petitioner testified that he had plenty of good water until the Respondent's started dewatering 150' from his well. Tr.12.

22. The Petitioner stated that the dewatering was for 'Discount' and that it lasted about two months. He said it caused a pond behind his house to go dry. He provided four photos of the pond that were marked as Edwards Exhibit 2. Tr. 13-15. He said that the pond dried up twice and now is dry. Tr. 15.
23. The Petitioner testified to attending the Respondent's town council meeting and that he was allowed 15 minutes to present his position. Tr. 17.
24. The Petitioner concluded his testimony by stating that he gets about two thirds air when he turns on his water. Tr. 19.
25. Mr. Strohmeier asked Mr. Edwards about the photos of the pond, and Mr. Edwards replied that two photos showed before dewatering and two showed after dewatering, and the photos handwritten identification was revised to correct and remarked as Edwards Ex 2A for before photos and Edwards Ex. 2B for after dewatering. I provided my legal opinion that Section 6031 did not provide the Department with any authority to provide a remedy for the pond being drained. Tr. 29-34.
26. Mr. Edwards testified about the dewatering on "Discount land," which he said lasted two months. Tr. 34

**b) Daisey Testimony**

27. The Petitioner presented Mr. Daisey, a well rigger, as his next witness, who testified that the Petitioner called him on April 24 (presumably 2017) and then subsequently met him that afternoon. Tr. 22.
28. Mr. Daisey testified that he conducted a flow test at the Petitioner's residence. He stated that the Petitioner's well was 1 1/4 inch diameter, was driven, and was approximately 25'-27' deep. Tr. 22.
29. Mr. Daisey reported that the Petitioner's well provides not quite two minutes of water and then falls off to an air mist spray. Tr. 22.
30. Mr. Daisey testified that the Petitioner's well, after it shuts off, will take approximately 5-7 minutes before the pump regains enough water to pump and that the pump cuts off at 45 pounds per square inch. Tr. 22.
31. Mr. Daisey testified that he suggested that the Petitioner install a 4" diameter and 60' deep well with a submersible pump. He commented that one problem is that the Department has a rule that may prohibit a well because he is within 250' of the Respondent's CPNC. Consequently, the Respondent would have to provide a letter stating that Respondent did not want to serve the Petitioner and that letter would authorize any replacement well. Tr. 23.
32. Mr. Foskey asked Mr. Daisey about the life expectancy of a well at least 48 years old with 1 1/4" galvanized pipe. Mr. Daisey provided his professional opinion that such a well would be at the end of the well's life expectancy. Tr. 24-25.
33. Mr. Collison asked Mr. Daisey if he recorded the well's static level. Mr. Daisey replied that he removed the top of the well and recorded using a vacuum check that was 12" that fell to 30" when pumping and remained constant for two minutes before he shut the water off and then remained at 28"-29" and then pumped and cut off. Tr. 28.
34. Mr. Collison asked Mr. Daisey if he had attempted to air lift the well or blow it with air to unclog the screens if clogged. Mr. Daisey said he did not and advised Petitioner that such procedures "would make the situation worse." Tr. 28.

35. Mr. Strohmeier asked Mr. Daisey what was the static water level and Mr. Daisey replied that it was 9'. Tr. 29.
36. Mr. Collison asked Mr. Daisey about the Petitioner's well's ability to pump water from a static depth of 9' with a 5 gallon per minute pump, and Mr. Daisy replied that it should be able to pump water. Tr. 35-36.

## **2. Respondent's Direct Case**

### **a) Foskey Testimony**

37. The Respondent's Mr. Foskey testified and said that the Petitioner first called the Respondent in August 2013 when construction began along Rt. 13, and that Mr. Edwards claimed that the Respondent was taking his water. Tr. 37.
38. Mr. Foskey said that he and Woody Vickers visited Petitioner's home in response to Mr. Edwards' call, which was before the dewatering started in September-October 2013. Tr. 37-38.
39. Mr. Foskey testified that the Rt 13 project was running water and sewer lines from the west side of Rt 13 to the east side to connect houses along Rt 9 in the vicinity of the Petitioner's home. Tr. 38
40. Mr. Foskey testified that he did not hear from Petitioner until January 2014 when Petitioner again complained about Respondent taking his water. In response, he said that he, Nick Lloyd, and Mr. Hoageson visited the Petitioner and performed a drawdown test of Petitioner's well and found water at 9'. Tr. 38-39.
41. During the January 2014 visit, Mr. Foskey testified that they advised the Petitioner that his water problems may be a frozen or broken pump. Tr. 39.
42. Mr. Foskey testified that Petitioner replaced his pump and that Respondent did not hear from him until August 2016. Tr. 39.
43. Mr. Foskey testified that the Respondent used an existing well that had been converted to a 2" diameter PVC well at the Rt. 13 water tower for monitoring water levels during the dewatering. Tr. 39-40.
44. He said that the monitoring occurred for a two month duration and it showed water levels between 9'-11' at a well location 120' from the Petitioner's well. Tr. 40.
45. Mr. Foskey cited a Department report on an inspection that showed that the Petitioner's well was corroded beyond 8' and that the corrosion prohibited full inspection of the well. He stated that the well was at the end of its life expectancy. Tr. 41.
46. Mr. Foskey said that he told the Petitioner that they were unable to do anything and that the Petitioner would have to contact the Town Council. Tr. 57..
47. Mr Foskey stated that the Petitioner was scheduled to present to the Town Council meeting, which was a general meeting, and that GBM representatives attended and explained the situation to the Town Council. Mr. Foskey testified that the Town Council and the Mayor ruled that the Respondent had not done anything wrong to the Petitioner. Tr. 59.
48. Mr. Foskey testified that Petitioner complained about not being at the Town Council meeting, and that the Respondent scheduled him to appear at the February 21, 2017 meeting. Tr. 59.
49. Mr. Foskey stated that the Petitioner stated his position that took 5 minutes and that the Town Council and the Mayor ruled against him. Tr. 61.

50. Mr. Foskey described on a drawing on an easel the locations. Tr. 67. The drawing on the easel was marked as Laurel Ex 4. Tr. 67.
51. The Petitioner did not cross examine, but instead disputed the distance from his well to the Respondent's monitoring well and claimed it was 150' and not 120'. Tr. 68. The easel drawing was marked as Laurel Ex. 4.
52. Mr. Foskey explained the monitoring well location and its pump house approximately "100 some feet away" were different. Tr. 69.
53. The Petitioner asked why the Respondent had not monitored his well and Mr. Foskey stated that Petitioner's well was inspected and that water was found at 11'. He said it was not used for monitoring given its 50 year old age, its 1 1/4" diameter, and its use of galvanized pipe. Tr. 66.

**b) Smith Testimony**

54. Ms. Smith testified that the Petitioner attended the January 17, 2017 Town Council meeting. She called Petitioner to confirm the meeting and to let him know the meeting location was changed to the Laurel Fire Hall from the Town Hall. Tr. 57

**c) Lloyd Testimony**

55. The Respondent's next witness was Nick Lloyd, who testified meeting the Petitioner on January 6, 2014 and that he observed Petitioner's well that had a static water level of 11' and not 9' as stated in the Respondent's letter response. Tr. 42. The Respondent's Laurel's response to the Petition was marked as Laurel Ex. 1. Tr. 43
56. Mr. Lloyd's well log records from the monitoring well was marked as Laurel Ex. 2. The records commenced January 6, 2014 and ended March 24, 2014 when the pumps were turned off. Tr. 43-44.
57. Mr. Lyold testified to the January 7, 2014 reading of water at 11.08' at the Respondent's monitoring well, which he said was located 20' from Rt. 9 and was the 2" PVC well previously used for the Rita Baker residence. Tr. 45.
58. He said that the dewatering started in late September and early October 2013. Tr. 47 and that every day the monitoring showed a drawdown and the static water level within the 11'-12' range until the dewatering ended. Tr. 48.

**d) Hoageson Testimony**

59. The Respondent's next witness was Jim Hoageson, who also testified about the January 6, 2014 meeting at Petitioner's. Tr. 49.
60. He said that the Respondent logged water levels at the monitoring well in response to the Petitioner's claims that the Respondent was taking his water. Tr. 50.
61. Mr. Hoageson testified that the water levels were consistent with the levels that Mr. Daisey took, and from the Department's well that is used to monitor water levels. Tr. 51.
62. Mr. Hoageson testified that he was on Petitioner's property in late 2016 and met with Nick Lloyd and Dean Culver, the project inspector on the second phase that is the construction of the water tower. Tr.52-53.
63. Mr. Hoageson explained that he observed the pump turn on even though no water was turned on and that he considered 'odd'. Tr. 53.

64. Mr. Hoageson stated that Petitioner was not happy with the meeting and that they scheduled a second meeting that also included the Respondent's representatives and Mike Collison. Tr. 53.
65. Mr. Hoageson stated that Petitioner called the Respondent in July 2016 and Ms. Smith contacted GMB's field officer located behind Bargain Bill's to investigate his complaint. Tr. 54.
66. He said that GMB maintains a construction log of all daily activity and that they show during the January 6, 2014-March 24, 2014 period that water levels at the monitoring well no lower than 13' below the surface for all days when the dewatering occurred. Laurel Ex. 2.
67. Mr. Hoageson explained that the first construction phase was the water tower and sewage pump station, and that the second phase is the water plant that is now being constructed. Tr. 56.
68. He testified that the GMB's construction log page showed a contact with Petitioner during the construction period on July 25, 2016 and August 3, 2016. Laurel Ex. 3. The August 3 note indicates that GMB received a complaint about no water and that the Petitioner was told that no water pumping commenced. Tr. 57.

**e) Collison Testimony**

69. The Respondent presented R. Michael Collison, who testified that he has 30 years experience drilling wells and that in his "professional opinion the construction activities and dewatering had absolutely nothing to do with the problems, unfortunate problems that Mr. Edwards is having with his well." Tr. 61-62.
70. The Petitioner cross-examined Mr. Collison and asked how he knows how deep his well is. Mr. Collison replied that he relied on Mr. Daisey's testimony.

**3. Division of Water Direct Case**

71. **a) Barndt Testimony:** John Barndt testified and presented the memorandum prepared by Scott Strohmeier, which was marked as Division of Water Ex. 1. Tr. 74.
72. Mr. Barndt testified how Petitioner contacted WSS in January and that Allison Diggins, Bill Cocke and Linda Zaoudeh inspected Petitioner's well on January 17, 2017. Tr. 74.
73. Mr. Barndt testified that a plumber was present and the well was opened up for inspection and WSS took photographs that are in Scott Strohmeier's report. Tr. 75.
74. When WSS received the Petition, he assigned Scott Strohmeier to provide his opinion for this hearing. Tr. 76.
75. **b) Strohmeier Testimony:** Mr. Strohmeier testified about his report, which was marked as Division of Water Ex. 1. He reviewed the Respondent's dewatering permits and spoke with Mr. Hoageson. Tr. 77.
76. Most of Mr. Strohmeier's Report is set forth below:

**Background**

On February 2, 2017, the Department of Natural Resources & Environmental Control (DNREC) received Mr. Hershel Edwards' Petition for Alternative Water Supply, pursuant to 7 Del. C §6031. The petition

was dated January 31, 2017 and formally requests the DNREC Secretary to grant relief due to the depletion or exhaustion of the petitioner's use of water. Mr. Edwards' water originates from a domestic water-supply well located on his property at 11051 County Seat Highway, Laurel, DE 19956 (Figure 1). Mr. Edwards' petition listed himself as the potentially responsible party (PRP) and failed to mention the PRP that depleted or exhausted his water supply, so Mr. Edwards was requested to re-submit a revised petition. The DNREC received the revised petition on April 6, 2017; however, the petition still listed Mr. Hershel Edwards as the PRP, but Mr. Edwards did mention in his description that the Town of Laurel dewatered his well. Mr. Edwards' petition stated, "When the Town of Laurel DE started dewatering my well started going dry. Now all I get is air. Will pump about 5 gallons then no pressure; then just air and dirty water." I was assigned to perform an impartial technical review of the facts involved in the petition and draft a report of my findings on April 13, 2017, with a hearing date set for April 27, 2017 in Laurel, DE at the Town's offices. At the time of the assignment I was provided a file with the following items: copies of the original and revised petition; copies of the dewatering permit applications; DNREC Water Allocations Complaint Investigation Report; and photos taken from inside the well by the DNREC Allocations Branch. In addition, I was forwarded an e-mail with the service list of all parties that may be contacted if additional information was deemed necessary.

#### Hydrogeologic Framework

The surficial geology across the area of concern consists of the Beaverdam Formation (Ramsey and Tomlinson, 2014). Ramsey and Tomlinson (2014) described the Beaverdam Formation as a heterogeneous unit ranging from very coarse sand with pebbles to silty clay. The saturated sands of the Beaverdam comprise the unconfined, Columbia, aquifer. The base of the Beaverdam Formation was established using the lithologic log and geophysical log obtained from a 160 foot test well (DNREC ID 248392) constructed on the property (Tax Parcel 2-32-12.00-106.00) adjacent to where the dewatering took place (Figure 2). The lithologic log reported a fine orange sand with tan and orange clay lenses from 68 to 85 feet below land surface (bls) transitioning into a gray clay with some shell from 85 to 103 feet bls. This information coupled with the gamma shifts noted on the geophysical log, indicate the base of the Beaverdam Formation is somewhere between 70 to 80 feet bls and is underlain by the Bethany Formation followed by the Cat Hill Formation (Figure 2). The Bethany Formation has been described by Ramsey (2003) as consisting of gray, olive gray, and bluish-gray clay to clayey silt interbedded with fine to coarse sand with lignite and gravel beds being common.

#### Hydrologic Conditions

Delaware Geological Survey index well Qe44-01 was chosen to evaluate the long-term hydrologic conditions of the unconfined, Columbia, aquifer. The well is located approximately 7.5 miles southeast of Mr. Edwards' well and is screened from 22 to 26 feet bls. The well has a long-term record of monthly water level observations spanning from 1959 to present. The data were accessed (<http://www.dgs.udel.edu/datasets/water-level-summaries-dgs-index-wells>) on April 20, 2017 to evaluate how the late 2013 thru early 2015 water level data compare to the long-term record. During the period of dewatering (i.e., various times from September 2013 thru March 2014) the water levels fluctuated between the 25<sup>th</sup> percentile and 50<sup>th</sup> percentiles (Figure 3). According to Table 1 of Martin and Andres (2008), water levels in Qe44-01 would have corresponded to normal to slightly wet conditions at these percentiles. Based on construction photos supplied by George, Miles, & Buhr, LLC (GMB) it appears that water levels closely followed the 50<sup>th</sup> percentile during the earliest dewatering for the water tower in late September thru early October 2013. The water level reported for the water tower well points (DNREC ID 244802) was 7 feet bls on September 20, 2013. The Route 9 dewatering occurred sometime during late November into December 2013 when conditions were becoming slightly wetter. When dewatering for the pump station in mid-March 2014, water levels had returned to the normal range (Figure 3).

The Town received the first complaint from Mr. Edwards on January 6, 2014 and measured the water level in his well to be 11 feet bls, according to the Town's letter dated April 18, 2017. This depth to water falls within the 9 to 12 foot range of depth to water bls observed by the Town in an existing domestic water supply well located 22 feet south of County Seat highway on the property where the pump station and water tower dewatering occurred. The observation well was identified as DNREC ID 46880 and previously owned by Donald Baker. The well completion report states the well was 42 foot galvanized steel at 1.25-inch in diameter with a 5-foot galvanized steel screen. The static water at the time of construction on September 30, 1980 was 9 feet bls. It is unknown how long the well sat idle since its last use, or if the well was redeveloped prior to monitoring due to its age and material. The Town of Laurel has owned the former Baker property (2-32-12.00-103.00) since at least 2011, according to the Sussex County Assessment Office.

A domestic water-supply well with DNREC ID 256348 was installed on December 6, 2016 approximately 230 feet east of Mr. Edwards' well on tax parcel 2-32-12.00-73.00. This well is a 4-inch PVC well 55 feet in total depth with a 10-foot screen. The static water level in this well was 10 feet bls on December 6, 2016. During this timeframe conditions in Qe44-01 would have been classified as dry.

## Mr. Edwards' Well Details

Mr. Edwards' petition stated his well is 2-inches in diameter with a total depth of 50 feet, with no known date of construction or Delaware licensed certified well driller documentation. Based on the location sketch provided in Mr. Edwards' petition, the well is located inside a pump house located 60 feet from the dewatering that occurred along County Seat Highway. It appears Mr. Edwards' sketch is upside down with regards to his house being on the south side of County Seat Highway and the Town's pump house and water tower being on the north side, although the dewatering wells appear accurate. I searched the DNREC well database and card catalogue for well records with no success; however, I was able to locate the septic construction plan that delineated the location of the well in April 1993 (Figure 4). Due to the lack of online data available from the Sussex County Land Use records, I performed an online search for past property owners on the Delaware Land Records database (<https://de.uslandrecords.com/delr/DelrApp/index.jsp>). I was able to identify Mr. Edwards brother, Mr. Estil Curtis Edwards, who he inherited the house from along with possible other past owners of the property. I searched the well database and card catalogue again for the surnames "Eberly" and "Slade" with no success. I contacted Mr. Edwards via phone on April 18, 2017 to confirm whether Mr. Estil Curtis Edwards was his brother and to find out if he knew of any past owners I hadn't already searched; he did not. Mr. Edwards questioned why I was looking into finding a well construction permit, since the well was installed prior to well permit requirements. If this is the case then Mr. Edwards' well is approximately 48 years or older in age, since record keeping didn't begin until 1969. I also asked Mr. Edwards if he has been without water during the past several years since dewatering occurred and his well caved in, he stated, "air and water." This is in agreement with Mr. Edwards' statement in the petition.

I spoke with Bill Cocke and Linda Zaoudeh of the DNREC-Allocations Branch who visited the well on January 17, 2017 to perform an investigation. They identified the well is a 1.5-inch diameter galvanized steel well of unknown depth. The well was opened and a small camera was inserted, but was not able to be advanced very far into the well due to corrosion build-up on the inside (Figure 5). The depth to water was estimated at approximately 8 feet below land surface and is visible in the photo. I also spoke with Mike Collison of A.C. Shultes of Delaware on April 19, 2017. Mr. Collison visited Mr. Edwards to discuss the well and past maintenance activities performed on the well on behalf of the Town of Laurel. He was able to confirm the diameter of the well and the fact that no vacuum test or maintenance had been performed on the well or well pump in the recent past. He did not open the well, or attempt to sound the well to obtain a total depth.

## Dewatering

A search of all permitted wells within a 1-mile radius of Mr. Edwards' well yielded a total of six (6) applications for a permit to construct a dewatering system that listed the Town of Laurel as the property owner. The assigned DNREC ID to each of these applications was 243941-243944, 244228, and 244802.

The applications for 243941-243944 were identified as individual wells to be installed at each corner of the pump station to a depth of 40 feet. Based on the DNREC well permitting database records, the permits were approved on July 22, 2013. Each of the permits was extended on December 18, 2013 to expire on June 19, 2014. Well permits 243941 and 243942 had call-in-authorizations on January 21, 2014 and January 24, 2014, but were both cancelled exactly one month later. No additional call-in-authorizations were recorded, and no completions reports were submitted. Permits 243943 and 243944 did not have any call-in-authorizations or completion reports either. I contacted Daisey Well Drilling with the DNREC Well Permitting Branch Supervisor, Alan Pongratz, on April 18, 2017 to determine if the wells were ever installed. Debbie Daisey remembered the project and said she would look into her records and get back to us with information regarding the project. On April 24, 2017 Alan Pongratz and I spoke with Amy Daisey and she was able to confirm that four (4) wells were installed on the Town's property on December 5, 2013, according to well completion reports submitted on April 24, 2017 by Alan Daisey Well Drilling.<sup>1</sup> The wells were each 50 feet in total depth with a 40 foot screen installed by Alan Daisey Well Drilling just off the south side of County Seat Highway for the pump station, but they did not abandon any of the wells. The static water level in each of these wells was reported to be 8 feet bls. In addition, Amy told us Alan Daisey Well Drilling also installed numerous well points along the south side of County Seat Highway from the entrance of Bargain Bill's down to the pump station. No applications for a permit to construct a dewatering system were identified for dewatering along County Seat Highway. Furthermore, the information regarding the pump station wells does not follow the sequence of events the Town documented in their official response to the petition dated April 18, 2017, which indicated only one deep well was installed and subsequently abandoned. The Town stated that well points were installed to dewater for the installation of the pump station. The letter also did not mention any other dewatering activities pertaining to the installation of the water tower foundation or along County Seat Highway to install the main.

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<sup>1</sup> This is a different well driller and company than the well driller Bill Daisey, who Mr. Edwards called as a witness.

The application for 244228 was intended for three (3) well points 44 feet apart to install the water tower foundation. The permit was approved on July 23, 2013 and no call-in-authorization or completion reports were ever recorded.

The application for 244802 was for 75 well points to dewater for the water tower. This permit was approved on September 9, 2013 and completed on September 20, 2013, according to the completion report. Each of these well points was installed to a depth of 20 feet with a 3-foot screen, with a static depth to water of 7 feet bls. It is unknown where the well points were constructed because it appears well points were used for the water tower, pump station, and County Seat Highway, according to photos submitted by Mr. Jim Hoageson of GMB. The DNREC does not have any record of other dewatering applications for well points in the other locations.

After identifying these issues, I sent an e-mail to the Town of Laurel requesting additional information on the dewatering that occurred on the site. I did not receive any information from the Town, so I looked into the design drawings the DNREC-Surface Water Section and Department of Public Health & Social Services - Office of Drinking Water keeps on file for sewer and water projects, to identify where dewatering had occurred and to what elevation. I was unsuccessful in finding the information I needed, so I contacted GMB, project design engineers for the Town, on April 19, 2017. I spoke with Mr. Jim Hoageson on April 20, 2017 and he was able to help clarify some of the details. Mr. Hoageson reported dewatering initially occurred around the water tower with well points, but he was not certain on the specifics (e.g., number of well points, depth, volume of water pumped, duration of pumping). Mr. Hoageson also said the deep wells were never installed around the pump station due to a lack of water identified in the first well. Mr. Hoageson said well points were used as documented in the Town's petition response letter; however, he was not certain of any specifics about these either. I asked if dewatering occurred along County Seat Highway as Mr. Hershel depicted in the petition. Mr. Hoageson stated the sketch provided in Mr. Edwards' petition was inaccurate, but dewatering did occur along the south side of County Seat Highway in the vicinity of Bargain Bill's down to the pump station/water tower site. Mr. Hoageson was not able to provide any specifics on the well point details. I did receive photos from Mr. Hoageson on April 21, 2017 showing the dewatering that had occurred in each of the three (3) locations (Figures 6-8).

Mr. Edwards' petition states, "I had good water pressure and plenty water until they dewatered to put tank foundation in. Now I have no water and now can't draw 5 gallon pail. My pond behind my house went dry at same time. I talked to gentleman when they did dewatering they said it would

not affect my water, but now I have none. This was all done to my knowledge it started in February 2015. They pumped an 8" line for approximately 2 or 3 months." The 2 to 3 month duration of dewatering appears to be in agreement with the discussions I had with Mr. Hoageson, but the timeframe when Mr. Edwards said it began appears to be in conflict with when all of the dewatering took place. The Town stated they received the first complaint from Mr. Edwards on January 6, 2014 and that the dewatering only took place from March 10, 2014 thru March 24, 2014. The Town did not mention any of the dewatering for the water tank foundation or along County Seat Highway to install the main.

The "pond" located behind Mr. Edwards' property is actually an old borrow pit that came into existence sometime between 1937 and 1954, according to aerial photos taken during this timeframe (Figure 9). The borrow pit is deep enough that it intercepts the water table during portions of the year when the water table is near the ground surface (Figure 10). The water table is usually higher in elevation during the winter and early spring before it begins to slowly decline throughout the summer and into the fall when it typically reaches its lowest elevation. This scenario can always change based on climatological events (e.g., drought, prolonged flood events). The western side of the pit has deeper portions located near the original access road off the northbound side of Route 13 (Figure 9). These areas tend to always have standing water due to the lower elevations regardless of how low the water table elevation. This was evident in the period spanning between 2010 and 2012 when water levels in Qe44-01 were at record lows (Figure 11). The borrow pit is essentially a large open observation well that visibly shows the water table as it fluctuates seasonally, or under extreme climatological conditions.

#### Time Drawdown Analysis

The DNREC planned on running a drawdown model using Aqtesolv to estimate the potential for drawdown of the water table at Mr. Edwards' well; however, the limitations of data regarding the well point construction, pumping capacity, and duration of pumping have prevented the DNREC in accomplishing this primary task.

#### Summary & Conclusions

The following is a summary of my findings and conclusions from this hydrogeologic investigation:

- The DNREC received Mr. Hershel Edwards' revised petition on April 6, 2017. Mr. Edwards' petition stated that when the Town of Laurel started dewatering for the water tank foundation his well and pond behind his house started going dry. He stated that to the best of his knowledge this all started in February 2015.

- The construction of Mr. Edwards' well could not be found in the DNREC records, nor was a Delaware certified well driller able to confirm the well construction or "cave-in" of the well. Mr. Edwards' well likely produces water from the unconfined, Columbia, aquifer based on the diameter of the well and use of a suction-lift pump. Mr. Edwards' well is approximately 48 years or older in age, if constructed prior to record keeping began in 1969. Mr. Edwards' well has severe corrosion inside as evidenced by the DNREC-Water Allocations Branch photos obtained during a site visit on January 17, 2017.
- The only measured water-level data available for Mr. Edwards' well was taken by the Town on January 6, 2014. The water level was reported to be 11 feet bls, according to the Town's letter. The water-level was estimated to be approximately 8 feet bls on January 17, 2017 by the DNREC-Water Allocations staff during a site visit to investigate the dewatering issue. A domestic water-supply well was installed ~230 feet east of Mr. Edwards' well on December 6, 2016 that reported a static water level of 10 feet bls.
- Hydrologic conditions during late 2013 thru early 2015 were considered to be normal to slightly wet using water-level data from nearby DGS index well Qe44-01.
- The six (6) Town of Laurel dewatering applications (DNREC ID 243941-243944, 244228, & 244802) have several unresolved issues regarding installation, location, pump capacity, and duration of pumping. DNREC ID 243941-243944 had completion reports that indicate four (4) 50 foot wells were installed on December 5, 2013 with 40 feet of screen. The static water level in each of these wells was reported to be 8 feet below land surface; however, the Town stated that only one (1) of these wells was installed but not used due to a lack of water. DNREC ID 244208 was for 75 well points to dewater for the water tower. The well points were completed on September 20, 2013 to a depth of 20 feet with 3 foot screens. The static water level was reported to be 7 feet bls. It is unknown where these well points were constructed because it appears well points were used for the water tower, pump station, and County Seat Highway, according to photos submitted by Mr. Jim Hoageson of GMB. The DNREC does not have any record of other dewatering applications for well points in the other locations.
- The Town of Laurel recorded daily water levels from the former domestic water-supply well located 22 feet off the south side of County Seat Highway near the pump station. The water levels ranged from 9 to 12 feet bls during the pump station dewatering. No other measurements were noted during the water tank foundation or County Seat Highway dewatering.
- The DNREC planned on running a drawdown model using Aqtesolv to estimate the potential for drawdown of the water table at Mr. Edwards' well; however, the limitations of data regarding the well point construction, pumping capacity, and duration of pumping have prevented the DNREC in accomplishing this primary task.

77. Mr. Strohmeier's testimony summarized his review of hydrogeologic or hydrologic conditions based upon the Delaware Geologic Survey Index Well QE4401, which is used to evaluate long-term conditions of the unconfined aquifer. Tr. 78.
78. He testified to reviewing the well completion reports from the Respondent's dewatering well points, which showed a static water level of 7' below the surface. Tr. 79.
79. He testimony cited DNREC ID 244208 as having 75 well points for dewatering the water tower, which dewatering was reported as completed on September 20, 2013. Tr. 79.
80. He testified to researching the Department records and finding a nearby well constructed December 2016 that is approximately 230' east of Petitioner's well and its well completion report indicated a static water level of 10' below the surface. Tr. 79.
81. Mr. Foskey asked Mr. Strohmeier for his professional opinion on the cause of Petitioner's well problem, and Mr. Strohmeier replied that "it is possible that the dewatering could have changed the water table, but at this point, the evidence substantiates the fact that the water levels recovered back to normal conditions of 9'-10' below the surface."
82. Mr. Strohmeier offered his opinion under cross examination that the Petitioner's well was at the end of its service life expectancy. Tr. 81.
83. Petitioner asked Mr. Strohmeier how he calculated the age of Petitioner's well, and Mr. Strohmeier mentioned his April 18 2017 phone conversation with the Petitioner and also because Department well permits began to be recorded in 1969.

#### **4) Petitioner's Rebuttal Case**

84. a) **Longfellow Testimony**-Joyce Longfellow testified for the Petitioner and added that the water was plentiful "before all this started and now when you take a shower you have to wait for the water to return to finish." Tr. 85.

#### **5) Hearing Officer Questioning:**

85. I asked Petitioner when he put a pump in and he stated that he personally installed a 2.5 horsepower pump approximately in 2014. Tr. 87.
86. I asked Respondent when the dewatering occurred and Mr. Foskey responded that it occurred September 2013 until March 2014.
87. I asked the licensed drillers to list the causes of well failures in general.
88. Mr. Daisey indicated that galvanized steel wells fail after 20 years because of corrosion, and other causes were water demand that drew down the water table, and more demand in a household that exceeded the water supply.
89. Mr. Collison replied to my question by added that a driven well may fail because it lacks a gravel pack and that this may cause fine sands and silt to migrate towards the screen and plug it, which will prevent water coming up the well pipe. He also mentioned iron in the water can also cause a well's screen to be clogged.
90. Mr. Foskey clarified that a driven well is one that was not drilled with a rotary drill, but instead is a pipe that is hand driven possibly by a sledge hammer.

91. Mr. Foskey pointed out public water and sewer is available across the street and is an option after payment of the \$10,000 water and sewer connection impact fee.  
Tr. 96-

### III. Findings of Fact

The following findings of fact are based on the above record, which includes conflicting dates of events and most troubling lack of accurate Respondent information on the dewatering. I set forth below the necessary minimum findings of fact to support the recommendation that the Department should deny the Petition based upon Petitioner's failure to meet his burden of proof to establish by a preponderance of the evidence that Respondent's dewatering caused the exhaustion or depletion of his well.

92. The Petitioner owns a well of unknown age for his personal use at his residence at 11051 County Seat Highway, Laurel, Sussex County, which is outside the Respondent's municipal limits in an unincorporated area of Sussex County.
93. The Department's records contain well permits issued beginning in 1969, and Mr. Strohmeier's search of the Department records found no record of a well permit for the Petitioner's property.
94. Based upon lack of evidence of any Department records of a well permit for Petitioner's well, and the Petitioner's inability to provide any evidence of when it was installed, the record supports assuming that either the Petitioner's well predates the Department's 1969 record keeping of well permits or the Petitioner's well did not receive any Department permit and would be in violation of the Department's regulations that requires a permit to construct a well. For purposes of this Report, I assume that the Petitioner's well was constructed before the Department's 1969 record keeping, which means that it is at least 48 years old.
95. The record indicates that the Petitioner's well was hand driven as opposed to drilled with a rotary drill, and that as a hand driven well it does not have a gravel base, which reduces clogging by fine sands.
96. The Petitioner's well has a 1.5" diameter galvanized pipe that has become very corroded to prevent observation beyond 8' below the surface, as depicted in Figure 5 photograph in Division of Water Ex. 1.
97. Division of Water Ex. 1 Figure 5 is a photograph that Department staff took on January 17, 2017 in response to Petitioner's request for assistance. The photograph was taken from the top of the well looking down the well pipe and shows the flash reflecting off of water at 8' below the surface and extensive corrosion on the walls of the pipe. The record contains differing diameters, but I find the evidence of 1.5" diameter most accurate based upon the witnesses who cited 1.5" diameter.
98. I accept and find that the Petitioner's well is 25'-27' deep based upon Mr. Daisey's testimony and his inspection of the well.
99. Assuming the 25-27' depth of Petitioner's well, then the Record supports finding that Petitioner's well was at a depth that always had available water based upon the evidence that the water table based upon nearby monitoring well and other nearby wells was never lower than 15 feet below the surface.

100. I find that the Petitioner's well problems are likely attributable to the problems associated with the at least 48 year old well that has reached the end of its useful service life and shows signs of severe deterioration from corrosion of the galvanized pipe and also possibly silt and iron deposits that accumulated naturally over the past over 48 years of use.
101. I accept and find credible the water table information that Mr. Strohmeier provided, which showed that the local water table had water at least 13' below the surface based on the record, which supports finding that Petitioner's well had water available 8' below the surface.
102. I accept and find credible the professional opinion of Mr. Collison who concluded that the dewatering activity did not cause the problems with Petitioner's well.
103. I accept and find credible the professional opinion of Mr. Daisey that Petitioner's well is at the end of its expect life based upon being at least 48 years old.
104. I accept and find credible the professional opinion of Mr. Strohmeier that Petitioner's well is at the end of its service life expectancy.
105. I accept and find credible Petitioner's testimony that his "existing water use" within the meaning of Section 6031 is "depleted or exhausted" within the meaning of Section 6031 because it no longer provides adequate water compared to when its prior use. The current water use provides sufficient flow only for a few minutes and then the flow becomes 2/3 air. Despite the depleted or exhausted water supplied by Petitioner's well, the Petitioner and Joyce Longfellow continue to use water at the Petitioner's residence.
106. I accept and find credible the Respondent's testimony that Petitioner's complained about taking his water prior to any of Respondent's dewatering activities, which supports finding that other factors may be causing his well problems.
107. I find that in 2014 Petitioner replaced his well pump as support for finding that the Petitioner's well problems may predate the Respondent's dewatering.
108. I find that the Respondent's dewatering was not the cause of Petitioner's well problem because it did not impact the Petitioner's water table at his well based upon the reading of the Respondent's monitoring well and the observation of Petitioner's well.
109. The Respondent's dewatering wells did not provide the Department with proper records and this prevented better information in this proceeding. Mr. Strohmeier's report indicates the dewatering did not impact the water table begins 13' below the surface, which means that the Petitioner's 25'-27' deep well should be capable of pumping water from the water table at all times during the Respondent's dewatering.
110. I find that the age and poor condition of Petitioner's well pipe from corrosion and clogging over its over 48 year life likely are the causes of Petitioner's decline in the quantity of water that the Petitioner may receive from the available water supply located no more than fifteen feet below the surface. The Petitioner failed to prove that the Respondent's dewatering caused the groundwater at his residence to fall below the 25'-27' depth of his well at any time, and the Record shows evidence that the groundwater in the area and at the residence was no more than 15' below the surface at all times during the dewatering.

#### **IV. Reasons**

The Record establishes that Petitioner has a problem with his "existing water use" that satisfies Section 6031's "the depletion or exhaustion of an existing use of water." The Record does not establish by a preponderance of the evidence that Respondent's dewatering wells caused the Petitioner's problem. The Record evidence showed that the Petitioner's 25-27' deep well should have been able to draw water from groundwater that was no more than 15 below the surface at all times during the dewatering. Thus, the Petitioner failed to meet his burden of proof and his Petition should be denied.

The Record supports the conclusion that the 48 year of use of Petitioner's well resulted in its deterioration and clogged that caused the water delivery to decline after only a couple minutes of use. The testimony of all experts concluded that such a decline was typical based upon the age and condition of the Petitioner's well. The Petitioner's well driller witness indicated that the Petitioner's had reached the end of its expected service life and should be replaced with a 4" diameter PVC pipe to a depth of 60."

Section 6031 only authorizes the Department to grant relief to replace a well based upon the same quantity and quality of water, which for the Petitioner's well would be a 1.5" inch diameter well to a depth of 25-27'. Section 6031 also allows the Department to require the Respondent to connect the Petitioner to its central water system free of charge and to not charge the Petitioner for the first 100,000 gallons of water a year for three years or a defined interim period of free water service. The Petitioner did not want this remedy, but it remains in the Department's discretion to award should the Department grant the Petition.

#### **V. Conclusions of Law**

The Petitioner failed to meet his burden of proof to establish that he is entitled to relief for the problems with his well because the record supports finding that Petitioner's well is at least 48 year old and has reached the end of its useful service life because the well's 25'-27' long pipe is clogged by corrosion that prevents the receipt of water from the aquifer that begins 13' below the surface.

I recommend that the Secretary deny the Petition and issue the attached draft order consistent with this Report's recommendation.

  
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Robert P. Haynes, Esquire  
Senior Hearing Officer  
Office of the Secretary  
Delaware Department of Natural Resources and  
Environmental Control

