

The regular meeting of the Board of Health was called to order at 7:30 p.m. Present for this meeting were the following Board members: Board of Health Chair Tracy Carluccio, Les Hamilton, Ted Peyrek, Tony Berberabe, Jim Rosso, Charles Van Horn, Larry Tatsch, David Wang-Iverson (Vice Chair) and Christine Rosikiewicz (Board Secretary). Pauline Serafin was absent. Board Attorney Lorraine Staples was also present.

In compliance with the Open Public Meetings Act, this meeting was advertised as a regular meeting in the January 26, 2012 issue of the Hunterdon County Democrat. A copy of the agenda for this meeting was forwarded to the Township Clerk, posted on the Township bulletin board and sent to the Hunterdon County Democrat, the Star Ledger and the Trenton Times on November 12, 2012.

**ANNOUNCEMENTS/AGENDA REVIEW**

**Under Unfinished Business:**

2012 Budget Review

**Under New Business:**

Request from ATMA Family Medicine to cease submission of quarterly well monitoring reports.

**Under Items of Discussion: Education and Health Issues: Hunterdon County Division of Public Health LINCS**

Fax from 11/14/12 re: Info: Changes in the State/Municipal – Sponsored Rabies Clinic Program for 2013

**Under Bills of the Evening:**

Ferriero Engineering, Inc.      Soil Log Witnessing B32 L 4.03      \$270

**PRESENTATION OF THE MINUTES** –October 16, 2012

Mr. Tatsch noted that he did not attend this meeting but would like to comment on the municipal building well during the Unfinished Business portion of the meeting.

**Mr. Hamilton made a motion to approve the September 18, 2012 meeting minutes with two typographical corrections; Mr. Peyrek seconded the motion. All were in favor; the motion passed with Mr. Rosso and Mr. Tatsch abstaining.**

**OPEN TO THE PUBLIC**

The meeting was opened to the public.

**As no public came forward Mr. Tatsch made a motion to close to the public; Mr. Van Horn seconded it. All were in favor; the meeting was closed to the public.**

**UNFINISHED AND NEW BUSINESS**A. Hunterdon County Division of Health and Safety - Inspector's Report

## 1. Owens-AKA Woody's-Block 16, Lot 11

Mr. Wyckoff was not present; he provided a written report. T. Carluccio reviewed the report with the Board. There are 1025 pages of information for this case at a cost of five cents per page; the approximate total cost would be \$52 to obtain official documents associated with this case. Mr. Hamilton commented that they could possibly be available electronically at a less expensive rate. Mr. Wyckoff suggested as an alternative that the Board write a letter to Mr. David Muscala and request the reports. It was agreed that Ms. Carluccio will work with the Board Secretary and compose a letter to Mr. Muscala to request reports.

B. Preview Committee

There were no items for preview committee.

C. New Business:

## 1. Appointment of Mr. Peter Demicco as Special Consultant regarding "Water Supply Ordinance and Testing regarding M2Associates report dated June 7, 2012"

Ms. Carluccio explained that Mr. Demicco is not the Board's regular hydro geologist; he is being engaged as he has special knowledge of the East Amwell well ordinance since he is the primary author of the current ordinance. Mr. Demicco has been the Board's regular hydro geologist in the past but the Board appointed a different hydro geologist a few years ago when Mr. Demicco wasn't available. Mr. Demicco has provided an estimate of his costs; there are funds in the budget to cover this expense.

**Mr. Hamilton made a motion to appoint Mr. Peter Demicco as a Special Consultant; Mr. Peyrek seconded the motion. All were in favor; the motion passed.**

## 2. Letter and report from Mr. Jeffrey Blumstein re: Hydrogeological Evaluation of Well Certification Testing, Block 41 Lot 40.05

Chair Carluccio asked all involved parties to come forward. Ms. Linda Feinberg, 84 Stony Brook Rd., stated that she is an attorney at law and is appearing pro se. Mr. Peter Demicco, 151 Old Franklin School Rd, Franklin Township, introduced himself and stated that he has been involved with hydrogeology as a consultant for almost thirty years. He listed his education, credentials and professional experience.

Ms. Feinberg introduced Mr. Matt Mulhall; she will go over his credentials when she questions him as her witness. Attorney Staples asked Mr. Demicco if he was familiar with

Township ordinances; most specifically the ordinance regarding well certification. Mr. Demicco replied that he is. Ms. Staples asked if he could provide his report.

Ms. Feinberg said that she assumed she would go first as the appellant. Attorney Staples explained that the Board has not had an opportunity to hear from Mr. Demicco as he was only hired this evening. After he provides his report Ms. Feinberg can speak and questions can be asked of Mr. Demicco. She asked Mr. Demicco if he had reviewed the report; he had.

Ms. Carluccio asked Mr. Demicco if he could review the letter from Mr. Mulhall focusing on the questions that were raised in the letter. Attorney Staples noted for the record that the letter was dated June 7, 2012 to Linda Feinberg from Mr. Mulhall. Mr. Demicco addressed the two tests involved with the well, one in 1994 prior to hydrofracking and in 1996 after hydrofracking. One of the issues raised by Mr. Mulhall was the validity of the test post fracking. There was no data on exactly when the fracking occurred. Mr. Demicco said the second test was started fairly early in the morning at 9:30am. Based on that evidence it looks like the hydrofracking was done at least a day prior. Given that amount of time post hydrofracking the well could recover and the aquifer could stabilize; in his opinion the well test is valid. There may be a small impact of five percent or less. If testing was completed right after the hydrofracking that could have posed a problem, from what he can gather from the testing information that did not occur. He stated that he thinks the 1996 test is a valid test.

Mr. Wang-Iverson inquired how long a hydrofracking usually takes. Mr. Demicco replied that it usually doesn't take too long. He witnessed it done before and described the setup, usually it takes two to three hours to build up the pressure, frack the well, and see what the results are. A second fracking may or may not occur. It will take the better part of at least the morning. He noted that the one he witnessed started around 8:30am and ended around 1pm. Mr. Wang-Iverson inquired about the amount of water typically used. Mr. Demicco replied approximately one thousand gallons; it is done to build up a pressure response within the rock. The gauge will show a sudden drop in pressure when the rock starts opening up. It is more of a pressure response than a large volume of water being injected. Once the aquifer has opened up new fractures the water will disperse over the day. Mr. Wang-Iverson asked if it was one thousand gallons roughly. Mr. Demicco replied one thousand, maybe two thousand, depending on how much the yield of the well was to begin with. He said this well was pretty low to begin with so it wouldn't take that long to build up the pressure. Mr. Wang-Iverson thanked Mr. Demicco.

Mr. Demicco addressed the question raised about the twenty or forty percent increase in water usage. He reviewed Chapter 176-6 Certification C of the ordinance and commented that it specifically says the requirement for recertification is based on an increase in demand on the well by 20% or more over certified capacity, not an increase over the peak demand capacity of 1000gpm. He stated that if you use the peak demand figure, it is a 40% increase which is 1000 gallons per day (gpd). If you use the certified capacity figure (6 gallons per minute) it is 8640gpd. A 400 to 500 gallon increase doesn't meet the threshold of a 20% increase according to the ordinance. He noted that the Board always has the discretion as to whether to require certification as the ordinance says "recertification may not be required" and uses the word "may". He further stated that the Board has the option

of requiring recertification. In this case with the yield of the well around 6gpm it is not necessary in his opinion.

Mr. Demicco pointed out that the definition of “commercial water use” makes it clear that a residential well can be allowed to have incidental usages because the commercial well is defined as the use of the water well as an integral part of a commercial operation (landscaping, restaurants, or laundries). He believes that this is a residential well and the ordinance states that commercial, ancillary or incidental well use is allowed.

Mr. Demicco’s comments regarding the 1994 and 1996 well tests are summarized as follows:

- The recovery of the well during the 1994 well test was “pretty bad: at 1.4gpm.
- With the 1996 test the well started to recover and stabilized at about 6gpm.
- When the well pump was turned off the well recovery started out close to around 7 or 8gpm and dropped down to 6, then 5, then 4 because it had essentially recovered.
- The tests before and after hydrofracking are extremely different, resulting from opening up the well to another series or sets of fractures. He said that overall it is a pretty good well.
- Pumping was done at a higher rate during the peak demand test and when it was cut back the well started to recover already. During the peak demand test they may have been able to run it at 8 or 9gpm as the last measurements were starting to go down even during this test.

Mr. Tatsch asked if it is known what level the well pump was set at. Mr. Demicco did not but it was probably substantially below that. Mr. Tatsch said the well has been in service for perhaps fifteen years or so and inquired if there was any record that this well has not been able to provide sufficient water. Mr. Demicco has not seen anything about the well falling off or needed refracking. Mr. Tatsch asked about the additional water injected into the well during the fracking process; would Mr. Demicco think that the peak demand test (where the well is essentially pumped to a fairly low level) and the continued pumping during the constant rate test would be sufficient in itself to remove any residual water from the aquifer. Mr. Demicco replied yes, it would be.

Ms. Carluccio inquired if the 1000 or 2000 gallons that would be added during hydraulic fracturing is significant in terms of the contribution of the aquifer to the well bore. Mr. Demicco replied that no, the well was responding as it would have responded with or without a couple of thousand gallons extra, as by that time it would have leaked out of the fractures into the aquifer.

He spoke of a process called airlifting where debris is lifted out of the well by air after fracking; he is not sure if that was done here.

Ms. Carluccio asked if Mr. Demicco could explain what transmissivity is and explain what is being measured during the three part pump test, including the parts that measure

transmissivity. He explained that transmissivity is the ability of the aquifer to transmit water; it is usually measured in gallons per day over a one foot thickness of the entire interval. As transmissivity increases, the yield of the well increases which means that in a fractured rock environment more fractures have been intercepted. The term is used as the specific capacity of the well; it is a similar measurement of the yield of the well. He thinks the specific capacity was ".008 pre-fracking". It was .01 afterward, so that's 2.5 to 3 orders of magnitude...increase, so "they did very well, actually". [Board of Health's note: actual "preliminary specific yields" written in the well witness data sheets are: 0.008gpmft pre-hydrofracking in 1994 and 0.10gpmft after hydrofracking in 1996.]

Mr. Wang-Iverson asked if that is a surprising result. Mr. Demicco commented that to him it was a little bigger than usual. He usually sees wells go from 2 or 3gpm to 5gpm. This well went from 1gpm to 6.

Ms. Carluccio asked if the transmissivity of the well is really what the well is going to yield in terms of water and what is stored in the well bore doesn't matter. Mr. Demicco said that one of the things you are trying to make sure of in the test is to negate the effects of well bore storage. Aquifer storage cannot be negated; that is where a lot of the hydrofracking water is going to go. Ms. Carluccio summarized that the three part test is more rigorous than just a straight pump test but this is why we have it. Mr. Demicco explained that if you have 1500 gallons of storage-about 1.5 gallons per foot of well depth-and just pump at 5gpm, you would just be pumping out water stored in the well bore. But East Amwell's test is a lot more rigorous; it is looking for the aquifer contribution to the well by making sure the pumping level stays flat so there is no contribution from well bore storage.

Ms. Feinberg inquired if Mr. Demicco has issued a report. T. Carluccio replied that he has not, and that this is the first time a verbal report has been heard and a written report was not commissioned.

Ms. Carluccio invited Ms. Feinberg to come forward. Ms. Feinberg swore in Mr. Mulhall and he stated his name as Mathew J. Mulhall for the record. He provided his educational background, credentials and professional affiliations, including being accepted as an expert before the East Amwell Board of Health Mr. Mulhall has previously testified for planning boards in Hunterdon County and superior court in many New Jersey counties.

Ms. Feinberg asked Mr. Mulhall if the subject of water supply is his area of expertise; Mr. Mulhall replied yes and that he has been designated an expert in it. Ms. Feinberg asked if he is prepared to testify with regards to impervious coverage as it pertains to well recertification. Mr. Mulhall responded yes because it has influence on recharge to a well. Ms. Feinberg offered Mr. Mulhall as an expert; she asked him if he was retained in this matter. He replied that he was by Mr. and Ms. Feinberg.

Ms. Feinberg inquired what concerns were raised if any, by them. Mr. Mulhall replied that the primary concern was the additional use of water from the well on Lot 40.05 and was there a potential for adverse impacts to other wells and was the well certified to show that it could provide a yield that was suggested by Attorney Sposaro (council for the del Campos). Ms. Feinberg asked Mr. Mulhall which documents he reviewed in preparation for his investigation. He reviewed the 1994 and 1996 East Amwell well certification tests that

Mr. Demicco referred to, the May 15, 2012 letter from Attorney Sposaro, and the East Amwell Township Board of Health 1998 ordinance, Chapter 176, regarding well certification and testing.

Mr. Mulhall stated that he disagrees with Mr. Demicco's testimony. Mr. Mulhall's comments are summarized as follows:

- The 1994 test conducted before hydrofracking indicated the well yield was 1.8 gpm and could support a 5 bedroom, 2.5 bathroom house.
- The 1996 test was completed after hydrofracking; it is unknown how the hydrofracking was conducted. It is also unknown if the water injected was withdrawn.
- During the 1996 this test slightly more than 2100 gallons could have been withdrawn throughout the whole testing. If 2000 gallons of water are injected into an aquifer as part of hydrofracking and that water isn't removed, there is a chance that "...when you start pumping, of course you're going to see the yield increase." water of course the yield will significantly increase.
- The radius of the volume of 2000 gallons of water is approximately 647 cubic feet. This water is stored in an annular space of about five feet around the well, not what's stored in the bore hole; because the water is applied under pressure. The fracture effect is to a limited extent beyond the well.
- It is important that when the well is pumped afterward it is shown that the water that was withdrawn is actually water coming out of the aquifer and not water that was injected into the aquifer in this particular case.
- We don't have the information showing that hydrofracking water was withdrawn. Pre-hydrofracking there is a recovery rate of about 1.63gpm for the first hour after the pump was shut off. Post-hydrofracking there is a recovery rate of 0.9gpm. This indicates that the yield of the well hasn't been improved at all by hydrofracking.

Mr. Mulhall disagrees with the issue of the 20%-40%; specifically in Attorney Sposaro's May 15, 2012 letter where it is indicated that the volume of water used by the animals is about 413gpd. That would show that an increase in both tests (1994 and 1996) were conducted assuming a five bedroom house where 1000gpd could be drawn. The test showed that daily demand on the well could be 1000gpd; not 8640gpd. The well was not tested at 6gpm to show that it could produce that rate for twenty- four hours. This is not a constant rate pumping test that you would see for a major water allocation permit or anything along those lines where you could factor those characteristics. The demand on the well has been increased since it was tested in 1996.

He said that if the well is capable of producing water at 6gpm than it should be able to pass a well certification test that shows it is capable of producing 1000gpd for the home and the additional demand for the animals. He believes that hasn't been shown based on either the 1994 or 1996 test and the ordinance suggests very strongly that it should be shown.

Mr. Mulhall said when the 1996 test was conducted the water level was monitored in nearby wells. On Lot 4.06 the well was drawn down; the water level in the well was 4.83 feet lower than it was at the start of the test. That last measurement was taken 18 minutes after the pump was shut off in the Lot 4.05 well. In those 18 minutes the water level very likely recovered in the Lot 4.06 well. Even if it recovered .017 ft. it therefore passed the test because of that measurement. He said that it is unknown if the water level had been drawn down more than five feet in the well on Lot 4.06, and if it had, the recovery test would have failed as there would have been a five foot impact on an offsite well. To certify the well for the use of more water, he believes that the offsite wells should be monitored again to see if there has been an adverse effect. He said that we don't know the status of the well since 1996, what the water levels have done in that timeframe or if they have declined due to the overuse of water from the aquifer. He believes that the ordinance provides an opportunity to test the well to see if it produces the volume of water needed to support the operations on this property. If this were a residential unit looking to expand the ordinance calls for additional testing; this is a business that has expanded since it has been in operation. In his opinion there is a very clear reason in the ordinance for requiring well certification to show that the well is capable of meeting the demands on the property and it is not having an adverse impact on neighboring wells. He referenced the 1996 test, supposedly the better test, which shows significant potential for an adverse impact. Ms. Feinberg asked if the offsite impact was on her property; Mr. Mulhall believes it was.

Ms. Feinberg inquired if an increase to impervious coverage would impact the findings. Mr. Mulhall explained that when you impact impervious coverage there is a potential the coverage will reduce the recharge of the aquifer. Precipitation on impervious coverage runs off the property verses being available for recharging the aquifer. A diminishment of water levels in the aquifer could be seen over time. This has been seen very clearly in other areas in and beyond the Sourland Mountains where there has been over usage of the wells. Some municipalities have installed monitoring systems on wells to see what the long term influence is on water levels over time. If there is a diminishment in recharge due to increases in impervious surfaces then water levels will decline over time.

Ms. Feinberg referred to the letter from Attorney Sposaro; specifically the number of gallons per day in regards to water usage dealing with additional animals. She inquired what effect the other activities that could be happening would potentially have on water usage. Mr. Mulhall explained that if there is heavy duty water usage from irrigation or a retail operation, state regulations require a water usage calculation based on 0.125gpd per square foot. He said that if someone applied for an application to build a retail operation they would have to provide water usage based on .125gpsf. The certification test would be organized this way and include the animals and the residents on the property. If that level exceeded 2000gpd a hydrogeological analysis would be required by Township ordinance to show that there is adequate recharge to meet the demands on the property and that the well would not have an adverse impact on the aquifer and other natural resources that are dependent on that aquifer and on nearby wells.

Ms. Feinberg asked if there was anything else Mr. Mulhall would like to add. He stated that in his opinion this well does not produce 6gpm and he thinks there are enough questions about water demand, and change over time that there is a need for re-certification of this

well to show that it can meet the current and any future demands that may be necessary for this project.

Ms. Carluccio asked the Board if they had any questions for Mr. Mulhall. Mr. Tatsch commented regarding the well being certified for five bedrooms; that certification is for peak demand, not well yield. The well yield certification is for unlimited number of bedrooms. The peak demand test says nothing about the aquifer; it merely tells what the storage is. You can get peak demand with a dry hole cemented at the bottom, but deep enough to hold enough water to meet that particular pumping requirement. He clarified that the certification was for an unlimited number of bedrooms.

Mr. Mulhall responded that the test was conducted to see if 1000gpd could be removed. The peak demand was 500 gallons. He discussed the peak demand test and running a constant rate test to show that you can run the well to meet the demand of the number of bedrooms and look at what the aquifer ability is. Mr. Tatsch disagreed on how the test was conducted having witnessed many of them. He said that the well is pumped at the greatest flow rate possible, to draw down the well as far as possible so when the constant rate test starts the well has already been stressed. Mr. Tatsch said the peak demand test is not a throttle test; it is a full-bore pump test in which the required amount of water can be removed within the period of time mandated by the test. It can be done with a dry hole if it's filled up with enough water because the well doesn't have to have any water coming into it to pass the peak demand test.

As he had asked Mr. Demicco, Mr. Wang-Iverson inquired of Mr. Mulhall how he interpreted the observation during the 1996 constant rate test that the well level starts to increase as soon as the flow rate is reduced. Mr. Mulhall said that was the water used for fracking that was stored in the aquifer which was entering the well and the well saw some of that as recovery when the flow rate was reduced. If the test removed 2186 gallons and 2000 gallons was used for hydrofracking, the amount a tender truck usually holds, only 186 gallons was contributed to the test by the aquifer. Mr. Mulhall's opinion is that the true capacity of a well can't be determined unless the water used for fracking is removed and it's unknown if that occurred.

Mr. Wang-Iverson asked Mr. Mulhall if in his position that the water that is injected into the aquifer as a part of hydrofracking doesn't ever leave, is it stored there indefinitely. Mr. Mulhall said the transmissivity of the formation is very, very low. The ability of the aquifer to transmit the water away from the well is very slow; a timeframe of days and months. If you do the test within twenty-four hours of fracking, there is not enough time to allow that water to migrate very far away.

Mr. Wang-Iverson inquired about the property that showed potential interference; how would that be explained if the only water that was withdrawn from the well was that artificially added to the well? Why would there be interference in a neighboring well if the only water removed was added exogenously? Mr. Mulhall replied that the pressure is changed in the aquifer and more importantly there is clearly some hydraulic or fracture connection between the two wells. He said it was a good point, a reason to go back and evaluate and see what is happening between these two wells. A reason to do the test would be to find out what is the cause of the draw down in the well. Mr. Wang-Iverson commented

that the result was “unexplained.” Mr. Mulhall said we need to find out why and if there is the potential to have an adverse effect. Mr. Mulhall said the problem is that the last measurement was taken 18 minutes after the well should have started to recover; we don’t know what would have happened had the measurement taken place earlier. Mr. Wang-Iverson asked- if the test only measured water that was injected into the well and did not measure water that was part of the aquifer then why was there interference in any neighboring well? Mr. Mulhall answered that water level in the well is comprised of two different components; the elevation and pressure. He stated this is about fractures in rock that are generally very, very small where not a lot of water could be stored.

Ms. Carluccio asked Mr. Mulhall if he is aware that the ordinance states specifically that the twenty percent increase is calculated as 20% over the certified capacity of the well of 6gpm. Mr. Mulhall was aware the certified capacity was 1000gpd; he did not expect it was 6gpm. He noted that we don’t know if that is the long term capability of the well as that was a fifteen minute point at the end of the test. Ms. Carluccio said the ordinance specifically says that the 20% calculation is based on an increase over the certified yield of the well; this calculation has been applied by the Board of Health for years through the ordinance. It is applied to the 6gpm in this case and not on any other measurement, as was stated in Mr. Mulhall’s letter. She inquired if Mr. Mulhall is aware that the non-residential use portion of the ordinance is clear that it is to be applied to new wells that are drilled for that specific purpose. If a well is being drilled for a commercial use, an agricultural use, or a non-residential use then those requirements in the ordinance apply. They are not applied to an existing well that has an ancillary use. Mr. Mulhall said he was giving an example of if they were a retail operation; they would come to the Board for a certification of the well. Ms. Carluccio said that would be a new well. Mr. Mulhall said in this particular case Ms. Feinberg asked him about other water uses on the property and he said his point is that there are other uses that would need to be calculated and provided to the Board of Health so they could insure that all certification tests have been properly conducted, that is typically what would be done. Ms. Carluccio asked Mr. Mulhall if he is testifying that there is a waterline to a retail facility on this property. He replied that he is not and does not know; he said he responded to Judge Feinberg’s question that if there were other water uses on this property they would have to be incorporated and calculated. He provided an example of a retail operation coming to the Board where there are other uses such as irrigation and water use in a retail operation or farm market. He believes that a farm market is a retail operation so the value of .125gpd per square foot would be used to insure that there were adequate water resources available and that the certification tests were properly conducted. He said the ordinance states that over 2000gpd of water use requires additional information to be provided. Ms. Carluccio clarified it would be for a new well being drilled for that purpose.

Ms. Carluccio asked Mr. Mulhall if he is testifying that there has been a substantial amount of impervious coverage added. Mr. Mulhall replied that it is his understanding that additional buildings have been built on the property since the original house was built including parking lots and other features. We don’t know if that would have an impact; that would be the purpose of a hydrogeological analysis, to find out what that impact would be on long term discharge.

Attorney Staples asked Mr. Mulhall if he determined an adverse impact on other wells. He replied that he looked to see if there was potential for that to happen; the well on lot 4.06

was affected by the pumping test. Attorney Staples said that was on the 1996 test; she asked if he determined any present impact and he replied no. Attorney Staples asked if it was Mr. Mulhall's testimony, since he mentioned the age of the well, that any well of this age should be retested in this Township. Mr. Mulhall replied no; his point is that in this particular situation there is additional usage. He questions whether that 1996 test is valid and there should be additional certification to show that the water is available to meet the demands of the property and the operations today. Attorney Staples reiterated that Mr. Mulhall has no information that shows there is insufficient water on the property for which the well serves or that there is an adverse impact on any other lot. Mr. Mulhall agreed that he has none.

Ms. Carluccio asked Mr. Demicco if he would like to respond to remarks made by Mr. Tatsch and Mr. Wang-Iverson. Mr. Demicco said the water that went in the well, 2000 gallons, will fill up 5% of the aquifer and push and displace that water, but when the constant rate test shows interference all the way out, the pressure that is created will dissipate relatively quickly over time, especially when it is one day to the next. The water is in the well but the pressure in the aquifer is what the pump is going to have to respond to and lift against and that pressure equilibrated over time. The pressure has gone away; the water is in storage like any other water in storage in the aquifer. It may have raised the water level over a very large distance a very minute amount given the twenty-four hours between testing. It is pressure and the interference does show that the pressure goes out a lot farther than five feet and is increasing as the square of the radius. He does not know the distance of other wells but if they are, say, two hundred feet away the pressure is dissipating over 200 feet times the square of the distance. It is a much larger volume that the pressure dissipates over. Mr. Demicco thinks that another test would be about the same – 6gpm.

Mr. Demicco said that there are other questions regarding the interference test. For instance, the one well shows 4ft 10in; there is another offsite well that was monitored for interference that looks like it was heavily used prior to the testing and the water level in that well was increasing during the test. He wondered whether that interference-tested well was actually affecting the well on Lot 40.06. He said B41 L40 has a static well level of 33ft. at the start and increases to 20ft. He agrees with Mr. Mulhall that there is a question of what is going on with the aquifer. One well went up, one went down. Mr. Demicco said you don't know which well caused which response. Ms. Carluccio asked Mr. Demicco if it is his testimony that the well certification is valid. Mr. Demicco said he would say it is valid in his opinion. Ms. Carluccio asked Mr. Demicco in his opinion if the well requires or should be recertified under the ordinance. Mr. Demicco responded that unless we can show a substantial amount of impervious coverage, or something greater than the amount of water use than that already discussed, he doesn't think re-certification is required unless it gets closer to the twenty percent threshold. Ms. Carluccio asked regarding the evidence that is on the record presented through Mr. Mulhall's report can he say whether or not the well is required to be recertified under the ordinance. Mr. Demicco said that 1200gpm is still not up to the twenty percent threshold from the original amount for which the well was certified. If the numbers go up higher than that maybe it would come to the Board again. Mr. Demicco asked if there is a 10,000sqft building. Ms. Feinberg clarified that there is 16,000 square feet of new building not including the driveway on the property owned by Ms. del Campo since 1996. The barn is 100 X 70ft. Mr. Tatsch asked Mr. Demicco about the permeability of the soil in this particular area and where exactly this aquifer might be

recharging as some of the soils there are rather impervious. He asked if it necessarily means that if impervious coverage has been placed in this property that the recharge has been diminished due to that. Mr. Demicco replied that the recharge is probably partly coming vertically downward and the rest is coming from a recharge area wherever that may be. Mr. Tatsch asked Mr. Demicco to clarify what area. Mr. Demicco explained that the bedrock there has a twelve or fourteen degree depth so the water is going to primarily be moving along bedding plains fractures and where they come out at the surface is where a significant portion of the recharge comes from. Ms. Carluccio said we don't have information on the record for Mr. Demicco to give an opinion on that tonight; Mr. Demicco said at this time he can't say anything about it. Ms. Carluccio asked Mr. Demicco that based on what is on the record and what is required in 176-6C in our ordinance is it your opinion that this well requires recertification. Mr. Demicco replied with the information he has right now, no.

Ms. Feinberg asked Mr. Demicco if the number of animals increased would that affect his judgment. Mr. Demicco replied of course, if the number goes up and gets closer to the twenty percent threshold the Board is obligated to review. Ms. Feinberg asked if there are dinners taking place twelve to fifteen times a year where up to fifty would be attending would that increase the possibility to test. Mr. Demicco replied that it would be a rather small increase, water use essentially doubles outside during the year due to outside irrigation and washing cars so that extra one or two times a month won't be that much more.

Ms. Feinberg asked Mr. Demicco about the increase in activities if there are more people that come to the property, does that have a potential to increase the amount of water consumption? Mr. Demicco said if you bring more people in there will be an increase; he thinks there is a method the state has to handle it as they have other information. Until that comes forward and we know what it is, the numbers we have are where we are at.

Ms. Feinberg said the well that Mr. Mulhall indicated that had the adverse effect in 1996 is her property. She asked Mr. Demicco if there were no animals in 1996 and there are increased activities today, what impact in his opinion would it have on that well today. Mr. Demicco said the adverse impact was just at the limit of what the ordinance would tolerate to five feet using the full 6gpm, 8600gpd. If their usage is coming up to that point, then you would expect to see those results but use is nowhere near that. He does not think you will see impacts from the existing use. He advised that she could open up her well and measure the static well level to see if it has changed to evaluate the impact.

Ms. Feinberg asked Mr. Demicco if he knows this property is a residential property. Mr. Demicco replied that from what he understands it is. She asked if there are different standards for commercial wells. Mr. Demicco replied that there is different testing but they are basically both the same testing procedure. Ms. Feinberg asked if it is his testimony that it satisfies the requirements under the residential well standards. Mr. Demicco replied "at this point".

Mr. Mulhall stated that in his opinion on well certifications, he has seen the need for the test to be done again for reasons he outlined as follows: 1.) The Board does not have the information on how much water is actually being used on the site including 16,000 square feet of additional buildings, animals and different things. The ordinance requires that

information be provided to the Board of Health. 2.) Although he heard some emphatic comments from Mr. Demicco he initially said if this well were tested he believes it would have a yield of 6gpm. Mr. Mulhall said it may; that's what we need to know. He says that is what the well certification ordinance calls for. He asked, "Can it produce the 6gpm or not, was it a fault of the hydraulic fracturing or not?" He does not believe there is enough information here to know because we don't have the information on the hydraulic fracturing. He said this is another reason to proceed with the well certification so the Board has that information: the volume of the use of the property, whether the well is capable of producing 6gpm long term and whether it can do that without any adverse impacts. He inquired if we know what happened and why the well on lot 40.06 was drawn down; we don't know that information now. He said we have heard from two hydro geologists and that in his opinion there is enough doubt as to the test in 1996 that a new test is warranted to show that you have adequate support to meet the demands of this project and to find out what are the demands of this project.

Ms. Carluccio addressed a question to Mr. Demicco, noting that Mr. Mulhall said we heard enough doubt from two hydro- geologists that would lead us to believe that the well requires retesting – does he agree? Mr. Demicco said no, he thinks the well is adequate as tested. If the water usage does come to near that twenty percent then it is a valid time to retest. He wants to stick with the twenty percent threshold written in the ordinance.

Ms. Feinberg commented that the ordinance provides for a change in use. She inquired how she would know without actually testing the well. She said she knows the impact on her well raised questions. When she moved in prior to 2011 there were seven horses on the farm (down to two at one point) and now there are many, many sheep, there are pigs and chickens, there is a farm market, 16,000 square feet of buildings, farm dinners, educational seminars, people coming to this place. She said it is a full scale commercial operation. There are signs on Rte 518 advertising products. From her prospective as a homeowner, with all these activities, the ordinance says any physical change in the well, change of use, and conditions of use. How will she know that it is more than twenty percent? She won't know that unless she has access to the property and could test it. Ms. Feinberg stated the question is whether based on what we know there is a sufficient change in use to warrant recertification. She does not think it is too much to ask when there has been some evidence of a compromise to her well in 1996. The only reason she hired an expert is to take a look at it; if the result was "I don't see anything" it would have been over. She has to rely on him and she thinks what Mr. Demicco is saying is that he is accepting the 1996 report. Assuming he is right, even if you accept his conclusion, we still have a substantial increase in impervious coverage which has to have impact. There has certainly been some evidence to show a dramatic change in the use of the well; there is a substantial commercial operation and agricultural operation going on. Ms. Feinberg is requesting recertification of the well.

Attorney Staples noted Mr. Demicco was not sworn before he testified; she asked him if he was sworn in would that have changed any of the testimony you gave today. Mr. Demicco replied no.

Ann del Campo, 82 Stony Brook Road, approached the dais; she introduced herself and said she is the owner of Stony Brook Meadows, the lot in question. She asked Mr. Demicco if the actual animal use was much less than what Mr. Sposaro said in regard to well certification

would that be well below twenty percent? Mr. Demicco replied that it should be, yes, the letter indicated 400 gallons which is substantially less than twenty percent. She inquired if the retail farm market doesn't use any water at all, if bottled water is used at the dinners, tastings, and all the other activities and there is no dishwashing – that wouldn't have an impact on the well. Mr. Demicco said it doesn't have an impact directly on the well. She asked if people walking on the land and coming onto the property to hear how pigs are raised or chickens do they have an effect if they are not using any water? Mr. Demicco replied that there could be allowances for a bathroom, and Ms. del Campo noted that there is a portable bathroom, which Mr. Demicco said lessens the impact. Ms. del Campo said there is a water station for hand washing but well water is not used. Mr. Demicco said his opinion is that he is staying in line with the twenty percent increase; if that threshold is hit he will definitely say it is time to recertify.

Ms. del Campo asked the Board if they are aware of all the different things Judge and Dr. Feinberg are questioning on the farm. Attorney Staples responded that at this point we are just looking at the well certification and there will be an opportunity for comments later.

Ms. Carluccio asked if there were any other issues for the Board. Mr. Tatsch asked Ms. Feinberg if she has any evidence that leads her to believe that since 1996 her well has been adversely impacted [such as] physical evidence, pumping problems. Ms. Feinberg said other than the smell, which is normal; she can't present any evidence to Mr. Tatsch. Her concern is from speaking to her expert that at least back in 1996 there were issues raised about the adverse effects from the other property. Her latest conclusion was increased use, increased potential problems which is why she hired Mr. Mulhall. She can offer nothing other than relying on the ordinance regarding the increase in use and her conclusion based on the increase in use and alteration of use that a well recertification would be appropriate, this was confirmed by Mr. Mulhall. Ms. Feinberg said she has not tested her well and has no problems with her well that she knows of. Mr. Wang-Iverson asked if Ms. Feinberg has had any issues with production, flow rate, or cloudy water. Ms. Feinberg said no, it is just the two of them. The smell has been an issue but she assumes everyone has that.

Attorney Staples asked Ms. del Campo if there is anything she wants to add. Ms. del Campo introduced her daughter, Laura Del Campo, who also works on the farm. Ms. del Campo said that she purchased the property based on the building permits that they were provided by the Township. Part of the contract on the purchase of the house, property and equestrian center was based on the well certification in 1996. She had every intention of having a farm on the property that was farmed forever, the soils are fertile, the drainage is excellent. She said that they have come to a very key environmental consciousness brought through the eyes of her daughter. Her daughter has taken classes in permaculture and has her bachelors in environmental studies which is why she is now farming along with her mother. Ms. Ann del Campo said that the workshops they have are to bring visibility to how important the environment is on her farm and how chemicals are not used at all. The tastings are meant to show people how you can go from product to table; there has been a huge response from people. The dinners are very small. Water is not used; everything is recyclable, distilled water is used and there is no water line to the market.

Ms. L. del Campo explained that if dishes are used they must be washed in a commercial facility. Dishes are rented and washed in a commercial kitchen off site. People coming onto

the property do not have a lot of impact. Portable bathrooms are used; visitors bring bottled water for themselves.

Ms. A. del Campo said there is a lot of new research on impervious coverage. She explained that when there is impervious coverage and a roadway is installed certain sewers are required. She said that all her buildings are detached so they are not one great big building. They are far away from the well and each other except for one building. Even the run in sheds are open on the side, the water runs underneath them and grass grows underneath them. Rock was put down on parts of the driveway but grass grows through it. The ground is pervious except for the driveway and some of the outbuildings. There is a huge storage tank where runoff water from the large buildings will be collected and used. She expressed her concern with the environment and that they are trying to bring visibility to the community and show how we can all be more sustainable and use certain non-chemical techniques. She is growing herbs to use as an insecticide. Ms. A. del Campo is bringing forward ways to do things that people used many, many years ago. The number of animals on the farm today has less impact than what was there in 2004 and 2005. She expressed that no one has ever had any issues.

She noted that there are two swimming clubs adjacent to her property; one has many people coming in the summer and the other is Pine Creek Camp which has public swimming pools and a huge water use. She noted there are many other farms in the Sourlands surrounding her as well which have different animals and new animal uses. She is perplexed why they are getting all this visibility as she is trying to do something sound for the environment but people don't understand what she is doing because they hear of all the concern about the environmental impact. She welcomes the Board if they have any questions about what they are doing to please come to their property and see the number of animals, the operation and how they are slowly becoming more sustainable. She noted there is a conservation plan. The soils are tested to make sure they are fertile; cover cropping is done. She said they are trying to help and farm in a very smart and environmentally and socially conscious manner. She thanked the Board for their time.

Mr. Wang-Iverson inquired about the number of animals. Ms. A. del Campo replied six horses, a miniature horse, twelve sheep, twenty-five pigs (most are small), one hundred chickens, tiny chicks to replenish the chickens once they are slaughtered, there were nineteen turkeys now there are only six turkeys, a guard alpaca to protect the pasture raised chickens from hawks, one dog, a few cats and two people in the four bedroom house. Ms. L. del Campo said there is an eighteen stall barn which was approved by the Township. Eighteen horses are allowed which would consume more water than the hogs and sheep do. Sheep and poultry consume a minimal amount of water. Ms. A. del Campo explained that the actual number of animals is well under the eighteen [horse] animal usage.

Mr. Wang-Iverson asked if the buildings were constructed shortly after they moved in. Ms. A. del Campo said she has a 70 X 100 sq. ft. building and an attached 60 X 36 sq. ft. building built in 1997. Ms. L. del Campo added that those buildings include an indoor riding arena so there is no additional water use for that building.

Mr. Wang-Iverson asked if the 16,000 square feet of building is correct. Ms. A. del Campo said she did not know although she knows what the building sizes are. She listed the

buildings including 70 X 100 sq. ft., 36 X 60 sq. ft. and in 2000 a 45 X 30 building [was constructed]. In 2003 a permit was issued for a 30 X 50 sq. ft. building. Each of these buildings is separate.

Mr. Tatsch noted that they must have met the impervious coverage requirements; Ms. A. del Campo agreed, since they got building permits.

Ms. Carluccio asked for the number of swine. Ms. A. del Campo replied twenty-five but said they are mostly small.

Mr. Van Horn asked about when the farm stand is operational. Ms. A. del Campo replied that it is usually open on the weekends. She said there is a health inspected storage facility as they sell USDA packaged sausages and bacon. Their biggest business is selling farm products to two restaurants; there are three to five customers that come on the weekend on a regular basis. She explained that no one knew what they were doing or how they were doing it until they went through the site specific AMP as no one can see anything. She said they are a low key farm, a country farm.

Mr. Wang-Iverson inquired about irrigation. Ms. A. del Campo replied that occasionally they use a hose like everyone else [does] in their garden. Her plan is to use the water tanks to collect the water from the roof of the riding arena. The tanks were purchased with a USDA small farmer's grant Laura del Campo was awarded. Ms. L. del Campo said they did not irrigate a lot this past summer; they did a little to get seedlings started and after that the seedlings were left to fend for themselves. They would like to change that which is why they want to collect the rainwater from the roofs and use the rainwater in the fields to not impact the environment. The water can be stored in the event of a drought or power loss.

Mr. Wang-Iverson asked if anything that was planted was essentially not irrigated. Ms. L. del Campo replied that they are not irrigating a lot. There are root vegetables that have not been irrigated for well over two months. Ms. Carluccio inquired if there was an inline water line to any of the agricultural fields. Ms. L. del Campo replied no.

Ms. Feinberg said she would like to clarify the record that [Ms. del Campo] has no zoning permits and was cited in 2005 for violating a zoning ordinance. Ms. A. del Campo interjected that she was not. Ms. Feinberg said to check the records and she is making this representation as an officer of the court and she would not make that representation unless it was accurate. Ms. Feinberg reiterated that she is saying this for the record. She said that Ms. del Campo was told in 2005 that she had to make an application for zoning permits for a variance. Ms. Feinberg can provide a copy of the 2005 application. She said Ms. del Campo went to the CADB. Ms. Staples inquired what the variance was for; Ms. Feinberg said it was to expend her facility because she was operating in violation of the zoning ordinance as Ms. del Campo wanted to install ten run in sheds. The Zoning Officer told Ms. del Campo that she violated impervious coverage and therefore she needed a variance. The variance was denied, the mayor sent a letter; Ms. del Campo went to the CADB. There were building permits but no zoning permit. In 2011 when Ms. del Campo wanted to install the farm market the zoning officer denied it on the basis of impervious coverage and that it violated zoning. Ms. A. del Campo then went to the CADB. The approvals were granted but then withdrawn. Ms. Feinberg said in 2005 and 2011 Ms. A. del Campo was told she couldn't do

what she wanted to do because it violated zoning; she is saying this for purposes of the record. Ms. Feinberg referred to Ms. A. del Campo's exhibit Attachment 3, a zoning permit application, which is unsigned and not dated. Ms. Feinberg said there is no zoning permit; Mr. Feinberg requested it by OPRA and there was no permit. She stated for purposes of the record when she hears that they followed everything they were supposed to do she referenced the building permits and said she would be happy to find out information for the Board. She asked the Board that regarding Ms. A. del Campo's presentation initially in October, she hopes the disparaging comments are something that the Board would just disregard. She thanked the Board for their time and consideration.

Attorney Staples acknowledged that the Board has heard from everyone. Ms. Carluccio asked the Board if they want to require a recertification of the well based on the testimony they have heard tonight.

Mr. Van Horn commented that we heard testimony from the excellent witness the Board hired to review everything. Mr. Van Horn said the expert is certainly not recommending recertification is needed.

Mr. Tatsch said that this ordinance has been in place for quite a few years. A few hundred wells have been certified under various circumstances; some of which have been hydrofracked. The ordinance in place is probably one of the stronger ordinances in the State; there are townships like ours with no well ordinance at all. He thinks adequate precautions were taken to evaluate the performance of a well whether hydrofracked or not. The Board also depends upon the good faith of the applicant to inform the Board if there are any excess water uses. There is also in place a liaison with the zoning officer that if any applications are made for additional water supply that the Board of Health is notified so recertification can be considered. Mr. Tatsch said retesting of a well is not a small matter especially when the well is in service. It requires the removal of the pump and a considerable expense. The Board does not as a routine process go back to our residents and ask them to certify that their well usage has not changed since the well was originally tested. Without any other evidence to the contrary we allow the well to continue. If we find there is a problem with interference, if a neighboring well owner complains of a loss of water this may be a reason to investigate but to his knowledge that has never happened in the Township. Considering the process that is in place he thinks it would be inappropriate for the Township to simply demand that this one particular resident out of thousands of residents be required to go through the process of a well testing without any specific evidence that there is a problem or that the original well testing was inaccurate to the point of being an issue. Mr. Tatsch spoke of his daughter who recently bought a house in a subdivision near Santa Fe; he referenced the severe drought in New Mexico and that they take their water usage very seriously and it is rather expensive. The city of Santa Fe has a water calculator online to help the residents understand what their water bills may be. Mr. Tatsch used the calculator to determine the amount of water his daughter and her family may be using; it came out to be around 3000 to 4000 gallons a month. The amount of water a residence uses on a daily bases is really rather low. At 6gpm, 5gpm or even 4gpm there is more than adequate supply for a residence of a few people. Mr. Tatsch used the water usage calculator for two people and typical usage it is about 2500 to 3000 gallons per month. He thinks the amount of distance between the average daily use and the well capacity is so vast that he does not see any compelling reason to why retesting would be required.

Mr. Hamilton agreed with Mr. Tatsch. Mr. Hamilton said the opinions of both the experts were interesting but they are opinions. The two well tests were done a long time ago by good people using the ordinance properly and while we may want more information about what was done we don't have it so he is reluctant to say those tests weren't done right. He really doesn't think we should ask a resident who apparently did everything right back then to retest a well without facts. One side is saying there is a change in use; the other side is saying there isn't. They are opinions; we need to have something more factual before we would ask a resident to retest their well. Mr. Hamilton understands the zoning is a problem but zoning is not for this Board. He is reluctant to require the testing.

**Ms. Carluccio said she would like to entertain a motion that we not require a recertification of the well and that we accept the current well certification as valid. Mr. Wang-Iverson motioned; Mr. Hamilton seconded the motion. All were in favor; none were opposed. The motion was carried unanimously.**

Ms. Carluccio thanked everyone for their presence here tonight.

Ms. Feinberg thanked everyone for taking the time to hear this and said that it is very valuable for her to hear this. She thinks the Board gave a fair and reasonable consideration and she respects that. She again thanked the Board.

Attorney Staples left at this time (9:19).

### 3. 2013 Budget

T. Carluccio opened a discussion on the 2013 budget. Mr. Hamilton commented that the economy will likely pick up. There was some discussion on the possibilities of new development in the Township; C. Rosikiewicz will follow up on this possibility with the Planning Board Administrator for planning purposes. Due to the possible increase in development \$2000 will be requested for Well Witnessing. The request for "other expense" will be \$500. The line for legal expenses was discussed including the possibility ordinances may be reviewed in the coming year requiring attorney review and noticing to the newspaper; \$500 will be requested. Four hundred will be requested for educational/training. For "Hunterdon County Contractual" \$11,500 will be requested. The request for a hydro geologist will be for \$1000 as a hydro geologist will be needed if any changes are made to the ordinances. Ten thousand dollars will be requested for perk and soil log testing. For sodium chloride well testing \$550 will be requested.

#### Unfinished Business:

##### 1. Ringoes Service Station: Receptor Evaluation Form

Mr. Tatsch reported that to his recollection the well at the Municipal building is tested annually for all EPA drinking water parameters because of the remediation and it has been proven fine with an occasional problem with bacteria. If any additional testing does not cost the Township then that is fine. Mr. Tatsch noted that the well is located on the opposite side of the building from the service station.

**ITEMS OF DISCUSSION:**

## A. Education and Health Issues

There were no comments on this item.

## B. Board Secretary Report

Ms. Rosikiewicz advised the Board that she has received a few requests from prospective home buyers in the Township requesting letters to their mortgage company verifying septic information. Mr. Van Horn commented that any records may be a few years old and it is unknown if this information is still accurate. The Board of Health does not have the authority to certify either wells or septic systems unless the well or septic system has been reviewed and approved or certified by the Board according to Township and State regulations. Mr. Hamilton inquired if perhaps the League of Municipalities or DEP may have a stance on this issue. He suggested a letter be composed for the Secretary to provide prospective buyers who ask for a letter from the mortgage company. It was noted that septic information can be obtained independently by the mortgage company from an inspection.

**CORRESPONDENCE**

There were no comments on any correspondence.

**BILLS OF THE EVENING**

**Mr. Wang-Iverson made a motion to approve the bills of the evening; Mr. Tatsch seconded it. All were in favor; the motion passed.**

**OPEN TO THE PUBLIC**

**Being no public present Mr. Van Horn moved to close the public session, seconded by Mr. Tatsch, and the motion carried unanimously.**

**ADJOURNMENT**

**Mr. Van Horn made a motion, seconded by Mr. Tatsch, to adjourn the meeting at 10:06p.m. All were in favor; the motion carried.**

Respectfully submitted,

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Christine A. Rosikiewicz  
Board of Health Secretary

These minutes were transcribed by tape by the Board Secretary and include edits by Tracy Carluccio, David-Wang Iverson and Larry Tatsch.