

## State Well Drillers and Pump Installers Examining and Advisory Board

Minutes – Thursday, July 10, 2008

**Board Members Present:** Art Becker, Gary Poppe, Joe Yost, Karl Muessig, Carol Graff, Fred Sickels, Anthony Tirro, Dick Dalton

**Board Members Absent:** Joe Pepe, Sr.

**Board Legal Advisor:** D.A.G. Helene Chudzik, present for the morning session

**NJDEP Staff Present:** Steve Reya, Kristin Tedesco, Pat Bono, Vince Monaco, John Olko (NJDEP Enforcement)

**Others Present** –Chris Bandoian (Talon Drilling), Pieter Casius (Choice Water Group), Jim Rotonda and Mike Adams (EduTech), Hugh Streep (NextGen Technology), Jim Hardin, Sr. (Hardin Geotechnologies), Steven F. Coe (Brown Environmental Services Corporation)

1. **Call to Order** – The meeting was called to order by Art Becker at 9:41 am with a quorum present.
2. **Review of Minutes from May 22, 2008 Board Meeting** – A motion to accept the minutes without changes was made by Joe Yost, seconded by Karl Muessig and approved unanimously.
3. **Introduction of new Board Members** – The Board welcomed new members Carol Graff and Gary Poppe who were appointed effective July 1, 2008.
4. **Nominations for new Chairperson and Vice Chairperson** – Tony Tirro nominated Art Becker for Chairperson. The motion was seconded by Fred Sickles and approved unanimously. For Vice Chairperson Gary Poppe nominated Tony Tirro, the motion was seconded by Fred Sickels and approved unanimously.
5. **Certification of June 10, 2008, Exam Results for Pump Installer** – Joe Yost questioned if some individuals are failing the pump installer exam because they work for companies who work primarily on larger diameter wells while the test is geared toward pumps used for smaller domestic wells. Joe Yost will work with Steve Reya to review the test and suggest changes to include information on larger capacity well pumps. A motion was made by Dick Dalton to accept the results of the June Pump Installer exam, seconded by Joe Yost and approved unanimously.
6. **Certification of June 10, 2008, Exam Results for Soil Borer** – The results of this exam were reviewed. A motion was made by Gary Poppe, seconded by Tony Tirro, and approved unanimously to accept the Soil Borer exam results.
7. **Certification of June 10, 2008, Exam Results for Monitoring Well Driller** - The results of the exam were reviewed. A motion was made by Tony Tirro, seconded by Dick Dalton, and approved by all.

8. **Challenge of Pieter Casius to Journeyman Class B Exam Questions** - Pieter Casius is challenging his score on the Journeyman Class B exam based on two questions that he believes were incorrectly marked wrong. A motion by Karl Muessig was made at 10:20 a.m., seconded by Gary Poppe and approved unanimously to enter Executive Session to discuss the exam questions. The Board returned to Open Session at 10:30 a.m. A motion was made by Carol Graff, seconded by Tony Tirro and approved unanimously to approve Pieter Casius' Journeyman B license based on additional credit given for his answers.
9. **Discussion of Enforcement Actions** – John Olko was present to represent Compliance and Enforcement. Both Enforcement and Water Supply emphasized that due to the current budgetary situation the Department is not available to dedicate more staff or resources to this issue. Gary Poppe expressed concerns that there is no enforcement at all right now so anybody can drill without penalty action being seriously considered. What steps can the Department take to change this? Helene Chudzik stated that the Board and Department need to consider different steps or penalties that can be imposed without taking a license away immediately. Fred Sickels suggested coming up with a more aggressive process with what we can do realistically with available resources. The Department will set up a meeting to discuss a streamlined enforcement matrix that includes major/minor infractions and the appropriate penalties for each infraction.
10. **EduTech Well Drilling School** – Jim Rotonda, Director of Training and Mike Adams, Business Manager attended the meeting to present information on EduTech Well Drilling School. The school was developed to help qualified individuals with field experience pass the NJ Soil Borer exam and expand their general industry knowledge. The class covers topics ranging from technical issues on different types of drilling and geology to training participants on how to take a test. The course was going to include drilling a permitted boring to over 50' in depth to meet one of the soil borer application requirements. However, the State historically has not accepted the same well as experience for different individuals. Under current DEP policy the applications of individuals using the same permit number would be denied. EduTech has held two classes with 8-10 individuals per class and is asking what changes can be made to have a 50' well that has been drilled in class meet the application requirement. Jim Rotonda and Mike Adams questioned if each individual would need to drill a separate well or if DEP would allow EduTech to use a blanket permit and drill several borings even though it would fall under the same permit number. Steve Reya stated that in that situation, the prospective drillers could submit a log for the hole they drilled as DEP has allowed in the past for borings submitted as experience that did not require well permits. They would also be required to use EduTech's licensed well driller as a third reference. Joe Yost commented that it is a big environmental impact to drill a separate hole for each when the borings are being drilled into the ground for no real purpose. However, he thinks the purpose of the class is a good one and Art Becker agreed. Steve Reya commented that on the application the individuals have already demonstrated 3 years of experience so it is just a question of how to verify the hands on experience for a boring over 50'. It is not uncommon for multiple drillers' helpers to be involved in drilling one well, especially for larger diameter wells. Several Board members questioned what additional experience is gained from having one helper per driller versus two per driller, or more? Even though the drilling process is well explained it is not the same as actually performing the work. Any decision on this topic can affect other companies and licensing exams in the future. Therefore, Art Becker made a motion to table this topic until the end of the meeting. Carol Graff seconded the motion with all in favor. (See Item #14)

11. **Hardin BiSec Geoexchange Pipe** – Hugh Streep (NextGen Technology) and Jim Hardin, Sr. (Hardin Geotechnologies) have joined their firms in an effort to get into the NJ market using the Hardin BiSec Geoexchange Pipe. The pipe is PE 100 construction and not the PE 80 that comprises the 160 psi pipe currently allowed by DEP regulations. The PE 100 pipe has a thermal weld every 20 feet, as well as at the U-bend on the bottom of the loop, unlike the 160 psi pipe currently permitted which has one thermal weld at the U-loop only.

Jim Hardin and Hugh Streep outlined the benefits of the PE 100 pipe, stating that in theory it should last longer and in using this material outside NJ they have dropped costs of approximately 50% over standard geothermal systems by using fewer boreholes in the field. In addition, fewer wells would mean that this product could be marketed for smaller sites where geothermal applications were not practical in the past, which would be a benefit in industrialized States like NJ.

Art Becker said one concern is the grout ports located every 1 1/2 feet up the column on the 3.2" pipe that could create potential for pockets of grout to develop. Hardin Geotechnologies responded that the grouting issue is addressed by the traditional method of grouting bottom to top and verifying the theoretical amount of grout the hole should take. Art Becker questioned what the effect would be of not having the ports. The pipe is currently recommended for non-cementitious grouting and more information needs to be gathered on the effect of using cementitious grout with a lot of sand. The Board mentioned that even the bentonite-based thermal grouts would be quite dense and may not be practical. Hardin responded that they have a set of recommended drilling procedures in place for this product and initially send out a training crew on each site to make sure those procedures are followed. In addition, to address these issues they are investigating the possibility of expanding the inner and outer holes. The deepest hole the pipe was previously installed in was 500 feet, while the average is around 320 feet. Hardin said the current pipe (3.2 inches) is always installed in a 4.5" borehole and grouted with 3/4" to 1" tremie pipe. The next generation pipe he is developing would be a larger diameter pipe, and would be recommended for use in a 5" borehole.

Some members of the Board still expressed concerns with the small annular space and grout port diameter. Jim Hardin noted that they verified adequate grouting in the past by calculating the theoretical grout volume of the annulus and comparing it to the volume of grout mix used. The Board discussed whether that would be acceptable or if channeling could occur. It was also discussed how, in consolidated formations, the hole could take a large amount of grout due to large fractures, while other areas could still have voids. More information is required by the Board before any final determination on applications for the Hardin pipe is made.

The Board stated that in order to gain approval to use this product in NJ more information must be gathered to demonstrate that it conforms to DEP standards. The pressure rating for approved PE 80 pipe is 160 psi. Steve Reya questioned if it was possible to obtain ASTM certification for the PE 100 pipe given that it is not the standard cylindrical pipe and has a unique shape with grouting ports. Jim Hardin responded saying ASTM had not certified the pipe but it has been pressure tested to approximately 150 psi and should theoretically go up to 200 psi.

Hardin and NextGen will be required to submit information which demonstrates that the pipe conforms to or exceeds current DEP standards, including anything on pressure rating

for the PE 100 pipe will be submitted to the Board and the Department for approval. Hardin will also provide more detailed information on current projects in other States (Michigan, Illinois, and Ohio). Once this information is received the DEP and the Board will move expeditiously to revisit the use of this product. If the pipe specifications are found to be acceptable by the Board and the Bureau, a test project may be approved at a site in NJ.

12. **Direct Push Technology by Brown Environmental Services Corporation** – Steve Coe, Brown Environmental Services Corporation, presented a new design for direct push remediation well installation. Internal staff review feels this technology meets the intent of a driven well but the Department is looking for Board input before issuing a statement to Mr. Coe saying this is permissible. This technology is used to offset the cost of mobilizing Hollow Stem Auger rigs for the installation of Remediation points. By using the proposed direct push method, more information will be gathered on the contaminated site to outline an effective treatment technique. The wells can be laid in a grid pattern and will focus on source area elimination or attenuation. Mr. Coe stated that 70-80% of the wells are less than 25 feet deep. The wells conform to the regulations since they are driven without a resulting annular space. The Board reiterated that nothing on the well can exceed the diameter of the driven point or it would not be permissible to use this direct push technology. These wells will be used only for applications in a sand aquifer and will be abandoned and tremie grouted in place. A deviation is required because PVC can't be driven into a standard undersized borehole according to the regulations. No further action is required from the Board.
  
13. **Program Updates** –
  - Karl Muessig asked if there is a way for the Department to have drillers send in geophysical logs with the well records on larger capacity wells greater than 500 feet. This requirement has been placed on well permit in the past. However, given limited staffing resources the Department will need to determine the current feasibility of this requirement. Steve Reya will check with Lynn Stout of DEP to see what can be done.
  - Steve Reya provided an update on the license renewals for all well drillers and pump installers. All but 19% of Pump Installers had renewed their licenses. All but 20.7% of licensed well drillers had renewed their licenses as of June 30, 2008. The well drillers and pump installers still have six months to renew their licenses provided they pay the late license renewal fee. Steve will email a list of lapsed drillers to the Board members.
  - Pat Bono provided an update on the implementation of location requirements and the development of e-permitting submissions. The "new" location requirements took effect July 1, 2008 and the Department is continuing to work with the well drillers on the transition. Training will be provided in September on the NJGeoWeb program, which will replace I-mapNJ. E-Permitting testing took place during June and July and the Department hopes to have e-permitting up and running by the end of the year. A significant effort on the part of the well permitting program staff has been spent on this project. If development is far enough along, a demo will be provided for the Board at the September meeting.

14. **EduTech Well Drilling School Continued** – Discussion resumed on the EduTech Well Drilling School and changes that can be made so a 50' boring drilled during class will be accepted on the soil borer exam. The Board determined that because this class is in an education program setting that it is acceptable to have two applicants per borehole. This will apply to soil borer applicants only. A motion to allow the 50' boring to be used on the soil borer application provided it meets that criteria was made by Carol Graff, seconded by Joe Yost and approved unanimously. Follow-up discussion will take place at the September meeting on additional situations where the Department can accept more than one test applicant per well.
15. **Adjournment** - A motion was made by Karl Muessig, seconded by Gary Poppe, and passed unanimously to adjourn the meeting at approximately 4:40 PM.