



## State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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*Mail Code 401-04Q*  
DIVISION OF WATER SUPPLY & GEOSCIENCE  
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NJ STATE WELL DRILLERS AND PUMP INSTALLERS  
EXAMINING AND ADVISORY BOARD

### New Jersey Department of Environmental Protection NJ State Well Drillers and Pump Installers Examining and Advisory Board Meeting Minutes for January 14, 2016

*Approved by the Board on March 17, 2016*

**Board Members Present:** Art Becker (Chairman), Gary Poppe (Vice-Chairman, arrived at 10:18 am) Gordon Craig, Joe Pepe, Richard Dalton, Carol Graff and Steve Doughty.

**Board Members Absent:** Joe Yost.

**NJDEP Bureau of Water Allocation & Well Permitting Staff Present:** Terry Pilawski, Pat Bono, Steve Reya, Julia Altieri, Michael Schumacher, Jeff Brennan, Jennifer Ngo and Melia Stoop. Mark Ortega and Jeremy Wick present from 10:30 until the conclusion of the meeting.

**New Jersey Geologic & Water Survey (NJGWS) Staff:** Jeffrey L. Hoffman, NJ State Geologist.

**Other NJ DEP Member Present:** Bryan Barrett, Water Compliance and Enforcement-Central Region

#### 1. Call to Order –

The meeting was called to order by Chairman A. Becker at 9:42 am with a quorum present.

#### 2. Introductions-

Two (2) new employees of the Bureau of Water Allocation and Well Permitting (Bureau), Jeff Brennan and Jennifer Ngo, were introduced to Board members. They will be working for the Department on a part-time basis to assist the Well Permitting Section in the review of Well Records and Well Decommissioning Reports.

**3. Review and Certification of the Minutes for the November 24, 2015 Meeting –**

A motion to approve the minutes without change was made by G. Craig, seconded by S. Doughty and approved unanimously.

**4. Review and Certification of Exam Scores for the December 9, 2015 Master Well Driller, Journeyman, Journeyman B, Monitoring Well Driller, Soil Borer and Pump Installers Exams –**

**Master Well Driller**– A motion to approve the sole listed exam score was made by R. Dalton, seconded by C. Graff and approved unanimously.

**Journeyman** - A motion to approve all listed exam scores was made by G. Craig, seconded by C. Graff and approved unanimously.

**Journeyman B** – A motion to approve all listed exam scores was made by S. Doughty, seconded by R. Dalton and approved unanimously.

**Monitoring** – A motion to approve all listed exam scores was made by R. Dalton, seconded by G. Craig and approved unanimously.

**Soil Borer** – A motion to approve all listed exam scores was made by C. Graff, seconded by S. Doughty and approved unanimously.

**Pump Installer** – A motion to approve all listed exam scores was made by J. Pepe, seconded by G. Craig and approved unanimously.

**Dewatering** –A motion to approve the sole listed exam score was made by G. Craig, seconded by C. Graff and approved unanimously.

**5. Pump Installer Surveys-**

Board members reviewed the Pump Installer exam surveys from the December 9, 2015 exams. S. Reya noted only two (2) applicants sat for the exam, resulting in limited information. A. Becker said the National Ground Water Association (NGWA) recently produced some new instructional videos about well pump installation and repair. He suggested that the well permitting technical staff view them for content and any potential discrepancies with NJ state well regulations. A. Becker noted these would be valuable study aids for applicants preparing for licensing exams. As has been previously noted, the Bureau has developed a regulatory study guide that has already significantly improved scores on this section of the exam.

**6. Review of the GeoPro Power TECx Geothermal Grout Mix Letter (Steve Reya) –**

S. Reya stated that after discussing GeoPro, Inc.'s latest request for approval of their PowerTECx geothermal grout product with R. Dalton, some additional clarification from the manufacturer representative is needed. The independent lab's testing results for the product's permeability state that the permeability of the product did not exceed the Department's maximum allowable permeability value of  $1 \times 10^{-7}$  cm/sec (as tested in accordance with ASTM D5084). In a December 7, 2015 letter and accompanying product field mixing instructions, GeoPro, Inc. noted that the PowerTECx product must be mixed with GeoPro's Thermal Grout (either Thermal Grout Lite or Thermal Grout Select as defined by the specific mix). The fact that there are two (2) thermal grouts with which the additive can be mixed leads to the question of whether altering the Thermal Grout bentonite product would affect the permeability of the mix.

Although GeoPro is requesting approval for two separate products, lab permeability data was only provided for the mix containing Thermal Grout Select. Board members discussed the necessity of requiring that a separate lab test be conducted using Power TECx mixed with Thermal Grout Lite. Since the base bentonite products are extremely similar, G. Craig suggested the Department request

permeability data for Thermal Grout Lite and Thermal Grout Select (without the addition of silica sand or any other thermal enhancement compound) to compare the permeability of the base materials. Board members agreed that required field demonstrations for each grout mix will still be required. Permeability data generated as part of the field data will demonstrate if each grout product will meet the Department's standards. S. Reya noted that the company representative also informed him that they may have lab permeability data for both mixes. R. Dalton suggested that they provide the data and attach an accompanying notarized letter that attests to which product was tested. This may help GeoPro avoid performing re-tests of the same material. S. Reya will contact the manufacturer's representative, Allan Skouby, for further clarification and report back to Board members.

**7. Presentation on amendments to the Safe Drinking Water Revised Total Coliform Rule-**

L. Ofori, from the Bureau of Water Systems Engineering's Compliance Assistance Unit, presented a summary of a new Federal rule mandated by the US EPA for public drinking water systems. The Revised Total Coliform Rule (RTCR), effective April 1, 2016, regulates microbial standards and actions to be taken by the public water systems. The purpose of the RTCR is to transition to total coliform (TC) bacteria as an indicator of potential pathways to contamination and to improve public health protection by requiring the identification and correction of defects in the sanitary system. Under the current Total Coliform Rule, if after sampling, total coliform or E.coli is detected there are no requirements for assessment or corrective action. The RTCR, however, utilizes a "find and fix" approach to locate problems or weaknesses in sanitary system by conducting specific assessment protocols spelled out in the rule.

There are two (2) levels of assessment that are based on the severity and frequency of potential contamination. The goal of the RTCR is for systems to take a more proactive approach to public health protection compared to the current TCR rule. L. Ofori stressed the fact that the drilling/pump installation industry will be a primary player in identifying and performing corrective actions, along with completing the required assessment forms, which will be submitted to her program for review. She noted that common corrective actions include: well maintenance/repair, disinfection, flushing, replacement/repair of distribution system or storage components, storage facility maintenance, development/implementation of operations plan, maintenance of adequate pressure and training on proper sampling technique. Finally, she covered how the RTCR affects seasonal water systems and provided pertinent information regarding start-up procedures that must be followed by seasonal systems.

**8. Enforcement and Field Work Activities –**

A summary of the Well Permitting Program's recent (past 7 weeks) enforcement and field activities was presented by Julia Altieri.

- A) Decommissioning of Hand-Dug Wells by a Pump Installer- Staff are investigating several incidents in which a licensed Pump Installer decommissioned multiple hand-dug wells; an activity for which he is not licensed to perform. After performing the work he then had a New Jersey licensed Journeyman Well Driller provide letters on company letterhead to verify that the wells were properly decommissioned. Notices of Non-Compliance have been issued to the licensed pump installer for decommissioning wells without a proper license, and to the Journeyman well driller and his company for aiding and abetting for the same violation.
- B) Unpermitted Domestic Well Drilling by Unlicensed Individual-The Section is currently investigating an incident of a Pennsylvania based well drilling company who started drilling a

new domestic well in Warren County without a New Jersey licensed well drill onsite and without a valid permit. The situation was discovered by the local health department as part of routine inspection. At this time, the unlicensed driller has abandoned the drill site after partially completing a 200 ft, deep pilot hole with PVC casing in the borehole. The Bureau is currently gathering all documentation to begin formal enforcement action against the unlicensed driller and his company and working with the health department and property owner to resolve the issue of the uncompleted well.

- C) Improper Well Construction by NJ Licensed Master Well Driller (17 Wells)- The Bureau is preparing to send four (4) formal enforcement documents (AONOCAPA's) with orders to decommission approximately 17 improperly constructed wells. This is the result of an ongoing investigation of a Master well driller who has been constructing wells with suspected insufficient grout. According to the driller's own admission via his submitted well records and decommissioning reports, various closed loop geothermal, domestic, irrigation well records and decommissioning records have been submitted listing insufficient grout mixtures and/or quantities. The driller and his company have repeatedly ignored the Department's efforts to resolve the compliance issues. More recently, the driller partially responded to some of the notices, but failed to provide sufficient documentation to resolve the outstanding issues.
- D) Failure to Submit Well Records- The Department is formally pursuing a well drilling company for failure to submit 901 outstanding well records owed to the Bureau from the years 2000 to 2015.
- E) Field work- Well Permitting Section staff performed two (2) field inspections during the past seven (7) weeks. Staff inspected existing monitor well locations and wells for pending well decommissioning work.
- F) Michael Kavlunas/Total Quality Drilling Salem County Case Resolution- The Department received the final payment from Master Well Driller Michael Kavlunas and his company, Total Quality Well Drilling. The payments totaling \$2070.16 were for the additional penalty he was issued for the State's legal fees in addition to the already paid amount of the penalty assessed to him for \$3,900. The case is now total officially closed.

## **9. Drought Status Update-**

S. Doughty provided an update on the status of drought conditions. Precipitation levels have continued to increase and are now representative of the anticipated long-term average. Reservoir storage has improved markedly, while the recovery of stream flows and unconfined groundwater levels, which typically rebound more slowly following drought conditions, are continuing to improve. The Department continues to monitor drought indicators.

J. Hoffman and G. Poppe also briefly discussed the groundwater level monitoring that the United States Geologic Survey (USGS) will be performing in Colts Neck Township to assess the extreme water table drawdown reportedly affecting the Englishtown aquifer during the summer season.

**10. Wild West City Appeal Update-**

T. Pilawski provided an update on the appeal status of an amusement park located in Byram Twp, Sussex Co. The appeal, which pertains to a Department order requiring a well at the site to be either decommissioned or re-designated as a non-potable water source, stems from E. coli bacteria contamination in the well. The property owner continues to fight the requirement to re-designate the well for a new proposed use (livestock supply) rather than decommissioning the well. A recent summary judgment ruling upheld the Department's previous order that the well be re-designated. Additionally, the owner needs to obtain a local permit to operate the new (potable replacement) well. Sussex County Health Department is requiring that either the submission of a well decommissioning report or a new state well permit be issued which re-designates the use of the well prior to issuing their approval to use the new well.

**11. Status of the Well Rules Proposed Readoption-Terry Pilawski-**

P. Bono, S. Reya and M. Schumacher have been revisiting the draft revisions to the well rule (N.J.A.C. 7:9D). The draft is now approximately four (4) years old. The review is to incorporate any new industry technologies or techniques developed since they were drafted. A. Becker asked if Board members could review the draft, particularly with regard to the Board procedures and enforcement sections, as they were directly involved in the initial draft several years ago. Bureau staff will provide these sections either at the upcoming meeting or preferably earlier via email to allow members to review the material in advance of the meeting.

**12. Adjournment-** A motion to adjourn was made by S. Doughty at 12:34 pm. The motion was seconded by G. Poppe and approved unanimously.



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### New Jersey Department of Environmental Protection NJ State Well Drillers and Pump Installers Examining and Advisory Board Meeting Minutes for March 17, 2016

*Approved by the Board on May 26, 2016*

**Board Members Present:** Art Becker (Chairman), Gary Poppe (Vice-Chairman), Joe Yost, Carol Graff and Steve Doughty

**Board Members Absent:** Gordon Craig, Richard Dalton and Joe Pepe

**NJDEP Bureau of Water Allocation & Well Permitting Staff Present:** Terry Pilawski, Pat Bono, Steve Reya, Julia Altieri, Michael Schumacher and Melia Stoop

**Board Legal Representative:** Jill Denyes, Deputy Attorney General (DAG), NJ Division of Law

**New Jersey Geologic & Water Survey (NJGWS) Staff Present:** Jeffrey L. Hoffman, NJ State Geologist

**Other NJ DEP Member Present:** Bryan Barrett, Water Compliance and Enforcement-Central Region

**Members of the Public Present:** Joshua Kaiser, MoreTrench American Corp., Denis Crayon, Summit Drilling/New Jersey Ground Water Association (NJGWA) President

#### 1. Call to Order and Introductions-

The meeting was called to order by Chairman A. Becker at 9:42 am with a quorum present. Two (2) members of the public, Joshua Kaiser from MoreTrench American Corp. and Denis Crayon from Summit Drilling/NJGWA President, introduced themselves to Board members.

#### 2. Review and Certification of the Minutes for the January 15, 2016 Meeting –

A motion to approve the minutes without change was made by C. Graff, seconded by G. Poppe and approved unanimously.

**3. Review and Certification of Exam Applicants for the April 6, 2016 Master Well Driller, Journeyman, Journeyman B, Monitoring Well Driller, Soil Borer and Pump Installers Exams –**

**Master Well Driller**– A motion to approve the one (1) listed exam applicant was made by G. Poppe, seconded by J. Yost and approved unanimously.

**Journeyman** - A motion to approve all listed exam applicants (five (5) approved) was made by J. Yost, seconded by S. Doughty and approved unanimously.

**Journeyman B** – A motion to approve the one (1) listed exam applicant was made by Gary Poppe, seconded by C. Graff and approved unanimously.

**Special request by an applicant to sit for the Monitoring and Soil Borer Exam Applicant-**

S. Reya provided Board members with a February 29, 2016 letter from an applicant from Summit Drilling, Mr. Oscar Soto-Argueta. His letter notes that he graduated high school in Guatemala and further states that “upon completion of High School I enlisted in the Guatemalan Army, where I faithfully served my country. A time came when it was no longer safe for my family or me to stay in the country, and we were forced to flee Guatemala with nothing and immigrated to the United States. We were unable to retain any documentation from Guatemala. Unfortunately, I am unable to provide a copy of my High School Diploma, as requested in the application, as it is impossible to obtain one from Guatemala.”

Mr. Soto-Argueta meets all experience requirements specified in the regulations, said S. Reya. The only requirement Mr. Soto-Argueta cannot meet is providing evidence that he obtained his high school diploma or GED. This is not a case in which the applicant did not receive his diploma/GED, but one in which he is unable to document the fact that he received it. J. Denyes noted that the well rules, N.J.A.C. 7:9D, stipulate that one must possess a high school diploma or GED, however, they do not provide criteria by which the applicant must demonstrate that he or she has obtained one. Therefore, she said it was up to the Board’s discretion to determine what additional information, if any, the applicant must provide since it does not seem likely that he will be able to provide the actual diploma or transcript. She also stated that in addition to any further information the Board requests from the applicant, they may also choose to have him submit a signed and notarized affidavit attesting to the truthfulness of the information he provides. Board members discussed the potential precedent that they would be setting by allowing him to sit for the test without the diploma. The Board reached the consensus that the applicant’s letter did not contain enough specific information for them to approve him to sit for the test. It was further noted that the draft regulations, if adopted as currently written, will eliminate the requirement to provide a high school diploma or GED.

Members asked that Bureau of Water Allocation and Well Permitting (Bureau) staff send Mr. Soto-Argueta a letter requesting further information for review and consideration of his application and letter for the June 8, 2016 exam. Specifically, the letter will request further information on the following: the name and location of the high school, dates attended, any documentation from secondary schools, immigration paperwork, attempts made to locate documentation.

**Monitoring** – A motion to approve all listed exam applicants (ten (10) approved), with the exception of Mr. Oscar Soto-Argueta, was made by S. Doughty, seconded by G. Poppe and approved unanimously.

**Soil Borer** – A motion to approve all listed exam applicants (ten (10) approved), excluding Mr. Oscar Soto-Argueta, was made by G. Poppe, seconded by J. Yost and approved unanimously.

**Pump Installer** – A motion to approve all listed exam applicants (three (3) approved) was made by S. Doughty, seconded by J. Yost and approved unanimously.

4. **Dewatering Well Driller Exam** - An email received from Mr. Joshua D. Kaiser; Project Engineer and licensed well driller for MoreTrench, requested clarification on the Dewatering exam on behalf of his co-worker, Edward Stec, who has been the only candidate to take the Dewatering Well Driller exam within the last fifteen years or so. In assisting Mr. Stec in preparing for the exam, Mr. Kaiser was made aware that a few questions pertained to pump installation and electrical theory regarding well pumps. Mr. Kaiser, raised the concern regarding a discrepancy between what the holder of a dewater license is authorized to do and the relevancy of questions that do not appear to be consistent with that authority. Specially, he noted that in reading the relevant well rules at, N.J.A.C. 7:9D-1.7(a)4, the authority to “install or replace well pumping equipment, connecting lines and appurtenances” is not listed within the scope of the Dewatering Well driller licensee. Descriptions for other licenses, such as the Master, Journeyman and Journeyman Class B, clearly state the license holder can perform this work. He respectfully questioned the validity of such questions on the dewatering license test and suggested that, if a licensee cannot perform certain activities, he or she should not be questioned on them on the exam. Conversely, if it is understood that Dewatering well drillers are installing pumping systems (likely only temporary pumping systems), the draft regulations should incorporate language that clarifies what activities related to pump installation and maintenance are acceptable under the jurisdiction of a Pump Installer. Chairman A. Becker responded that the concern is valid and that the Board appreciates it being brought to their attention. Due to time constraints at today’s meeting, however, the Board will have to review this exam at their May 26<sup>th</sup> meeting. This may result in alterations to the exam and/or suggested revisions to the draft well rules.

5. **Water Allocation & Well Permitting Enforcement and Field Work Activities –**

A summary of Well Permitting Program’s enforcement and field activities over the past two months was presented by Julia Altieri.

A) **Enforcement Meeting with Master Well Driller and Drilling Contractor to Resolve Unsettled Violations-**

On March 8, 2016 Bureau and Central Compliance and Enforcement representatives met with a Master well driller and representatives from a Maryland based drilling company. The meeting was called by the Department to discuss the details of four (4) formal enforcement documents (Administrative Order and Notice of Civil Administrative Penalty Assessments (AONOCAPAs)) with orders to decommission approximately 17 wells suspected of improper construction and other violations to the well construction regulations. Both the driller and the drilling company had ignored earlier notices to address the identified problems and inconsistencies. The meeting was conducted as a last chance for the driller and the associated company to attempt to resolve these serious well construction violations. At the meeting, the driller and company were offered the opportunity to provide additional information to address these violations by Friday, March 11, 2016. To date, the section has not received any additional information from the driller or the companies involved. Further enforcement action is anticipated at this time.

B) **Outstanding Well Records-**

The Department has stepped up its effort to contact various well drilling companies for failure to submit outstanding well records owed to the Bureau from the years 2000 to 2015. So far, 15 different drilling companies have been contacted this year and several companies have already complied with the requirements to submit outstanding records. The section will continue to send letters in the future, targeting those companies that owe a substantial number of well records.



**C) Field Work-**

Well Permitting Section staff performed 15 field inspections during the past 8 weeks. Staff conducted various random compliance field checks of abandoned wells in landfills, potable well pump installation, sonic monitor well drilling, large public supply well construction and wells in the process of being decommissioning. No non-compliance issues resulted from these activities.

**D) Coordination with Compliance & Enforcement-**

Bryan Barrett reported that work continues behind the scenes to further develop the Well Permitting Section's capability to manage future and current enforcement issues in the Department's NJEMS database. Checklists and other supporting information are being loaded into the system and worked on as staff resources permit.

**6. Bureau Updates: Terry Pilawski-**

Bureau of Water Allocation & Well Permitting Chief, Terry Pilawski announced that Jeremy Wick has been hired as a full time employee with the Well Permitting Section effective March 21<sup>st</sup>, 2016 after a couple of years working as a part-time/hourly employee. He will continue to review well permits, records and decommissioning reports along with assisting in the administration of the licensing and exam program for well drillers and pump installers.

T. Pilawski also noted that with the upcoming expiration of the Permit Extension Act (PEA), the Bureau will now be able to run reports to determine exactly how many records are owed by each drilling company. Under the PEA, all well permits were technically still viable until PEA's termination date; the problem was compounded by repeated extensions of that date. All PEA extensions for well permits will expire July 1, 2016.

**7. Status of the Well Rule Change-** On Monday, March 14, 2016 Art Becker, Jeff Hoffman, Denis Crayon and John Robbins from NJGWA, Paul Bent from Pathways Government Relation and Assistant Commissioner Dan Kennedy met with the Department's legal advisor, Ray Cantor, to discuss the revisions to the well rules, N.J.A.C. 7:9D. The purpose of the meeting was to determine the reason the drafted revisions have not yet been finalized by the Department and forwarded to the Governor's office. Both Denis Crayon and A. Becker expressed frustration with the fact that the draft was written several years ago and has yet to make it through the Department's legal review process due to other rules which have taken priority within the Department. Board members questioned how other rules could be deemed to have a high concern when the well rules are enacted to protect the quality of the state's groundwater and thus human health. D. Crayon stated that one of the important and beneficial changes proposed in the new regulations is the implementation of a continuing education program for licensed drillers and pump installers. He noted that funding the continuing education program was the Department's primary reason stated in the 2007 re-adoption and amendments of the rules for increasing the licensing and permit fees. Although the fees increased, this program was never implemented by the Department in keeping with N.J.S.A. 58:12A et seq. Mr. Cantor told those present at the meeting that he would have his staff review the draft regulations to N.J.A.C. 7:9D. Mr. Crayon intends to follow up on this matter with him periodically to track the progress on the review.

- 8. NJ Implementation of the USEPA Revised Coliform Rule -** Kevin Giberson, who works in the NJDEP Bureau of Water System Engineering, presented information on the federal Revised Total Coliform Rule (RTCR) to the attendees at the NJ ground Water Association meeting on March 15, 2016. The rule will become effective on April 1, 2016. P. Bono, who also attended the meeting, detailed how the presentation covered the role that the well drilling and pump installation community will have in diagnosing and correcting deficiencies with water systems with bacteriological issues. Mr. Giberson covered RTCR phase 1 and phase 2 investigations, and provided handouts containing checklists that licensed pump installers and drillers should follow when inspecting these systems to ascertain the source of coliform contamination. This will assist individuals understand the pertinent information that must be provided on Department-required forms.

In response to national publicity involving lead in the drinking water distribution system in Flint, Michigan, the Department's Water Systems Operations Element recently set up a Lead Team to identify potential problems in New Jersey water systems. Of particular interest due to potential health concerns, is implementing a school sampling program that focuses on lead. Additional training regarding lead in drinking water, both from the Department and from the US Environmental Protection Agency (EPA), will also be forthcoming.

- 9. Retirement of Assistant Director Karen Fell-** Assistant Director of the Water Systems Operations Element Karen Fell will be retiring June 1<sup>st</sup>. Since leaving the Well Permitting Program twelve years ago, where she was once Section Chief, she has overseen the Bureau of Safe Drinking Water and Bureau of Water System Engineering.
- 10. Discussion of Well Rules-** From 11:35 am to 2:55 pm the Board reviewed the draft revisions to the well rules as it has been several years since their last opportunity. Particular attention was paid to the proposed Board procedures, changes to licensing and testing and the well construction requirements section. T. Pilawski reported that staff recently went back through the draft in recent months to freshen up any outdated sections, add recently approved materials and address any lingering issues in the hopes that they are assigned to someone in the Department's legal team for review. Bureau staff identified the specific updates to the draft rules and summarized the existing proposed changes from the initial 2012 draft last reviewed by the Board. Staff members thanked the Board for their assistance and will incorporate the recommendations and input suggested by the Board members.
- 11. Adjournment-** A motion to adjourn was made by G. Poppe at 2:56 pm. The motion was seconded by C. Graff and approved unanimously.



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### NJ State Well Drillers and Pump Installers Examining and Advisory Board Conference Call Minutes for April 28, 2016

*Approved by the Board on May 26, 2016*

**Board Member Present at DEP Main Office:** Steve Doughty

**Board Members Participating Via Telephone:** Art Becker (Chairman), Gary Poppe (Vice-chair), Joe Yost, Joe Pepe and Richard Dalton

**Board Members Absent:** Carol Graff and Gordon Craig

**NJDEP Bureau of Water Allocation and Well Permitting Staff Present:** Terry Pilawski, Steve Reya

- 1. Call to Order** – Chairman A. Becker called the meeting to order at 10:02 am with a quorum present.
- 2. Certification** of Scores for April 6, 2016 Exam Candidates for Master, Journeyman, Journeyman B, Monitoring, Soil Borer and Pump Installers License–  
**Master**– A motion to certify the exam candidate scores was made by G. Poppe, seconded by J. Yost and approved unanimously. It was noted that the only candidate (1) who sat for the exam did not pass.  
**Journeyman**- A motion to certify the exam candidate scores was made by S. Doughty, seconded by R. Dalton and approved unanimously. It was noted that none (0) of the five (5) candidates who sat for the exam passed.  
**Journeyman B** – A motion to certify the exam candidate scores was made by G. Poppe, seconded by J. Yost and approved unanimously. It was noted that the only candidate (1) who sat for the exam did not pass.  
**Monitoring** A motion to certify the exam candidate scores was made by R. Dalton, seconded by G. Poppe and approved unanimously. It was noted that three (3) of the eight (8) candidates who sat for the exam passed.  
**Soil Borer** – A motion to certify the exam candidate scores was made by J. Yost, seconded by G. Poppe and approved unanimously. It was noted that three (3) of the five (5) candidates sat for the exam passed.  
**Pump Installer** – A motion to certify the exam candidate scores was made by J. Yost, seconded by G. Poppe and approved unanimously. It was noted that one (1) of the three (3) candidates who sat for the exam passed.

3. **Adjournment-** At 10:07 am, G. Poppe motioned to adjourn the call. The motion was seconded by S. Doughty and approved unanimously. No other business was discussed.



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### New Jersey Department of Environmental Protection NJ State Well Drillers and Pump Installers Examining and Advisory Board Meeting Minutes for May 26, 2016

*Approved by the Board on July 21, 2016*

**Board Members Present:** Gary Poppe (Vice-Chairman), Gordon Craig, Joe Yost, Joe Pepe, Richard Dalton and Steve Doughty

**Board Members Absent:** Art Becker (Chairman), Carol Graff

**NJDEP Bureau of Water Allocation & Well Permitting Staff Present:** Terry Pilawski, Pat Bono, Steve Reya, Julia Altieri, Michael Schumacher and Melia Stoop

**Board Legal Representative:** Jill Denyes, Deputy Attorney General (DAG), NJ Division of Law

**New Jersey Geologic & Water Survey (NJGWS) Staff Present:** Jeffrey L. Hoffman, NJ State Geologist

**Members of the Public Present:** Denis Crayon, Summit Drilling/New Jersey Ground Water Association (NJGWA) President-arrived 10:05 AM

#### **1. Call to Order-**

The meeting was called to order by Vice-Chairman Gary Poppe at 9:45 am with a quorum present.

#### **2. Review and Certification of the Minutes for the March 17, 2016 Meeting –**

A motion to approve the minutes without change was made by S. Doughty, seconded by R. Dalton and approved unanimously.

#### **3. Review and Certification of the Minutes for the April 28, 2016, Conference Call-**

A motion to approve the minutes without change was made by J. Yost, seconded by R. Dalton and approved unanimously.

**4. Review and Certification of Exam Applicants to sit for the June 8, 2016 Master Well Driller, Journeyman, Journeyman B, Monitoring Well Driller, Soil Borer and Pump Installers Exams –**

**Master Well Driller**– A motion to approve the two listed exam applicants was made by G. Craig, seconded by R Dalton and approved unanimously.

**Journeyman**- A motion to approve all ten of the listed exam applicants was made by S. Doughty, seconded by J. Yost and approved unanimously.

**Monitoring**– A motion to approve all ten of the listed exam applicants was made by G. Craig, seconded by R. Dalton and approved unanimously.

**Soil Borer**– A motion to approve the two listed exam applicants, was made by R. Dalton, seconded by G. Craig and approved unanimously.

**Pump Installer** – A motion to approve all three of the listed exam applicants was made by Joe Pepe, seconded by J. Yost and approved unanimously.

**Note:** No one applied for the Journeyman B exam.

**5. 2016 Exam and Board meeting Schedule Reminder-**

The upcoming 2016 exams dates for well drillers and pump installers are: June 8, October 5 and December 7.

The Board's remaining published conference call to approve the October exam results is scheduled for October 27<sup>th</sup> at 10:00 am. The dates for the published Board meetings scheduled to take place at the Department Headquarters Building are: July 21, September 15 and November 22.

**6. P. Bono brought copies of an ethics form entitled: Outside Employment Questionnaire for 'Special State Officers' and 'Special State Employees' Status Forms** which all members of a NJ State Board are required to complete. Pat Bono asked the Board legal advisor, D.A.G. J. Denyes, if members of the Board who are state employees also need to file the form. She also raised the concern that some of the questions seem to be incompatible with the required structure of the Board (namely NJ licensed drillers working in that industry which is regulated by the NJDEP.) J. Denyes said that she would look into the use of the info requested on the forms and get back to her before the next meeting.

**7. Update on the progress of the GEA GA-XTRA Geothermal Grout Approval by Steve Reya:**

S. Reya provided an update on the status of the review of the cement-based geothermal grout product, GA-XTRA. The product manufacturer, GEA, has successfully demonstrated to Board members that the lab permeability of their geothermal grout mix meets the minimum requirements for approval. Specifically, the permeability of the mix does not exceed the maximum value ( $1 \times 10^{-7}$  cm/sec) specified in the Department's well construction regulations. As required, the field demonstration showed the product could be successfully mixed in accordance with

the manufacturer's specifications and pumped into a borehole for a closed loop geothermal well measuring several hundred feet deep. The demonstration was conducted in the presence of several Board members, who observed the work by a NJ licensed well driller which included the mixing and pumping of the product using a conventional grouter used by various drilling contractors.

What has delayed the final approval of the product was a problem with the containers used to collect the field samples submitted for the permeability tests to an independent laboratory. To correct that problem, M. Schumacher and S. Reya attended a second product demonstration conducted in Sussex County on April 23<sup>rd</sup> to oversee the collection of additional samples for testing. S. Reya reported that the product was again able to be mixed and pumped downhole; however, he has still not received the permeability data. He hopes to receive this documentation shortly and will pass it along to R. Dalton for review and ultimately to the Board at the next scheduled meeting following receipt of the data.

- 8. Complaint by R. Simon addressed to the Board regarding soil boring work that fails to meet ASTM standards - Mr. Rod Simon, P.E. of Simon Engineering LLC** sent a letter of complaint to the Board, dated March 7, 2016 alleging that three (3) well drilling companies in particular, and perhaps more, are conducting soil boring work that fails to meet the required ASTM standards for architectural borings. Specifically, Mr. Simon's complaint alleges that these contractors are performing soil borings, generally to a maximum depth of 20 ft., to provide design professionals (i.e. engineers and architects) boring logs needed "to determine foundation type, for the design of piles, for the lateral load analysis required by the building code and many other things important to construction projects. Without a proper soil boring it is impossible to do those other tasks." He further alleges that the three (3) referenced companies and others are utilizing continuous flight augers (CFAs) to perform the borings, many of which are required when rebuilding properties destroyed by Superstorm Sandy. The problem with performing geotechnical borings with this drilling method, states Mr. Simon, is that "it is not possible to retrieve soil samples much below the water table using CFAs and in fact this practice is specifically prohibited by Section 6.3 of ASTM D1586. " His complaint further adds that he often receives drilling logs for borings that were not performed properly and informs the owner or agent that the data on the log is worthless. Mr. Simon has requested that the Board look into this issue, as the data being provided from these "auger borings" is essentially worthless for the intended geotechnical purposes and often needs to be performed again to yield usable data.

Board members discussed the complaint at length. All members agreed that nothing in the complaint or supporting documentation (boring logs from each of the three (3) drilling contractors referenced in the letter) was a specific violation of the Well Construction and Maintenance; Sealing of Abandoned Wells Rules, N.J.A.C. 7:9D. It was noted that all three (3) firms utilized licensed well drillers to perform the borings and borings shallower than 25 ft. do not need to be grouted upon decommissioning.

The regulations pertaining to boreholes are broad in nature, mean to protect the groundwater resources and designed to cover borings collected for a variety of uses, not just architectural borings. Therefore, no violations of the well rules occurred. The Board found no evidence indicating that the Department should pursue enforcement action against any of the referenced individuals or companies. Board members did agree, however, that Mr. Simon raised a valid concern in that if the boring is meant to meet certain specifications for its intended use, it needs to be collected in a manner

that is acceptable. Mr. Simon's letter further stated that "the bad soil logs are obvious to anyone who practices geotechnical drilling or engineering, but not obvious to someone who doesn't, including building inspectors." Board members discussed that it might be useful to inform local building inspectors that property owners would need to be told this in advance so that they could request that the driller collect the borings in a specific, acceptable manner in accordance with the ASTM standards. Without such notification, there is no requirement for a driller to follow any particular method other than what is laid out in the contract entered into with the property owner. As board members do not know what the drillers were being asked to quote or perform, they cannot conclude that fraud or negligence occurred. It was also recognized that a substantial amount of rebuilding is taking place in the coastal communities in the aftermath of Superstorm Sandy.

**G. Craig offered to draft a response letter to Mr. Simon for review at the next Board meeting. Additionally, Board members will further discuss ways in which the Department can get the word out to homeowners, drillers and building inspectors that if borings must be done in a certain way for a specific purpose, the applicable specification must be made clear before the work is done.**

**9. Water Allocation & Well Permitting Enforcement and Field Work Activities –**

G. Poppe mentioned that due to the recent NJDEP inspections being conducted and Notices of Non-Compliance being issued, the "word is out" that random field inspections are being conducted. He noted that this increased enforcement activity should help insure that drillers have appropriate licenses, permits and materials onsite when working.

Next, a summary of Well Permitting Program's enforcement and field activities over the past 9 weeks was presented by Julia Altieri

**A) Unsettled Violations-**

As of April 6, 2016, the Bureau finally received all of the requested additional documentation requested from the Maryland based drilling company that Bureau staff met with on March 8, 2016, regarding 17 suspected, improperly constructed wells and other violations to the well construction regulations. Further evaluation of the Company's response is needed by the Section. Furthermore, the Bureau has not received any additional information from the Master well driller involved in the



NONC's, as requested, at the meeting so further enforcement action is anticipated at this time for both parties involved.

**B) Outstanding Well Records and Decommissioning Reports-**

Four (4) more well drilling companies were contacted in the month of May regarding their failure to submit outstanding well records owed to the Bureau from the years 2000 to 2015. A positive response overall to this initiative has been observed with several drillers approving of the on-line system. Several drilling companies were also requested to start submitting electronic well decommissioning reports on-line instead of paper, thereby, drastically reducing the number of paper reports. Totals of paper decommissioning reports received and processed went from 102 in March to 27 in April 2016. The section will continue to send letters in the future, targeting those companies that owe a substantial amount of well records and encourage electronic submittal of paper well decommissioning reports.

**C) Field Work-**

Well Permitting Section staff performed nine (9) field inspections during the past nine (9) weeks. Staff conducted various compliance field checks of abandoned wells, witnessed sonic monitor well drilling, and evaluated new grouting technique demonstrations. Field site inspections of suspected lost and abandoned wells were the main priority of section staff for the last month, including several visits to the same area of concern.

**D) Coordination with Compliance & Enforcement-**

Work continues behind the scenes to further develop future well permitting enforcement NJEMS (the Department's software program) capabilities, as staff resources permit.

**10. Status of the Revisions to N.J.A.C. 7:9D-**

T. Pilawski stated that she does not have any update with regard to the status of the draft revisions to the well rules since the Board's May 26<sup>th</sup> meeting.

**11. Lead and Copper-**

P. Bono informed Board members of the Division of Water Supply & Geoscience's role in the issue of lead and copper contamination in drinking water. She discussed the role the Bureaus of Safe Drinking Water and Water Systems Engineering play in identifying and resolving problems with the water systems.

**12. New Jersey Ground Water Association (NJGWA)-** NJGWA President, Denis

Crayon, notified all present that the next NJGWA meeting will be held at Mastoris Diner on November 15, 2016. He also added that he and some other NJGWA members have been involved in a NJ Private Well Consortium, which includes other stakeholders such as USGS, private well testing labs, water treatment companies, and

NJ Department of Health members. Jeff Hoffman also said that arsenic remediation and system maintenance issues will also be discussed and that a member of his staff is also included in the consortium meetings. Denis offered to forward information about the NJ Private Well Consortium to Well Permitting Staff members, as they were unaware of the meetings.

### **13. Adjournment-**

A motion to adjourn was made by G. Craig at 11.08 AM. The motion was seconded by J. Pepe and approved unanimously.

**Review of NJ Pump Installer Exam Following the Meeting-** J. Pepe, J. Yost, S. Doughty and G. Poppe volunteered to stay after to assist S. Reya and P. Bono with revising and updating the Pump Installer Exam.



## State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHRIS CHRISTIE  
*Governor*

BOB MARTIN  
*Commissioner*

KIM GUADAGNO  
*Lt. Governor*

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DIVISION OF WATER SUPPLY AND GEOSCIENCE  
NEW JERSEY GEOLOGICAL AND WATER SURVEY ELEMENT  
BUREAU OF WATER ALLOCATION AND WELL PERMITTING  
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### New Jersey Department of Environmental Protection NJ State Well Drillers and Pump Installers Examining and Advisory Board Meeting Minutes for July 21, 2016

*Approved by the Board on September 15, 2016*

**Board Members Present:** Art Becker (Chairman) Gary Poppe (Vice-Chairman), Gordon Craig, Joe Yost, Joe Pepe, Carol Graff, Richard Dalton and Steve Doughty

**Board Members Absent:** None

**NJDEP Bureau of Water Allocation & Well Permitting Staff Present:** Terry Pilawski, Pat Bono, Steve Reya, Julia Altieri, Michael Schumacher, Steve Kumpf and Melia Stoop

**Board Legal Representative:** Jill Denyes, Deputy Attorney General (DAG), NJ Division of Law

**New Jersey Geologic & Water Survey (NJGWS) Staff Present:** Jeffrey L. Hoffman, NJ State Geologist

**Members of the Public Present:** Jonas Endreson and Bruce Burgess III from Jonas Endreson Drilling Contractors; Denis Crayon, New Jersey Ground Water Association (NJGWA) President and Summit Drilling representative (arrived at 10:02 am)

#### 1. Call to Order-

The meeting was called to order by Chairman Art Becker at 9:34 am with a quorum present.

#### 2. Review and Certification of the Minutes for the May 26, 2016 Meeting –

A motion to approve the minutes without change was made by G. Poppe, seconded by J. Yost and approved unanimously.

### **3. Complaint Letter Regarding Geotechnical Soil Borings –**

Board members continued the review and discussion of a complaint received from Rod Simon, PE, from Simon Engineering LLC regarding soil borings drilled for geotechnical engineering purposes. In his letter, dated March 7, 2016, Mr. Simon states that multiple well drilling companies are “performing soil borings incorrectly on thousands of projects along the Jersey Shore. They are using continuous flight augers below the water table (typically up to 20 ft.)” Further, he states that it is not possible to retrieve soil samples much below the water table using continuous flight augers (CFAs) and in fact the practice is specifically prohibited by ASTM D1586. Mr. Simon contends that all borings conducted for the purpose of obtaining data to determine foundation type, for the design of piles, for the lateral load analysis required by the building code and many other things important to construction projects should not be performed using CFAs. Mr. Simon asserts that borings not performed in accordance with ASTM D1586 (“Standard Penetration Test and Split Barrel Sampling of Soil”) yield data that is worthless for geotechnical engineering purposes. He further adds that in some instances use of the incorrect drilling method necessitates re-drilling borings at the same site by the appropriate method at significant cost to the property owner who then must pay to have the work redone.

As the Board discussed at the May 26, 2016 meeting, nothing in Mr. Simon’s complaint constitutes a violation of the Well Construction and Maintenance; Sealing of Abandoned Wells Rules, N.J.A.C. 7:9D. Following the May meeting, Board members initially drafted a response letter to Mr. Simon explaining it does not. Additional discussion ensued as to whether it is appropriate for the Board to issue an advisory letter to local construction code officials regarding appropriate standards to follow when conducting soil borings. Board members noted, however, that the well regulations allow for a variety of methods for collecting soil borings in a manner protective of the ground water resources. It is not the jurisdiction of the Board to specify which specific method must be used for a particular application. These are often dictated in accordance with other regulations or codes. Members also noted that when a particular method of boring collection (such as an ASTM method) is needed for a specific application, it must be made known in advance to the driller, preferably identified as a contractual obligation.

Jonas Endreson and Bruce Burgess II from Jonas Endreson Well Drilling, who were present at the meeting to voice their concerns over this matter, noted that they utilize CFAs to perform borings and classify the soils in accordance with the Unified Soil Classification and follow the requirements of the International Residential Code – New Jersey Edition, which allows for this practice for residential construction. Mr. Endreson said performing hollow stem auger drilling to conduct split spoon sampling of soils and obtain blow counts for geotechnical engineering is much more expensive and adds undue cost to clients, in this case, homeowners looking to rebuild after Superstorm Sandy. He also stated that other than the written complaint submitted to the Board by Mr. Simon, they have not had any of their work rejected by any engineer or architect. Mr. Endreson agreed that if a particular method was need by his client, it needs to be made in advance. Board members will consider Mr. Endreson’s input and potentially alter the current draft response to Mr. Simon prior to the next meeting scheduled for September 15, 2016.

### **4. Review and Certification of Exam Scores from the June 8, 2016 Master Well Driller, Journeyman, Journeyman B, Monitoring Well Driller, Soil Borer and Pump Installers Exams –**

**Master Well Driller**– A motion to approve the two (2) listed exam scores was made by G. Craig, seconded by S. Doughty and approved unanimously. Both candidates passed.

**Journeyman**- A motion to approve all eight (8) listed exam candidate scores was made by J. Yost, seconded by G. Craig and approved unanimously. One candidate passed.

**Monitoring**– A motion to approve all ten (10) listed exam scores was made by G. Poppe, seconded by R. Dalton and approved unanimously. Two candidates passed.

**Soil Borer**– A motion to approve the two (2) listed exam scores was made by G. Poppe, seconded by C. Graff and approved unanimously. One candidate passed.

**Pump Installer** – A motion to approve all three of the listed exam candidate scores was made by Joe Pepe, seconded by J. Yost and approved unanimously. One candidate passed.

It was noted that no one sat for the Journeyman B exam.

**5. 2016 Exam and Board meeting Schedule Reminder-**

The remaining 2016 exam dates for well drillers and pump installers are October 5 and December 7. A Board conference call to approve the October exam results is scheduled for October 27<sup>th</sup> at 10:00 am. Remaining Board meetings will be held on September 15 and November 22.

**6. Well Permitting Staffing Update-**

Terry Pilawski noted that the Bureau has hired two (2) additional part-time employees to work within the Well Permitting Program. Steve Kumpf, who was present at the meeting, was introduced to Board members. The second, Steve Kelly, will be starting soon. Both gentlemen will assist the program in conducting well record and well decommissioning report reviews along with conducting well searches and performing other tasks.

**7. GEA GA-XTRA Geothermal Grout Testing and Approval-**

S. Reya summarized the GA-Xtra Geothermal well grout product review process that began in March 2013. The independent lab testing results for permeability of the “field mixture” of the samples obtained at a site in Sussex County on April 13, 2016 were submitted to the Department for review. R. Dalton evaluated the results and concluded that the reported value was acceptable (less than the maximum permeability of  $1.10^{-7}$  cm/sec specified in the well rules). R. Dalton noted the lab results exhibited a permeability that was actually slightly lower than that measured for the original lab mixed grout mixture. S. Reya indicated that the manufacturer had, therefore, satisfied all established criteria for approving a cement-based geothermal grout.

**A motion to approve GEA GA-XTRA Geothermal Grout was made by Steve Doughty, seconded by Gordon Craig, and approved unanimously.**

Additionally, it was mentioned that this is the first alternative grout material to the only “cementitious thermally enhanced grout” (Mix 111) specified in the well rules. It may be used in the same environments as cementitious thermally enhanced grout (such as closed loop geothermal wells installed in bedrock). The Bureau will send an approval letter to the manufacturer.

**8. Water Allocation & Well Permitting Enforcement and Field Work Activities –**

J. Altieri from the Bureau of Water Allocation and Well Permitting presented a summary of Well Permitting Program’s enforcement and field activities over the past seven (7) weeks.

**A) Unsettled Violations-**

Well Permitting staff continue to investigate and work toward resolving an incident where a Pennsylvania based well drilling company abandoned the drilling a new domestic well in Hope Twp., Warren County. The driller did not have a New Jersey licensed well driller onsite, a valid NJDEP well permit and used PVC casing in violation of the NJ well construction regulations for rock wells. The violation was discovered when the Department was contacted by the Warren County Health Department about a separate, permitting issue for the property (the well was located less than the minimum distance requirements to the existing septic system). A letter was sent to the property owner by the Department advising them to properly decommission the abandoned well which consists of a partially completed 200' foot pilot hole with PVC casing in the borehole. The property owner is currently working to have a licensed driller to help them determine if the well can be finished in accordance with NJ well rule or if the well needs to be decommissioned. Well Permitting staff will coordinate with the driller to witness the reconstruction or decommissioning of this well. The work is expected to be completed within the next few weeks. Penalty notices for violations of the well drilling regulation will be sent to the unlicensed well driller.

**B) Outstanding Well Records and Decommissioning Reports-**

Three (3) additional well drilling companies were contacted in the month of June regarding their failure to submit outstanding well records owed to the Bureau from the years 2000 to 2015. Totals of paper decommissioning reports received and processed by the Bureau continues to decline as more companies realize the benefits and convenience of electronic submittals of well decommissioning and well record reports.

**C) Field Work-**

Well Permitting Section staff performed five (5) field inspections during the past eight (8) weeks. Staff conducted various compliance field checks of abandoned wells, witnessed local monitor well drilling and the drilling of a public community water supply well. Bureau staff continue to coordinate field and enforcement efforts between Compliance and Enforcement, Water Allocation and Water System Engineering.

**D) Coordination with NJDEP Compliance & Enforcement Programs-**

Work continues behind the scenes to further develop future well permitting enforcement capabilities in NJEMS (the Department's software system). A coordination meeting was held on July 7, 2016 with a final draft of the "new" Notice of Non-Compliance (NONC) form presented for comments. The next work group meeting scheduled for August 3, 2016.

**9. Drought Status Update by Jeffrey L. Hoffman NJ State Geologist-**

Water levels in Northern New Jersey are currently very low due to very little rainfall over the spring and summer months. Reservoir levels are reportedly lower than average at several key reservoirs in North Jersey, which has led to increased monitoring of drought indicators by Department staff. Information on water levels and the current drought status can be found at: [njdrought.org](http://njdrought.org). S. Doughty said that there are three (3) different indicators of drought status: drought watch, drought warning and drought emergency. He stated that within the next week, a drought watch may be issued

for northern counties. Drought watch does not include any mandatory restrictions; the intent is to inform the public and water system operators that water conservation measures should be implemented as water storage levels are lower than optimal.

#### **10. Sinkhole Grouting-**

R. Dalton reported that he recently observed the remediation of sinkholes with polymer spray foam that injected into 5/8" inch conduits that are inserted into the ground. He discussed the grouting process in which two (2) different compounds are mixed at the nozzle and the mixture is injected below ground surface to fill the underground voids of concern. The mixture has a very high expansion rate but is only guaranteed to hold up for 10 years by the manufacturer. He said that the product is typically used to lift roads, sinkholes near airline runways and building floors due to the high expansion potential. The first use of the product for the purpose of filling a sinkhole which was undermining a detention basin at Bristol-Myers-Squibb in New Jersey. The manufacturer provided EPS leach test information to show that harmful material will not leach out of the product and into surrounding soils and groundwater but R. Dalton has not yet extensively reviewed the documentation. R. Dalton projected that this product might be used for projects addressing sinkhole problems in limestone and karst geologic formations.

#### **11. NJDEP Program Updates**

- Status of the Revisions to N.J.A.C. 7:9D- T. Pilawski stated that she does not have any update with regard to the status of the draft revisions to the well rules since the Board's May 26<sup>th</sup> meeting.
- The latest version of the Permit Extension Act, which includes well permits, applies only to the nine counties affected by Superstorm Sandy. These include: Atlantic, Bergen, Cape May, Essex, Hudson, Middlesex, Monmouth, Ocean and Union Counties.

#### **12. Adjournment-**

A motion to adjourn was made by G. Poppe at 11: 15 am. The motion was seconded by G. Craig and approved unanimously.

Note: Some Board volunteers (less than a quorum) remained after the meeting to review with S. Reya and P. Bono the dewatering well driller exam questions. The exam had not been reviewed in over 15 years and was found to be inconsistent with current well rules.



## State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHRIS CHRISTIE  
*Governor*

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*Commissioner*

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### New Jersey Department of Environmental Protection NJ State Well Drillers and Pump Installers Examining and Advisory Board Meeting Minutes for September 15, 2016

*Approved by the Board on November 22, 2016*

**Board Members Present:** Art Becker (Chairman) Gordon Craig, Joe Yost, Joe Pepe, Carol Graff, Richard Dalton and Steve Doughty

**Board Members Absent:** Gary Poppe (Vice-Chairman)

**NJDEP Bureau of Water Allocation & Well Permitting Staff Present:** Terry Pilawski, Pat Bono, Steve Reya, Julia Altieri, Michael Schumacher, Steve Kelly and Melia Stoop

**Board Legal Representative:** Jill Denyes, Deputy Attorney General (DAG), NJ Division of Law

**Members of the Public Present:** Denis Crayon, New Jersey Ground Water Association (NJGWA) President and Summit Drilling representative

#### 1. Call to Order-

The meeting was called to order by Chairman Art Becker at 9:49 am with a quorum present.

#### 2. Introductions –

The newest Bureau of Water Allocation and Well Permitting (Bureau) employee, Steve Kelly, was introduced to the Board. As noted at the last meeting, Mr. Kelly will assist the Bureau in reviewing Well Record and Well Decommissioning Report documents, along with conducting well searches. Mr. Kelly graduated from Stockton College with a Degree in Geology.



**3. Board Announcements-**

S. Doughty announced that he will be retiring from the Department and will, therefore, not be serving on the Board any longer. He anticipates that he will retire on November 1<sup>st</sup> unless drought-like conditions necessitate him staying longer to assist with related water supply issues. Chairman A. Becker thanked him for all of the hard work and insight he has brought to the Board throughout the years he has served. Mr. Doughty said he enjoyed his time working with each Board member. S. Doughty began serving on the Board in March of 2012.

**4. Review and Certification of the Minutes for the July 21<sup>s</sup>, 2016 Meeting –**

A motion to approve the minutes without change was made by G. Craig, seconded by R. Dalton and approved unanimously.

**5. 2017 Board Meeting Schedule –**

Board members scheduled their 2017 meeting dates as follows:

**Thursday, January 26**

**Thursday, March 16**

**Thursday, May 25**

**Thursday, July 20**

**Thursday, September 21**

**Tuesday, November 21**

**All meetings will be held at the main DEP Building (401 E. State St., Trenton) in the 4<sup>th</sup> floor Large conference room.**

The Board's two (2) conference calls will be scheduled at the next meeting. The remaining 2016 exams are scheduled for October 5 and December 7.

**6. Review of Applicants & Approval for the October 5, 2016 Master Well Driller, Journeyman, Journeyman B, Monitoring Well Driller, Soil Borer and Pump Installers Exams –**

**Journeyman-** A motion to approve all twelve (12) listed exam applicants was made by J. Yost, seconded by S. Doughty and approved unanimously.

**Journeyman B-** A motion to approve the sole listed exam applicant was made by J. Yost, seconded by Joe Pepe and approved unanimously.

**Monitoring-** A motion to approve all twenty-one (21) listed exam applicants was made by R. Dalton, seconded by J. Yost and approved unanimously.

**Soil Borer-** A motion to approve the eight (8) listed exam applicants was made by G. Craig, seconded by C. Graff and approved unanimously.

**Pump Installer –** A motion to approve all five (5) of the listed exam applicants was made by G. Craig, seconded by J. Pepe and approved unanimously.

It was noted that there were no applicants for the **Master Well Driller** exam. Further, it was mentioned that 47 exam applications were approved for the October exam, which is the highest number of applicants to be scheduled for one exam date in many years.

**7. GeoPro Geothermal Grout Field Demo –**

A field demonstration of GeoPro's Power TECx geothermal grout will be held on September 27<sup>th</sup>, said S. Reya. Two (2) different mixtures containing bentonite and Power TECx thermal enhancement compound will be mixed and pumped into geothermal wells currently being drilled at a site in Cumberland Co. Board members G. Craig, R. Dalton and S. Doughty have volunteered to attend and determine if the products can be adequately mixed and pumped into the bores in accordance with manufacturer specifications. Samples of the products from both the grout mixer hopper and borehole "return" will be obtained from an onsite GeoPro representative and sent to an independent lab for permeability testing in accordance with ASTM method D5084. S. Reya will email the site information and specific time of the demo to the three (3) Board volunteers in the next few days.

**8. Response to the Complaint Letter Regarding Geotechnical Soil Borings from Rod Simon, PE –**

Following up on an issue from two (2) previous meetings, the Board continued discussion of a March 7, 2016 letter from Mr. Rod Simon, PE from Simon Engineering. The letter, which alleged improper methodology (utilizing continuous flight augers) to conduct soil borings for geotechnical engineering, had been discussed at the Board's May 26 and July 21, 2016 meetings. P. Bono noted that the draft response for Chairman A. Becker's signature reads "While the Subsurface & Percolating Waters Act, N.J.S.A. 58:4A-4.1 et seq. and Well Permitting regulations, N.J.A.C. 7:9D et seq. establish permitting, construction, and decommissioning requirements for soil borings performed in the State, neither the Act nor the regulations specify which methods are required for the collection of borings in any given situation. Borings are collected throughout the state for a wide number of applications, and the Board is not charged with the enforcement or oversight of regulations that are considered the purview of other state or federal agencies regarding environmental sampling or construction codes. The incidents that you describe do not appear to constitute a violation of N.J.A.C. 7:9D, and therefore would not fall within the Board's prescribed authority." Board members all agreed that the reported activity does not fall within the purview of the Board and the letter should be sent out as currently written. A. Becker will sign the letter following the meeting.

**9. Recent Bureau Projects-**

S. Reya described a couple recent projects currently in progress within the Division. One involves an observation well, expected to be over 800 ft. deep to be drilled in Lower Twp., Cape May County. Data obtained from this deep observation well will

be utilized by multiple water systems in Cape May to assess saltwater intrusion with the Kirkwood Atlantic City 800-ft. sands aquifer utilized for public water supply within the region. The well will be strategically located to allow monitoring of water quality trends (chloride and sodium levels) as an early indicator before impacts are observed at the supply wells. It is expected that Well Permitting, Water Allocation and Geologic & Water Survey staff will be onsite for different phases of the drilling and well installation to ensure that the well is screened in the appropriate formation and properly constructed.

A second project involves locating and decommissioning five (5) wells drilled around 1918-1919 for potable water supply of a former village used to house WWI munitions plant workers. Well

Permitting has been working with NJDEP Green Acres staff with the review of historic plans and files to ascertain the well locations for the “lost” wells believed to be in a heavily wooded area of a large parcel of land in Atlantic County. File reviews and field work to locate the wells has been ongoing for over a year. Recently, a drilling contractor was brought in to perform ground penetrating radar (GPR) to locate and subsequently decommission the wells in accordance with N.J.A.C. 7:9D. The wells, which must be drilled out and cleared to the original listed depths, must be decommissioned before Green Acres can acquire the property, which spans over 600 acres. S. Reya expects the well sealing activities to commence within the next few weeks.

#### **10. Drought Status Update by Steve Doughty –**

S. Doughty briefed the Board regarding drought conditions and the impact on the State’s water supplies. Rainfall, stream flows and shallow ground water levels remain well below long-term average levels for this time of year. Reservoir storage in key systems also is below long-term averages and the rate of depletion in many reservoirs is higher than expected for late September. This is due to unseasonably warm weather and continued high water demands.

On July 25, 2016, the NJDEP issued a Drought Watch for 12 northern NJ counties that make up the Northeast, Northwest, and Central drinking water supply (drought) regions. The purpose of a Drought Watch is to raise public awareness, formally alert water suppliers in the affected regions, and seek voluntary cooperation to conserve water. The goal is to moderate demand and preserve existing supplies in case dry conditions persist.

Mr. Doughty mentioned that, should dry conditions continue, a Drought Warning designation may become necessary. A Warning is a non-emergency, supply-side response by the NJDEP to preserve and balance existing water supplies within affected regions. Typically this involves modifying regulated stream passing flows, ordering water transfers and other related measures. The objective under a Warning is to avert or lessen the impact of an impending water emergency by balancing supplies

between systems/regions in surplus and deficit. Prior to ordering any actions under a Drought Warning, the NJDEP must first hold a public hearing. Although a specific date has not yet been set, an announcement could be made in the coming weeks to provide public notice of a hearing to be held sometime in October.

## **11. Water Allocation & Well Permitting Enforcement and Field Work Activities –**

A summary of Well Permitting Program’s enforcement and field activities over the past eight (8) weeks was presented by Julia Altieri.

### **A) Unsettled Violations-**

On August 22, 2016, the Bureau received and approved a modified Domestic well permit to allow a NJ licensed well driller to properly reconstruct the unpermitted, improperly constructed 200 foot well in Hope Twp., Warren County that was left incomplete by a Pennsylvania-based well drilling company. The licensed driller will be required to ream out the remnants of the existing well and re-install at least 120 feet of 6” steel casing to account for not meeting the minimum distance requirement between the well and existing septic field. Bureau staff intend on witnessing the reconstruction of this well which is expected to be completed in the next few weeks.

### **B) Outstanding Well Records and Decommissioning Reports-**

Two (2) well drilling companies were contacted in July and August regarding their failure to submit outstanding well records owed to the Bureau from the years 2000 to 2015. The total number of paper well decommissioning reports received and processed continues to decline with the Bureau averaging 40 paper decommissioning reports per month.

### **C) Field Work-**

Well Permitting Section staff performed ten (10) field inspections during the past eight (8) weeks. Staff conducted various field inspections of abandoned well sites, witnessed local monitor well drilling and specialized well decommissioning activities. Bureau staff spent several field days gathering compliance evidence of suspected well drilling violations against well drillers suspected of violating the well construction regulations mostly alleged grouting violations.

### **D) New Compliance Investigations—**

The Bureau is currently investigating an incident where a New Jersey Journeyman licensed well driller and his company are suspected of improperly decommissioning a 65 foot irrigation well, specifically, by not using the correct method and amount of bentonite grout as per the regulations to fill the open casing. The Bureau was alerted, when a second licensed NJ well driller contacted the Bureau for approval of an alternate decommissioning method of a 65 foot irrigation well that had been uncovered during road work excavations. According to the second driller, the uncovered well also had a pump stuck in it that could not be removed, and it appeared that someone had improperly sealed the well based the presence of dry Hole Plug (bentonite chips) at the top of the well to only approximately one foot below the top

of the well casing, above the cut off water line. Bureau staff field inspected the site and collected additional information verifying the current state of the well. A review of Bureau files revealed that a completed, conforming well decommissioning report for the same well was already on file with the Bureau.

During the same time, a second case of alleged, improper well construction involving the same New Jersey Journeyman licensed well referenced above and his company was reported to the Bureau. The property owner alleged that the licensed NJ well driller used a small amount of grout material to seal the annular space of the well of his new irrigation well. Bureau staff inspected the well at this property and confirmed that the well appeared to have very little grout surrounding the annular space. Notices of Non-Compliance were sent by the Bureau to the licensed driller and his company for suspected violations of the well rules for improper well decommissioning and well construction. The driller responded with notarized statements and field logs documenting that wells in question were properly decommissioned and constructed with ample amounts of grouting material in accordance with N.J.A.C. 7:9D et sq. Further investigation of the issues of alleged non-compliance by the Bureau and Central Region Enforcement is pending.

#### **12. NJDEP Program Updates (Status of the Revisions to N.J.A.C. 7:9D)-**

T. Pilawski stated that four (4) meetings have been scheduled to work on the Draft Well Rules. In the coming weeks she will be meeting with Kristen Tedesco, Chelsea DuBrul and Kati Angarone of the Division of Water Supply & Geoscience. Additionally, Sue Savoca and Jill Denyes, Deputy Attorney Generals from the NJ Division of Law, will be in attendance to finalize the rule language prior to sending the latest draft to the Governor's office.

#### **13. Revised Total Coliform Rule (RTCR)-**

J. Pepe raised a potential issue he recently observed in the pump industry: licensed pump installers and well drillers are being asked to complete RTCR Level 2 assessment forms without sufficient knowledge or training. Mr. Pepe noted that there seems to be an inaccurate assumption by NJDEP staff within the Bureau of Water Systems Engineering Compliance Assistance unit that all NJ licensed pump installers and well drillers have sufficient knowledge and training to adequately complete the forms required by the Department. He noted that pump installers are trained in the maintenance, diagnostic, installation and repair practices with regard to well pumps and are not exposed to or trained to diagnose water quality issues related to bacterial contamination. Sections of the RTCR Level 2 assessment form that pump installers are being asked to certify contain lab sampling data for the water quality, which he believes is not within the domain of a licensed pump installer or driller. Also, the form lists information on the water treatment system operation, which he believes would be completely unknown to a pump installer or driller as their inspection of the water system would be limited to a specific date. It would be near impossible for

them to have direct knowledge on the routine maintenance and operational status of a treatment system.

The RTCR Level 2 assessment form, which is 8 pages, contains a certification section for only one licensed “qualified party” (aside from the water system owner/operator). Such information, if incorrect and provided by the pump installer or driller could potentially leave this licensed person legally liable for inaccurate information, said J. Pepe. He questioned how pump installers and drillers could sign a certification statement that covers water testing and water system operation categories. He felt that they should only be asked to certify components of the system that are within the domain of what they are licensed to perform in accordance with Department Rules. Further he noted that the Department needs to provide training and guidance documents to better instruct the licensed community as to what the Department expects them to provide. T. Pilawski said she will relay Mr. Pepe’s concerns and suggestions to Linda Ofori, Section Chief within the Bureau of Water Systems Engineering. Her intention is to have both Bureaus (Water Allocation & Well Permitting and Water Systems Engineering) work together to create a guidance document on filling out the Level 2 Assessment Form and disseminating it to licensed pump installers and drillers.

#### **14. Adjournment-**

A motion to adjourn was made by Gordon Craig at 11:32 am, seconded by J. Yost and approved unanimously.



## State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHRIS CHRISTIE  
*Governor*

BOB MARTIN  
*Commissioner*

KIM GUADAGNO  
*Lt. Governor*

MAIL CODE 401-0Q  
DIVISION OF WATER SUPPLY AND GEOSCIENCE  
NEW JERSEY GEOLOGICAL AND WATER SURVEY ELEMENT  
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### State Well Drillers and Pump Installers Examining and Advisory Board Conference Call Minutes for October 27, 2016

*Approved by the Board on November 22, 2016*

**Board Member Present:** Steve Doughty

**Board Members Participating Via Telephone:** Art Becker (Chairman), Gary Poppe (Vice Chairman), Richard Dalton, Gordon Craig

**NJDEP Water Supply Staff Present:** Terry Pilawski and Steve Reya (Bureau of Water Allocation and Well Permitting).

1. **Call to Order** –A. Becker called the meeting to order at 10:04 am with a quorum present.
2. **Certification of Exam Scores for October 5, 2016 Journeyman, Journeyman B, Monitoring, Soil Borer and Pump Installers Exams–**

**Journeyman-** A motion to certify the applicant scores was made by S. Doughty, seconded by G.Craig and approved unanimously. Four (4) of eleven (11) passed the exam (36% pass rate).

**Journeyman B** – A motion to certify the applicant score was made by G. Poppe, seconded by G. Craig and approved unanimously. Only one person sat for the exam and did not pass.

**Monitoring** – A motion to certify the applicant scores was made by R. Dalton, seconded by G. Poppe and approved unanimously. Six of eighteen (18) passed the exam (33% pass rate).

**Soil Borer** – A motion to certify the applicant scores was made by G. Craig seconded by G. Poppe and approved unanimously. One (1) of six (6) passed the exam (17% pass rate).

**Pump Installer** – A motion to certify the applicant scores was made by G. Craig, seconded by G. Poppe and approved unanimously.

3. **Adjournment-** The call was adjourned at 10:08 am.



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### New Jersey Department of Environmental Protection NJ State Well Drillers and Pump Installers Examining and Advisory Board Meeting Minutes for November 22, 2016

*Approved by the Board on January 26, 2017*

**Board Members Present:** Art Becker (Chairman), Gary Poppe (Vice-Chairman) Gordon Craig, Joe Yost, Joe Pepe, Richard Dalton and Steve Doughty.

**Board Members Absent:** Carol Graff

**NJDEP Bureau of Water Allocation & Well Permitting Staff Present:** Terry Pilawski, Steve Reya, Julia Altieri, Michael Schumacher, Mark Ortega, Jeremy Wick, Steve Kumpf and Melia Stoop

**Board Legal Representative:** Jill Denyes, Deputy Attorney General (DAG), NJ Division of Law

**New Jersey Geologic & Water Survey (NJGWS) Staff:** Jeffrey L. Hoffman, NJ State Geologist

**Members of the Public Present:** Denis Crayon, New Jersey Ground Water Association (NJGWA) President and Summit Drilling representative

#### 1. Call to Order-

The meeting was called to order by Chairman Art Becker at 9:36 am with a quorum present.

#### 2. Staff Update-

Jennifer Ngo left the Well Permitting Section to begin working full time for an environmental consulting firm. M. Schumacher said the section intends to hire another part time employee to continue the work performed by Ms. Ngo.



Also, Steve Doughty announced that he decided to delay his retirement date until January 1, 2017, to assist with impending drought related issues. He stated that this will, therefore, be his last Board meeting.

**3. Review and Certification of the Minutes for the September 15, 2016 Meeting –**

A motion to approve the minutes without change was made by R. Dalton, seconded by J. Yost and approved unanimously.

**4. Review and Certification of the Minutes for the October 27, 2016 Conference Call –**

A motion to approve the minutes without change was made by G. Poppe, seconded by G. Craig and approved unanimously.

**5. Review of Applicants & Approval for the December 7, 2016 Master Well Driller, Journeyman, Journeyman B, Monitoring Well Driller, Soil Borer and Pump Installers Exams –**

Master Well Driller– A motion to approve one (1) listed license exam applicants was made by G. Poppe, seconded by S. Doughty and approved unanimously.

Journeyman- A motion to approve all three (3) listed license exam applicants was made by G. Craig, seconded by G. Poppe and approved unanimously.

Journeyman B- A motion to approve two (2) listed license exam applicant was made by G. Craig, seconded by J. Yost and approved unanimously.

Monitoring– A motion to approve all twelve (12) listed license exam applicants was made by G. Poppe, seconded by J. Yost and approved unanimously.

Soil Borer– A motion to approve the three (3) listed license exam applicants was made by S. Doughty, seconded by G. Craig and approved unanimously.

Pump Installer – A motion to approve all seven (7) of the listed license exam applicants was made by G. Craig, seconded by J. Yost, and approved by all members with the exception of J. Pepe who abstained.

**6. Review of Letter and Supporting documentation for consideration of Journeyman and Pump Installer Exam Applicant – G. Battschinger. –**

A currently deployed US Army Lieutenant Colonel contacted the Well Permitting Section in regards to experience and testing requirements for NJ Journeyman and Pump Installer licensure, said S. Reya. He and the gentlemen, Glenn Battschinger, have been communicating via email. Mr. Battschinger has obtained well drilling experience in the state of Maine and as well as overseas but is unable to meet the exam application requirements as written. At the suggestion of S. Reya, Mr. Battschinger compiled his well drilling experience and qualifications for review by the Board to receive clarification on how he can meet the applicant requirements when he seeks to begin a new civilian career when he redeploys home in May 2017. Mr. Battschinger meets the 3-year minimum well drilling experience requirement for an out-of-state applicant as he worked under the supervision of Maine well

drillers (and provided signed and notarized reference questionnaires documenting such). He has agreed to obtain the National Ground Water Association (NGWA) certifications in the appropriate categories, as is required of out-of-state applicants since they have not worked under the supervision of a NJ licensed well driller of the proper class to certify his/her experience. Once obtained, the only applicatory requirement Mr. Battschinger will not meet is the ability to document that he has assisted with the installation of five (5) wells within the last three (3) years. He has assisted two (2) NJ licensed well drillers within the last few years, however, he has reportedly only been able to obtain a signed reference questionnaire from one of the drillers to document two (2) wells drilled under that licensed driller's supervision. All Board members stated that if he can assist with the installation of three (3) more wells he would be able to sit for the exam. Further, Board members volunteered to assist Mr. Battschinger in finding an opportunity to obtain the remaining wells by getting him in touch with some drilling contractors near his residence with which he could work once home. S. Reya will contact and assist him via email on behalf of the Board.

**7. 2017 Board Meetings and Conference Call Dates-**

Board meeting dates were published with The Star Ledger, The Trenton Times, The Press of Atlantic City and The Secretary of State on Saturday, November 19, 2016. All meetings will be held in the 4th Floor Large Conference Room of NJDEP, 401 East State Street, Trenton, NJ 08625 on the following dates:

Thursday, January 26, 2017;

Thursday, March 16, 2017;

Thursday, May 25, 2017;

Thursday, July 20, 2017;

Thursday, September 21, 2017;

Tuesday, November 21, 2017;

Two (2) conference calls will be held in the Bureau of Water Allocation and Well Permitting Bureau Chief's Office to approve the April and October Exam scores. These conference calls will take place at 10 am on April 27, 2017 and October 26, 2017.

The Exam Dates for 2017 are: April 6, June 7, October 4 and December 6.

**8. GeoPro Power TECx Geothermal Grout Thermal Enhancement Compound-**

A field pumping demonstration of this product was performed on September 27, 2016. Board and Bureau representatives (G. Craig and S. Reya respectively) were present to observe the onsite mixing and pumping of the PowerTECx TG Lite 1.20 (Btu/hr ft<sup>o</sup>f) and TG Select 1.40 mixtures. Both mixes were prepared in accordance with the manufacturer supplied mix tables. The field mixes, which consist of bentonite and a graphite thermal enhancement compound, were pumped through a tremie pipe into two (2) vertical closed loop geothermal well boreholes until grout "return" was observed at ground surface. Samples of each product were collected from both the grout mixer and borehole return. Final lab permeability results of the onsite mixes were submitted to the Bureau via email on October 11, 2016. The values were all below the maximum permeability value specified at N.J.A.C. 7:9D-2.9(b).

Following the Board's review of the above information, S. Doughty moved to recommend that the Department approve GeoPro's Power TECx 1.40 grout mix along with all other variants of lower thermal conductivity listed in the PowerTECx mix table, for use in NJ. The motion was seconded by R. Dalton and approved unanimously. The Bureau will draft a letter approving the use of seven (7) geothermal grout mixtures listed in the product sheet. Specifically, this approval will apply to

PowerTECx mixed with TG Lite or TG Select at the following thermal conductivity (Btu/hr ft°F) values: 0.79, 0.88, 1.00, 1.07, 1.14, 1.20 and 1.40.

S. Reya also briefly discussed another GeoPro product for which the manufacturer seeks NJ approval. This grout product, CG Plus, is intended to be used in both unconsolidated and consolidated formations, as the manufacturer indicates that the product is cement-based. A discussion about whether it truly constitutes a cement-based grout based on the material components ensued. S. Reya will reach out to the manufacturer for additional information and the product will be further discussed at the January meeting.

#### **9. Horizontal Directional Drilling by Richard Dalton-**

R. Dalton presented information on horizontal directional drilling (HDD). He explained that this trenchless technology has historically consisted of small diameter shallow horizontal holes for the installation of electrical, telephone or television cable lines under roads, yards and other areas in order not to disturb the surface. It is believed that the Department decided not to regulate this type of horizontal drilling as this activity was an alternative to digging shallow trenches which did not impact ground water. However, R Dalton was unable to find any written documentation when or how this position was established. A search of the minutes of the State Well Drillers & Pump Installers Examining and Advisory Board Meetings from about 1984 through 2000 found no mention of horizontal drilling. R. Dalton believes that well permits have been approved in the past for horizontal wells drilled for the purposes of removing contamination from soil and groundwater from under buildings. Those drilled for utility lines, however, have remained essentially unregulated by the Department since these installations have been interpreted as not meeting the definition of a well.

Currently, HDD is used to develop boreholes for pipeline projects which may consist of large diameters, depths of greater than 50 feet below the earth's surface, multiple geologic formations which may affect groundwater sources. Recently in New Jersey, HDD technology is being used to drill holes up to 58 inches in diameter, a thousand or more feet long and at least 50 feet or more below the ground surface. The longest and deepest completed drill project, in New Jersey, is the Monksville Reservoir HDD, a 42-inch hole with 30-inch pipe that has a horizontal distance of 4,783 and depth of 54 feet below bottom of the reservoir (about 100 feet below the reservoir water surface). The southeastern end of the borehole passed under a hill at a depth of 460 feet below the land surface and had horizontal distance over 800 feet where the borehole was over 400 feet below the surface.

On a recent HDD project in Mercer County a reaming tool became stuck in the 56-inch hole during the last cleanout pass. The reamer was stuck about 900 feet in the borehole after it

sheared off from the drill tailstring. Then the drill rod ahead of the reamer uncoupled. Many recovery attempts were made with various fishing tools and all were unsuccessful. After two additional failed drilling attempts, at the site, there are currently two (2) abandoned +/- 56 inch boreholes about 1,900 feet long and a smaller pilot hole, possibly 20 inch in diameter, which intersected the first borehole about 1,100 feet from the upper end. According to one e-mail on the project the boreholes have been grouted and the top 5 feet has been filled with soil, but currently there is no information on how the holes were grouted or the grout material used. An internet search was conducted for information on grouting requirements related to trenchless technology but little information was found.

R. Dalton noted that the Department has strict regulations to which NJ drillers must adhere when constructing water supply wells (both potable and non-potable), monitoring wells, geothermal wells, yet this drilling activity poses a much greater risk to the ground waters of the state due to the sheer diameters, distances and depths drilled and yet they remain unregulated. He stated that there are no requirements to grout a failed/abandoned; between the borehole and a casing or pipe; or between a casing and the pipes inside the casing.

The well rules require all wells or boreholes to be properly grouted using Department approved materials. Currently, according to N.J.A.C. 7:9D-2.9, the only grout types that can be used in consolidated formations are those that contain Portland cements type I, II, III, or V and are mixed in accordance with Tables 1, 2 or 4. R. Dalton suggested that HDD contractors should be required to design a grout specifically to meet the permeability requirement of not greater than  $1 \times 10^{-7}$  centimeters per second if they cannot use one of the currently approved grouts for sealing wells. The Department's Office of Permit Coordination and Environmental Review and the Division of Land Use Regulation are the only two programs that coordinate, review and issue permits for pipeline projects. The Division of Water Supply and Geoscience plays a limited role via the Bureau of Water Allocation and Well Permitting in that the construction of the pipeline itself may trigger the need for a dewatering or other short term water use permit (such as water usage registration, short term water use permit-by-rule, or dewatering permit-by-rule) based on water use from ground or surface sources equal to 70 gallons per minute or more for trench dewatering, dust control, irrigation, make up water, and pressure testing.

After some discussion, the Board members decided to develop a resolution at the next meeting to propose coordination with these offices to ensure that HDD activity in NJ does not continue to go overlooked. R. Dalton will work with J. Hoffman on developing language for consideration by the Board at the January meeting.

#### **10. Water Allocation & Well Permitting Enforcement and Field Work Activities –**

J Altieri presented a summary of the Well Permitting Program's enforcement and field activities conducted over the past two months.

##### **A) Unsettled Well Construction Violation-**

On November 4, 2016, Bureau staff witnessed and documented the removal of 20 feet of 6-inch steel casing and PVC surface casing that was not grouted in a 200 foot domestic well

that was never completed in Hope Twp., Warren County. All decommissioning activities went well except that the steel casing installed was not plumb so it was a little tougher for the driller to remove than initially anticipated. The licensed well driller also reamed the hole with a 10-inch hammer to a depth of 120 feet to set and grout 6-inch casing and complete the well as per requirements of the new permit. Coordination with Northern Region of Water Compliance and Enforcement is pending for the issuance of additional penalties to the original Pennsylvania based well drilling company.

**B) Improper Well Decommissioning/Well Construction-**

The Bureau continues to investigate a New Jersey Journeyman B licensed well driller and his company suspected of improperly decommissioning a 65-foot deep irrigation well, specifically,

by not using the correct method and amount of bentonite grout as per the regulations to fill the open casing and a second case involving the same driller improperly grouting a new irrigation well. The Bureau is preparing to pursue further enforcement actions in response to the issues of alleged non-compliance with the Departments Central Region Enforcement.

**C) Field Work-**

Well Permitting Section staff performed twenty-three field inspections during the past eight weeks, mostly of abandoned well sites inspections and gathering evidence of suspected well drilling violations against well drillers suspected of violating the well construction regulations mostly for grouting violations.

**D) New Compliance Investigations-**

On October 13, 2016, the Bureau was alerted by Ocean County Health Department that a Master well driller was submitting local permits without the required approved state well permits listed. Well permitting staff sent a list of eight pending permit property addresses to the Health Department to field verify if these and certain other wells might be already drilled. Site inspections of those eight properties by the Ocean County and well permitting staff plus an additional thirteen permit applications received by the Bureau between the dates of October 13-20, 2016 confirmed that seven properties overall, appeared to have wells constructed before the State permit approval date. Of the seven properties, four had permits still pending approval by the Bureau. The Bureau denied the permits on November 3, 2016 since these wells were confirmed drilled in violation of N.J.A.C. 7:9D-1.6(b). On November 3, 2016, letters of Non-Compliance and orders to properly decommission the four (4) drilled wells were also issued. Earlier in October 2016, two additional confirmed cases of well drilling by the same driller and company before an approved permit in violation of N.J.A.C.7:9D-1.6(b). Bureau Well Permitting staff intend to witness the proper decommissioning and re-drilling a total of five wells that were ordered sealed. Coordination with Central Region of Water Compliance and Enforcement is pending for the issuance of additional penalties at this time.

**11. Installation of Unpermitted Closed Loop Geothermal Wells:** Update by S. Reya and M. Schumacher-

On Thursday, September 15, 2016, the Bureau of Water Allocation & Well Permitting (Bureau) received a report of potential violations of the well rules (lack of proper grouting closed loop geothermal wells). A search of the Department's well permitting database did not yield any drilling permits for the site. The following day Bureau staff inspected the site and found that six (6) geothermal wells had been installed and the drill rig was over top of a seventh borehole that had been drilled, though a geothermal "loop" had not yet been installed in the borehole. Staff contacted the Southern Bureau of Water Compliance and Enforcement to report the noncompliance and request their assistance. Staff from both Bureaus met with the contractor at the site of the geothermal wellfield and a Notice of Violation was issued on September 28, 2016. The geothermal system at the site consists of 80 wells approximately 300 feet deep, most of which are already in use. The geothermal wells are unpermitted, were drilled by an unlicensed individual and cited to be improperly constructed based on onsite observations by Bureau staff.

Representatives of the Division's Bureau of Water Allocation & Well Permitting, Southern Bureau of Water Compliance and Enforcement and the Division of Law met with representatives of the contractor at the Southern Enforcement office in Camden on October 26, 2016. The meeting was requested by the contractor as a result of the Department's issuance of a Notice of

Violation regarding the construction of the illegal geothermal system. The meeting intended to develop a path toward compliance.

Staff is committed to working with the contractor to develop a decommissioning scenario that would result in little to no disruption to the operation of the partially occupied facility. The contractor indicated that they would reach out to licensed drillers and geologic professionals to assist in evaluating decommissioning alternatives and options.

**12. Drought Status Update by Steve Doughty-**

S. Doughty briefed the Board regarding drought conditions and the impact on the State's water supplies. Rainfall, stream flows, shallow ground water and reservoir levels remain well below long-term average levels for this time of year. These conditions prompted the issuance of a Drought Watch on July 25, 2016, for 12 northern NJ counties. The persistent dry weather resulted in the next level of response, a Drought Warning designation for the 12 counties already under Watch as well as Monmouth and Ocean counties, being made on October 22, 2016.

A Drought Warning is a non-emergency, supply-side response by the NJDEP to preserve and balance existing water supplies within affected regions. Drought Warning Administrative Order 2016-10 (AO 2016-10) issued by Commissioner Martin directed modified stream passing flows, water transfers, and other related measures. The objective under a Warning is to avert or lessen the impact of an impending water emergency by balancing supplies between systems/regions. The measures imposed under AO 2016-10, in addition to some

fortuitous rainfall in November, has moderated the impact to some of the most depleted resources. Nevertheless, more frequent and abundant precipitation, coupled with the public's cooperation to reduce water usage, is needed to fully recover.

### **13. NJDEP Program Updates**

Status of the Revisions to N.J.A.C. 7:9D- T. Pilawski stated that the rules are being finalized for submission to the Commissioner's office and then to the Office of Administrative Law.

**Adjournment-** A motion to adjourn was made by G. Poppe at 12:32 pm, seconded by G. Craig and approved unanimously.