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MAY 13 2013

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD STATE OF ILLINOIS  
Pollution Control Board

IN THE MATTER OF: )  
)  
PROPOSED AMENDMENTS TO )  
CLEAN CONSTRUCTION OR DEMOLITION DEBRIS )  
FILL OPERATIONS (35 IAC PART 1100) )

R2012-009 (B)  
(Rulemaking-Land)

NOTICE OF FILING

 ORIGINAL

To: See Attached Service List

Please take notice that I have filed today with the Illinois Pollution Control Board my testimony for the May 20, 2013 hearing.

Dated: May 13, 2013

Respectfully submitted,

By:   
Mark J. Krumenacher, PG

Mark J. Krumenacher, PG  
GZA GeoEnvironmental, Inc.  
20900 Swenson Drive, Suite 150  
Waukesha, Wisconsin 53186

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
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PROPOSED AMENDMENTS TO	)	
CLEAN CONSTRUCTION OR DEMOLITION DEBRIS	)	R2012-009 (B)
FILL OPERATIONS (35 IAC PART 1100)	)	(Rulemaking-Land)

**PRE-FILED TESTIMONY OF MARK J. KRUMENACHER, PG**

I respectfully request that the Board accept my previously provided testimony on October 25, 2011 in the matter of R2012-009 for consideration in the current matter of R2012-009(B) as I will be unable to attend the hearing on May 20, 2013. My previous testimony including supporting Illinois Professional Geologists as one of the designated professionals that may prepare or supervise the design and preparation of groundwater monitoring systems, plans, notifications, and reports under the proposed Section 1100.710. I have attached a copy of my previously pre-filed testimony. My testimony at hearing can be found in the transcript for the October 25, 2011 Pollution Control Board hearing held at 100 West Randolph Street, Chicago, Illinois.

I also support the pre-filed testimony of Mr. Martin Hamper of American Institute of Professional Geologists (AIPG) and support his request that the proposed Section 1100.710 be revised to include Illinois Licensed Professional Geologists in the execution of the Rule with respect to groundwater monitoring programs related to CCDD operations.

**PROPOSED RULE REVISION REQUEST**

The following was offered as language to revise the proposed rule consistent with the request of the AIPG.<sup>1</sup>

“Section 1100.710 Professional Supervision and Certification

All systems, programs, plans, notifications, reports designed or prepared to comply with this Subpart must be designed or prepared under the supervision of a PE or PG. The PE or PG must affix to all designs, plans, notifications, and reports the name of the engineer or geologist, date of preparation, registration number, professional seal, and a statement attesting to the accuracy of the information.”

<sup>1</sup> Please note that PE and PG are proposed here because the existing regulations under 35 IAC Part 1100 refer to Professional Engineers and Professional Geologists within subsections of the rule as PE and PG, respectively.

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD  
IN THE MATTER OF: PROPOSED AMENDMENTS TO CLEAN CONSTRUCTION  
OR DEMOLITION DEBRIS (CCDD) FILL OPERATIONS  
PROPOSED AMENDMENTS TO 35 IAC 1100 R2012-009  
(Rulemaking - Land)**

As a stakeholder in this process and an Illinois Licensed Professional Geologist, I, Mark J. Krumenacher, P.G., wish to assert my legal, regulatory and/or technical justifications to expand the role of the Licensed Professional Geologists in implementing 35 IL Admin. Code Part 1100, and provide the following testimony for consideration, justification and inclusion to the final Rule, as applicable.

**QUALIFICATIONS TO PROVIDE TESTIMONY**

Mark J. Krumenacher, P.G.  
Principal/Senior Vice President  
GZA GeoEnvironmental, Inc. - 24 years

**EDUCATION**

**M.S.**, 1987, Geological and Geophysical Sciences, University of Wisconsin-Milwaukee  
**B.S.**, 1985, Geological and Geophysical Sciences, University of Wisconsin-Milwaukee

Both degrees specialized in General Geology, Hydrogeology, Exploration Geophysics, Petroleum Geology and Petroleum Geophysics

**PROFESSIONAL REGISTRATIONS**

Illinois Licensed Professional Geologist, No. 196-001157  
Professional Geologist, Wisconsin, No. 133  
Professional Geologist, Kentucky, No. 2344  
Professional Geologist, North Carolina, No. 1936  
Professional Geologist, Mississippi, No. 0693  
Certified Professional Geologist, American Institute of Professional Geologists, No. 10081  
Certified Ground Water Professional, Association of Groundwater Scientists and Engineers, No. 450  
Certified Hazardous Materials Manager, Institute of Hazardous Materials Management, No. 7749

**PROFESSIONAL ACTIVITIES AND ASSOCIATIONS**

Society for Mining, Metallurgy and Exploration  
National Stone Sand and Gravel Association  
Industrial Minerals Association - North America  
Illinois Association of Aggregate Producers  
Aggregate Producers of Wisconsin

## **PROFESSIONAL ACTIVITIES AND ASSOCIATIONS (Cont.)**

American Institute of Professional Geologists  
National Ground Water Association  
Illinois Association of Groundwater Professionals  
Federation of Environmental Technologists

I have served as Principal, Senior Project Manager and Project Hydrogeologist during the past 24 years on geologic, hydrogeologic and environmental projects throughout North America. I have managed and/or conducted geologic studies, hydrogeological studies, engineering studies, remedial investigations, environmental assessments, pre-acquisition environmental due diligence and hazardous waste management at various sites including large industrial, commercial and urban redevelopment projects, Federal Superfund sites and state-lead projects. My experience includes work in 28 states and properties in Canada, Mexico and South America.

Work experience at mines includes more than 100 properties in Wisconsin, Illinois, Indiana, Iowa, Michigan and elsewhere. Services include geologic mapping above and below ground, reserve analysis, mine planning, exploration of reserves, hydrogeologic studies, development of groundwater monitoring programs, environmental due diligence, as well as team leader on projects involving slope stability analyses, analysis of overburden placement, levee design and construction, foundation engineering and other related services. This work has included open pits and quarries and underground carbonate bedrock and sandstone mines. Geological interpretation in these states can be considered a specialty through education and 24 years of direct work experience.

My career has been very similar to that of my peers and has involved the evaluation and characterization of a wide variety of contaminated properties, in varied geologic environments with a wide range in contamination types and sources. Every aspect of the proposed Rule has been consistent with my education and work experience and, thus, it is applicable and appropriate that the modifications to the proposed Rule presented in this testimony be considered; to not do so ignores the career of thousands of Professional Geologists and over 100 years of historical practices.

**COMMENTS / TESTIMONY RE: PROPOSED AMENDMENTS TO CLEAN CONSTRUCTION OR DEMOLITION DEBRIS (CCDD) FILL OPERATIONS**

Licensed Professional Geologists in Illinois and across North America have been directly involved in the routine planning, execution and management of the characterization and final disposition of contaminated soil, waste and other materials for several decades. Based on the educational curriculum, industry standard work experience and licensing requirements, Licensed Professional Geologists are specifically qualified to perform many of the duties required under the Rule. As such, the Rule should be amended to expand the role of Illinois Licensed Professional Geologists in the execution of the Rule with respect to certain certifications and groundwater monitoring programs related to CCDD operations.

We recognize that the previous Rule, as drafted, was modified based on the request of various associations and individuals to incorporate Licensed Professional Geologists for Certifications and Load Checking Section 1100.205. However; it is both appropriate and applicable to incorporate additional references to Licensed Professional Geologists in the following sections of the Rule, as summarized below:

1. 1100.205 - Certifications and Load Checking
2. 1100.212 - Painted CCDD
3. 1100.412 - Procedures for Closure and Postclosure Maintenance
4. 1100.525 - Procedures for Closure
5. 1100.530 - Termination of Postclosure Maintenance
6. 1100.710 - Groundwater Monitoring Subpart G

Based on technical contents of the Rule and the qualifications of Licensed Professional Geologists, as summarized below, several Rule amendments are respectfully requested.

## JUSTIFICATION FOR THE RULE AMENDMENT REQUESTS

### Justification No. 1 for Rule Amendment Requests The Professional Geologist Licensing Act

The Professional Geologist Licensing Act [225 ILCS 745] (Public Act 89-366 eff. 7-1-1996) clearly provides for Illinois Licensed Professional Geologists to be included in the stewardship of this Rule. The following citation to the Illinois Professional Geologist Licensing Act demonstrates and documents the legal authority.

The State of Illinois has recognized the important role of Professional Geologists since passage of the Professional Geologist Licensing Act in 1996. Section 10 of the Act, "Declaration of public policy" states;

*"The practice of professional geology in the State of Illinois is hereby declared to affect the public health, safety, and well-being of its citizens and to be subject to regulation and control in the public interest. It is further declared that the practice of professional geology, as defined in this Act, merits the confidence of the public, and that only qualified persons shall be authorized to engage in the practice of professional geology in the State of Illinois. This Act shall be liberally construed to best carry out this purpose."*  
(Source: P.A. 89-366, eff. 7-1-96.)

Licensed Professional Geologists are qualified persons based on their education, demonstrated work history and rigorous licensing requirement and as such meet the qualifications necessary to justify each of the 11 Rule Amendment Requests presented below.

Section 15 of the Act defines Geologist as follows:

*"Geologist" means an individual who, by reason of his or her knowledge of geology, mathematics, and the physical and life sciences, acquired by education and practical experience as defined by this Act, is capable of practicing the science of geology."*

It is clear, that by meeting the definition of "Geologist," a Licensed Professional Geologist meets the qualifications necessary to justify each of the 11 Rule Amendment Requests presented below.

Section 15 of the Act defines Geology as follows:

*"Geology" means the science that includes the treatment of the earth and its origin and history including, but not limited to, (i) the investigation of the earth's crust and interior and the solids and fluids, including all surface and underground waters, gases, and other materials that compose the earth as they may relate to geologic processes; (ii) the study of the natural agents, forces, and processes that cause changes in the earth; and (iii) the utilization of this knowledge of the earth and its solids, fluids, and gases, and their collective properties and processes, for the benefit of humankind."*

Licensed Professional Geologists have demonstrated the capability of practicing the science of geology, which as recognized in the Act, is a science that includes all surface and underground waters, gases and other materials that compose the earth as they may relate to geologic processes. Furthermore, geology includes the utilization of this knowledge of the earth and its solids, fluids, and gases, and their collective properties and processes, for the benefit of humankind; and in most instances, those Licensed Professional Geologists are employed to address soil and groundwater issues in the shallow soil and bedrock. As such, based on these definitions, it is clear that Licensed Professional Geologists meet the qualifications necessary to justify each of the 11 Rule Amendment Requests presented above.

Further Section 15 of the Act provides the following examples:

*“Examples of the practice of professional geology include, but are not limited to, the conduct of, or responsible charge for, the following types of activities: (i) mapping, sampling, and analysis of earth materials, interpretation of data, and the preparation of oral or written testimony regarding the probable geological causes of events; (ii) planning, review, and supervision of data gathering activities, interpretation of geological data gathered by direct and indirect means, preparation and interpretation of geological maps, cross-sections, interpretive maps and reports for the purpose of determining regional or site specific geological conditions; (iii) the planning, review, and supervision of data gathering activities and interpretation of data on regional or site specific geological characteristics affecting groundwater; (iv) the interpretation of geological conditions on the surface of the Earth and at depth in the Earth for the purpose of determining whether those conditions correspond to a geologic map of the site or a legally specified geological requirement for the site; and (v) the conducting of environmental property audits.”*

Each of the examples of the practice of professional geology contained in the Professional Geologist Licensing Act is consistent with all of the Rule Amendment Requests presented below.

Based solely on the four excerpts from the Professional Geologist Licensing Act, there is justification for each of the Rule Amendment Requests presented below.

## JUSTIFICATION FOR THE RULE AMENDMENT REQUESTS

### Justification No. 2 for Rule Amendment Requests Educational Curriculum of Professional Geologists

Candidates for a Professional Geologist license in Illinois are required to demonstrate they have fulfilled the required educational curriculum and earned a professional degree that meets required standards that qualifies them to practice professional geology in Illinois. The required curriculum includes specific courses in geology and environmental science that are necessary for the subsurface characterization of soils, groundwater geology and geochemistry that are unique to the geologic profession. In addition to courses in Chemistry, Physics, Mathematics and Biology, the following unique geology curriculum courses are typical and applicable to the Rule Amendment Requests:

- Physical Geology
- Glacial and Bedrock Geology
- Physical Hydrogeology (Groundwater Geology)
- Chemical Hydrogeology
- Advanced Hydrogeology
- Field Methods in Hydrogeology
- Contaminant Fate and Transport
- Groundwater Flow Modeling
- Groundwater-Surface Water Interaction
- Soil and Water Chemistry
- Soil and Groundwater Microbiology
- Water treatment and Disposal
- Remediation Techniques
- Geophysics

Almost every Section, and Subsection within the proposed Rule closely parallels the unique education and experience of Licensed Professional Geologists.



## JUSTIFICATION FOR THE RULE AMENDMENT REQUESTS

### Justification No. 3 for Rule Amendment Requests

#### National Association of State Boards of Geology Criteria and Illinois Department of Financial and Professional Regulation, Division of Professional Regulation Criteria

Qualifications for a Professional Geologist licensure are outlined in 225 ILCS 745/50 of the Professional Geologist Licensing Act and require:

1. *"The applicant has earned a degree in geology from an accredited college or university," (225ILCS 745/50(a)(3)),*
2. *"The applicant has a documented record of a minimum of 4 years of professional experience, obtained after completion of the education requirements specified in this Section, in geologic or directly related work, demonstrating that the applicant is qualified to assume responsible charge of such work upon licensure as a Licensed Professional Geologist ..." (225 ILCS 754/50(a)(4)).*
3. *"The applicant has passed an examination authorized by the Department for practice as a Licensed Professional Geologist." (225 ILCS 745/50(a)(5)).*

A candidate for licensure as a Professional Geologist in Illinois must pass the technical examination administered by the National Association of State Boards of Geology (ASBOG®). The ASBOG® is always working to improve the quality and reliability of its examinations. The test is a rigorous test of a candidate's knowledge base and is developed by subject matter experts and the examination is continuously updated.

Illinois is a Member and has a delegate to ASBOG® which serves as a means of communication between the 29-state, member boards and also provides the twice a year examinations. About one month after the examinations are given, ASBOG® conducts a two-part workshop under the guidance of two psychometricians to evaluate the contents of the two-part examinations, item by item, to assure technical accuracy and fairness to the candidates. All of these efforts are taken to ensure the examination is accurate and fair, and that those candidates passing the required examination have the specific knowledge and competence to practice Professional Geology in their state. The Illinois Department of Professional Regulation accepts the ASBOG® exam as meeting part of the requirements for licensure as a Professional Geologist.

Some of the specific items included in the ASBOG® examination are the candidate's knowledge base of hydrogeology. Specifically, the following items are part of the examination:

- Landform analysis; Weathering; Groundwater and surface water;
- Low temperature aqueous geochemistry;
- Contaminant transport and geochemistry;
- Hydraulic properties of fluids and earth materials;
- Human-land interaction;

- Site investigation methods, tools and applications;
- Professionalism and ethics
- Well drilling, design, and construction;
- Water resource protection; and
- Project management, organization and economics.

The examination tests the candidate's ability to:

1. Plan and conduct hydrogeological, geochemical and environmental investigations, including the use of modeling, geophysics and isotopic and tracer studies;
2. Define and characterize hydraulic properties of saturated and vadose zone flow systems;
3. Demonstrate an ability to design groundwater monitoring, observation, extraction, production, or injection wells;
4. Evaluate water resources and assess aquifer chemical fate and transport; and
5. Demonstrate that they can manage, develop, protect, or remediate surface water or groundwater resources.

In addition to the above items, the ASBOG® examination also includes Engineering Geology requirements in which the candidate must have the following knowledge base:

- Soil and rock mechanics;
- Soil and rock classification and engineering properties;
- Hazardous geologic processes;
- Hazard and risk analyses;
- Cost/benefit analyses;
- Land restoration and hazard mitigation;
- Mine closure; and
- Project management, organization and economics.

To address the above knowledge base, the candidate must demonstrate an ability to:

- Plan and conduct environmental and engineering geological investigations;
- Use of modeling and geophysics;
- Identify and evaluate engineering and physical properties of earth materials; and
- Provide recommendations for engineering design, land use decisions and watershed management.

The test includes the ability to identify, map, and evaluate geologic, geomorphic, and seismic hazards in addition to interpreting land use and landforms from imagery, maps, records, GIS and geological site characteristics. Finally, the candidate must be able to develop programs for hazard mitigation, and land and watershed restoration.

The Illinois Department of Financial and Professional Regulation, Division of Professional Regulation is an ASBOG® Member. In addition to meeting specified educational and experience requirements, the Division of Professional Regulation requires applicants to pass the ASBOG® exam. By meeting these requirements and passing the exam, the following tasks are considered areas of professional practice which may be performed by qualified, professional geologists:

- Plan and conduct hydrogeological, geochemical and environmental investigations;
- Design and interpret data from hydrologic testing programs including monitoring plans;
- Utilize geochemical data to evaluate hydrologic conditions;
- Develop and interpret groundwater models;
- Apply geophysical methods to analyze hydrologic conditions including geophysical logging analysis and interpretation;
- Determine physical and chemical properties of aquifers and vadose zones;
- Define and characterize groundwater flow systems;
- Develop water well abandonment plans including monitoring and public water supply wells;
- Develop/interpret analytical, particle tracking and mass transport models;
- Design and conduct aquifer performance tests;
- Define and characterize saturated and vadose zone flow and transport;
- Evaluate, manage and protect groundwater supply resources;
- Potentiometric surface mapping and interpretation;
- Design and install groundwater exploration, development, monitoring and pumping/injection wells;
- Develop groundwater resources management programs;
- Plan and evaluate remedial-corrective action programs based on geological factors;
- Evaluate, predict, manage, protect or remediate surface water or groundwater resources from anthropogenic (man's) environmental effects;
- Characterize or determine hydraulic properties;
- Interpret dating, isotopic and tracer surveys;

- Determine chemical fate in surface water and groundwater systems;
- Make determination of sorption/desorption reactions base upon aquifer mineralogy;
- Assess the behavior of dissolved phase and free phase contaminant flow in groundwater and surface water systems; and
- Assess and develop well head protection plans and source water assessment delineations.

The requirement of the Proposed Rule Amendments requested below are consistent and parallel with the professional practice areas performed by Illinois Professional Geologists licensed pursuant to the Professional Geologist Licensing Act. As such, it follows that a Professional Geologist licensed in Illinois meets the education, experience, and licensure qualifications necessary to implement the Rule and the Rule should be modified to reference Licensed Professional Geologists where requested below.

## **JUSTIFICATION FOR THE RULE AMENDMENT REQUESTS**

### **Justification No. 4 for Rule Amendment Requests Historical Role of Professional Geologists**

The United States Geological Survey (USGS) was established in 1879. Over the past 130+ years, the USGS scientists have studied and characterized the surface and subsurface and described the processes that of interaction between earth's natural processes and man's ability to modify and extract from it. When it came time to send man to the most remote exploration project ever conceived, a trip to the moon, that job was entrusted to astronauts who were trained in geology by the USGS.

The USGS geologists pioneered hydrologic techniques for gaging the discharge in rivers and streams and modeling the flow of complex groundwater systems. Water is just one of six science mission areas of the USGS. The USGS Water Mission Area is to collect and disseminate reliable, impartial, and timely information that is needed to understand the Nation's water resources to:

- Minimize loss of life and property as a result of water-related natural hazards, such as floods, droughts and land movement.
- Effectively manage groundwater and surface-water resources for domestic, agricultural, commercial, industrial, recreational and ecological uses.
- Protect and enhance water resources for human health, aquatic health and environmental quality.
- Contribute to the wise physical and economic development of our Nation's resources for the benefit of present and future generations.

The USGS is at the forefront of devising new techniques to solve practical problems in the study of groundwater resources. Predictive models developed by USGS geologists are used to make informed decisions in many emerging areas related to the effects of groundwater development. New models and methods enhance all USGS water programs. State and local governments and groundwater scientists and engineers in the private sector regularly use USGS models as an integral part of their work. The USGS Modular Groundwater Flow Model (MODFLOW) is the most widely used program in the world for simulating groundwater flow. The USGS developed MODFLOW in the early 1980s, and the USGS continues to support the enhancement of the model with updates that help scientists and engineers simulate common features in groundwater systems. New features have been added and the software has been updated to incorporate advancements in our understanding of groundwater hydrology, to respond to changes in user needs, and to take advantage of constantly increasing computer power and speeds.

The present Illinois State Geological Survey (ISGS) was organized by statute in 1905, and was the successor to an earlier geological survey organized in Illinois in 1851. The ISGS tradition of scientific excellence was inherited by the new State Geological Survey, which has continued to conduct basic and applied research on the geology and geochemistry of the state and its mineral,

fossil fuel and groundwater resources. By disseminating information about the results of its research and maintaining an extensive, accessible database, the ISGS has promoted responsible development and use of state resources and given a basis for sound policies about them.

Homeowners, well drillers, farmers, miners, corporations, developers and municipalities around the state are some of those who routinely contact the ISGS with groundwater concerns. Because water supplies in Illinois are generally adequate, people tend to take water availability for granted. Residential, industrial, or municipal projects can be well under way before people realize they do not have the water they need. Finding new groundwater supplies in the quantities necessary to meet the needs of Illinois' growing population is an ongoing challenge for the geologists in the Survey's Groundwater Geology Section.

Because ISGS geologists understand the origin of geologic materials and map their distribution, they can often help identify where groundwater is likely to be found. Aquifers, the sand and gravel deposits that supply water, are not always easy to find. Sometimes their locations are masked by complex layers of glacial deposits and, even when sand and gravel deposits are located, they do not always yield water. ISGS geologists can provide information about the water availability in an area, its general location and formation depth and trend. Water location efforts are one example of how ISGS geologists apply scientific knowledge to solve real-world problems on a daily basis, responding to numerous groundwater information requests from individuals, government bodies and businesses.

The Illinois State Water Survey (ISWS) is another state organization staffed by Licensed Professional Geologists. The mission of the ISWS Center for Groundwater Science (CGS) is to conduct research, collect and analyze data, provide public service on groundwater issues important to the citizens of Illinois, and to serve as the State's primary repository of groundwater records and data. This is accomplished through the development and application of appropriate scientific methods and techniques to improve our understanding of the natural processes and human-induced impacts affecting the occurrence, movement, quantity and quality of the State's groundwater resources. The Center also works with other Water Survey programs as appropriate in the study of larger hydrological and biogeochemical systems. Results of data collection efforts and investigations are disseminated to the public in a timely manner through a wide variety of formats.

Although geologists were at the forefront of groundwater studies for over 100 years, the development of environmental regulations during the 1980s and the decline of the demand for geologists in the petroleum market in the mid-1980s led to a shift in geology curriculum and boom in enrollment in the fields of environmental and groundwater geology. Prior to the onset of major environmental regulations, contaminated soil and groundwater were managed on construction projects the same as any other soil and groundwater. As the environmental regulations evolved, so did the need for environmental professionals to manage the contaminated soil and groundwater issues. The source for those individuals in the environmental marketplace was then, and is today, the geology programs and curriculum. My career as a Professional Geologist, as well as the careers of many other individuals in my company, and within our competitor companies, is rooted in a strong geological curriculum and co-evolution with the varied environmental regulations that drive the environmental market.

## **RULE AMENDMENTS REQUESTED**

### Section 1100.205 Certifications and Load Checking

Section 1100.205 a) 1) B) allows for certification by Licensed Professional Geologists that soil is uncontaminated. In subsequent sections under 1100.205, references to Licensed Professional Geologists must be added to remain consistent with Section 1100.205 a) 1) B). Specifically, three requests are made as summarized below:

**Rule Amendment Request No. 1.** Section 1100.205 b) 5). This section references section 1100.205 a) 1) B) should be modified to add a reference to Licensed Professional Geologists (PGs) to be consistent with 1100.205 a) 1) B). This omission does not reflect a change in execution of the Rule, but rather appears to be a content reference correction to be consistent with other Sections of the Rule.

**Rule Amendment Request No. 2.** Section 1100.205 d) 1). This section pertains to painted CCDD and should similarly be modified to add a reference to Licensed Professional Geologists to be consistent with 1100.205 A) 1) B). This omission does not reflect a change in execution of the Rule, but rather is a content reference correction to be consistent with other Sections of the Rule.

Note that Section 1100.205 a) 1) B) includes Licensed Professional Geologist certification of the suitability of CCDD with respect to contaminated soil. It is important to note that paint is only one example of a mixture of chemicals, not unlike fuels, waste oil, solutions, solvents, and numerous other contaminants that Licensed Professional Geologists routinely assess and sample during environmental investigations. Furthermore, whereas section 1100.205 a) 1) B) refers to contaminated soil, there is nothing exceptional about the physical and chemical properties of painted CCDD, asphalt or concrete that would uniquely exclude Licensed Professional Geologists from determining whether or not the paint on the CCDD meets the requirements of the Rule and suitability as acceptable CCDD.

**Rule Amendment Request No. 3.** Section 1100.205 d) 3). As with Section 1100.205 d) 3), this section pertains to painted CCDD and should be modified to add a reference Licensed Professional Geologist certifications. This omission does not reflect a change in execution of the Rule, rather is a content reference correction to be consistent with other Sections of the Rule.

### Section 1100.212 Use of Painted CCDD as Fill Material

The following three Rule Amendment Requests pertain to paint and painted CCDD. Note that Section 1100.205 a) 1) B) includes Licensed Professional Geologist certification of the suitability of CCDD with respect to contaminated soil. As mentioned above, it is important to note that paint is only one example of a mixture of chemicals, not unlike fuels, waste oil, solutions, solvents and numerous other contaminants that Licensed Professional Geologists routinely assess and sample during environmental investigations. There is nothing exceptional

about the physical and chemical properties of paint, or painted CCDD asphalt or concrete that would uniquely exclude Licensed Professional Geologists from sampling paint, determining the number of samples to be collected or in determining whether or not the paint on the CCDD meets the requirements of the Rule and suitability as acceptable CCDD.

**Rule Amendment Request No. 4.** Section 1100.212 opening paragraph. This section states that Painted CCDD may be used as fill material at a CCDD fill operation if evaluated analytically. This section should be modified to add a reference to Licensed Professional Geologists to be consistent with 1100.205 A) 1) B) and section 1100.205 d) 1). This omission does not reflect a change in execution of the Rule, rather is a content reference correction to be consistent with other Sections of the Rule.

**Rule Amendment Request No. 5.** Section 1100.212 a). Refers to the number and locations of paint samples. This section should be modified to add a reference to Licensed Professional Geologists to be consistent with 1100.205 A) 1) B) and section 1100.205 d) 1). This omission does not reflect a change in execution of the Rule, rather is a content reference correction to be consistent with other Sections of the Rule.

**Rule Amendment Request No. 6.** Section 1100.212 b). Refers to the collection of paint samples. This section should be modified to add a reference to Licensed Professional Geologists to be consistent with 1100.205 A) 1) B) and section 1100.205 d) 1). This omission does not reflect a change in execution of the Rule, rather is a content reference correction to be consistent with other Sections of the Rule.

#### 1100.412 - Procedures for Closure and Postclosure Maintenance

**Rule Amendment Request No. 7.** Section 1100.412 b) 1) B). This section should be modified to add Licensed Professional Geologists as another Illinois licensed professional that can evaluate the owner or operators implementation of the closure plan. A determination that a CCDD facility has been closed in accordance with the closure plan is within the Licensed Professional Geologist's education, experience, professionalism and licensure and accordingly, this section should be modified to reference Licensed Professional Geologists.

**Rule Amendment Request No. 8.** Section 1100.412 c) 1). This Section should be modified to add Licensed Professional Geologists as another Illinois licensed professional that can evaluate the owner or operators implementation of the post-closure care plan and provide the state with a certification of the owner's or operator's compliance with the requirements of section 1100.209. A determination that a CCDD facility has completed post-closure activities in accordance with the plan is within the Licensed Professional Geologist's education, experience, professionalism and licensure and accordingly, this section should be modified to reference Licensed Professional Geologists.



1100.525 - Procedures for Closure

**Rule Amendment Request No. 9.** Section 1100.525 b) 2). This section should be modified to add Licensed Professional Geologists as another Illinois licensed professional that can evaluate the owner or operators implementation of the closure plan. A determination that a facility has completed closure activities in accordance with the plan is within the Licensed Professional Geologist's education, experience, professionalism and licensure and accordingly, this section should be modified to reference Licensed Professional Geologists.

1100.530 - Termination of Postclosure Maintenance

**Rule Amendment Request No. 10.** Section 1100.530. This section should be modified to add Licensed Professional Geologists as another Illinois licensed professional that can evaluate the owner or operators' implementation of the post-closure care plan. A determination that a facility has completed post-closure activities in accordance with the plan is within the Licensed Professional Geologist's education, experience, professionalism and licensure and accordingly, this section should be modified to reference Licensed Professional Geologists.

Subpart G - Groundwater Monitoring- Section 1100.710

**Rule Amendment Request No. 11.**

It is requested that Subpart G Groundwater Monitoring Section 1100.710 be modified to add Licensed Professional Geologists as another Illinois licensed professional provides certifications under this subpart.

The Professional Geologist Licensing Act clearly provides for Illinois Licensed Professional Geologists to be included in the stewardship of this CCDD Rule. Candidates for a Professional Geologist license in Illinois are required to demonstrate they have fulfilled the required educational curriculum and earned a professional degree that meets required standards that qualifies them to practice professional geology in Illinois.

Almost every Section and Subsection within Subpart G Groundwater Monitoring closely parallels the unique education and experience of Licensed Professional Geologists. When considering the requirements of Subpart G and the typical unique educational curriculum of Illinois Licensed Professional Geologists, it is clear that Section 1100.710 should be modified to reference Licensed Professional Geologists.

Qualifications for a Professional Geologist licensure are outlined in 225 ILCS 745/50 of the Professional Geologist Licensing Act. A candidate for licensure as a Professional Geologist in Illinois must pass the technical examination administered by ASBOG and the Illinois Department of Financial and Professional Regulation, Division of Professional Regulation is an ASBOG® Member. In addition to meeting specified

educational and experience requirements, the Division of Professional Regulation requires applicants to pass the ASBOG® exam. By meeting these requirements and passing the exam, the hydrogeology and environmental geochemistry tasks that are the basis for groundwater monitoring programs required by Subpart G of the Rule are considered areas of professional practice which the ASBOG® certification and Licensure as Professional Geologists specifically reference as tasks performed by qualified professional geologists.

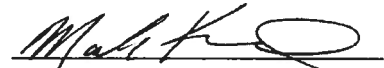
The requirement of Subpart G Groundwater Monitoring are consistent and parallel with the professional practice areas performed by Illinois Professional Geologists licensed pursuant to the Professional Geologist Licensing Act. As such, it follows that a Professional Geologist licensed in Illinois meets the education, experience, and licensure qualifications necessary to implement Subpart G of the Rule and Section 1100.710 of the Rule should be modified to add Licensed Professional Geologists.

**PROOF OF SERVICE**

I, MARK J. KRUMENACHER, certify that I have served the attached **Notice of Filing and Pre-Filed Testimony of Mark J. Krumenacher, PG**, by U.S. Mail, first class postage prepaid, on May 13, 2013, to the following:

John Therriault, Clerk Illinois Pollution Control Board James R. Thompson Center 100 West Randolph Street, Suite 11-500 Chicago, IL 60601	Marie Tipsord, Hearing Officer Illinois Pollution Control Board James R. Thompson Center 100 W. Randolph St., Suite 11-500 Chicago, IL 60601
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