

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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STATE OF ILLINOIS
Pollution Control Board

IN THE MATTER OF:)
)
PROPOSED AMENDMENTS TO)
CLEAN CONSTRUCTION OR DEMOLITION) R12-9
DEBRIS FILL OPERATIONS (CCDD):) (Rulemaking – Land)
PROPOSED AMENDMENTS TO 35 Ill.)
Adm. Code 1100))

PC#9

NOTICE OF FILING

John T. Therriault, Clerk
Illinois Pollution Control Board
James R. Thompson Center
Suite 11-500
100 W. Randolph
Chicago, Illinois 60601

Mitchell Cohen
Chief Legal Counsel
Illinois Dept. of Natural Resources
One Natural Resources Way
Springfield, Illinois 62702-1271

ORIGINAL

Matthew J. Dunn, Chief
Environmental Enforcement/Asbestos
Litigation Division
Illinois Attorney General's Office
69 West Washington St., 18th Floor
Chicago, Illinois 60602

Marie E. Tipsord
Hearing Officer
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph, Suite 11-500
Chicago, Illinois 60601

Attached Service List

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Illinois Pollution Control Board the Illinois Environmental Protection Agency's Pre-First Notice Comments, a copy of which is herewith served upon you.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By: Mark Wight
Mark Wight
Assistant Counsel

DATE: December 1, 2011

1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
(217) 782-5544
Mark.Wight@illinois.gov

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY'S PRE-FIRST NOTICE COMMENTS

The Illinois Environmental Protection Agency ("Agency") respectfully submits its comments in the above-titled matter to the Illinois Pollution Control Board ("Board") pursuant to the Hearing Officer Order of October 28, 2011.

I. OVERVIEW

To date, two hearings have been held on the Agency's proposal for amendments to rules for clean construction or demolition debris ("CCDD") fill operations at 35 Ill. Adm. Code 1100. The amendments are required by Sections 3.160, 22.51 and 22.51a of the Environmental Protection Act ("Act"). 415 ILCS 5/3.160, 22.51, 22.51a (2010) (as amended by P.A. 97-0137 (eff. July 14, 2011)). The hearings were held on September 26, 2011, in Springfield and on October 25-26, 2011, in Chicago. During the course of the hearings, approximately 430 pages of testimony, questions and responses have been gathered and twenty-five exhibits admitted to the record. As a result of its continuing evaluation of its proposal and in response to questions and comments raised during the hearings, the Agency has filed three errata sheets suggesting additions and corrections to the original proposal. The Agency wishes to thank former Board Chairman Dr. Tanner Girard, Board Member Thomas Johnson, Hearing Officer Marie Tipsord, Mr. Anand Rao and Ms. Lisa Liu

of the Board's Technical Unit, and all commenters and participants at the hearings for their substantial contributions to the Agency's preparation of the proposal and to its refinement during the hearing process.

The Agency urges the Board to adopt its proposal as revised in the three errata sheets. In the remainder of this document, the Agency responds to certain issues raised during the hearings.

Rather than react to all the proposals and assertions with which it agrees or disagrees, the Agency has tried to address areas it believes may be of continuing concern to the Board. Those areas include the self-implementing aspects of the Agency's proposal; the use of site-specific, risk-based principles to establish maximum allowable concentrations ("MAC") of contaminants in soil used as fill material at regulated fill operations; the role of soil pH in determining the MACs; compositing of samples and averaging of analytical results; the role of licensed professional geologists; groundwater management zones; and the use and publication of the MAC Table. The Agency also has proposed revisions to the MAC Table. The revised MAC Table is discussed further below and is included with this document as Attachment 1.

The absence of comment in this document on any other matters contained in the record should not be construed as acquiescence or agreement by the Agency for positions or revisions not otherwise expressly endorsed.¹

II. COMMENTS ON ISSUES

A. The Self-Implementing Aspects of the Proposal

¹ In this document, the transcript of the September 26, 2011 hearing is cited as "Tr. 1 at ____;" the transcript of the October 25, 2011 hearing is cited as "Tr. 2 at ____;" the transcript of the October 26, 2011 hearing is cited as "Tr. 3 at ____;" Exhibits are cited as "Exh. ____ at ____."

During the hearings, some participants raised concerns about the self-implementing aspects of the Agency's proposal. Pre-Filed Testimony of Kenneth Liss, Exh. 17; Pre-Filed Questions of the Illinois Environmental Protection Agency Submitted by Waste Management of Illinois, Inc., September 15, 2011; Illinois Attorney General's Office's Pre-Filed Questions Directed To The Illinois Environmental Protection Agency, October 17, 2011.

The Agency is confident that the self-implementing portions of the proposed rule, most notably the groundwater monitoring program in Subpart G, will be an effective final check to make sure that the material placed in mines, quarries and other excavations as defined in these rules has not adversely impacted groundwater. The Agency notes that the Board has adopted rules with similar self-implementing provisions that have effectively regulated various types of facilities without adversely impacting the environment. For example, 35 Ill. Adm. Code 615 and 815 are existing regulations that include self-implementing groundwater monitoring requirements for certain types of existing facilities or units located wholly or partially within groundwater setback zones or regulated recharge areas and for landfills exempt from permits under the Act.

One reason for the use of self-implementing provisions is that the Agency has certain resource limitations. The Bureau of Land Permit Section is already significantly understaffed and has hundreds of backlogged projects. New staff hires are unlikely for the foreseeable future. If the Agency were required to review and approve the plans and reports for all actions required under this proposed rule (*e.g.*, groundwater monitoring program, soil fill operations) as suggested by certain commenters, it would more than double the groundwater monitoring workload and require an additional 15-20 technical staff to adequately review and administer. However, for the following reasons, the absence of certain prior review and approval procedures does not mean the

Agency's approach is defective and cannot work.

First, threats to human health and safety, environmental receptors, and groundwater at the fill operations are most likely to come from accepted loads of soil. Other clean construction or demolition debris as defined at Section 3.160(b) of the Act (*i.e.*, uncontaminated broken concrete without protruding metal bars, bricks, rock, stone and reclaimed or other asphalt pavement) is less likely to be a source of environmental contamination. That is why it has been designated by law as "clean" construction or demolition debris. The Agency has proposed conservative, health-based MACs and multiple screening procedures to prevent the placement of contaminated soil at fill operations. It has proposed groundwater monitoring as a final check on the initial screening procedures and has established provisions for responding to exceedences of groundwater quality standards.

Second, the Agency will rely on licensed professional engineers to supervise and affix their seal to the design of the groundwater monitoring system and the preparation of related programs, notifications, plans and reports. As a check on these activities, the Agency may, on a case-by-case basis, verify through site inspections and other means that owners/operators with exceedences are complying with the groundwater corrective action to make sure the plan has been implemented and is effective.

Third, the Agency will rely on field inspections of the facilities to verify compliance with the rules. The Agency anticipates no less than two inspections at each facility annually, and as resources allow, plans for quarterly compliance inspections. The inspection frequency for the permitted CCDD facilities and the soil-only fill operations may vary depending on the volume of materials that is accepted, the compliance record demonstrated by the facility, and if complaints

are reported to the Agency. It should be noted that some counties have been delegated inspection authority for these sites, and, typically, the inspection frequency by the counties is much higher. If violations are noted, the Agency would issue a Violation Notice and require corrective action in response to the violation. Any activities taken to resolve the Violation Notice would be overseen by the Agency's Field Operations Section. This kind of corrective action is separate from corrective action associated with groundwater contamination. In such cases, the Agency could recommend additional groundwater monitoring and analysis that is supplemental to what is required by Part 1100 and provides an additional safeguard to groundwater resources.

B. The Use of Site-Specific, Risk-Based Principles to Establish Maximum Allowable Concentrations

Some commenters during development of the proposal and some witnesses testifying at the hearings have taken the position that the MACs should be based on site-specific, risk-based aspects of the "Tiered Approach to Corrective Action Objectives" ("TACO") rules (35 Ill. Adm. Code 742) rather than on the current TACO Tier 1 soil remediation objectives that the Agency has relied on.² The Agency understands this to mean that certain Tier 1 human exposure routes would be eliminated by rule or addressed by the use of pathway exclusions, site-specific risk assessments, engineered barriers, or institutional controls, and that CCDD and soil-only fill operations would be authorized to accept soil with higher concentrations of contaminants than allowed under the Agency's proposed MACs.

² The Agency recognizes that even the exposures to contaminants allowed by the TACO Tier 1 residential soil remediation objectives are based on risk-assessment principles. However, assuming compliance with other relevant provisions of TACO (e.g., soil attenuation capacity, soil saturation limit), the Tier 1 residential soil values are based on conservative assumptions about exposures resulting in objectives that are considered reasonably protective at most locations without resort to site-specific factors for assessing risk and the use of engineered barriers and institutional controls to further control the risks of exposure from residual contaminants.

The Agency has been and remains opposed to reliance on legal instruments and location-specific measures such as institutional controls, engineered barriers, pathway exclusions, and site-specific risk assessments as developed for the TACO rules. The Agency's reasons for opposing such reliance include: (1) The underlying statutory requirements for MACs; (2) the rationale for the TACO rules and the differences between the remediation context for which the TACO rules were developed and the fill operation context; and (3) the impact site-specific standards for MACs would have on administration of and compliance with uncontaminated soil requirements.

First, the statutory authority to develop and adopt MACs for contaminant concentrations in soil does not support the risk-based approach and its reliance on factors external to the soil and/or the fill operations to protect human health and safety. The Agency's proposal to develop MACs based on the most conservative objectives from each of the chemical-specific Tier 1 soil remediation objectives is grounded in Section 3.160(c) of the Act. 415 ILCS 5/3.160(c) (2010) (as amended by P.A. 97-0137 (eff. July 14, 2011)). Section 3.160(c)(1) contains specific directives to the Agency and to the Board to propose and adopt "rules specifying the maximum concentrations of contaminants that may be present in uncontaminated soil for purposes of this Section." (Emphasis added.) The plain language of this provision states clearly that the concentrations proposed by the Agency and adopted by the Board must be the concentrations of contaminants in the soil itself. Further, Section 3.160(c) sets forth a standard for uncontaminated soil that the MACs must satisfy, which is that "uncontaminated soil" must "not contain contaminants in concentrations that pose a threat to human health and safety and the environment." Thus, "uncontaminated soil," in and of itself and without reliance on external

factors, must not contain concentrations of contaminants that would pose a threat to human health and safety or the environment. As a legal matter and a practical matter, the TACO Tier 1 soil objectives are the only basis for establishing the MACs.³

The use of the phrase “uncontaminated soil” to describe the material is itself an indication that the legislature intended that contaminant concentrations in the soil be kept to a protective minimum for all exposure routes. The prefix “un” combined with the word “contaminated” means “not contaminated” or “without contamination.” A further indication from the statutory language that the legislature intended a conservative approach is the directive that soil satisfying the MACs proposed by the Agency and adopted by the Board is not considered “waste.” 415 ILCS 5/3.160(c)(2) (2010). Only non-threatening concentrations of contaminants should be allowed in material that is labeled “uncontaminated” and excluded from management as “waste.”

Second, the use of site-specific, risk-based principles of TACO to allow concentrations of contaminants in soil used as fill material that are higher than the most stringent Tier 1 soil remediation objectives simply does not comport with TACO itself. The TACO rules were developed as a risk-based methodology for determining remediation objectives at sites where an uncontrolled release of contamination already exists. The Tier 1 remediation objectives were not developed as standards up to which properties may be contaminated or to return contaminated sites to their uncontaminated condition prior to the release. Rather, the intention was to bring contaminant concentrations down to protective levels so that contaminated properties might be returned to productive uses. Thus, even the use of TACO Tier 1 soil objectives as the basis for

³ In the Agency's Statement of Reasons (pp. 20-22) the Agency acknowledges that the TACO Tier 1 soil remediation objectives protect human health and safety but are not protective of the environment insofar as they do

the MACs stretches the word “uncontaminated” beyond its literal meaning. Going even further by using the site-specific, risk based elements of TACO to allow concentrations of contaminants higher than the Tier 1 soil remediation objectives to be accepted at previously uncontaminated locations would stand TACO on its head.

While no one has fully developed the concepts and submitted language that would enable close examination of the particulars of any such approach, the suggestions have ranged from general endorsements of the use of the full range of TACO tools (e.g., engineered barriers, institutional controls, site-specific risk assessments) to more specific suggestions to eliminate the ingestion and inhalation exposure routes except for construction workers or except for the top ten feet of the fill area for the inhalation exposure route and the top three feet of the fill area for the ingestion exposure route. *See* Pre-Filed Testimony of James E. Huff, P.E., Exh. 10 at 11-12; Pre-Filed Testimony of Gregory W. Wilcox, P.E., Exh. 15 at 2-3; Pre-Filed Testimony of Ryan M. LaDieu, P.E., Exh. 19 at 1-2; *See generally* Testimony of Claire A. Manning, Tr. 3 at 45-49.

Even though details have not been provided, the TACO rules themselves indicate that such revisions cannot be made to the Agency’s proposal without additional safeguards. For example, the TACO rules do, in many cases, allow concentrations of contaminants above the Tier 1 soil remediation objectives to remain in place at remediation sites based on site-specific, risk-based factors. However, soils with residual contamination above the TACO Tier 1 residential objectives (*i.e.*, soils that pose a threat to human health and safety if not correctly managed) require additional controls such as engineered barriers and institutional controls and

not take into account ecological receptors. This is one of the reasons the MACs must apply only to soil used as fill material at regulated fill operations.

must be left undisturbed. Under TACO and the programs using it as the remediation methodology, engineered barriers and property use restrictions must be utilized and maintained in perpetuity or until a demonstration is made to the Agency that they are no longer necessary. If excavated and removed from the remediation site before or after closure, such soils are considered to contain “waste” and must be managed accordingly. If the Board considers expanding the use of TACO tools to allow fill operations to accept soil with concentrations of contaminants greater than the proposed MACs, the Board also must consider additional technical and/or operational requirements such as strengthening closure and post-closure requirements and requiring financial assurance to ensure that engineered barriers and property use restrictions will be utilized and maintained in perpetuity or until a demonstration specified in the rule is made that they are no longer necessary.

Another example requiring additional safeguards is the suggestion to disregard the ingestion and inhalation exposure routes except for the top ten feet of the fill area for the inhalation exposure route and the top three feet of the fill area for the ingestion exposure route. This approach would, at a minimum, create a new level of complexity with multiple MACs based on depth of soil placement and a significantly expanded MAC table (or tables) to reflect them. In the Agency’s view, all soil placed in the top ten feet and top three feet of the fill area would have to be tested for compliance with inhalation and ingestion standards, respectively, and could not be accepted without professional evaluation unless the fill operators themselves were willing to accept the additional burden of such testing. Other precautions such as the institutional controls discussed above would be required as well. These examples illustrate that the proposals aimed at increasing contaminant concentrations in “uncontaminated soil” used as fill material are

not simple revisions, and it should not be assumed that such changes can or should be adopted while the rest of the Agency's proposal remains unchanged.

The Agency's third reason for opposing MACs based on the site-specific, risk-based aspects of the TACO rules is that deciding if soil is "uncontaminated" based on site-specific factors necessarily implies different standards for uncontaminated soil at each facility. The proper use and administration of the MACs depends on uniformity. Site-specific standards based on conditions at each fill operation would require additional rules for site investigation, reporting, review and approval of site-specific MACs. Separate standards for each fill operation would substantially complicate compliance with Part 1100 for soil generators, reviewing licensed professional engineers and geologists, and state and local delegated inspectors. *See generally* Pre-Filed Testimony of Leslie Morrow, Exh. 4 at 2-3; Testimony of Douglas Clay, Tr. 3 at 45-49.

C. The Role of Soil pH in Determining Maximum Allowable Concentrations

Another controversial aspect of the Agency's proposal has been the decision to require a conservative approach to the application of Section 742. Appendix B, Table C for determining the MACs for pH-sensitive chemicals. By pH sensitivity, the Agency refers to the effects of soil pH on the leaching of certain inorganic and ionizing organic constituents and their migration to groundwater. The Agency's proposal is based on the TACO approach to pH-sensitive chemicals with an additional adjustment for the differences between remediation sites and fill operations.

The TACO Tier 1 soil remediation objectives are not simply raw numbers. Most of the values in the TACO tables are footnoted such that additional considerations must be taken into account before using the values as remediation objectives. Most of these same considerations

must be taken into account when determining the MACs. For both ionizing organic constituents and inorganic constituents that are pH sensitive, the soil objectives in the TACO rules for the soil component of the Class I groundwater ingestion exposure route (Section 742.Appendix B, Tables A and B) apply only when the soil pH at the remediation site is 6.8. See 35 Ill. Adm. Code 742.Appendix B, Tables A, B, notes i, m. If the soil pH at the remediation site is higher or lower than 6.8, Section 742.Appendix B, Table C must be consulted to determine the applicable remediation objective.

However, remediation sites have been subjected to systematic site investigations to define the nature and extent of the contamination, and the sites are expected to remain stable relative to the contamination after implementation of the TACO-based remedy. On the other hand, fill operations are dynamic with additional loads of soil and materials originating at multiple locations brought to the site day after day until the quarry, mine or other excavation has been filled. In the fill operation scenario, the relevant pH affecting constituent leachability is not the pH at the site where the soil was generated or the pH of the native soil in the vicinity of the fill operation. Rather, it is the pH of the soil being placed inside the fill area, which the Agency believes will be variable and unpredictable relative to the individual pH column ranges found in Table C. Therefore, the Agency concluded that Table C for pH-sensitive constituents could not be used in precisely the same way it is used in TACO. Proposed subsections 1100.605(a)(2) and (a)(3)(A) require an important adjustment in the MAC methodology for pH-sensitive chemicals.

The Agency has proposed a conservative approach to using Table C to determine the values for the soil component of the groundwater ingestion exposure route for pH-sensitive constituents listed in Table C. The most stringent pH-dependent values must be selected from

Table C and used for the comparison with other exposure routes to determine the MACs for those constituents. In some cases, the most stringent values will be found at the higher pH ranges of Table C, and in others they will be found at the lower pH ranges of Table C. In either case, the Agency's proposal ensures that, where the constituent is pH-sensitive, the worst case scenario is covered at each facility whenever the MAC is determined to be the pH-dependent value from the soil component of the groundwater ingestion exposure route.

In developing its approach, the Agency attempted to identify representative pH values for soils throughout the state. This is important because Part 1100 is a statewide rule of general applicability. It will apply everywhere in Illinois to every current and future fill operation regulated under Part 1100. The Agency found that sources of statewide pH data are limited. In the end, it relied on the state soil geographic database known as "STATSGO" because of the relatively large amount of statewide data. This database has been developed and is maintained by the Natural Resources Conservation Service of the United States Department of Agriculture. The STATSGO database provides statewide coverage by county for soil depths up to 80 inches and is regarded as scientifically reliable. Testimony of Thomas Hornshaw, Tr. 3 at 72-3. Dr. Hornshaw described the Agency's evaluation of the STATSGO data for selected counties and presented the results in the form of a worksheet, "Summary of Illinois Soil pH Values."

Testimony of Thomas Hornshaw, Tr. 3 at 73-5; Exh. 25.

Dr. Hornshaw summarized the observations and conclusions of the Agency based on the data in the worksheet:

The summary of soil pH values showed varied pH for each soil type and between the various counties. For most soil types, pH trended higher with depth. This is expected due to the high organic content and the impact of precipitation on the upper levels. The most striking result was the trend to

lower pH at all soil depths seen in the southern counties and from this our conclusions are based on this investigation. The workgroup determined that no single default soil pH value could be identified that would provide a level of safety for all soil depths at all locations in the state. Use of the most protective pH-dependent TACO objective is the Agency's recommendation in light of the widely varying soil pH's determined in our investigation and expected to be introduced into the soil fill pits. . . .

Testimony of Thomas Hornshaw, Tr. 3 at 74-5. As summarized by Dr. Hornshaw and seen in the worksheet, the data for northern and central counties indicate pH commonly ranging from 5.1 to 8.4 (with occasional data points as low as 4.5) at STATSGO sample depths up to 80 inches – well within the construction-demolition excavation zone. As one moves to southern counties, the data more commonly range from 4.5 to 7.3. Because soil generated during construction or demolition could come from almost anywhere, and because Part 1100 is a statewide rule of general applicability, the Agency concluded that conservative use of Table C, which ranges from 4.5 to 9.0, is appropriate.

Several witnesses presented testimony that the Agency's conservative approach to pH-sensitive constituents is unjustified. Pre-Filed Testimony of John Hock, P.E., Exh. 12 at 7; Pre-Filed Testimony of James E. Huff, P.E., Exh. 10 at 11-13; Pre-Filed Testimony of Gregory W. Wilcox, Exh. 15 at 3. In support of this testimony, Mr. Hock and Mr. Huff presented pH data said to demonstrate that there is no technical justification for the Agency's approach. Mr. Hock cited sampling and analysis from 44 samples taken at "multiple CCDD fill sites," stating that the pH of the samples ranged from 7.3 to 11.0 and averaged 8.1. Pre-Filed Testimony of Mr. Hock, Exh. 12 at 3-4. He also cited data obtained from First Environmental Laboratories, Inc. of Naperville, Illinois concerning "8500 solid samples [including soil and non-soil materials] from January 2006 to September 2011." Mr. Hock stated that 97.6% of the samples had a pH of 6.25

or greater. Pre-Filed Testimony of Mr. Hock, Exh. 12 at 7. Mr. Huff cited his personal experience, data from First Environmental Laboratories, Inc., and information from the Illinois State Water Survey to assert that “pH values greater than 6.0 are dominant” in northern Illinois (while acknowledging that soil pH values between 5.2 and 5.5 occur in southern Illinois). Pre-Filed Testimony Mr. Huff, Exh. 10 at 12.

The Agency contends that the data presented by Mr. Hock and Mr. Huff is geographically too limited to support the claims that the approach taken by the Agency is unjustified in a statewide rule of general applicability. Upon further questioning by Mr. Clay, Mr. Hock stated that the 44 samples from CCDD fill operations were obtained at three facilities in northern Illinois. Testimony of Mr. Hock, Tr. 2 at 37-41 (stating that he could not be more specific as to site and location because of confidentiality obligations). Also in response to a question from Mr. Clay, Mr. Hock stated that, of the 8500 samples reported by First Environmental Laboratories, Inc., approximately 90% of the samples were obtained within “a two hour driving range of the Chicagoland area.” Testimony of Mr. Hock, Tr. 2 at 43-5 (stating also that he could not be more precise about the distribution of the samples within that range). The Agency’s information derived from the STATSGO database and presented in Exhibit 25 provides a more complete picture of soil pH ranges throughout Illinois than the information presented by Mr. Hock or Mr. Huff. In addition, the Agency’s information indicates that soil pH below 6.0 is not uncommon in northern Illinois.

Mr. Hock further suggested that, as an alternative to the Agency’s approach, the Board should consider “establishing a MAC for pH of 6.25 or greater and basing MACs for applicable parameters on the lowest pH specific soil remediation objective from pH 6.25 and above.” Pre-

Filed Testimony of Mr. Hock, Exh. 12 at 7. The Agency presumes this means that Table C would be applicable at all ranges from 6.25 and above. Although the Agency considered a similar approach using a truncated version of Table C when developing its proposal, it was persuaded by the STATSGO data that the full range of Table C was more appropriate for a statewide rule of general applicability encompassing current and future fill operations.

Moreover, Mr. Hock's undeveloped concept presents problems of its own. If a Table C MAC were established based on a pH value of 6.25 or above, then only soils with a pH at or above 6.25 could be accepted at fill operations whether or not they contained pH-sensitive constituents (since soils with a pH lower than 6.25 could have an impact on soils containing constituents sensitive to the lower pH values), and all soils accepted as fill would have to be confirmed by sampling to be 6.25 or above regardless of origin. In addition, soils with a pH lower than 6.25 would be considered waste and would have to be managed accordingly. This would effectively exclude increasing amounts of soil from fill operations as one moved southward through the state.

Mr. Huff suggested that groundwater pH from dewatering activities could be used to determine facility pH, which then could be used to calculate facility-specific MACs similar to a TACO approach. Pre-Filed Testimony of Mr. Huff, Exh. 10 at 11-12. The Agency's position on the use of TACO approaches and site-specific MACs already has been discussed above. In addition, Mr. Morrow testified:

The Agency is hesitant to equate NPDES effluent pH results to the pH conditions of the fill material. As we understand the situation, operations that pump large volumes of water to create a cone of depression in the groundwater are discharging water that has not come into contact with the fill material. Thus, the NPDES results more accurately represent groundwater conditions than they do conditions in the fill.

Testimony of Leslie Morrow, Tr. 1 at 45. Therefore, the Agency does not support Mr. Huff's suggestion.

D. Compositing of Samples and Averaging of Analytical Results

The Agency's proposal as modified by Errata Sheet Number 1 prohibits compositing of samples and averaging of analytical results at Section 1100.610(a). Mr. Huff testified that the Agency should consider allowing compositing and averaging for arsenic and carcinogenic PNAs for which MACs are controlled by the ingestion or inhalation exposure routes. Testimony of Mr. Huff, Tr. 3 at 32. The Agency continues to believe that the prohibition is both justified and necessary. This conviction stems primarily from three factors.

The first factor is the statutory definition of "uncontaminated soil." The definition of "uncontaminated soil" at Section 3.160(c) of the Act states that the soil itself must not pose a threat to human health, safety or the environment. This means soil on the ground surface or buried thirty feet below grade should meet the same standards. Since it is unreasonable to sample and analyze every cubic yard of soil, the Agency has proposed that every discrete sample should meet the applicable numeric criteria. Compositing of soil samples and averaging of sample results cannot assure that, on the whole, the soil is harmless. For example, nine samples at zero and one at ten times the MAC, on average, will meet the numeric criterion. The Agency's concern is that the tenth sample represents soil that poses a potential threat. TACO objectives are based on thresholds for hazardous effects or on de minimis cancer risk concentrations of 10^{-6} . Soil containing multiples of these concentrations should not be regarded as uncontaminated. It is the Agency's belief that each sampled location should meet the applicable MAC criteria for the whole to be considered uncontaminated soil. This should not

preclude the separation and alternative management of volumes of noncompliant soil based on analytical results.

The second factor is that the proposal utilizes the lowest TACO objective as the MAC when defining “uncontaminated soil.” Use of the most conservative TACO objectives is consistent with the statutory requirements and assures that constituent concentrations are protective of human health and safety. In some instances, compositing and averaging are prohibited in TACO. For instance, sample results for the construction worker can neither be composited nor averaged. The logic for this is that a construction worker may be active in a very limited location within a site. Thus each sample represents the concentration that a construction worker might contact during their entire time on the site. In TACO, compositing and averaging for the soil component of the groundwater ingestion pathway is limited to the vertical dimension within each soil boring. The reasoning is that rainfall will percolate vertically and contact all strata in its journey toward groundwater. However, no compositing or averaging is allowed between soil borings. Many MAC values are based on the construction worker receptor or the soil component of the groundwater ingestion exposure route. It is reasonable and necessary to impose the same restrictions in this rule regarding compositing and averaging as have been imposed on the use of these values in TACO.

The third factor concerns the use of compositing and averaging as it pertains to the central assumptions of risk assessment. Risk assessment is the foundation of the Board’s TACO rule and is thus relevant to establishing and demonstrating compliance with the MACs. When allowed, compositing and averaging serve a valuable purpose in risk assessment. Each receptor in a risk paradigm is assumed to be exposed to contaminated media. Exposures may be

intermittent or continuous, partial or complete. For soil exposure, a default soil exposure area for a residential receptor is usually given as one half acre, the average size of a residential lot. Compositing and averaging are allowed because the residential receptor is assumed to come into contact with all parts of their residential lot property equally and uniformly. Equal and uniform exposure cannot be assumed for soils placed in a CCDD or soil-only fill operation. The sensible conclusion is to assume that any exposures may be to the highest constituent concentration and to therefore prohibit compositing and averaging when characterizing soil for purposes of making an uncontaminated soil determination. *See also* Testimony of Leslie Morrow, Tr. 1 at 46-7; Pre-Filed Testimony of Thomas C. Hornshaw, Exh. 22 at 5.

E. The Role of Licensed Professional Geologists

Several witnesses submitted testimony in support of an expanded role in Part 1100 for licensed professional geologists (“LPG”). Pre-Filed Testimony of Mark J. Krumenacher, Exh. 11; Pre-Filed Testimony of David G. Pyles, Exh. 14; Pre-Filed Testimony of William Dixon, Exh. 16. Generally, these witnesses advocated expansion of authority for LPGs to all provisions of Part 1100 where licensed professional engineers (“LPE”) are authorized to act. The Illinois Department of Financial and Professional Regulation (“IDFPR”) is responsible for licensing and regulating LPEs and LPGs. In drafting its proposal, the Agency included LPGs along with LPEs for all actions where both were authorized by statute to act or that clearly fell within the purview of both disciplines. The Agency did not include LPGs where it was uncertain about the extent of their authority under the Professional Geologist Licensing Act (“PGLA”) (225 ILCS 745). Instead, the Agency contacted the IDFPR requesting review of the proposal to determine if the Agency’s inclusion of LPEs and LPGs was appropriate to the extent proposed and if there were

any additional provisions where the Agency should have included LPGs but had not done so.

On May 24, 2011, the Agency received an email from Careen Gordon, Associate General Counsel at IDFPR, stating that several of their attorneys had reviewed the draft rules regarding CCDD and concluded that the scope of work for LPEs and LPGs was appropriate to the extent proposed. IDFPR did not respond to the Agency's request for an opinion regarding expansion of the role for Licensed Professional Geologists. Therefore, the Agency left the language as written in its current proposal before the Board.

The Agency has no objection to the expansion of the role for LPGs to the extent it is appropriate under the PGLA, but it is unable to state definitively the extent of that act relative to the provisions identified by the witnesses. *See* Testimony of David G. Pyles, Tr. 2 at 67 (identifying proposed Sections 1100.205, 1100.212, 1100.412, 1100.525, 1100.530, and 1100.710 as additional sections where LPGs should be included).

F. Groundwater Management Zones

Mr. Huff raised a question about the use of Groundwater Management Zones ("GMZ") for fill operations required to perform corrective action as a result of groundwater monitoring. Tr. 3 at 32-3. The groundwater monitoring program is meant to be a final check for contamination after the screening checks at a fill operation are implemented. However, in cases where owners and operators are required to conduct a corrective action program pursuant to Section 1100.755, it is appropriate to establish a GMZ as allowed by 35 Ill. Adm. Code 620.250. In order to establish a GMZ, a proposal must be approved by the Agency for groundwater being managed to mitigate impairment caused by the release of contaminants from a fill operation.

G. Revisions to the MAC Table

Attachment 2 to the Pre-Filed Testimony of Leslie Morrow is a document entitled “Summary of Maximum Allowable Concentrations of Chemical Constituents in Uncontaminated Soil Used as Fill Material at Regulated Fill Operations” (“MAC Table”). Pre-Filed Testimony of Leslie Morrow, Exh. 4, Attachment 2. The Agency is proposing two revisions to the MAC Table and has attached the revised version of the table as Attachment 1 to this document. The first revision is found at footnote “j”. Footnote “j” is used for the nutrients for which there are no MAC criteria – calcium, phosphorus, potassium, and sodium. These constituents were carried over from the TACO tables but are of no concern as soil contaminants. However, they often show up in laboratory reports resulting in questions from consultants about how to address them. The purpose of the revision is to provide more specific information clarifying that there is no health concern at any level for the four constituents and, therefore, no MAC for which compliance must be demonstrated.

The second revision to the MAC Table is the addition of footnote “m” to call attention to a second option for demonstrating compliance with the applicable MACs for certain inorganic constituents as provided in proposed Sections 1100.610(b)(1)(B) and 1100.610(b)(3)(C). *See* Errata Sheet Number 3, Proposed Revision at Section 1100.610(b)(1)(B); Agency’s Initial Proposal, Section 1100.610(b)(3)(C). The first option for demonstrating compliance is a direct comparison of the total soil concentration from the laboratory report with the applicable MAC. The second option for demonstrating compliance (the subject of footnote “m”) applies only to inorganic constituents with initial MAC determinations based on the TACO Class I soil component of the groundwater ingestion exposure route objectives in 35 Ill. Adm. Code 742.Appendix B, Table A. For these inorganics, the two sections cited above authorize the

second option of using TCLP/SPLP methods to confirm compliance with the applicable MAC by a direct comparison of TCLP/SPLP extraction results with the applicable Class I soil component of the groundwater ingestion exposure route objective in Section 742. Appendix B, Table A. The Agency considers each option for determining compliance as equally protective for inorganics when the MAC is based on the soil migration to groundwater exposure route. The purpose of footnote “m” is to identify in the MAC Table the inorganics for which both options are available so that users of the table will be aware of the alternatives for demonstrating compliance.

H. Publication and Use of the MAC Table

At the September 26, 2011, hearing, Ms. Tipsord and Mr. Rao asked several questions about the Agency’s position on the use and publication of the MAC Table. Tr. 1 at 81-3; *see* Attachment 1; Pre-Filed Testimony of Leslie Morrow, Exh. 4. Attachment 2. In particular, Ms. Tipsord raised the question of whether the MAC Table itself must be promulgated as part of the rule because the values in the table would be generally applicable to anyone in the state subject to Part 1100. Mr. Rao asked if a link to the MAC Table should be provided in the rule (presumably at Section 1100.605(e)) if the Board accepts the Agency’s interpretation on the use and publication of the table.

The MAC Table is a partial listing of the numeric values for maximum allowable concentrations resulting from application of the methodology proposed in Section 1100.605 for the determination of maximum allowable concentrations of contaminants in “uncontaminated soils.” The Agency’s position is that the MAC Table need not and should not be made part of the rule. Instead, the Agency proposes to publish the MAC Table at the Agency’s website and update it as necessary whenever the underlying remediation objectives or background criteria

from 35 Ill. Adm. Code 742 are revised by Pollution Control Board amendments. *See Proposed Section 1100.605(c).*

Because of the apparently unique circumstances created by the Agency's proposal, the Agency cannot offer specific legal authority that would resolve the question raised by Ms. Tipsord. The Agency has not found any court decisions that it believes reflect the circumstances contained in the proposal. Consequently, in support of its position the Agency offers an argument based on its interpretation of the definition of "rule" within the Illinois Administrative Procedure Act ("IAPA") (5 ILCS 100 (2010)). The IAPA defines a rule as:

. . . each agency statement of general applicability that implements, applies, interprets or prescribes law or policy, but does not include (i) statements concerning only the internal management of an agency and not affecting private rights or procedures available to persons or entities outside the agency, (ii) informal advisory rulings issued under Section 5-150, (iii) intra-agency memoranda, (iv) the prescription of standardized forms, or (v) documents prepared or filed or actions taken by the Legislative Reference Bureau under Section 5.04 of the Legislative Reference Bureau Act.

5 ILCS 100/1-70 (2010). The Agency's reasoning for concluding that the calculation and publication of values in the MAC Table do not constitute the promulgation of a rule under the IAPA is that the MAC Table is not a statement of general applicability implementing the statutory requirement to establish maximum allowable concentrations for contaminants in soil used as fill material at regulated fill operations. Rather, it is the methodology proposed at Section 1100.605 that is the generally applicable statement implementing the statutory requirement to establish maximum allowable concentrations for contaminants in soil used as fill material at regulated fill operations. The methodology clearly applies to all fill operations subject to Part 1100. *See Proposed Section 1100.600.* It prescribes the steps necessary to determine the applicable MAC for each chemical constituent that might be received at a

regulated fill operation and prescribes the sources of information necessary for performing the calculations. Thus, the methodology may be applied for any chemical constituent at any regulated facility to determine the applicable MAC.

Taken as a whole, the MAC Table falls short of implementing the statutory requirement to establish maximum allowable concentrations of contaminants in uncontaminated soil. The table consists only of the relatively short list of constituents in the TACO Tier 1 tables at 35 Ill. Adm. Code 742.Appendix A, Tables A and B. There are far more unlisted constituents that could not be addressed using the MAC Table and for which application of the methodology is the only alternative. Put simply, the methodology stands on its own for interpreting, implementing and applying the statutory requirement to establish maximum allowable concentrations. The MAC Table is only a partial manifestation of the methodology.

In addition, there are several constituents listed in the MAC Table for which site-specific information must be provided to determine the MAC for a particular facility. *See* Proposed Section 1100.605(b); 35 Ill. Adm. Code 742.Appendices G, H. The use as a MAC of a background concentration set forth in the TACO rules depends on the location of the fill site. 415 ILCS 5/3.160(c)(1) (2010) (as amended by P.A. 097-0137, eff. July 14, 2011); Proposed Section 1100.605(b). The MAC Table does provide the range of MACs possible for those constituents, but, without more information about the site, the MAC cannot be determined simply by consulting the table.

The fact that the Agency performs the calculations and makes them available to the public as a convenience should not make the MAC Table a rule. The purpose of the IAPA is to protect the public and regulated communities from arbitrary, capricious or unreasonable actions

by administrative agencies. However, the methodology leaves no room for arbitrary, capricious or unreasonable actions by the Agency in calculating the MACs. The calculations will be based on a promulgated methodology, and no Agency discretion is involved. The same table of information could be assembled by anyone with sufficient familiarity with the elements of the methodology. The result of correctly applying the methodology on a site-specific basis to any set of TACO objectives that are the basis for the MACs will always lead to the same maximum allowable concentrations no matter who performs the calculations.

All the values inserted into the methodology to make the calculations are referenced in the methodology. The values themselves are promulgated in the TACO tables or derived in accordance with provisions promulgated in TACO or in both TACO and in proposed Part 1100. *See Proposed Sections 1100.605(a)(1) – (a)(5), 1100.605(c); 35 Ill. Adm. Code 742.510(c).* Making the calculations requires no assumptions or exercise of professional judgment about which environmental professionals might disagree. Calculation and publication of the MAC Table does not alter rights or procedures available to persons or entities outside the Agency. Once the methodology is established by rule, it is difficult to see what value would be added to the calculations or what additional protections would be provided to the public by also including the MAC Table within the rule.

There are at least two benefits provided by the Agency's approach, conservation of resources and more rapid implementation of revised MACs at operating fill sites. Resources are conserved because Part 1100 is decoupled from the Tiered Approach to Corrective Action Objectives ("TACO") rules such that promulgated revisions to 35 Ill. Adm. Code 742.Appendix A, Tables G and H and 742.Appendix B, Tables A, B and C can be implemented through the Part

1100 methodology without amending Part 1100. This decoupling will serve the Board, the Agency and the regulated community by reducing the need for periodic regulatory amendments to Part 1100 for updating the MAC Table. The Board, the Agency and entities relying on TACO already are caught in the recurring need to amend the TACO rules. Amendments to the TACO Tier 1 tables arise for a variety of reasons including the addition of new constituents, the revision of underlying toxicity data for existing constituents, and revisions to the groundwater quality standards in 35 Ill. Adm. Code 620. With Part 1100 relying on these same tables, amendments to the TACO tables will trigger amendments to the MAC Table as well. Promulgating rules is a resource intensive effort for all concerned.

The decoupling also would lead to more rapid implementation of MACs revised because of amendments to values in the TACO tables, which is of benefit to the environment and the fill operations. For example, if federal maximum contaminant levels for drinking water are revised, this typically would result in amendments to Part 620 groundwater quality standards. Part 620 revisions could lead to corresponding updates to the TACO remediation objectives, followed by a third rulemaking to revise the MAC Table. The timing and duration of each of these rulemakings would depend on a variety of factors, but one can easily imagine a delay of three years or more from adoption of federal MCLs to appropriate revisions to the MAC Table. Throughout this time, active fill operations would continue taking volumes of soil under a promulgated MAC Table that was understood to be outdated and, perhaps, less stringent for affected constituents than pending amendments to Parts 620 and/or 742 would require. Once TACO remediation objectives were updated, the MAC Table also could be in conflict with the promulgated methodology until amendments to the table were adopted.

For the reasons stated above, the Agency believes its proposal is consistent with the IAPA and would save significant resources by reducing the recurring need for regulatory proceedings. It would also facilitate quicker adjustments to evolving standards by fill operations. However, the Agency recognizes that the proposal falls into a grey area requiring interpretation of the IAPA as applied to a novel set of circumstances. The Agency's opinion is that the matter is of secondary importance to its primary goal of adoption of the Agency's proposal. It should not become a time-consuming distraction, and the decision is best left to the Board's judgment.

With regard to Mr. Rao's question, if the Board accepts the Agency's interpretation that the MAC Table should not be promulgated as part of the rule, the Agency's preference would be that a link to the MAC Table at the Agency's website should not be provided in the rule. First, there has been no discussion or determination of where on the Agency's website that information would be posted, and it would be premature at this point to do so. Second, website design and organization are ongoing functions of departments in the Agency that could not be expected to know of specific regulatory requirements. Nonetheless, we are certain that wherever the table might be posted, it would be done with sufficiently visible links to make it accessible to interested parties. Moreover, the methodology at Section 1100.605 could be used by any party to calculate individual MACs for any fill operation.

III. CONCLUSION

As stated above and in the Agency's testimony, the Agency's proposal is entirely consistent with the statutory requirements of Sections 3.160, 22.51 and 22.51a of the Act. 415 ILCS 5/3.160, 22.51, 22.51a (2010) (as amended by P.A. 97-137 (eff. July 14, 2011)). The proposal amends the existing Part 1100 rules to comply with the statutory requirements to

propose to the Board rules specifying (1) the use of clean construction or demolition debris and uncontaminated soil as fill material at CCDD fill operations (415 ILCS 5/22.51(f)(1)); (2) the use of uncontaminated soil as fill material at uncontaminated soil fill operations (415 ILCS 5/22.51a(d)(1)); and (3) the maximum allowable concentrations of contaminants that may be present in the uncontaminated soil component of construction or demolition debris (415 ILCS 5/3.160(c)). The proposal complies with the statutory requirements to include standards and procedures necessary to protect groundwater and to establish maximum allowable concentrations of contaminants in uncontaminated soil that do not pose a threat to human health and safety or the environment. 415 ILCS 5/3.160(c), 22.51(e)(4), 22.51(f)(1), 22.51a(a)(1), 22.51a(d)(1) (2010).

The Agency's goal has been to propose a rule that is fair, workable and protective of the environment. Guided to some extent by the interim procedures set forth in the Act and mindful of the requirements to protect groundwater and establish MACs at concentrations in soil that pose no threat to human health, safety and the environment, the Agency has proposed a middle path for fill operations among the options set forth in the Act at Sections 22.51(f)(1) and 22.51a(d)(1).

For those who have argued that groundwater monitoring is too burdensome, the Agency notes that groundwater monitoring is only one of several operational and technical controls that are authorized by the Act and that the Agency could have proposed. For those who have argued that the bright line for uncontaminated soil established by the proposed MACs is too conservative, the Agency again notes that the statutory standard for "uncontaminated soil" is inherently conservative and that this is appropriate for material that will not be considered

“waste.” For those who have argued that the Agency’s proposal lacks sufficient Agency oversight to be effective, the Agency again notes that the combination of permit reviews, participation by licensed professionals at several levels, and state and local field inspections on a routine basis and in response to complaints will be sufficiently effective for material that in most cases is expected to satisfy the MACs and will not be considered waste.

The Agency has confronted uncertainty and difficult choices while working through the details of almost every element of the proposal. It has learned that, in this context, there are very few perfect answers or simple changes. Each concept brings with it positive and negative aspects that must be weighed carefully before deciding how to proceed. Nonetheless, a proposal has emerged that is well-balanced between over-regulation and under-regulation. It combines protective MACs with screening procedures as an initial check on materials received, groundwater monitoring as a final check, and inspections as an ongoing check. Conceptual changes discussed here and others proposed during the hearing process should not be adopted without significant evaluation of their effects on the rest of the proposal and ensuring that a balance is maintained. These are not simple revisions, and no one should assume that such changes can or should be adopted while the rest of the proposal remains unchanged. Again, the Agency urges the Board to adopt the Agency’s proposal as revised in the three errata sheets.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: Mark Wight
Mark Wight
Assistant Counsel

DATE: December 1, 2011

1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276
(217) 782-5544
Mark.Wight@illinois.gov

ATTACHMENT 1

**Summary of
Maximum Allowable Concentrations of Chemical Constituents
In Uncontaminated Soil Used as Fill Material
At Regulated Fill Operations
(35 Ill. Adm. Code 1100.Subpart F (Proposed))**

Chemical Name	Maximum Allowable Concentration ^a
Acenaphthene	570 ^b mg/kg
Acetone	25 ^b mg/kg
Alachlor	0.04 ^b mg/kg
Aldicarb	0.013 ^{b,1} mg/kg
Aldrin	0.94 ^c mg/kg
Anthracene	12,000 ^b mg/kg
Antimony	5 ^{d,m} mg/kg
Arsenic:	
within a MSA county	13.0 ^e mg/kg
within a non-MSA county	11.3 ^e mg/kg
Atrazine	0.066 ^b mg/kg
Barium	260 ^{d,m} mg/kg
Benzene	0.03 ^b mg/kg
Benzo(a)anthracene:	
within Chicago corporate limits	1.1 ^l mg/kg
within a populated area in a MSA excluding Chicago	1.8 ^l mg/kg
within a populated area in a non-MSA county or outside a populated area	0.9 ^g mg/kg
Benzo(b)fluoranthene:	
within Chicago corporate limits	1.5 ^l mg/kg
within a populated area in a MSA excluding Chicago	2.1 ^l mg/kg
within a populated area in a non-MSA county or outside a populated area	0.9 ^g mg/kg
Benzo(k)fluoranthene	9 ^g mg/kg

Chemical Name	Maximum Allowable Concentration ^a
Benzoic Acid	400 ^d mg/kg
Benzo(a)pyrene:	
within Chicago corporate limits	1.3 ^f mg/kg
within a populated area in a MSA excluding Chicago	2.1 ^f mg/kg
within a populated area in a non-MSA county	0.98 ^f mg/kg
outside a populated area	0.09 ^g mg/kg
Beryllium	1.1 ^{d,m} mg/kg
Bis(2-chloroethyl)ether	0.66 ^c mg/kg
Bis(2-ethylhexyl)phthalate	46 ^g mg/kg
Boron	40 ^{h,m} mg/kg
Bromodichloromethane (Dichlorobromomethane)	0.6 ^b mg/kg
Bromoform	0.8 ^b mg/kg
Butanol	17 ^b mg/kg
Butyl benzyl phthalate	930 ⁱ mg/kg
Cadmium	1.0 ^{d,m} mg/kg
Calcium	---
Carbazole	0.6 ^b mg/kg
Carbofuran	0.22 ^{b,l} mg/kg
Carbon disulfide	9 ^g mg/kg
Carbon tetrachloride	0.07 ^b mg/kg
Chlordane	1.8 ^g mg/kg
Chloride	4,000 ^{h,m} mg/kg
4-Chloroaniline (<i>p</i> -Chloroaniline)	0.7 ^b mg/kg
Chlorobenzene (Monochlorobenzene)	1 ^b mg/kg
Chlorodibromomethane (Dibromochloromethane)	0.4 ^b mg/kg
Chloroform	0.3 ^g mg/kg
2-Chlorophenol	1.5 ^d mg/kg
Chromium, total	21 ^{d,m} mg/kg
Chrysene	88 ^g mg/kg
Cobalt	20 ^{h,m} mg/kg
Copper	330 ^{d,m} mg/kg

Chemical Name	Maximum Allowable Concentration ^a
Cyanide	40 ^{d,m} mg/kg
2,4-D	1.5 ^b mg/kg
Dalapon	0.85 ^b mg/kg
DDD	3 ^g mg/kg
DDE	2 ^g mg/kg
DDT	2 ^g mg/kg
Dibenzo(<i>a,h</i>)anthracene:	
within Chicago corporate limits	0.20 ^f mg/kg
within a populated area in a MSA excluding Chicago	0.42 ^f mg/kg
within a populated area in a non-MSA county	0.15 ^f mg/kg
outside a populated area	0.09 ^g mg/kg
1,2-Dibromo-3-chloropropane	0.002 ^b mg/kg
1,2-Dibromoethane (Ethylene dibromide)	0.005 ^c mg/kg
Di- <i>n</i> -butyl phthalate	2,300 ^l mg/kg
1,2-Dichlorobenzene (<i>o</i> – Dichlorobenzene)	17 ^b mg/kg
1,4-Dichlorobenzene (<i>p</i> – Dichlorobenzene)	2 ^b mg/kg
3,3'-Dichlorobenzidine	1.3 ^c mg/kg
1,1-Dichloroethane	23 ^b mg/kg
1,2-Dichloroethane (Ethylene dichloride)	0.02 ^b mg/kg
1,1-Dichloroethylene	0.06 ^b mg/kg
<i>cis</i> -1,2-Dichloroethylene	0.4 ^b mg/kg
<i>trans</i> -1,2-Dichloroethylene	0.7 ^b mg/kg
2,4-Dichlorophenol	0.48 ^d mg/kg
1,2-Dichloropropane	0.03 ^b mg/kg
1,3-Dichloropropene (1,3-Dichloropropylene, <i>cis</i> + <i>trans</i>)	0.005 ^c mg/kg
Dieldrin	0.603 ^c mg/kg
Diethyl phthalate	470 ^b mg/kg
2,4-Dimethylphenol	9 ^b mg/kg
2,4-Dinitrophenol	3.3 ^c mg/kg
2,4-Dinitrotoluene	0.25 ^c mg/kg
2,6-Dinitrotoluene	0.26 ^c mg/kg

Chemical Name	Maximum Allowable Concentration ^a
Dinoseb	0.25 ^d mg/kg
Di- <i>n</i> -octyl phthalate	1,600 ^g mg/kg
Endosulfan	18 ^b mg/kg
Endothall	0.4 ^{b,1} mg/kg
Endrin	1 ^b mg/kg
Ethylbenzene	13 ^b mg/kg
Fluoranthene	3,100 ^g mg/kg
Fluorene	560 ^b mg/kg
Fluoride	80 ^{h,m} mg/kg
Heptachlor	0.871 ^c mg/kg
Heptachlor epoxide	1.005 ^c mg/kg
Hexachlorobenzene	0.4 ^g mg/kg
<i>Alpha</i> -HCH (<i>alpha</i> -BHC)	0.0074 ^f mg/kg
<i>Gamma</i> -HCH (Lindane)	0.009 ^b mg/kg
Hexachlorocyclopentadiene	1.1 ^g mg/kg
Hexachloroethane	0.5 ^b mg/kg
Indeno(1,2,3- <i>c,d</i>)pyrene:	
within a populated area in a MSA excluding Chicago	1.6 ^f mg/kg
within Chicago corporate limits or within a populated area in a non-MSA county or outside a populated area	0.9 ^g mg/kg
Iron:	
within a MSA county	15,900 ^{e,m} mg/kg
within a non-MSA county	15,000 ^{e,m} mg/kg
Isophorone	8 ^b mg/kg
Lead:	
within a MSA county	36 ^{e,m} mg/kg
within a non-MSA county	23 ^{d,m} mg/kg
Magnesium	325,000 ^g mg/kg
Manganese:	
within a MSA county	636 ^{e,m} mg/kg
within a non-MSA county	630 ^{e,m} mg/kg

Chemical Name	Maximum Allowable Concentration ^a
Mercury:	
within a MSA county	0.06 ^{e,m} mg/kg
within a non-MSA county	0.05 ^{e,m} mg/kg
Methoxychlor	160 ^b mg/kg
Methyl bromide (Bromomethane)	0.2 ^b mg/kg
Methyl tertiary-butyl ether	0.32 ^b mg/kg
Methylene chloride (Dichloromethane)	0.02 ^b mg/kg
2-Methylphenol (<i>o</i> – Cresol)	15 ^b mg/kg
Naphthalene	1.8 ^g mg/kg
Nickel	20 ^{d,m} mg/kg
Nitrate as N	200 ^{h,m} mg/kg
Nitrobenzene	0.26 ^c mg/kg
<i>N</i> -Nitrosodiphenylamine	1 ^b mg/kg
<i>N</i> -Nitrosodi- <i>n</i> -propylamine	0.0018 ^c mg/kg
Pentachlorophenol	0.02 ^d mg/kg
Phenol	100 ^b mg/kg
Phosphorus	— ^j
Picloram	2 ^b mg/kg
Polychlorinated biphenyls (PCBs)	1 ^k mg/kg
Potassium	— ^j
Pyrene	2,300 ^g mg/kg
Selenium	1.3 ^{d,m} mg/kg
Silver	1 ^{h,m} mg/kg
Sodium	— ^j
Simazine	0.04 ^b mg/kg
Sulfate	8,000 ^{h,m} mg/kg
Styrene	4 ^b mg/kg
Tetrachloroethylene (Perchloroethylene)	0.06 ^b mg/kg
Thallium	1.6 ^{d,m} mg/kg
Toluene	12 ^b mg/kg
Toxaphene	0.6 ^g mg/kg

Chemical Name	Maximum Allowable Concentration ^a
2,4,5-TP (Silvex)	11 ^d mg/kg
1,2,4-Trichlorobenzene	5 ^b mg/kg
1,1,1-Trichloroethane	2 ^b mg/kg
1,1,2-Trichloroethane	0.02 ^b mg/kg
Trichloroethylene	0.06 ^b mg/kg
2,4,5-Trichlorophenol	26 ^d mg/kg
2,4,6-Trichlorophenol	0.66 ^c mg/kg
Vanadium	550 ^g mg/kg
Vinyl acetate	10 ^g mg/kg
Vinyl chloride	0.01 ^b mg/kg
m-Xylene	6.4 ^g mg/kg
o-Xylene	6.5 ^g mg/kg
p-Xylene	5.9 ^g mg/kg
Xylenes (total)	5.6 ^g mg/kg
Zinc	1,000 ^{d,m} mg/kg

^a = Concentrations are the results after using methods described in 35 IAC 1100.Subpart F for determining the Maximum Allowable Concentrations of chemical constituents in uncontaminated soils used as fill material at regulated fill operations.

^b = Value is the TACO Class I Soil Component of the Groundwater Ingestion Exposure Route concentration (35 IAC 742.Appendix B, Tables A and B).

^c = Value is the TACO-defined Acceptable Detection Limit (ADL) for the chemical in soil.

^d = Value is the lowest TACO Class I concentration from the pH-Specific Soil Remediation Objectives table for Inorganic and Ionizing Organic Chemicals for the Soil Component of the Groundwater Ingestion Route (35 IAC 742.Appendix B, Table C).

^e = Value is the location-specific allowable concentration based upon TACO-defined background values for inorganic chemicals (35 IAC 742.Appendix A, Table G). The location of the fill site determines the allowable concentration. Two background locations are defined; one for counties that are designated as Metropolitan Statistical Areas (MSA) (see Board Note, 35 IAC 742.Appendix A, Table G), the other for counties designated as a non-MSA.

^f = Value is the location-specific allowable concentration based upon TACO-defined background values for polynuclear aromatic hydrocarbon chemicals (35 IAC 742.Appendix A, Table H). The location of the fill site determines the allowable concentration. Three background locations are defined; one for areas within the corporate limits of the City of Chicago, another for populated areas (defined at 35 IAC

742.200) in counties that are designated as Metropolitan Statistical Areas (MSA) (see Board Note, 35 IAC 742.Appendix A, Table G) excluding the City of Chicago, and the third for populated areas within non-MSA counties. No background concentrations have been defined for locations outside of populated areas; therefore, the maximum allowable concentrations in these locations are determined using 35 IAC 1100.Subpart F.

^g = Value is the lowest TACO Soil Remediation Objective by the ingestion or inhalation routes of exposure for the Residential and Construction Worker receptors (35 IAC 742.Appendix B, Tables A and B). Definitions for "MSA" and "populated area" are presented in 35 IAC 742.Appendix B, Table H and 35 IAC 742.200, respectively.

^h = Value is the TACO Class I Soil Component of the Groundwater Ingestion Exposure Route value multiplied by 20.

ⁱ = Soil saturation concentration (C_{sat}).

^j = This chemical is of no concern for soil ingestion and no data are available to assess other routes of exposure. There is no soil concentration limit established for this constituent.

^k = Value for PCBs is the highest allowable concentration requiring no controls based on USEPA TSCA (40 CFR 761) policy.

^l = SW-846 methods may not support analytical detection at the concentration specified. Modified or alternative methods may be required to achieve the lowest practical detection level possible.

^m = As an alternative to the subject maximum allowable concentration value, compliance verification may be determined by comparing soil sample extraction results (TCLP/SPLP) for this constituent to the respective TACO Class I Soil Component of the Groundwater Ingestion Exposure Route objective (35 Ill. Admin. Code 742.Appendix B, Table A). (See 35 IAC 1100.610(b)(1)(B); 1100.610(b)(3)(C)).

STATE OF ILLINOIS)
)
COUNTY OF SANGAMON)

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Pollution Control Board

PROOF OF SERVICE

I, the undersigned, on oath state that I have served the attached Illinois Environmental Protection Agency's Pre-First Notice Comments upon the persons to whom they are directed by placing a copy of each in an envelope addressed to:

John T. Therriault, Clerk
Illinois Pollution Control Board
James R. Thompson Center
Suite 11-500
100 West Randolph
Chicago, Illinois 60601
(UPS – Next Day)

Mitchell Cohen
Chief Legal Counsel
Illinois Dept. of Natural Resources
One Natural Resources Way
Springfield, Illinois 62702-1271
(First Class Mail)

ORIGINAL

Matthew J. Dunn, Chief
Environmental Enforcement/Asbestos
Litigation Division
Illinois Attorney General's Office
69 West Washington St., 18th Floor
Chicago, Illinois 60602
(First Class Mail)

Marie E. Tipsord
Hearing Officer
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph, Suite 11-500
Chicago, Illinois 60601
(First Class Mail)

(Attached Service List – **First Class Mail**)

and sending or mailing them, as applicable, from Springfield, Illinois on December 1, 2011, with sufficient postage affixed as indicated above.

Maureen Kelly

SUBSCRIBED AND SWORN TO BEFORE ME

This 1st day of December, 2011.

Dawn A. Hollis
Notary Public



SERVICE LIST

<p>Claire A. Manning Brown, Hay & Stephens LLP 700 First Mercantile Bank Building 205 South Fifth St., P.O. Box 2459 Springfield, IL 62705-2459</p>	<p>John Henrickson, Executive Director Illinois Association of Aggregate Producers 1115 S. Second Street Springfield, IL 62704</p>
<p>Steven Gobelman Geologic/Waste Assessment Specialist Illinois Department of Transportation 2300 S. Dirksen Parkway Springfield, IL 62764</p>	<p>Tiffany Chappell City of Chicago Mayor's Office of Intergovernmental Affairs 121 N. LaSalle Street City Hall, Room 406 Chicago, IL 60602</p>
<p>Stephen Sylvester Assistant Attorney General Illinois Attorney General's Office 69 West Washington St., 18th Floor Chicago, IL 60602</p>	<p>James M. Morpew Sorling, Northrup, Hanna, Cullen & Cochran, Ltd. Suite 800 Illinois Building 607 East Adams, P.O. Box 5131 Springfield, IL 62705</p>
<p>James Huff, Vice President Huff & Huff, Inc. 915 Harger Road, Suite 330 Oak Brook, IL 60523</p>	<p>Greg Wilcox, Executive Director Land Reclamation & Recycling Association 2250 Southwind Blvd. Bartlett, IL 60103</p>
<p>Brian Lansu, Attorney Land Reclamation & Recycling Association 2250 Southwind Blvd. Bartlett, IL 60103</p>	<p>Dennis G. Walsh Klein, Thorpe and Jenkins, Ltd. 20 North Wacker Drive Suite 1660 Chicago, IL 60606-2903</p>
<p>Gregory T. Smith Klein, Thorpe and Jenkins, Ltd. 20 North Wacker Drive Suite 1660 Chicago, IL 60606-2903</p>	<p>Dennis M. Wilt, Vice President & Area Gen Waste Management of Illinois 720 East Butterfield Road Lombard, IL 60148</p>
<p>Michelle A. Gale Waste Management of Illinois 720 East Butterfield Road Lombard, IL 60148</p>	<p>Doris McDonald Asst. Corp. Counsel Chicago Dept. of Law 30 North LaSalle St., Suite 1400 Chicago, IL 60602</p>