

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

IN THE MATTER OF:	)	
	)	
PROPOSED AMENDMENTS TO	)	
CLEAN CONSTRUCTION OR DEMOLITION	)	R2012-009
FILL OPERATIONS	)	(Rulemaking-Land)
(35 ILL. ADM. CODE 1100	)	

**NOTICE OF FILING**

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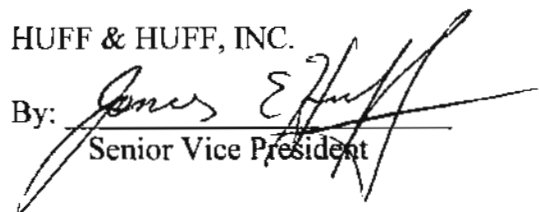
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Please take notice that I have today filed electronically with the Office of the Clerk of the Illinois Pollution Control Board the attached Post Hearing Comments, a copy of which is served upon you.

HUFF & HUFF, INC.

By:   
 Senior Vice President

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

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JAMES E. HUFF, P.E.,  
POST HEARING COMMENTS  
CLEAN CONSTRUCTION OR DEMOLITION DEBRIS FILL OPERATIONS

The Illinois Pollution Control Board (Board) has completed a hearing relating to Clean Construction or Demolition Debris (CCDD) fill operations, specifically with respect to whether monitoring wells should be required at CCDD fill operations.<sup>1</sup> There are a number of issues before the Board in this proceeding.

- 1) What is the cost of installing a monitoring well network, which is a function of the number of monitoring wells that will be required to delineate the vertical and horizontal extent of any groundwater impact?
- 2) What parameters should be tested for in the groundwater if the Board determines groundwater monitoring is appropriate?
- 3) Will the concern over the potential economic impact of a groundwater monitoring program and/or potential remedial costs result in a significant number of CCDD fill operations vacating the market, resulting in higher costs for all construction in Illinois?
- 4) Will the economic burden of monitoring drive generators to use unregulated fill operations, where no oversight from the Illinois EPA is conducted?

In addition to the groundwater issues listed above, there is an opportunity for the Board to amend the existing regulations regarding the upper pH limit, the PID acceptance criteria, and the MAC list. Comments on each of these items are presented herein.

**1) Capital Costs for Monitoring Well Network**

The Board has heard actual costs for a monitoring well network, with modeling, that was significant.<sup>2</sup> The Agency submitted its own cost estimate for four monitoring wells which was significantly cheaper. During my testimony,<sup>3</sup> I questioned whether four monitoring wells would be sufficient to define both the vertical and horizontal extent of any groundwater impact. Mr. Rao and Ms Liu both focused on this issue at the hearing.<sup>4</sup> The Agency's responses were vague, simply saying it was a case-by-case basis, "but that's not something that could be determined

<sup>1</sup> CCDD fill operations herein also includes uncontaminated soil fill operations.

<sup>2</sup> Exhibit 57, Greg Wilcox Pre-filed Testimony, May 20, 2013.

<sup>3</sup> Exhibit 58, James E. Huff Pre-filed Testimony, May 20, 2013.

<sup>4</sup> May 20, 2013 Transcript, pages 157-160.

ahead of time across the board.”<sup>5</sup> So if the Board adopts the monitoring well requirement, then how does one determine the appropriate number of monitoring wells? I believe from the Agency’s responses, budgeting for eight monitoring wells would likely represent closer to the norm.

## **2) What Parameters should be tested for in the Groundwater?**

I addressed this question in my Pre-filed Supplemental Testimony.<sup>6</sup> The hearing brought little additional clarity. The Agency was asked about dissolved metals versus total metals, and the responses were confusing at best.<sup>7</sup> Mr. Cobb stated, “You have to do both.”<sup>8</sup> Then Mr. Cobb goes on to state, “the standards apply also excepting of natural causes, so that part of your determination, too.”<sup>9</sup> Ms. Blake Myers further clarified that sediment in the sample would not necessarily be deemed natural causes, but determined on a case-by-case basis, and explained, “a sample would have to be made to remove the sediment and redevelop the well.”<sup>10</sup> Mr. Rao sought clarity asking if compliance determinations are to be made based on dissolved analyses. Mr. Cobb explained that to do statistics, you would follow the Practical Guide for Groundwater Sample Collection.<sup>11</sup> Mr. Nightingale further explained that if an exceedance of the initial total sample occurred, “they would be required to notify us, and that would be based on the total amount. It wouldn’t be based on the dissolved.”<sup>12</sup> Mr. Rao then followed up with a question as to whether subsequent samples where an exceedance occurs would be based on dissolved concentrations? Mr. Nightingale explained “for statistical approach it would be dissolved,”<sup>13</sup> which really didn’t answer the question.

From this discussion, presuming the statistics approach can be used to establish compliance, why even run the total metals? The Board has an opportunity to clarify this in the regulations and avoid the costs of false positives due to sediment.

The Lynwood site is also relevant to the groundwater parameters. Mr. Sylvester presented results, but quickly deferred all technical questions to the Illinois EPA.<sup>14</sup> The problem was the Illinois EPA representatives were also not able to discuss the Lynwood site. Mr. Nightingale, noted “I don’t really have any background on the Lynwood.” Mr. Wight explained, “I don’t think we can answer specific questions about Lynwood.”<sup>15</sup> These nine monitoring wells were presumably installed by the State of Illinois, yet the IEPA and AG didn’t know which well(s) is the background well. It is standard practice to install an up gradient well to characterize background conditions. Iron and manganese exceeded the 620 standards in all nine wells, yet Ms. Blake Myers’s experience is that the sediment can be reduced sufficiently so as not to get

<sup>5</sup> May 20, 2013 Transcript, page 158.

<sup>6</sup> Exhibit 58, James E. Huff, Pre-filed Testimony, May 20, 2013.

<sup>7</sup> May 20, 2013 Transcript, pages 113-117.

<sup>8</sup> May 20, 2013 Transcript, page 113.

<sup>9</sup> May 20, 2013 Transcript, page 114.

<sup>10</sup> May 20, 2013 Transcript, page 114.

<sup>11</sup> May 20, 2013 Transcript, page 115.

<sup>12</sup> May 20, 2013 Transcript, page 116.

<sup>13</sup> IBID.

<sup>14</sup> May 20, 2013 Transcript, page 87.

<sup>15</sup> May 20, 2013 Transcript, page 110.

exceedences of the total metals.<sup>16</sup> The Agency's field representative recommended dissolved metals going forward, implying that the turbidity was causing the elevated iron, manganese, etc. The Agency has yet to explain which of nine wells are the up gradient wells, so Mr. Sylvester's representation that nine wells have groundwater exceedences is really misleading. It could be that all of these exceedences are due to natural causes or natural silt in the monitoring wells. Without further information on Lynwood, one can only speculate on the reason for the exceedences, but certainly Mr. Sylvester's representation that the CCDD/uncontaminated soil fill acceptance caused groundwater violations is not credible.

Mr. Cravens noted that elevated manganese and iron can be attributed to natural causes. "Under high reducing stations, you get more manganese. So essentially, you can have exceedences in manganese and iron naturally occurring in wells..."<sup>17</sup> Mr. Cravens goes on to explain turbidity "definitely has an impact on certain things, and metals and what not, so turbidity is a big deal to worry about..."<sup>18</sup>

The Lynwood results, which the AG has lifted up as support for monitoring wells, is really a perfect example of why the Board needs to clarify the need to run only dissolved metals, and limit the parameters to those parameters that are really a potential environmental concern associated with these operations, should the Board determine monitoring wells are necessary. My Pre-filed Supplemental Testimony (Exhibit 58) included a specific list of groundwater monitoring that I would urge the Board to consider including in the Board's regulations.

**3) Will the economic burden of groundwater monitoring or the prospect of remediation result in a significant number of CCDD fill sites discontinuing accepting clean fill?**

In my October 6, 2011 Pre-filed Testimony in R2012-009 (Exhibit 16), I expressed my concern that a large number of CCDD operations would elect to close before installing monitoring wells, resulting in a huge financial burden to construction projects in Illinois. My fear was not so much the costs of the monitoring wells or sampling, it was and continues to be, with the parameters that are being monitored and pre-existing conditions. Mr. Hendrickson at the May 20<sup>th</sup> hearing stated a similar concern, "you get to the point where we have to make good business decisions that we have to get out of business."<sup>19</sup>

In the earlier proceeding, I spent a consider amount of time questioning the Agency about the ability to use Groundwater Management Zones (GMZs), without obtaining any clear indication whether a CCDD could rely on a GMZ if contamination was found. Mr. Cobb in the May hearing provided a much clearer explanation of the Agency's position, "The intent of the GMZ is to mitigate, not just write off groundwater. So, but, yeah, we don't expect the impossible to happen, and that's why Section 620.450 is written the way it is that, you know, you may not be able to get back to the miracle, so you may get at some level where you've done all you can mitigation-wise, and so that's the way the GMZ is written, to mitigate an impairment, not just

<sup>16</sup> May 20, 2013 Transcript, page 114.

<sup>17</sup> May 20, 2013 Transcript, page 48.

<sup>18</sup> May 20, 2013 Transcript, page 50.

<sup>19</sup> May 20, 2013 Transcript, page 188-189.

right up front put a restrictive use ordinance in and automatically write the groundwater off.”<sup>20</sup> So, unlike sites with Leaking Underground Storage Tanks and those enrolled in the Site Remediation Program, which can rely on groundwater use restrictions, CCDD fill sites will be required to actively treat the groundwater before pursuing any groundwater use restriction.

The regulations, as currently proposed, require a facility in only four months from discovery of an exceedance to submit a Corrective Action Plan to the Agency, and within four additional months the Plan is to be implemented.<sup>21</sup> This is insufficient time to investigate further and develop such a plan. The first step would be re-testing, followed by step out monitoring well installation to define the extent of the violation, followed by evaluating remedial options. Design plus installation cannot be achieved in a four month period. If a facility must secure an NPDES permit to discharge the extracted groundwater, the Agency will take over a year simply to issue an NPDES Permit. As written, every facility with an exceedance will be out-of-compliance before corrective actions can be implemented, and thus subject to potential enforcement actions. Discontinuing accepting uncontaminated soil and not installing monitoring wells is clearly the option that the industry will take.

Mr. Cobb volunteered methods to clean up impacted groundwater besides pump-and-treat could be a cap on the site, you could remove it, or “you could do a lot of different things.”<sup>22</sup> As the Agency has noted on numerous occasions, the fill is being placed to a large extent below the water table, so a cap would be of little-to-no benefit. Removal is certainly technologically possible, but if the CCDD facilities believe that excavation of the entire quarry is a possible outcome, no former quarry will continue to accept uncontaminated soil. The reality is only pump-and-discharge, with or without treatment is the only possible way to address groundwater impacts if they are discovered through the monitoring well network. I provided with my Pre-filed Supplemental Testimony<sup>23</sup> capital and operating costs for pump and treat systems that I would expect to be similar for CCDD facilities that are required to conduct corrective actions. The revenue generated from the acceptance of clean fill at these former quarries does not warrant continuation if there is any risk that the Agency will require active remediation. As Mr. Hendrickson noted, the number of permitted facilities in Illinois is already in decline.<sup>24</sup>

In summary, if there was ever a proposed environmental regulation that needed an economic impact/cost benefit analysis, this is the one. As both JCAR and the Governor were desirous of the Board re-visiting this groundwater issue, one would think the State of Illinois could come up with the funds to pay for such study. The economic ramifications were discussed in my original testimony and an entire Illinois industry is at risk.

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<sup>20</sup> May 20, 2013 Transcript, pages 127-128.

<sup>21</sup> May 20, 2013 Transcripts, pages 119-120.

<sup>22</sup> May 20, 2013 transcript, page 128.

<sup>23</sup> Exhibit 58.

<sup>24</sup> May 20, 2013 transcript, page 188.

**4) Will the economic burden of monitoring drive generators to use unregulated fill operations, where no oversight from the Illinois EPA is conducted?**

As Mr. Henriksen noted, there are alternatives to taking uncontaminated soil to the CCDD-type facilities, including farm fields, forest preserves and borrow pits, that are virtually unregulated.<sup>25</sup> Prairie Material's Post-Hearing Comments<sup>26</sup> noted an increase in the number of unregulated CCDD disposal options being utilized throughout Northeast Illinois. Our firm's experience is consistent with Prairie Material's observations. The disposition of uncontaminated soil is almost always left to the contractors. As contractors are selected on price, they will utilize the low cost disposal option.

The requirements of the Part 1100 regulations already put the CCDD facilities at a competitive cost disadvantage, and if monitoring wells are required with the proposed monitoring requirements, this disparity will increase for those facilities that remain in the business of accepting uncontaminated soil.

**5) Upper pH Limit**

The Agency's original CCDD proposal only included using the most restrictive metal value in the pH table. There was no maximum pH limit for acceptance of uncontaminated soil. It was somewhat surprising that the Agency at the May hearing seemed unclear on its position of accepting pH material between pH 9.0 and 12.49.<sup>27</sup> As I outlined in my Response to the Board's Pre-filed Questions,<sup>28</sup> there is really no technical basis for an upper pH limit of 9.0, with all the limestone and concrete going into these same facilities, many of which are former limestone quarries.

**6) PID Limit**

The no deflection criteria on the PID meter has caused a significant number of rejected loads, many before they even are transported to the CCDD facilities from screening at the job sites. The Agency promised in response to Ms Liu's question to respond in its final comments regarding the PID threshold for rejection.<sup>29</sup> Mr. Cravens mischaracterized a 5 ppm in the soil sample to an ambient breathing zone air threshold of 5 ppm, where Mr. Cravens indicated he would upgrade to air purifying respirators.<sup>30</sup> This is an *apples and oranges* comparison, and really has no relevance to this situation.

**7) Maximum Allowable Concentrations**

In my Pre-filed Supplemental Testimony,<sup>31</sup> I recommended the Board codify the Maximum Allowable Concentration in its regulations, so that some discussion of the appropriateness of

<sup>25</sup> May 20, 2013 transcript, page 188.

<sup>26</sup> Public Comment #55, July 23, 2013.

<sup>27</sup> May 20, 2013 Transcript, pages 160- 168.

<sup>28</sup> Exhibit 58.

<sup>29</sup> May 20, 2013 Transcript, page 160.

<sup>30</sup> May 20, 2013 Transcript page 164.

<sup>31</sup> Exhibit 58.

some of the parameters could be vetted. Specifically, iron, magnesium, manganese, aluminum, total chromium, and arsenic were identified. Mr. Morrow confirmed my pre-filed Supplemental Testimony, that the Agency used the **median** Statewide concentrations for setting the MACs for aluminum, iron, magnesium, and manganese.<sup>32</sup> The Agency promised to get back to the Board on what percentage of the State exceeds the total chromium MAC value, which I believe is approximately 40 percent. Arsenic, as we know, was set at the 95<sup>th</sup> percentile concentration, so 5 percent of the State's soils will fail this value due to natural causes. Taken collectively, there is only a small percentage of the State's soils that will pass all of these MACs and therefore suitable for placement in CCDD facilities.

It makes no sense to adopt a MAC list based on **median** concentrations in the State, and the Agency has shown no interest in changing the MAC values it developed without input from outside of the Agency.

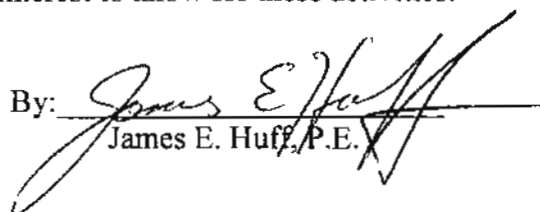
### Closing

Mr. Sylvester provided groundwater results from the Lynwood site, a site that was acknowledged to have accepted more than uncontaminated soil and CCDD material, as support for why we need monitoring wells. Yet Mr. Sylvester could not answer a single technical question about this site or the results, referring questions to the Agency. The Agency's witnesses could not respond to technical questions on the Lynwood site either, as none of the witnesses were involved with this site. We don't even know if the wells were properly developed at this point, nor do we know which well(s) was up-gradient, as they all showed metal impacts. This is the best the AG and Agency can provide in support as to why the Board should require monitoring wells, and in my opinion fails in providing any such support. The previous record contained extensive groundwater data at a former CCDD site which showed no impact,<sup>33</sup> and Mr. Sylvester found impacts in one of three "CCDD" sites (the Lynwood facility). It is instructive to note the primary impacts identified Lynwood were iron, manganese, and lead. The lead is frequently above the 620 Class I standards when silt is present. That is why dissolved metals should be run, not total. Similarly, if screened into fill, the PNAs will be detected if silt is present in the sample. (The IEPA field inspector recommended dissolved metals going forward.) Hopefully the AG's office and/or the Agency can share with the Board the subsequent groundwater sampling at this site, which must be available at this time, and will presumably include the dissolved metal results.

In summary, the AG's and Agency's attempt to justify monitoring wells falls short of what should be expected. In addition to conducting an economic impact study and cost-benefit analysis, perhaps the Agency should take the initiative and install monitoring wells around a couple of CCDD facilities to provide badly needed additional data in support of its position. Given the economic consequences if the CCDD facilities elect to exit this market, taking additional time would be in the State's best interest to allow for these activities.

Dated: August 1, 2013

By:

  
James E. Huff, P.E.

<sup>32</sup> May 20, 2013 Transcript, page 118.

<sup>33</sup> Exhibit 16, James E. Huff Pre-filed Testimony, October 6, 2011.

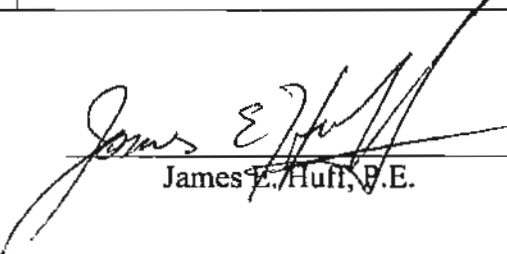
**CERTIFICATE OF SERVICE**

I, the undersigned, certify that on this 1<sup>st</sup> day of August, 2013, I have served electronically the attached Post Hearing Comments:

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