

## PDC's Peoria City/County Landfill Hydrogeological Investigation – Comments

1. There is still a concern over the need of a 2D seismic line through the waste footprint. One argument used against this is by surrounding the site there can't be an entrance. The concern is the investigation can miss an adit or a small opening somewhere and there is mining under the site. We believe this is unlikely, but it should be understood that it is a concern.
2. Related to 1 above, the boring B-2-10 remains in its original proposed location instead of moved eastward to line up with the potential adit from the mapped mine. However, we agree that the staged process to use the seismic study to help identify its location (page 6).
3. The investigation should address any faults through the area.
4. The thickness of mined out area near the footprint should be determined in order to predict the impact subsidence will have on the landfill, unless the setbacks are such that the angle of draw from subsidence will have no impact the landfill.
5. The potential to place the liner on top of the bedrock raises questions of which geologic layers will be left in place as barriers to contaminant transport. The comment on page 2 that says the liner base will be directly on top of the Carbondale Formation bedrock, which raises the question of whether the No. 6 Fireclay will be removed or left in place. Not sure the Fireclay is to be considered a part of the formation mentioned. The fireclay should be evaluated for its hydraulic characteristics in case it can be a useful barrier, and an option for the design.
6. Minor. Page 32 is titled sonic drilling when it should be Bucket Auger drilling.
7. It would be useful to include a color, not-to-scale illustration of the typical nested wells for the three types of boring locations.
8. Minor. Page 5 says Shaw will obtain from the IEPA ..., but doesn't specify what is being obtained. It is presumed this means they will perform a review of the IEPA files for the site and pull pertinent information.

## **Questions regarding the PCCLI Site Investigation Plan**

Submitted by Tracy Meints Fox, 15215 N. Ivy Lake Road, Chillicothe, IL 61523, 309-369-5331, [tracyfox@verizon.net](mailto:tracyfox@verizon.net)

1. Will all results from the site investigation be available through the county web site in electronic form? Will the results be released as they become available or as a single package once the investigation is complete?
2. What standards will be applied to determine whether the site is suitable for the proposed landfill? The site investigation plan includes numerous details on how the investigation will be conducted, but contains nothing at all outlining how the results will be interpreted and what findings will be deemed a necessary prerequisite to even beginning the design phase. I feel the investigation plan should explain what boring, well and seismic findings would indicate a safe, protective location for the landfill and what findings would indicate that there is risk of groundwater contamination, subsidence, etc. Until these parameters are in place, I do not believe the site investigation should move forward.
3. How can the investigation by Marino Engineering Associates, based solely on historical records, assure the absence of mining remains? Specifically what findings would make it possible to “narrow the breadth of the proposed geophysical portion of this coal mine investigation” and who will make that decision?
4. Why does the proposed seismic investigation only focus on the perimeter of the site? Without a seismic investigation of the interior, how can the investigation accurately determine the risk of underground fissures, fractures and abandoned mineworks creating instability and direct paths for vertical leakage into the underlying groundwater? Given the numerous examples of incompletely and inaccurately mapped historic mines and undiscovered wildcat mines throughout Central Illinois, how can Shaw Environmental justify the statement “Should this [boundary] study result in a determination that no mines exist through these areas, it would be safe to say that mine voids do not extend beneath the proposed landfill footprint and that subsidence of any mines which are located outside of these lines will not affect the proposed landfill design”?
5. One of my biggest concerns about landfills in general is groundwater impact. I was surprised by the statement from Shaw Engineering that “specific plans for Groundwater Impact Assessment contaminant transport modeling will be developed based on the results of the hydrogeologic investigation.” Why is the groundwater impact assessment not part of the site investigation plan?
6. Patrick Sloan of Foth voiced concerns about PDC’s design and its impact on groundwater. In his June 30, 2009 memo to Dave Barber and Patrick Urich, he comments:

“The landfill expansion will be required to demonstrate an acceptable Groundwater Impact Assessment (GIA). Acceptable GIA’s have been conducted previously for Landfill No. 1 and No. 2. Both of these GIA’s defined the strip mine spoil as the uppermost aquifer. All groundwater monitoring wells, except for the one in the deep underground mine workings are completed in this uppermost aquifer. The bottom of this aquifer is the base of the surface mine. This base is a relatively impermeable bedrock called an underclay, which was below the coal that was surface mined. The average elevation of the underclay in the expansion area is approximately 600 feet. Between the upper strip mine spoil/underclay and the lower coal seam is approximately 75 feet of shale (rock).

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The existing landfills are both constructed entirely in strip mine spoil, approximately 15-20 feet above the underclay layer.

PDC's proposed expansion is designed to have a bottom elevation of 585 feet. This bottom elevation has several major problems – 1) It will require approximately 15 feet of rock excavation; 2) the uppermost aquifer defined previously by the GIA will be removed and will require that a new GIA concept be developed. This is not impossible, but will be very difficult; 3) the two existing GIA's and groundwater monitoring well networks will require modification and changes. Due to the problems with this scenario, it is likely that the liner floor of the PDC proposal would need to be raised. If it is raised by 27 feet to an average elevation of 612) the approximate loss in capacity will be 2 million cubic yards. This loss in capacity in the PDC design could be at least partially compensated by extending their design into the flood fringe area they had previously avoided."

Does Mr. Sloan feel the site investigation plan includes all necessary groundwater monitoring and groundwater studies to alleviate his concerns?

7. One of my biggest concerns about landfills in general is groundwater impact. I was surprised by the statement from Shaw Environmental that "specific plans for Groundwater Impact Assessment contaminant transport modeling will be developed based on the results of the hydrogeologic investigation." Why would the groundwater impact assessment not be part of the site investigation plan?
8. Why does the site investigation not include any consideration of wetlands? Twelve appear on the national inventory and five may be subject to the Clean Water Act (per a 2003 letter to Daly Engineering released during the RFQ process).
9. Why does the site investigation not include any consideration of fringe floodplains? In the same memo, Patrick Sloan of Foth expressed concerns about the inadequacies of the existing maps. How will these be corrected if not during the site investigation?



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**RE: Comments and Questions for the Proposed Site Investigation Plan, Landfill #3  
Peoria City/County Landfill Expansion**

On behalf of Heart of Illinois Group Sierra Club and our nearly 400 members who reside in the Peoria area, and who value the environmental health and future well-being of Peoria County and its water, air, and land, and expect responsible stewardship of the environment, the following questions and comments are being supplied regarding the Proposed Site Investigation Plan for Landfill #3.

Heart of Illinois Group Sierra Club wishes to point out that the City of Peoria and Peoria County share in insuring actions taken in the upcoming years will take into account the health, safety, and welfare for current and future generations of citizens.

The Peoria County website has as leading issues in their Strategic Plan and five year goals to 2014:

1. Safe and Healthy Community
2. Growing Community

These are commendable goals and certainly could be understood to place issues of sustainability and environmental health with the viability and essential qualities of life for current and future residents.

Considerations for the Proposed Site Investigation Plan for the proposed municipal waste Landfill #3 relate directly to issues for a safe and healthy community and growing community.

It is not apparent from the Proposed Site Investigation Plan, how site issues of concern will be ranked and evaluated. It is also not apparent what factors would determine the site is not suitable for new landfill development.

Heart of Illinois Sierra Club has the following concerns regarding the Site Investigation Plan:

1. What factor or factors will determine site unsuitability for Landfill #3 and not allow this project to proceed;

2. We ask that factors that would determine site unsuitability for Landfill #3 be clearly stated;
3. We ask that a risk assessment be stated in terms the public can understand regarding this site and issues raised in the June 30, 2009, letter from Foth Engineering, and that the issues raised by Foth be clearly answered.
4. We ask that the full site be assessed for geological conditions and hydrological status, and that hydro-geological impacts on the adjacent floodplain and wetlands be included.

The fact that the area has had pre-regulation surface and underground coal mining is well known. Mining maps cannot be considered completely accurate, and historical research cannot be relied on to locate all mined areas because unrecorded private or wildcat mines and unrecorded mining shaft extensions are highly likely to have occurred. A comprehensive assessment of the full expansion site should be done to determine the actual ground and hydrological conditions. Mine subsidence affects adjacent areas outside of what may be mapped as mined. Even what might be considered a thorough historical research investigation cannot be considered adequate for this site, considering the multiple mined areas.

Thank you for your consideration of these issues and remarks.

Sincerely,

Joyce Blumenshine  
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cc via email:  
Mr. Patrick Urich, Peoria County Administrator

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