

**Northern White Sand, L.L.C**  
**(formerly Illinois Sand Company L.L.C.)**  
**Northern White Sand Mine**  
**(formerly Illinois Sand Mine)**

**National Pollutant Discharge Elimination  
System (NPDES) Permit  
Responsiveness Summary**

Regarding

October 7, 2013 Public Hearing

Illinois Environmental Protection Agency  
Office of Community Relations  
June 11, 2014



# Northern White Sand, L.L.C

## Northern White Sand Mine

### National Pollutant Discharge Elimination System (NPDES) Permit Responsiveness Summary

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**Final June 11, 2014**

# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Northern White Sand, L.L.C.  
Northern White Sand Mine  
New Permit  
Permit Number IL0080004

## AGENCY PERMIT DECISION

On June 11, 2014, the Illinois Environmental Protection Agency approved a new NPDES permit for Northern White Sand Mine.

### **The following changes were made to the draft permit:**

Permit Limitations and Monitoring was changed to reflect a reduction of the maximum daily sulfate concentration from 1,987 mg/L to 1,967 mg/L.

Special Condition 5 was revised to incorporate the newly implemented NetDMR program.

Construction Authorization was revised to include in the description the treatment ponds compacted clay liners.

Construction Authorization was revised to reflect the applicant's determination that the average discharge rate at outfall 001 will be 0.036 million gallons daily (MGD) instead of the previously stated 0.144 MGD.

Construction Authorization was revised to include reference to application documents that address plans and procedures for handling acid producing material (APM) that were received subsequent to the publication of the draft permit.

Construction Authorization was revised to provide clarification regarding the level of authorization that would be required in order to dispose of APM on-site.

## PRE-HEARING PUBLIC OUTREACH

The notice of the NPDES permit public hearing was published in the *LaSalle News Tribune* on August 20 and 27, and September 3, 2013.

The hearing notice was mailed or e-mailed to:

- a) The hearing officer list of those requesting to be notified of water hearings;
- b) LaSalle county officials;
- c) municipal officials in: Utica, Illinois as well as state and federal representatives;
- d) Illinois' Attorney General, Illinois Chapter of the Sierra Club, Prairie Rivers Network and the Environmental Law and Policy Center (hearing requestors).

The hearing notice was posted on the Illinois EPA website:

<http://www.epa.state.il.us/public-notices/2013/npdes-notices.html#illinois-sand-company-mine>

Hearing notices were posted at the Illinois EPA headquarters in Springfield.

## October 7, 2013 PUBLIC HEARING

Hearing Officer Dean Studer opened hearing session #1 October 7, 2013, at 3.00 p.m. Hearing session #2 opened at 6:30 p.m. at Starved Rock State Park/Lodge, Starved Rock Room, Utica, Illinois.

### **Northern White Sand, L.L.C. Presentation:**

Kerry Gannaway opening statement

### **Illinois EPA Hearing Participants:**

Joanne Olson, Assistant Counsel, Bureau of Water  
Bob Mosher, Standards Section, Bureau of Water  
Bill Buscher, Groundwater Section, Bureau of Water  
Darren Gove, Facility Evaluation Unit, Bureau of Water

Comments and questions were received from the audience.

Hearing Officer Dean Studer closed the hearing session #1 at 5:00 p.m. and hearing session #2 at 7:40 p.m. on October 7, 2013.

Illinois EPA personnel were available before, during and after the hearing to meet with elected officials, news media and concerned citizens.

Approximately 130 persons representing neighbors, local government, businesses, miners, elected officials, environmental groups, interested citizens, and Northern White Sand, participated at and/or attended both hearing sessions. A court reporter prepared a transcript of the public hearing which was posted on the Illinois EPA website <http://www.epa.state.il.us/public-notices/2013/illinois-sand-company-mine/hearing-transcript.pdf>

The hearing record remained open through November 6, 2013.

## **BACKGROUND of Northern White Sand, L.L.C. Northern White Sand Mine**

The Illinois EPA has prepared a draft new National Pollutant Discharge Elimination System (NPDES) permit for Northern White Sand, L.L.C. for Northern White Sand Mine. The address of the discharger is Northern White Sand, L.L.C., 1053 North 2803<sup>rd</sup> Road, Utica, IL 61371. The facility is located in LaSalle County, Utica, Illinois.

The applicant proposes a new surface sand mine and will be engaged in excavation, extraction and processing of industrial sand (SIC1446). Wastewater is generated from pit pumpage, process water and stormwater runoff. Plant operations result in an average discharge of 0.036 MGD of groundwater seepage, process water and stormwater runoff from outfall 001 to an unnamed tributary of the Illinois River.

## Responses to Comments, Questions and Concerns

Comments, Questions and Concerns in regular text

**Agency responses in bold text**

### NPDES Permit

1. The draft permit is based on a faulty assessment of the water quality present. Sample point 1 is not a viable reference point as it showed a no-flow condition and will also show higher background levels than truly exist at Outfall 001. I request a new sample point north of 2803<sup>rd</sup> Road.

**The applicant has collected water quality data from the receiving stream at two locations and the Agency has collected five samples from the receiving stream. One location was in the area of the proposed effluent outfall north of N. 2803<sup>rd</sup> Road. This location is representative of stream conditions at the outfall site before the mine discharge begins. The other locations included two samples downstream of N. 2803<sup>rd</sup> Road. A map showing the approximate sampling locations and the sulfate and chloride concentrations is provided in [Attachment 1](#) to this responsiveness summary. The location of the proposed effluent discharge is also labeled on this map. The Agency has determined that the existing water quality in the receiving stream has been sufficiently assessed.**

2. I believe the draft NPDES permit has not taken into account the complications of the coal at this site. The temporary storage of coal for up to 30 days presents an issue for storm water runoff contamination. Has the IEPA considered the weatherability of this specific type of coal as an issue in allowing a temporary stockpile?

**According to the GeoMine Federal Data viewer the USGS data layer for coal present at the site is considered “Medium and High Volatile Bituminous”. This is the same type of coal that is present throughout much of Illinois. The application includes measures for minimizing environmental exposure to the coal that includes the temporary stockpile operations as well as other measures that are further discussed in the response to item #4. In addition, the NPDES permit includes effluent monitoring of certain parameters including manganese, sulfate, chloride, acidity and mercury that are believed to be influenced by coal stockpile runoff. Additional parameters are to be monitored under special condition 12 of the permit. The review of the permit application and development of the permit conditions address the potential constituents from coal that may affect surface and groundwater quality.**

3. I would like to point out that an option provided by the NPDES permit, currently, is for the coal collected to be taken to an appropriate landfill. We would like to know

what the definition for an appropriate landfill has been decided, and how IEPA will ensure the coal that is transported to that landfill does not present a problem at that landfill as well for groundwater issues? We ask that there be one specified as far as where the coal will be dumped, specifically laid out in the permit for the coal's disposal off-site.

**The Agency did attempt to obtain more specific disposal plans for a landfill earlier in the review process; however, the applicant requested to have the flexibility that accompanies not specifying a specific plan. The Agency cannot require the operator to identify specific landfill locations. Disposal of coal at an off-site landfill must be in accordance with an Agency permit. An appropriate landfill is an off-site landfill with an Agency permit to accept the coal.**

4. The coal is apparent at this site and I am concerned with the treatment of the coal and the handling of the coal. This will be an economic challenge for the Company. They have looked at a very brief review of the engineering report done by their engineers Chandler and Company, in which they talk about removing the coal, temporarily stockpiling it for as much as 30 days, and then moving it by truck to another location and probably another location. This is all very expensive and it's going to cause a great deal of environmental exposure to this coal. If it's sitting there even for as much as 30 days, the underlying bed of that coal is going to be causing acid mine water runoff, and it's going to be have potential pollution problems. I will leave that issue alone.

**The operator has incorporated into their overall facility operation plan, coal handling and environmental exposure minimization measures that are summarized in the facility's "Mining Operation and Water Management" plans received by the Agency on January 28, 2014. The applicant's plan in the application is to perform overburden removal on a yearly basis for each new area to be excavated. The plan is to strip overburden down to within 1 or 2 feet of the top of the coal bed, leaving a temporary cap in place over the top of the coal. Then to facilitate sandstone quarrying, the remaining overburden consisting of the cap and coal will be removed from a smaller area. This process will repeat itself until the initial area has been entirely quarried and a new area is stripped of overburden short of the coal. This cyclic process is expected to minimize environmental exposure to the original coal bed and to minimize the quantity of coal placed in the temporary storage location at any one time. According to the application, by using this mining methodology, any given amount of extracted coal at the facility will experience a maximum of 27 days of environmental exposure before it is removed from the site for beneficial reuse or disposal. Please see [Attachment 2](#) "Annual Stripping Cycle Work Description" provided by the applicant for additional details of this process.**

In addition to leaving the temporary cap over the coal, the facility's operation plans also include measures that will reduce the presence of coal residual material in areas where it has already been stripped. The facility will utilize various practices to remove as much coal residual as possible. The operator may perform power brooming or power washing of the remaining coal residuals from the surface of the sandstone deposit. These materials will be collected and also removed from the facility.

Finally, as required by the permit, all material deemed to be acid producing material will be transported off site to an appropriately permitted facility. This would include, but not be limited to permitted solid waste landfills and/or permitted use of the coal at an affiliated company. This will require the operator to consolidate the coal stockpiles in a location accessible to loading and transportation equipment. The operation plans call for the temporary coal stockpile to be operated in a first-in, first-out manner that will, when the rate of coal accumulation exceeds the rate of off-site transport, allow for a minimization of environmental exposure and adherence to the planned operation timelines depicted in [Attachment 2](#). In addition to actively managing the coal stockpiles at the temporary storage location, the location will be constructed with a clay base and a limestone lined stormwater ditch that conveys all stormwater runoff from the coal storage location to the facility's treatment ponds. Further, the operation plans call for the use of a temporary cover consisting of either clay or plastic sheeting to cover the coal stockpiles in the event operational delays cause the coal to remain in the temporary storage location for more than 30 days.

The Agency has determined that the operation plans established to minimize environmental exposure of the extracted coal are sufficient to protect surface water quality and groundwater quality. Measures called for by the operation plans to ensure a minimization of environmental exposure to acid producing materials include staged excavation and off-site transportation, proper effort to remove coal residuals, proper collection, conveyance and control of discharge waters exposed to on-site acid producing materials. The discharge through the mine outfall must meet the discharge limitation of the NPDES permit.

5. I live fairly close to the mining operation, a couple of hundred yards. I have two main concerns; one is the contamination possibly from the mining operation and second is the water consumption. I am really concerned about over-consumption of water, what type of an effect and detriment it will have not only to my well, but also to the people in the surrounding area.

The Agency has determined that the application's plans are sufficient to protect surface water quality and groundwater quality. However, while the NPDES permit does include requirements related to groundwater quality monitoring, the Illinois EPA does not regulate the use of water from

**groundwater resources. Groundwater use is governed by the Water Use Act of 1983, 525 ILCS 45/6, which provides that the rule of reasonable use applies to groundwater withdrawals. The Agency has required groundwater monitoring that includes static water level observations. The water level information may be used to assess impacts to groundwater levels by mine operations.**

6. Did the EPA take into consideration that there are other sand mines already in business in different locations capable of mining without the pollutants and problems associated with this permit?

**The Illinois EPA acknowledges that there are other sand mines in the area. These mines as well as Northern White Sand are subject to permit conditions based on applicable laws and regulations.**

7. I am concerned about the discharge of waste water into our ponds, which my family uses as a recreational area for swimming, canoeing, fishing, ice skating, and ice fishing. My children have grown up in this unique area that we know as Higbee Canyon. Not only are we concerned with the pollutants that will ultimately be discharged into our recreational area, but the diversion of groundwater that will ultimately result in the destruction of our ponds.

**The authorized mine process wastewater (wastewater) discharge is from outfall 001. All other discharges that are authorized under this permit are stormwater or other water sources subject to the stormwater pollution prevention plan requirements of Special Condition 17. Agency staff have reviewed maps and documents related to the hydrology of the area and have determined that there is no impoundment such as ponds or lakes on the tributary downstream of the mine's process wastewater outfall 001. Please refer to the map in [Attachment 1](#) to assist in locating these features. The wastewater flow path begins where the facility's effluent is discharged at outfall 001. The outfall location is directly adjacent to the unnamed tributary to Higbee Ravine and is approximately one half of a mile north east of the intersection of N. 2803<sup>rd</sup> Road and E. 11<sup>th</sup> Road. The flow path continues south of N. 2803<sup>rd</sup> Road approximately six-tenths of a mile through a man-made channel where it connects with the Higbee Ravine downstream of a system of ponds. The Agency has determined that no wastewater from outfall 001 will be discharged to the referenced ponds under this permit.**

**If the mine begins to utilize parcels that are further east there is the potential for stormwater runoff from berms or diversion channels to ultimately flow through the referenced ponds. The applicant specifies that this stormwater runoff will be conveyed through existing vegetated ditches before entering the existing Higbee Ravine. This stormwater runoff will be subject to the stormwater pollution prevention plan requirements of Special Condition 17. The Agency does not expect deterioration of the receiving stream or the ponds as a result of the mines continued activity in the future. In the event that**

**the operator were to install a wastewater outfall that is tributary to the ponds, a permit modification including public notice will be required.**

**As stated in Response 5, the Agency does not regulate groundwater use. The Agency does not have authority to regulate the quantity of groundwater drainage.**

8. My home is located directly across from the Phase 1 of the Illinois Sand mine. The unnamed tributary (that) Illinois Sand will use for waste water discharge runs through my property. I call the unnamed tributary Higbee Creek, and it has been slowly recovering from decades of adjacent coal mining. In this area the mine was known as the Osage Coal Mine. I am very concerned about the water flow restrictions and additional pollutants that will be added to this creek by Illinois Sand. The draft permit does not take into consideration the impact of additional pollutants and the creek impairment due to the presence of coal from past mining. Each phase of the mine will result in less water flow for the Higbee watershed area. The loss of the groundwater resources flowing into the Higbee Watershed could result in higher total dissolved solids or total suspended solids.

**Water quality in the unnamed tributary of Higbee Ravine was found to meet water quality standards in recent sampling. The conditions and limits in the permit require protection of water quality in the stream. The permit provides limits on the concentration of total suspended solids in the discharge from 001. There is no total dissolved solids water quality standard.**

9. During the first hearing, both Mr. Emmer of Illinois Sand and Mr. Duncan, the Attorney for Illinois Sand testified that there was no coal in the borings on the land for which they are seeking a permit. Although, they later admitted there was coal, their testimony as to how it would be handled was very vague, whether it would be mixed with other materials above and buried, segregated, or moved off site. We are concerned that coal may already have been excavated at the site west of 11th Road from which Illinois Sand has removed the overburden. We also question whether there is a fair sized pile of coal that has been buried on the northeast quadrant of the site prior to obtaining permit. Has the applicant received an exemption to do this?

**The Illinois EPA issued an NPDES stormwater construction site activity permit that authorized the operator to initiate construction activities such as overburden removal and general grading at the site. This authorization specifically limited excavation to the overburden above the sandstone. After discovery of the coal which is acid producing material, the Agency advised the operator to cease placement of coal within the overburden piles and to segregate coal for temporary storage within a clay lined encapsulation cell. Some coal still resides within the berm where it was originally placed. The Agency has determined that this buried coal and the aforementioned coal that was subsequently excavated and placed in a clay lined encapsulation cell does not threaten surface water quality or groundwater quality and it will not**

**pose a potential threat to water quality as long as the soil cover remain intact and the coal remains unexposed to the free atmosphere and flowing surface water. The excavated coal that was encapsulated in a clay lined cell is to be taken off-site either to a permitted landfill or for use at an industrial facility. The NPDES permit contains a general prohibition against onsite disposal of coal. Please refer to response #4 for additional information regarding the facility's operation plans that address coal concerns.**

10. I represent the Starved Rock Marina along with my partner, Ron Powers. We are at the foot of the discharge of the creek that drains the whole north area, and that is our concern and our objection to having any more discharged water put into the floodplain area of wetland area due to the reason for increased flooding.

**The Agency does not have authority regarding flooding. See response to item # 13 regarding the proposed reduced discharge flow rates. Please note that the proposed average daily discharge volume is somewhat less than an Olympic-size swimming pool.**

11. My concern is with the stormwater runoff that will come across the property, at the present time it crosses the property, and where that is going to go. How is that going to be handled from this point forward?

**The application plans and documents indicate that areas that will be affected by mining have measures that prevent stormwater originating off-site from entering the site. The applicant is not required to install stormwater controls until such time industrial activity is expected to begin, and therefore much of the area that is considered to be part of the mine boundary may remain in its current state for an indefinite period.**

12. My other question concerns chemical treatment of the sand itself, which it's my understanding of hearing testimony in other hearings, is that there is some cases a chemical treatment of the sand and then those chemicals be part of the public record. Because I have heard previous sand – not this particular hearing here, but previous times, where that will be considered proprietary information which was not available to the public.

**According to the applicant, chemical additives will not be used in the processing or treatment of the sand at this facility.**

13. I live across the road from the proposed mine site. I was curious about how the average flow of the outfall was determined of the 0.144? Is that a million gallons a day? How was that determined?

**The 0.144 million gallons daily (MGD) figure is the original estimated average daily discharge rate provided by the applicant as part of the original application. Similarly, the applicant provided the Agency with a maximum**

daily discharge of 1.5 MGD. The applicant has provided the Agency with additional information to clarify how these rates were determined. As part of this information the applicant has decreased the expected average daily discharge rate to approximately 0.036 MGD and the maximum discharge rate has been adjusted to 1.44 MGD. The maximum rate represents the flow delivered by a 1,000 gallon per minute pump left running for a continuous 24 hours. The applicant determined that this flow rate would be sufficient when mine dewatering is necessary. The revised average discharge rate is based on annual estimations of the average precipitation and estimations for groundwater seepage, evaporation losses, infiltration losses and losses due to water leaving the site as part of the sand product.

14. I would like to present this picture of Illinois Sands current facility. This was taken August 14th of this year. We were wondering first of all why the color of the water is orange and also how it got 30 feet up into the unnamed tributary and drains across the land. It was reported to the Rockford Office, I believe, Thomas Williams, was the gentleman who came out and talked to me about it. My other concern is it's real close to the legal limit, that outfall alone. Now, when they travel through the Higbee Watershed and through the Higbee Canyon, it's going to be picking up a whole lot more of those same things. Under the Clean Water Act, I was under the impression that this is something to be avoided, in adding the same pollutants to a stream that polluted it in the first place.

**Regarding the orange color of the pit water in the pictures; the orange color is typically the result of reactions between the chemical constituents in acid producing materials and the environment. An Illinois EPA field inspector responded to a citizen request to visit the mine site in August, 2013 after a heavy rainstorm. The unnamed tributary of Higbee Ravine had flooded due to the storm event and the water had receded at the time of the inspection. The inspector found that pit water at the mine had not been discharged, although standing water was present at the bottom of the pit that was stained with rust colored iron deposits. Rust colored sediment deposits were found in the unnamed tributary, however; it was determined that these deposits were not a result of discharges from this facility. These deposits were considered normal stream deposits by the inspector, typical of what would occur due to the flooding after the heavy rainfall. These deposits may have been related to the past coal mining near this section of the unnamed tributary. The Illinois EPA found no violations of the Illinois Environmental Protection Act and has determined that the discharge from this facility will meet water quality standards.**

15. Special Condition 11 states that the permittee has an obligation to add a settling aid. I was just wondering why they are obligated, since they say they aren't going to use one?

**The mine operators are not obligated to use a settling aid unless they experience difficulty in meeting the total suspended solids (TSS) permit limits for the discharge. Special Condition 11 allows use of these settling aids in accordance with the permit.**

16. Is the unnamed tributary part of the Higbee Watershed? There seems to be very little information and very little document information as to how it gets into the Illinois River.

**The unnamed tributary is part of the Higbee Ravine watershed. Some publicly available mapping products inaccurately represent the actual flow direction of this stream. Agency staff verified through an on-site inspection and review of a topographical map, the actual direction of flow in the subject waterway downstream of the proposed new mine outfall and south of N. 2803<sup>rd</sup> Road. Please see [Attachment 1](#) of this responsiveness summary for a map showing the unnamed tributary's flow path. As a result of prior surface coal mining activities that occurred in the area, the natural southwesterly stream course of the unnamed tributary was blocked just south of N. 2803<sup>rd</sup> Road and flow was redirected to the east through a manmade channel for approximately two-thirds of a mile before flowing into the actual Higbee Ravine.**

17. We would like some assurances that the coal removal process will be monitored and inspections will encompass the entire mine – not just where the company representatives escort the inspector.

**Illinois EPA representatives are authorized to inspect the entirety of the property for which a permit has been issued. The Illinois EPA has the authority to enter at all reasonable times upon private or public property to investigate violations of the Illinois Environmental Protection Act.**

18. The draft permit inaccurately characterizes the Outfall 001, and the other outfalls, as “non-coal” outfalls and incorrectly assumes overburden on site will not contain acid producing materials. The overburden produced on site and used to construct the berms that divert surface waters may likely contain very fine and weatherable coal and as such any surface water flowing over these berms could potentially leach with pollutants from acid-producing materials (APM). In light of these issues, the Stormwater Pollution Prevention Plan must be modified in order to properly address the likely contact between stormwater and coal on site. We ask that the NPDES permit not be issued until monitoring is required at the outfalls including, pH, sulfate, chloride, manganese, iron, mercury, and total suspended solids.

**There is only one mine discharge outfall, that is outfall 001. The permit includes monitoring or discharge limitations for pH, sulfate, chloride, acidity, alkalinity, manganese, iron, total suspended solids, mercury, metals, cyanide, and total phenols. Stormwater runoff that is produced as a result of contact with earthen berms is allowed to runoff into waters of the state provided the**

**external stormwater control structures such as diversion channels and berms meet certain requirements in the conditions of the permit including Special Condition 17(a)(iv) and (b) as well as the Construction Authorization, specifically, that the earthen materials do not contain acid producing materials. Illinois EPA is aware of the concern that acid producing materials are contained within the earthen berms (please refer to response #9), however; there has been no evidence provided or found to indicate that materials are present to any significant degree within the earthen berms that causes the berms to be acid producing. The Illinois EPA has included a quarterly stream monitoring requirement for pH, sulfate, chloride, total suspended solids and hardness at stream locations that would be downstream of outfall 001 and the stormwater runoff.**

19. I have the following concerns about draft permit #drg IL0080004. Page 17 of the draft permit, line 18 “disposal of APM on site shall not occur unless with prior approval”. This would allow more coal to be buried on site (like pile #1, referenced in letter mailed to you on 7/23/13) without any public notice, public input, or public knowledge. This is intolerable because it would provide a way of backsliding the requirements of the permit without a public hearing concerning the risk to ground and surface waters. It should read, “Disposal of APM on site shall not occur.” This change in wording will provide for public notice and input if a modification in the permit is sought by Illinois Sand Company, LLC. Without this change in wording, how will the people who live around the mine know of the risk of Acid Mine Drainage to their wells and surface waters? No change to this risk could or should occur without a new permit.

**A request to allow coal material to be buried on-site would constitute a material and substantial alteration that would justify the application of permit conditions that are different or absent in the existing permit. Pursuant to 40 CFR Section 122.62 any modified permit incorporating this change would require a public review process. To clarify this point the Agency has amended the language of the construction authorization to read “Disposal of APM on-site shall not occur without an approved permit modification pursuant to 40 CFR Section 122.62.”**

20. Page 13 of the draft permit, Special Condition #25. Acid producing material APM. “Neutralizing effect of surrounding intermixed materials”. This condition allows for intentional mixing of coal and shale with clay. 'Intentional mixing of shale and coal with the other overburden shall not occur' needs to be added as a special condition. This will insure all the coal is removed from the Illinois Sand, LLC site, protecting the ground and surface waters of the Higbee Watershed into the future. Also, I have concerns with “the quality of drainage produced by mining on sites with similar soils”. If acid mine drainage producing material was mishandled close by, presently or in the past, at another mine, the same could happen here (the Higbee Watershed). A special condition to prevent a path to degradation of the Higbee Watershed is needed. No other active silica sand mines are located on this watershed at present,

so other mines on other watersheds should not prevent protection of the Higbee Watershed.

**This definition for acid producing material is verbatim from 35 Ill. Adm. Code 402.101. The construction authorization and Special Condition 17(a)(iv) and (b) prohibit on-site disposal of acid producing material. The Agency has determined that the operation plans are sufficient to protect surface water quality and groundwater quality. Please see response #4 for additional details about the measures that are planned to ensure minimization of environmental exposure to acid producing materials and proper collection, conveyance, treatment and testing of water exposed to acid producing materials. The discharge through the mine outfall must meet the discharge limitations of the NPDES permit.**

21. The unnamed tributary has been tainted by the tail ponds overflowing into the unnamed tributary the summer of 2013. This was witnessed by me and many others. If Special condition 13 monitored reports samples were located anywhere between outfall 001 and East 11th road, it would be recording the effects of this spillage. East of East 11th Road is a location free of this effect. Changing the sample point upstream of outfall 001 would allow for valid upstream recording of flow rate, TSS, chloride, sulfate, and hardness.

**Please see response #14 regarding the alleged overflow. Special condition number 13 of the NPDES permit requires there to be stream monitoring upstream of the outfall 001.**

22. There is a spring that always flows at the base of the Higbee Waterfall and downstream, what is the water source and what will happen if that source is reduced or cut completely? This groundwater is heavily tainted by Osage Coal operations. Again one permit for each phase of Illinois Sand, LLC mine is needed because of this unknown risk factor.

**The Illinois EPA does not regulate groundwater usage. Groundwater use is governed by the Water Use Act of 1983, 525 ILCS 45/6, which provides that the rule of reasonable use applies to groundwater withdrawals.**

### **Water Quality Standards/Antidegradation Assessment**

23. The ENCAP Stream Assessment Form for Sample Point 1 contains incorrect data. Distance from Outfall 1 – 10 feet is wrong. Substrate – coal and shale was left blank. Habitat/Hydrology mining should be 70 = coal, not 0 = none. Recreation – 0 = none is incorrect. This point is about 700 feet downstream from the Outfall 1. This study done in July of 2012 during a major drought 20 and heat wave fails to accurately characterize the biological and chemical conditions present at the point where Outfall 1 enters the stream.

**Attachment 1** of this document, gives the locations of the two receiving stream sampling locations, SP1 and SP2, for water quality monitoring conducted by the applicant. The location of the proposed effluent outfall is also provided. The upstream sampling location (upstream of N. 2803<sup>rd</sup> Road) is in an agricultural and riparian forest setting with no coal seam apparent. The downstream sampling location (downstream of N. 2803<sup>rd</sup> Road) is in an area that was subject to past coal mining that is now heavily vegetated. Neither location has permanent flow as documented in the 2012 survey and an October 2013 inspection by Illinois EPA staff. No flow existed at either location and water in the stream consisted of isolated pools. Aquatic life is very limited in habitats of this type, consisting of species that can withstand drying. During wetter periods downstream organisms can move upstream, but permanent, high functioning aquatic communities cannot become established due to the water quantity issue. Recreation in small streams of this type may consist of walking the dry stream bed, wading when water is present and nature study, activities that are possible in almost any small stream. The stream survey report accurately depicts the stream conditions at the two sampling locations. This characterization of the stream satisfied the requirement in the antidegradation water quality standard. The location of the two sampling locations is adequate to characterize the receiving stream in the area of the effluent outfall and the segment of the stream downstream from the effluent outfall.

24. I would like to point out that in the antidegradation analysis states that “a water chemistry sample taken from the receiving stream showed that all parameters were within water quality standards and showed no elevated levels that could be associated with a pollution source.” We received a copy of the Site Specific Assessment Report, but we saw that the water at Point 1 discharge was only analyzed for Mercury. So, were sulfates, chlorides, manganese, and other pollutants of concern, and if so, why weren’t these measured?

**Attachment 1** to this document, gives water quality monitoring results for chloride and sulfate at seven (7) locations in the receiving stream. The locations of these stations are also depicted in **Attachment 1**. In order to better characterize the existing conditions in the receiving stream, as required by the antidegradation standard prior to issuance of the discharge permit, the applicant was asked, following the public hearing, to collect and analyze additional samples to provide the missing chloride and sulfate data that the original monitoring lacked. All results were within water quality standards.

25. I am testifying as an impacted neighbor of the sand mine requesting a permit and also as a Trustee of Utica Township. My first concern regarding the permit is that the eco-CAT study failed to give an accurate assessment of the area. I am concerned about the water quality and the future of the waterways in Utica, in my home, the pond in my back yard, and the I & M Canal, and the Illinois River. Diverting

groundwater resources will cause a loss of the sensitive riparian areas, degradation of biodiversity, and recreational potential – frog ponds, bird watching, wading, swimming, hunting, relaxation, and dog splashes. This is also a violation of 35 Ill. Adm. Code, Section 302.105 Illinois Anti-Degradation Rule.

**The Eco-CAT system is a tool for conducting an endangered species consultation with the Illinois Department of Natural Resources (IDNR). In the course of the consultation, Eco-CAT determined all IDNR endangered and threatened species information contained in the database within two miles of the site indicated by the applicant. In this case, the two mile radius covers almost all of Higbee Ravine and covers all of the unnamed tributary of Higbee Ravine that will receive the mine effluent. IDNR has concluded that no record of threatened or endangered species exists in this area and has therefore terminated the consultation process. Further, the biological survey conducted by the applicant did not find any threatened or endangered species. The unnamed tributary of Higbee Ravine that was covered by the biological survey (see [Attachment 1](#)) does not contain the habitat type that would normally be associated with threatened or endangered species, i.e., it is intermittently flowing stream habitat that has been impacted by agriculture and coal mining. Threatened or endangered species are unlikely to occupy this kind of habitat. The biological survey did not cover Higbee Ravine proper that is located downstream from the discharge location on the unnamed tributary of Higbee Ravine. Given the intermittent nature of flow in the unnamed tributary, groundwater is not flowing into the stream at this location during dry weather periods. The fact that IDNR does not have any threatened or endangered species in their database for the unnamed tributary is consistent with the ancillary information available. Illinois EPA, in its assertion that the antidegradation standard will be met, is convinced that the existing recreational and biological functions of the unnamed tributary can continue. Downstream waters, such as Higbee Ravine and the Illinois River also are anticipated to have no loss in these uses as a result of the mine discharge.**

26. There must be a new anti-degradation analysis for any new outfalls that has been included in the draft permit. Why are you authorizing 564 acres when only 185 acres are proposed to be mined? And more so, why did you change that permit?

**Only one outfall has been requested by the NPDES permit applicant. Similarly, the applicant requested that the area to be permitted be changed to accommodate the full scope of their future operations. The applicant proposed to mine 564 acres in its application. The Agency has reviewed the project for compliance with state water quality standards based on what is proposed. The Agency has determined that the proposed project meets the antidegradation standard. Addition of any new mine discharge outfalls beyond those authorized in this permit will require a modified permit and review of the new outfall with regard to the antidegradation regulation.**

27. This area has only recently started to recover from the damages wrought by the historic coal mining. It is imperative that a new and updated ECO-CAT assessment be completed on the Higbee Watershed area. In fact, this area is sensitive to any new pollution, and to worsen the pollution problem is in direct conflict with the Clean Water Act of 1972. We must continue to protect the areas of Higbee Canyon Ravine and the entire watershed flowing into the I & M Canal and the Illinois River. This ecosystem is home to a variety of plants and wildlife, some of which are rare and endangered.

**Water quality in the unnamed tributary of Higbee Ravine was found to meet water quality standards in recent sampling. The conditions and limits in the permit require protection of the water quality in the stream. The IDNR Eco-CAT finding was that no threatened or endangered species are known for the receiving stream for the proposed effluent and consultation was terminated based on this information. Illinois EPA has determined that the water quality standards including antidegradation standards will be met. See also response # 25.**

28. The permit has often explained that the overburden consists of coal beds. That overburden will consist of coal. And non-commercial coal will be placed back into pit as backfill. There will be storm water runoff following reclamation that will run over these lands where coal has become mixed in and lead to serious pollution problems. Storm Water Pollution Prevention Plan also assumes a non-coal outfall, although, it's possible that runoff from coal stockpiles could occur and be released into this outfall. Special Condition 17 of the NPDES permit, surface runoff from earthen berms or other earthen areas using spoil from the mining operation is not required to be routed to a mine outfall. The applicant has not been clear as to the changes for handling acid producing materials. This permit should not be issued without establishing, exactly, how the coal is going to be handled, and conditions for that one option should be part of the permit. Storing coal on site should not be permitted as this area has already suffered too much from coal pollution. Immediately removing coal from this site is the alternative that would minimize the potential for the mine to pollute downstream waters.

**Coal encountered in sand mining will be stockpiled for 30 days or less and removed from the site. For additional information about the operational plans regarding coal refer to response #4.**

29. The requirements of the sulfate seem to be very high. Leaving the sulfate limits at their current level will lead to more pollution of downstream waters, as there is already a significant sulfate presence in Higbee's waters from past coal mining. The Higbee Watershed area is very important to our rural community. The creek and ravine cut through many of our properties, and all the neighbors share in the water resources. We use them for various recreational activities, including fishing, swimming, and hiking, and we do not want to see the water shed polluted again.

The sulfate limit applied in the NPDES permit is based on the water quality standard applicable in the unnamed tributary of Higbee Ravine. The mine effluent is not permitted to exceed the sulfate water quality standard. This level of sulfate, given the hardness and chloride concentration of the receiving stream, has been demonstrated to be protective of aquatic life.

30. How was the draft permit's sulfate limit of 1987 mg/L determined?

The original permit sulfate limit of 1987 mg/L is the water quality standard for sulfate as calculated from chloride and hardness data obtained from another small stream in the area (Aux Sable Creek). Chloride and hardness are necessary factors in the sulfate water quality standard equation found at 35 Ill. Adm. Code 302.208(h). Since no chloride and hardness data were available from the receiving stream receiving the Northern White Sand effluent at the time the permit limit/water quality standard was calculated, surrogate data had to be utilized. Since the time this original permit limit was calculated, two chloride results have become available for the receiving stream downstream of the effluent outfall. In October 2013 the applicant collected a chloride sample just downstream of the County Road Bridge (42 mg/L). Illinois EPA collected a sample at this location in November 2013 (88.3 mg/L). Using the average of these two values and a hardness of 335 mg/L obtained from a nearby stream (Aux Sable Creek) a new sulfate water quality standard for the receiving stream was calculated to be 1967 mg/L. The permit limit for sulfate has been changed to reflect this site-specific calculation.

31. Why were biological treatment and chemical precipitation "rejected as ill-suited to this type of waste water"? We note that the attached review Treatment of Sulfate in Mine Effluents recommends biological sulfate reduction as one of the most effective options available to reduce pollution from sulfates and trace metals.

Biological sulfate removal requires micro-organisms to be maintained in healthy populations so that they may provide the required function of reducing sulfate to hydrogen sulfide gas. It would take a continuous supply of high sulfate effluent to continually nurture the organisms. The discharge from the sand mine will not be continuous and sulfate concentrations are not anticipated to exceed water quality standards. Discharges will only occur after major storm events when more water enters the treatment ponds than can be used at the mine or can be stored in the ponds. A sporadic supply of effluent would not be able to maintain the treatment organisms, making this method of treatment infeasible for this site. Chemical treatment would be similarly infeasible in this situation. The chemical treatment apparatus would have to be made ready to treat effluent on short notice in the event of a rainstorm that would cause a discharge at the sand mine. It would be very difficult to keep the chemical system ready to treat effluent during dry periods where effluent discharge may not occur for months at a time. Further, regardless of the specific method of treatment used, the sand mine effluent is not expected to

**exceed the sulfate water quality standard and in fact must meet a permit limit of 1967 mg/L. Compared to other types of mines that would have much higher sulfate concentrations that would better “feed” the sulfate reducing organisms or justify chemical treatment apparatus, Northern White Sand does not have an expected sulfate concentration or consistency of flow that would make these types of treatment feasible.**

32. The draft permit under Special Condition 22 implies that the permit discharge limits can be changed. I request that the permit should contain no opportunity for backslashing. The monitoring requirements should not be weakened after the first few years.

**Special Condition 22 is a reopener clause that allows the Agency to modify conditions of the permit in accordance with laws, regulations and judicial orders. Antbacksliding, a federal regulation, exists to prevent permit limits from becoming more lenient when no just cause exists to do so.**

33. What level and quality of testing qualifies as admissible and certifiable for use by the State to determine a level of contamination which may be higher than allowable limits, if that's the case?

**Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. Where no test procedure under 40 CFR Part 136 has been approved, the permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.**

34. What are the tests required by the State for determining whether or not allowable limits of water contamination have been exceeded?

**The permit has limits set for several parameters. Effluent tests must indicate that these levels are met, otherwise a violation will have occurred. The test methodologies for these laboratory analyses must be those that USEPA has approved for each parameter. The results from these tests are sent to the Illinois EPA each month in discharge monitoring reports and are available to the public.**

35. If the State of Illinois relies solely upon its own testing or certified labs for admissible result, will or has it, to date, conducted either baseline air and/or water tests prior to the issuing of the permit in this case and prior to the start of mining in the first case of Higbee Canyon and Watershed at the Illinois Sand mine site and in addition to the Horseshoe Creek at the Route 71 entrance to Starved Rock Park and across the Illinois River, since both are intended to accommodate a good deal of runoff from these mining sites?

Illinois EPA relies on pre-discharge monitoring conducted by the applicant or other available information to fulfill the antidegradation standard's requirement that receiving streams be characterized (35 Ill. Adm. Code 302.105(f)(1)(A)) regarding increases in pollutant loading. For this permit, water quality sampling results obtained by both the applicant and the Agency were used to characterize the existing conditions in the receiving stream as required by the antidegradation standard prior to issuance of the discharge permit. The locations and concentrations of sulfate and chloride for the 7 samples are depicted in [Attachment 1](#). All results are within water quality standards. The Bureau of Air, in fulfillment of its permitting responsibilities, is not required to conduct baseline air testing.

36. A new, year long, site specific stream report should be made. Then a comparison to yearly rain fall could be made. Other testing of the Higbee Watershed for the impacts of changes due to loss of water volume and increased loading of sulfate and chloride need to be added as a special condition.

**See response #35 regarding the need for additional stream characterization. Water quality in the unnamed tributary of Higbee Ravine was found to be good in recent sampling. The conditions and limits in the permit require protection of the water quality in the stream. The permit requires stream monitoring and discharge monitoring for chloride and sulfate.**

37. Who, so far in the cases of both these mines, is being entrusted to determine control over the quality of both air and water exiting and leaving the mine sites, and to which local residents and municipalities have possibly already or will have been exposed?

**The mine's owner or operator is responsible to control the surface water discharges in accordance with this NPDES permit and fugitive emissions in accordance with the Bureau of Air permit issued to the facility. The NPDES permit's purpose is to regulate effluent quality and the mine operators must ensure that permit limits are met in the discharged effluent. In order to do this, they must ensure that treatment systems are designed and operated properly and that pertinent best management practices are in place and are followed. To demonstrate compliance with the NPDES permit requirements, the permittee must submit monthly discharge monitoring reports to Illinois EPA. The Agency protects the resources of the State through an integrated system of permitting and compliance assurance. The Illinois EPA's Rockford Regional Field Office is responsible for conducting on-site inspections of this permitted facility. Compliance monitoring of the facility's effluent monitoring results is conducted by Illinois EPA's Compliance and Field Operations Sections. If the facility does not meet the requirements of the NPDES permit the Illinois EPA may begin compliance and enforcement procedures in accordance with Section 31 of the Illinois Environmental Protection Act (415 ILCS 5/31).**

38. I just wanted to follow up with a question I had regarding the testing that was done, and I had found where it says what pollutants you have tested for by the independent consultant. And at their location that they are describing as .1 discharge, only Mercury has been tested for, and within all of their other samples collected, there was no testing of sulfur or fluoride. So, given the concerns that some of the nearby residents have, I just wanted to know if you guys are aware of the sulfide and chloride levels currently present and if you have seen any numbers on either of those?

**The applicant was requested to collect sulfate and chloride data from the receiving stream as a result of this comment made at the NPDES Permit hearing in October, 2013. These results, and the results from other sampling events are included in [Attachment 1](#) to this document. Sulfate and chloride levels in the receiving stream are low with respect to the water quality standard. Permit limits for these substances are set at the water quality standards to ensure that the receiving stream does not exceed water quality standards.**

39. Please explain your assessment of cumulative impacts, i.e., what exercises have been done to investigate potential problems to Higbee's ravine, canyon, and watershed.

**The antidegradation assessment considered the cumulative effects of a new or expanded discharge of pollutants on the receiving stream at outfall 001. The stream has been characterized by the applicant's survey and determined to be of good quality including concentrations of chloride and sulfate. The extent of the increase in these substances from this discharge is limited by the permit limits, set at the water quality standards. The discharge must meet these limits. The conclusion of the antidegradation assessment review by Illinois EPA was that the increased loading of sulfate and chloride would not alter the existing nature of the aquatic life in the receiving stream. The Agency expects that the discharge of sulfate, chloride and other parameters at the levels allowed by the permit will not cause water quality violations in the waters of Higbee ravine, canyon, and watershed.**

40. The draft permit has not determined background levels of sulfate and chloride present at the site in order to ensure that current limits will meet WQS of downstream waterways.

**Measurements of chloride and sulfate were made in the receiving stream after the hearing in October 2013. This data is found in [Attachment 1](#) to this response summary. Since permit limits are set at the water quality standard for sulfate and chloride, background concentrations did not have any impact on these limits. No mixing was allowed; the effluent must meet the water quality standards applicable in the stream for these substances. Given that the water in the receiving stream currently has much lower concentrations of**

**sulfate and chloride than these standards dictate, it is assumed that even if the effluent was at the maximum sulfate and chloride allowable, the stream would not exceed the water quality standards.**

41. The August of 2013, fouling of the unnamed tributary was from Illinois Sand's coal extraction. The source was the initial mining area or the tailing ponds. When will the cause be known? Did it violate Special Condition #14 and 35 Ill. Adm. Code 406.202? This type of action by Illinois Sand is why a NPDES Permit for each phase is needed.

**Please see response #14 regarding the alleged discharge in August of 2013 and the Agency's follow-up.**

### **Groundwater Issues**

42. My concerns are that the groundwater resources that now flow onto my land from the field tiles would be diverted for the mine's use during phase one, and then more in later phases. This water provides for recreation and wildlife in the Higbee Watershed. Also, the static water level draw down of my shallow well, 1,500 feet from the pit, but closer during the late phases. This well will be 500 feet away from the settling ponds that will accumulate more heavy metals as time passes. The pond's liners will be exposed to 1 inch per second blasting, about 400 feet from the closest settling ponds.

**The operation of field tiles on the mine site are controlled by the applicant. Drainage from field tiles which currently discharges from the mine site and flows onto the surface will be interrupted once mining has advanced to the areas which are tiled. The Agency does not have authority regarding land drainage. The applicant has indicated that water levels in wells shallower than 180 feet and located within 1,000 feet of the nearest mine face could be potentially affected. The permit requires groundwater quality monitoring which includes static water level observations. Groundwater use is governed by the Water Use Act of 1983, 525 ILCS 45/6, which provides that the rule of reasonable use applies to groundwater withdrawals. The Agency has required groundwater monitoring that includes static water level observations. The water level information may be used to assess impacts to groundwater levels by mine operations. The permit requires the operator to remove acid producing material from the mine which reduces potential heavy metal loads to the settling ponds. The applicant will also implement best management practices to protect groundwater quality in the area. Such BMPs include implementation of a plan to minimize environmental exposure of all extracted acid producing materials. Please see response to item # 4 for further information regarding these measures and BMPs. In regards to blasting, the applicant is required to follow the Illinois Department of Natural Resources Office of Mines and Minerals blasting regulations.**

43. Have you seen a detailed record of drilling logs or a hydrology study to prove that drilling will not expose the water table to contamination by the coal?

**Best management practices will be implemented which are intended to minimize the impacts to groundwater quality by the coal. The coal must be removed from the mine and disposed off-site. The drainage in the pit will be collected in a small impoundment known as a sump. Water exposed to coal also flows to the sump. Water collected by the sump will be pumped to the water treatment impoundments. Effluent from the treatment system must meet the NPDES permit mine discharge limits. Water samples will be taken monthly from the sump impoundment and analyzed for iron, pH, total dissolved solids, sulfate, chloride, and manganese. In addition the permit also requires groundwater quality monitoring at six locations. The monitoring includes static water level observations. See responses #4 and #42.**

44. The other concern I have is that there is no take-up water available to this company. They have to go when they mine that to get to groundwater, and groundwater is a very precious commodity. It's absolutely critical to the public health and safety of our citizens. I don't know if any calculations have been made to determine, exactly, how many millions of gallons of water they are going to be pulling out of the ground every day when they are processing there.

**The process water for the mine will be produced by a well with a total depth 1,200 feet. The well is extracting water from a depth of 532 to 1,200 feet below the surface. This well is rated at 1,200 gallons per minute. The well will be used to fill up the treatment impoundments and then will be used as necessary to augment the sand processing operation. Approximately six to seven million gallons will be needed to fill the impoundments. The Illinois EPA does not regulate the use of water from groundwater resources. Groundwater use is governed by the Water Use Act of 1983, 525 ILCS 45/6, which provides that the rule of reasonable use applies to groundwater withdrawals. The Agency is aware of these concerns and has required groundwater monitoring that includes static water level observations. The water level information may be used to assess impacts to groundwater levels by mine operations.**

45. I am here as a land owner in the area. My well is 182 feet deep, and it's very shallow to other wells in the area. I am in the St. Peter's Aquifer Reservoir that Mr. Thornton mentioned. And when the mine starts drawing water every day, the water table will drop considerably. I could have no water, possibly burning the pump in the future or contaminating my well water. I am very concerned about my water, being that I live just directly East of the mine and have a land fill just near East of my property. I need to have my well protected when and if this occurs.

**The applicant has indicated that water levels in wells shallower than 180 feet and located within 1,000 feet of the nearest mine face could be potentially affected. The permit introduces measures related to groundwater quality**

**monitoring. The applicant will implement best management practices to protect groundwater quality in the area; however, the Illinois EPA does not regulate the use of water from groundwater resources. Groundwater use is governed by the Water Use Act of 1983, 525 ILCS 45/6, which provides that the rule of reasonable use applies to groundwater withdrawals. The Agency is aware of these concerns and has required groundwater monitoring that includes static water level observations. The water level information may be used to assess impacts to groundwater levels by mine operations.**

46. I am equally concerned with the integrity of our well as the construction and eventual mining continue without any well agreement for myself or my neighbors. Our well is at 140 feet and in the 20 plus years that I have lived here we have had no problems with our water supply. This will be impacted by the volume of water the mine plans to use and the diversion of groundwater.

**See response #45**

47. We are concerned that the disturbance of the deeper soil from the proposed sand mining immediately north of us will cause the coal veins that exist throughout this area to eventually contaminate even our deepest wells, as well as the water in the creeks that ultimately drain into the Illinois River. If deeper levels of water become contaminated, our homes will become uninhabitable due to a lack of drinkable water.

**See response #43.**

48. I am worried about the water contamination of our well and how it will affect our health. With our well being shallow and with the amount of water that it takes to run a processing plant, we are also concerned about the drawdown in the water table and the contamination of groundwater. The impact on the wells nearby have not been fully addressed in the draft permit. I believe there will be significant drawdown on the water table beyond any estimates calculated by Northern White Sand by Chamlin & Associates. The permit fails to fully assess the groundwater resources present in order to guarantee that the quality and quantity of groundwater is protected. The applicant has failed to adequately analyze the existing hydrology on site and the potential degradation of groundwater resources.

**See responses #43, #44 and #45.**

49. We are also concerned about the possibility of leakage of pollution through their settling ponds into the soil, which could be aggravated by blasting. We ask that this permit include so that they would have to include stronger restrictions such as liners for settling ponds to prevent any groundwater contamination.

**The settling ponds have been designed to retain water. The settling ponds will have an 18 inch clay liner. In addition the applicant is required to follow the**

**Illinois Department of Natural Resources Office of Mines and Minerals blasting regulations.**

50. According to that NPDES permit, Illinois 0080004 Special Condition 9, it fails to state the reason why the water is not potable. Is there a rationale for that judgment?

**The well is an industrial well that provides mine processing water. Therefore, this well is not to be used for human consumption.**

51. Has IEPA's groundwater division made recommendations on which of the nearly 50 individual private wells are at risk from potential contamination or dewatering from the proposed mine?

**There is a potential for impact from an operation which excavates into the aquifer used by adjacent well owners. At this site several precautions were taken to address potential impacts to private well users. First, coal which is excavated from this site will not be allowed to be placed back in the mine pit and will be permanently disposed of off the mine's property and away from these well owners. Second, water treatment units will be lined for the protection of groundwater. Third, monitoring that is required by the NPDES permit includes groundwater water quality monitoring and groundwater level monitoring.**

52. Are the settling pit and Clearwater pond to be lined? Given the high number of nearby residential wells, we request that liners be used to protect the quality of groundwater resources.

**According to the applicant all process water ponds are to be lined with at least 18 inches of compacted clay material. Lining the process water ponds will allow the ponds to minimize seepage and assist with water conservation by maintaining the highest maximum water surface elevation in the ponds as possible. Pond side slopes will be 3' H: 1' V (3:1 & flatter) to allow typical earthwork equipment to adequately compact the clay in lifts once placed on the slopes. Pipes that discharge into the ponds or circulate water through the pond system will have riprap erosion control outlet end treatment to prevent damage to the clay liner. Damage that might be caused by roots from trees and large shrubs will be prevented by removing such vegetation during maintenance operations. The applicant indicates that borings and previous excavation work on-site show that suitable clay material is available on-site.**

### **General Comments**

53. Has Illinois Sand Company received a Surface Coal Mining Land Conservation and Reclamation Act from the Illinois Dept. of natural Resources? Don't they need one if they plan to sell coal for beneficial uses?

**The applicant has not applied for a Surface Coal Mining Land Conservation and Reclamation Act (SCMLCRA) permit from the IDNR. The applicant has proposed to meet certain exemption provisions of SCMLCRA that eliminate the requirements for a SCMLCRA permit for the extraction and beneficial uses of coal. The applicant has proposed to apply for SCMLCRA exemption status if beneficial uses of the extracted coal become available. Please see response #54 for additional information.**

54. We ask in Special Condition 24, do they need an exemption status? It's like 16-2/3 percent coal – and I don't know the exact regulation, but that it is not necessarily enforced from the permit, and that the temporary stockpiling is still the main concern as far as groundwater runoff and storm water runoff. Again, just because we are running out of time, I would just like to mention that we are concerned that the U. S. Army Corps of Engineers has decided to not require a 404 permit. Originally when they looked at this, I know that's against the jurisdiction, but that they were only looking at 164 permitted acres, and since then the permit has been changed to be 564 acres. So, I am just wondering, if IEPA has discussed the need for a 401 Certification?

**Special Condition 24 requires the permittee to obtain exemption status pursuant to the Surface Coal Mining Land Conservation and Reclamation Act (SCMLCRA) if economically beneficial use of the extracted coal occurs in accordance with the exemption provisions of SCMLCRA. Beneficial uses that are not in accordance with the provisions of the SCMLCRA exemption, require the permittee to seek an NPDES permit modification. Please refer to response #4 regarding temporary coal stockpiles. Special Condition 23 requires the permittee to obtain a federal Clean Water Act Section 404 authorization from the United States Army Corps of Engineers for any discharge of dredge or fill material into waters of the United States. A Section 404 permit requires a Clean Water Act Section 401 certification or waiver of certification from Illinois EPA.**

55. Please tell us how the current draft permit addresses the issue of fugitive dust and will ensure that sediments, salts and metals will not contaminate adjacent land and water from the Illinois Sand mine site.

**The Illinois EPA's Bureau of Air issued a permit in January 2013 for this facility that includes limitations on fugitive dust emissions from the facility. Fugitive emissions are not regulated by the NPDES permit. The permit contains provisions to contain the discharge of non-stormwater discharges that are associated with dust control activities for vehicle traffic areas on-site. The Agency has determined that based on the material handling controls required by this permit and the fugitive dust limitations required by the Bureau of Air permit that fugitive dust created by this facility will not contribute to water quality violations.**

56. What well protection agreements, if any, has Illinois Sand Company made with property owners on private wells near the mine site? If so, how many properties have been protected with well protection agreements?

**The applicant has prepared a well protection agreement and it was offered to the nearby residents. According to the applicant, the well agreement was not accepted by any of the residents it was offered to. Therefore, it is the Agency's understanding that none of the properties with potable wells fall under the terms of the written well protection agreement. The Illinois EPA does not regulate the use of water from groundwater resources. Groundwater use is governed by the Water Use Act of 1983, 525 ILCS 45/6, which provides that the rule of reasonable use applies to groundwater withdrawals. The Agency is aware of these concerns and has required groundwater monitoring that includes static water level observations. The water level information may be used to assess impacts to groundwater levels by mine operations.**

57. The Illinois EPA received numerous comments regarding annexation of the property used by Northern White Sand, in which Utica's planning commission voted against annexing the property into Utica. These votes were made due to concerns with the loss of water to the citizens surrounding the sand mine and the possible contamination from coal to the nearby waterbody.

**Please refer to the response to comment #45.**

58. The Illinois EPA received numerous comments in favor of the Northern White Sand Mine. These comments were in relation to the jobs the sand mine would bring to the area and economic growth for LaSalle County.

**Antidegradation rules that are part of Illinois Water Quality Standards include the requirement to consider the socio-economic benefit of the proposed activity. If a project or activity provides a socio-economic benefit to the community at large then the state may allow lowering of the water quality for this purpose in accordance with 35 Ill. Adm. Code 302.105.**

59. What is the plan in place to address the potential of a limestone underneath the sand deposits being fractured as they get into the deeper deposits of the mine? If it was to be fractured, would it allow the good water which is around 360 feet in our area to be contaminated, and has any thought been given to this?

**Best management practices will be implemented which will minimize the impacts to groundwater by coal at the site. The coal as acid producing material will be removed from the mine and disposed off-site. The best management practices together with the measures proposed for handling acid producing materials as described in response #4 will minimize the potential for pollutants to accumulate within the mine pit sump and thereby reduce the**

**potential for the pit sump water to cause ground water quality issues in the event fracture of the limestone were to occur. In addition the permit also requires groundwater quality monitoring at six locations. The monitoring includes static water level observations.**

60. Do the laws and regulations pertaining to permit issuance take into consideration the probability of groundwater contamination or the certainty of silica sand contamination? I.E. is there any protection for those in close proximity to the mine from the kinds of pollution that exist in Wedron?

**The Agency is obligated to assess the potential for impacts to groundwater quality as a result of the regulated activity. The Illinois Environmental Protection Agency cannot issue a permit for which it believes would cause water pollution as defined in the Illinois Environmental Protection Act. The proposed best management practices will minimize the likelihood of contaminants at the site. Potential contaminants will also be removed from the mine and disposed off-site. The best management practices together with the measures proposed for handling acid producing materials as described in response #4 will minimize the potential for pollutants to accumulate within the mine pit sump. Silica sand is not a regulated water quality parameter. Benzene, associated with groundwater contamination at Wedron, Illinois, is present in the form of fuel on-site. The release of oil and hazardous substances is prohibited by the NPDES permit. A Groundwater monitoring plan is part of the permit and will function to determine what the present groundwater quality is and to monitor groundwater quality during the mine's operation.**

61. We, the residents in this area, would appreciate the permitting authority give our concerns due consideration and engage in a comprehensive hydrology study of the Higbee Ravine, Creek, and Canyon prior to making your decision to issue Illinois Sand a permit.

**The Agency has determined that it has sufficient hydrologic information to make its determination regarding the NPDES permit application.**

## Acronyms and Initials

CFR	Code of Federal Regulations
COE	Corps of Engineers
CWA	Clean Water Act
DMR	Discharge Monitoring Report
HUC	Hydrologic unit code
IDNR	Illinois Department of Natural Resources
IDPH	Illinois Department of Public Health
IEMA	Illinois Emergency Management Agency
IEPA	Illinois Environmental Protection Agency
ILCS	Illinois Compiled Statutes
Ill. Adm. Code	Illinois Administrative Code
mg/L	Milligrams per liter
NPDES	National Pollutant Discharge Elimination System
OMM	Office of Mines and Minerals
pH	A Measure of Acidity or Alkalinity of a Solution
SCMCLRA	Surface Coal Mining Control and Land Reclamation Act of 1977 (federal)
TDS	Total Dissolved Solids
TSS	Total Suspended Solids
USGS	United States Geological Service

## DISTRIBUTION OF RESPONSIVENESS SUMMARY

An announcement, that the NPDES permit decision and accompanying responsiveness summary is available on the Agency website, was mailed to all who registered at the hearing and to all who sent in written comments. Printed copies of this responsiveness summary are available from Barb Lieberoff, Illinois EPA, 217-524-3038, e-mail: [Barb.Lieberoff@illinois.gov](mailto:Barb.Lieberoff@illinois.gov).

## WHO CAN ANSWER YOUR QUESTIONS

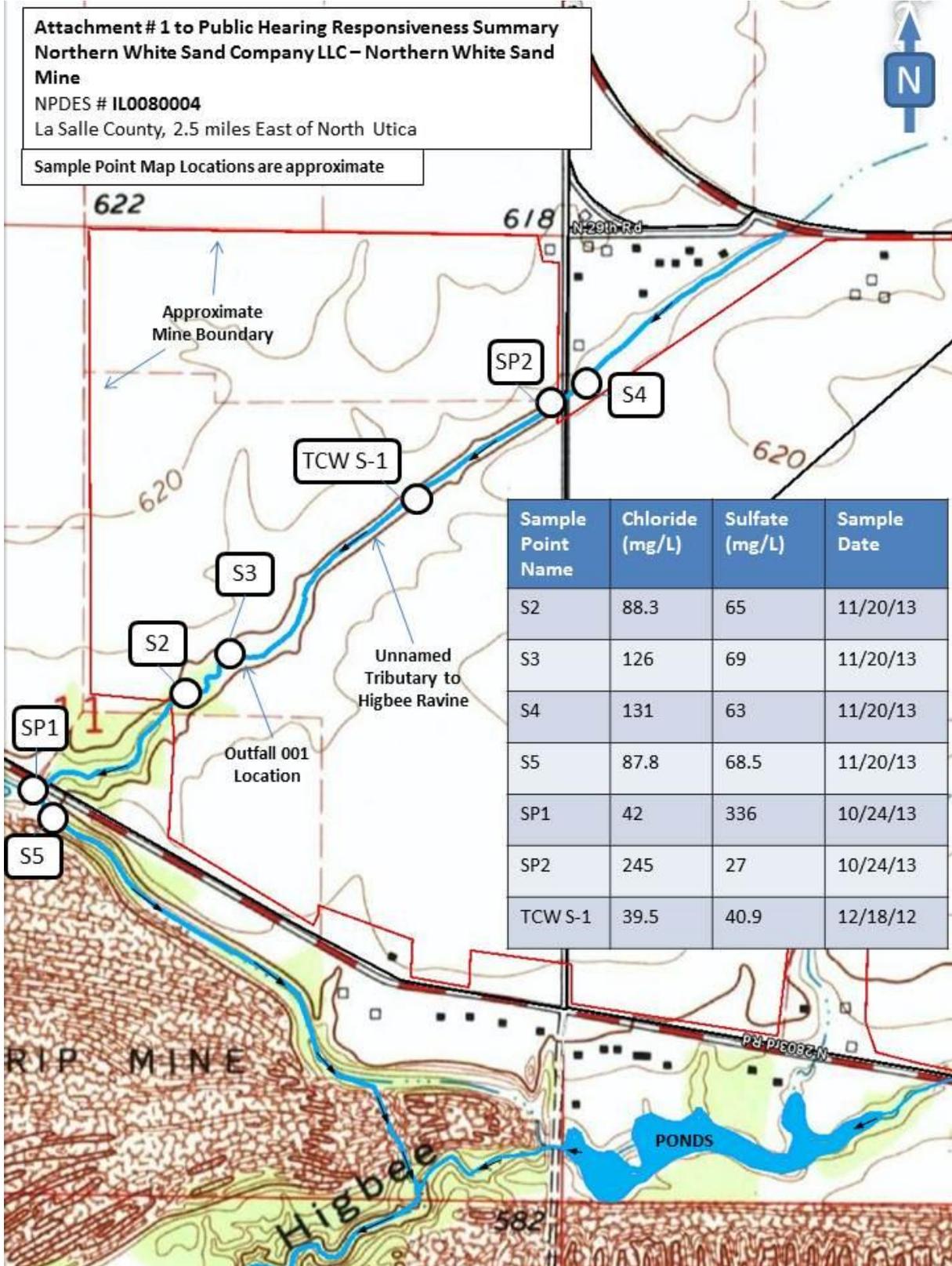
### Illinois EPA NPDES Permit:

Illinois EPA NPDES technical decisions: .....	Darren Gove.....	217-782-3362
Legal questions .....	Joanne Olsen .....	217-782-5544
Water quality issues .....	Bob Mosher.....	217-558-2012
Groundwater issues.....	Bill Buscher .....	217-785-2762
Public hearing of October 7, 2013 .....	Dean Studer .....	217-558-8280

The public hearing notice, the hearing transcript, the NPDES permit and the responsiveness summary are available on the Illinois EPA website:

<http://www.epa.state.il.us/public-notices/2013/npdes-notices.html#illinois-sand-company-mine>

**Attachment 1** MAP with TABLE showing the receiving stream's flow path, sample locations and concentrations



**Attachment 2 (Annual Stripping Cycle Work Description)**

<b>TASK</b>	<b>Estimated Quantity</b>	<b>Estimated Time</b>	<b>Estimated Cumulative time, days</b>	<b>Maximum days coal exposed</b>
Start			0	
Remove estimated 40 - 50 ft of overburden to uncover approximately 9 acres or 392,000 sq ft. This area will allow about one year of sand mining. Leave 1 or 2 feet above the coal seam.	850,000 cy stripping	90 - 110 calendar days	110	0
Once all overburden is removed, start process of removing the 1-2 ft and excavation coal, hauling it to the transfer site.	21,500 tons of coal	25 - 30 calendar days	140	7
The truck loading and hauling off site will begin immediately after the excavation starts. Material will be loaded first in, first out.	980 truck loads	40 - 50 calendar days	160	20