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May 7, 2014

VIA ELECTRONIC MAIL
AND HAND DELIVERY

Supervisor Patrick Miles, Chair
and Members of the Dane County
Zoning and Land Regulation Committee
City-County Building
210 Martin Luther King Jr. Blvd.
Madison, WI 53703

RE: CUP #2260 – Albion Quarry

Dear Chairman Miles and Committee Members:

This firm represents Tim and Erica Zick, Dean and Signe Johnson, Pat and Carol Tesar, Ryan and Billie Kratky, James Bussey, Margaret Erdman, Tom Lenox, Steve and Sue Tronnes and Jeffrey Lehnerr in opposition to the above-referenced conditional use permit application. The purpose of this letter is twofold. First, I am enclosing for the Committee's consideration a hydrogeological report on surface and groundwater impacts of the quarry operation on wetlands within and adjacent to the site. Second, the project opponents are seeking to reopen public comment on the new issues raised by applicant's most recent submissions.

Procedural History. CUP application #2260 was the subject of a public hearing on February 25, 2014. Additional comments and written materials were considered by the Committee on March 11th, at which time the application was returned to the Albion Town Board for reconsideration.

At its working meeting on March 25, 2014, the Committee voted again to postpone action pending the applicant's submission of information regarding wetland protection for review by County Staff. On or about April 28th, the applicant submitted the first page of a letter from its environmental consultant, Stantec, together with a preliminary wetland delineation map. The applicant's consultant preliminarily identified two areas of wetlands within the project boundary. The map does not reference the revised boundary on the applicant's Operation Plan map dated 3-21-2014 (which was revised with the input of County staff). Even within those revised boundaries, the project area includes wetlands in the northwest area of the site.

Wetland and Groundwater Impacts. Stantec's letter of April 24, 2014 (incomplete copy) approaches the issue of wetland impacts as essentially a stormwater management issue, and the consultant appear to conclude that all "indirect" wetland impacts can be mitigated by landscape features such as berms and containment basins. Enclosed for the Committee's consideration is the report of HydroGeoLogic Consulting, Inc., which provides another perspective on wetland impacts from the proposed quarry operation, as well as risks to drinking well water quality and availability based on groundwater impacts. Also enclosed is a copy of the resume of principal hydrogeologist Lori Huntoon.

The conclusions in the HydroGeoLogic report refute the suggestion that impacts of the quarry operation can be mitigated simply by imposing stormwater management conditions. Available evidence summarized in the report shows that the water table in the project area is located at or near the quarry floor, according to the application materials. The report concludes that quarrying operations present substantial foreseeable risks of arsenic contamination to groundwater, impairment to neighboring well water quality due to blasting and excavating, and impacts to wetlands and groundwater recharge from the disruption of upland drainage patterns.

Incomplete Application Materials. Stantec's letter of April 24, 2014 states that the applicant intends to exclude the delineated wetland areas from the project boundary. However, the applicant has not submitted a revised map outlining those revised boundaries. Nor has the applicant submitted a map in response to the Town of Albion's requirement to delineate the "active quarrying area," which Mr. Geoghagen on behalf of the applicant assured would be limited to 25 acres. Further, the facilities illustrated on the Operations Plan map of 3/21/2014 are inconsistent with those shown on the wetland delineation map prepared by Stantec. The applicant has submitted a number of project maps and made a variety of statements over the course of several public meetings concerning the parameters of the proposed operation. But there is no updated project map that accurately depicts all of the stated conditions/mitigation features of the plan.

Further, the CUP standards in sec. 10.25(2)(h)4. of the Zoning Ordinance specifically require the applicant to make provision for adequate access roads. On that issue, the applicant has advised members of the Albion Town Board that it plans to alter the proposed access, apparently based on a determination by WisDOT staff that a permit will not issue for the proposed Hwy 73 access via the existing east-west farm road. In the absence of a WisDOT permit, the applicant apparently intends to access the quarry from the north via Craig Road, an unpaved town road of substandard width that abuts the property of three of the families opposed to the CUP.

We are seeking to ensure that adequate due process is provided in these proceedings, as required by Wisconsin law. Due to the extent and significance of new materials and issues raised after the close of the public hearing, the hearing should be reopened.

In *Weber v. Town of Saukville*, 209 Wis. 2d 214, 237-38, 562 N.W.2d 412 (1997), the Wisconsin Supreme Court held that the sufficiency of a CUP applicant's materials must be measured at the time that notice of the final public hearing is first given. That case was a review of a challenge to the Town of Saukville's grant of a CUP for a quarrying operation. The applicant argued that the information contained in the CUP application was important only to the Plan Commission and Board, and could therefore be provided at any time prior to the issuance of the permit. The *Weber* court rejected that argument and invalidated the CUP, holding that such a rule "would create a damaging incentive for a conditional use permit seeker to withhold all controversial information from its application until during or after the public hearing." The *Weber* case thus established the rule that a CUP application must be complete as of the date of notice of the public hearing, unless an ordinance expressly permits a later submission of information.

The *Weber* rule is implicitly recognized by Section III.i.2. of the Committee's procedural rules, which contemplates that the public hearing may be continued, upon the Chair's determination that enough new information has been added to the discussion since the public hearing that additional time is needed.

Because wetland and groundwater impacts and site access are integral to the Committee's findings under the CUP standards in Section 10.255(2)(h) of the zoning ordinance, they must be subject to adequate notice and hearing procedures. Opponents of the project should be afforded an opportunity to respond to the applicant's and County staff's most recent analyses of wetland impacts and any proposed mitigation plans and conditions. This letter is to respectfully request that the public hearing on

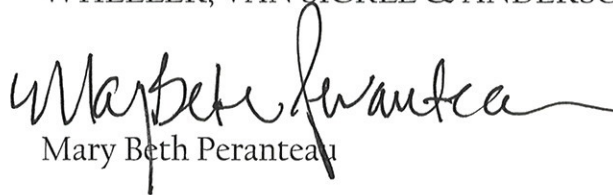
Dane County Zoning and Land Regulation Committee
May 7, 2014
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CUP #2260 be reopened for that purposes, as well as for clarification concerning the proposed road access.

Thank you for your consideration.

Very truly yours,

WHEELER, VAN SICKLE & ANDERSON, S.C.



Mary Beth Peranteau

Enclosures

cc: Roger Lane, Zoning Administrator (lane.roger@countyofdane.com)
Pam Andros, Dane County Planning (Andros@countyofdane.com)
Attorney Charles V. Sweeney (csweeney@axley.com)



7 May 2014

Mary Beth Peranteau
Wheeler, Van Sickle & Anderson, SC
25 W. Main Street, Suite #801
Madison, WI 53703

RE: Hydrogeologic Review of Proposed Quarry Site in Albion

Dear Ms. Peranteau,

At your request, the following provides the findings of a technical evaluation of the potential hydrogeologic impacts of the proposed quarry site in Albion, Wisconsin.

GEOLOGY

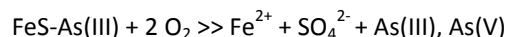
Based on the Wisconsin Geological and Natural History Survey (WGNHS) Dane County Preliminary Bedrock Map, the geology of the area is glacial overburden underlain by the Platteville Formation over St Peter Sandstone. Preliminary Bedrock Geology of Dane County, Wisconsin (WGNHS, Open File Report 2013-01, Plate 1) identifies the bedrock of the area as Sinnipee Group consisting of the Galena, Decorah and Platteville formations, primarily dolomite with some shaly dolomite, shale, and limestone. Underlying this is the Ancell Group consisting of the Glenwood and St. Peter formations, primarily sandstone with minor deposits of dolomite and lesser amounts of limestone.

SULFIDES AND ARSENIC CONCERNS

The technical evaluation identifies a foreseeable risk of impairment to groundwater conditions, as there is a significant potential for arsenic to be mobilized into groundwater from quarry operations. Sulfides and metal oxides within the lower section of the Platteville formation and upper section of the St Peter Sandstone are known to be intruded by sulfide deposits, and have been found to cause significant arsenic issues in several areas of the state.

The Wisconsin Department of Natural Resources (WDNR) indicates arsenic is commonly found in the Platteville formation at the St Peter Sandstone (Figure 1). Processes for release of arsenic include oxidation, reduction, changes in pH, and changes in phosphate and silica. As stated in the Report on the Preliminary Investigation of Arsenic in Groundwater near Lake Geneva, Wisconsin (WGNHS, Open File Report 2000-02, submitted to WDNR, 2002), "... the source of arsenic is believed to be a sulfide-rich horizon at the base of the Platteville Formation. A well-supported hypothesis for the release of arsenic from the sulfide horizon is oxidation via exposure of the sulfides to air where the air-water interface in wells intersects the sulfide-rich rock."

Oxidation of the arsenic-bearing layer from quarry processes can result in the release and resultant mobilization of arsenic into the groundwater. As material is exposed to air or increased dissolved oxygen, ferrous sulfide minerals are affected by oxidative dissolution, sulfides are oxidized to sulfates, and arsenic is released.



As stated in the peer reviewed publication, Arsenic in Ground Water, “Several lines of evidence suggest that oxidation of sulfides is the cause of high (>100 µg/l) concentrations of arsenic in ground water, including 1) the presence of the arsenic-bearing sulfides in the aquifer; 2) water chemistry data that show a positive correlation between arsenic, iron, and sulfate and negative correlation between arsenic and pH; and 3) similar sulfur isotopic signatures in sulfides of the secondary cement horizon (SCH) and dissolved sulfate in ground water. We propose that atmospheric oxygen, introduced to the SCH through well boreholes, provides an oxidant to the system. This hypothesis is supported by the occurrence of high arsenic concentrations where water levels within the well intersect the SCH.” (Schreiber et al, Mechanisms of Arsenic Release to Ground Water from Naturally Occurring Sources, Eastern Wisconsin, Arsenic in Ground Water, 2003). The oxidation is as significant from quarry operations as from oxidation from well installation.

ENVIRONMENTALLY SENSITIVE AREAS

The application materials reviewed as part of this technical evaluation identify quarry operations within areas identified as wetlands, creating a foreseeable risk of significant impairment to these environmentally sensitive areas.

Local wetlands, as well as areas of wetland indicators, are identified within and directly west and south of the proposed quarry. Records submitted with the proposed quarry application indicate mining operations within each of these wetland class areas. Revised boundaries of the proposed quarry include farmed wetland areas, and border sensitive areas of wetlands and wetland indicators to the west, southwest and south.

In order to protect these environmentally sensitive areas, it is vital that a stable area of vegetation be maintained, separating the wetlands from the impervious surface area of the quarry. The proposed boundaries (both initial and revised) do not appear to allow for a vegetative separation.

GROUNDWATER LEVELS

Water well records reviewed included the following:

- WDNR Drinking Water System: High Capacity Wells
- WDNR Drinking Water System: Well Construction Reports
- DATCP Well Constructor’s Reports (1936-1989)

Records for water supply wells within 2 miles of the property were reviewed, including residential wells, irrigation wells, and industrial wells. In addition, permit requests for new high capacity water wells were also evaluated.

The depths of wells within a mile of the proposed quarry site range from 75 feet bls to 200 feet below land surface (bls). The majority of wells in the area are utilized for residential and farm use. Of the 338 water supply wells located within T5N R12E, there were 60 residential wells located within a mile radius of the proposed quarry site. Of these wells, 42 well construction reports indicated static water levels of twenty feet below land surface. The average depth to water in well reports reviewed is 22 feet bls.

Groundwater levels in well construction reports are consistent with the groundwater levels expected across the area, with depth to water greater north and east of the proposed quarry site. Water levels become more shallow south and southwest of the site. An illustration of the water levels beneath the proposed quarry site is provided in Figure 2.

The application materials reviewed as part of this review identify the quarry floor to be estimated at 850 msl. This estimate puts the base of quarry operations at or near the water table. The Hydrogeology of Dane County (Open File 1999-04, Wisconsin Natural History and Geological Survey, Plate 1) indicates shallow groundwater flow beneath the proposed quarry area toward the southeast. Water level elevations in the area range from less than 840 mean sea level (msl) in the southwest quadrant of the proposed quarry to 860 msl north of Craig Road. Water supply wells could be significantly impacted by the proposed quarry if quarry operations extend beyond the current proposal of 850 msl.

IMPACTS FROM BLASTING

The technical evaluation has identified a foreseeable risk of impairment from blasting activities, which are likely to negatively impact well water quality beneath, and in properties in the vicinity of, the proposed quarry. Blasting operations at sites with similar geology have been found to cause ground roll which resulted in the flaking of iron off casing. A site in Little Chute, Wisconsin was found to also have clogged pump intakes from rust particles that had flaked off a well from the driving of pilings nearby.

Blasting material may not be entirely combusted during blasting, which can release contaminants into the groundwater. Specifically, "Contamination of groundwater caused by the release or spillage of blasting chemicals has been occasionally associated with the detection of nitrate and nitrite. To a lesser extent, volatile organic compounds and semi-volatile organic compounds have been detected at blasting sites. It is likely that some substances associated with blasting may not be typically analyzed as part of standard laboratory drinking water analysis resulting in limited data describing the occurrence of these constituents within groundwater." (Rock Blasting and Water Quality Measures That Can Be Taken To Protect Water Quality and Mitigate Impacts, New Hampshire Department of Environmental Services/Water Source Protection Program, WD-10-12, 2010).

Blasting may also cause release of silt, sand, rock particles, and chemical precipitate which can cause increased turbidity in groundwater. The impact usually occurs until approximately a year after blasting ceases. A quarry in Lisbon, Wisconsin was found to be responsible for impacting water supply wells for over two dozen homes from blasting operations in 2007, which caused vibration of existing well casing. "High turbidity can damage household equipment and fixtures, be aesthetically displeasing to drink, and increase concentrations of various metals and other contaminants. Water samples with high turbidity may exhibit high metal concentrations. This is because metal ions on flocculants or colloidal particles (particles suspended in groundwater) that carry metals may release the metals as the pH of the water changes in the plumbing system of the home." (Rock Blasting and Water Quality Measures That Can Be Taken To Protect Water Quality and Mitigate Impacts, New Hampshire Department of Environmental Services/Water Source Protection Program, WD-10-12, 2010).

INCONSISTENCIES IN GROUNDWATER DEPTH LISTED IN APPLICATION MATERIALS

Application materials identify the depth to groundwater as 96 feet bls. Based on the technical evaluation conducted, it appears unlikely that the depth to groundwater in the area of the proposed quarry is this deep.

The Hydrogeology of Dane County (Open File 1999-04, Wisconsin Natural History and Geological Survey, Plate 1) provides a summary of water levels and groundwater flow within Dane County based on an evaluation of well construction reports. The study indicates shallow groundwater flow beneath the proposed quarry area toward the southeast.

Well construction logs within the immediate area of the project site indicate water levels in Section 15 to be between 35 feet bls and 64 feet bls. Specifically, these are described below:

- A well was drilled for Bussey in 1991 indicating a depth of 195 feet bls and a depth to groundwater of 60 feet bls. This well is located at 893 Highway 73, directly east and on property adjacent to the proposed quarry (Unique Well Number CO291).
- A Bussey well construction report indicates that the residential water supply well was drilled in 1964, was located in Albion within Section 15, had a well depth of 120 feet bls and a depth to water of 64 feet bls (DN4054).
- A Bosbon well construction report indicates that the residential water supply well was drilled in 1962, was located in Albion within Section 15, had a well depth of 106 feet bls and a depth to water of 35 feet bls (DN4055).

There are 2 high capacity wells (defined as wells with a capacity greater than 100,000 gallons per day) identified within a mile of the proposed quarry site. These are both irrigation wells, and usage is expected to be significantly greater in summer months.

Two abandoned high capacity wells were formerly used for gravel wash approximately a mile northeast of the site; these are both recorded as having a depth of 305 feet bls, depth to bedrock of 24 feet bls, static water level of 42 feet bls, and a normal pumping rate of 216,000 gallons per day (gpd). No permit applications are pending in the vicinity of the proposed quarry site, as no applications for Dane County were submitted in the last 16 weeks.

ADDITIONAL POTENTIAL IMPACTS

Potential impacts from quarry operations within or adjacent to this area include the following:

- Reduction in surface water levels in streams and wetlands
- Reduction in surface water quality
- Reduction in groundwater quality
- Impact on local water supply wells due to decreased groundwater levels
- Disruption of groundwater recharge

Reduction in surface water levels in streams and wetlands

Groundwater discharge from the area is important for stabilization of stream flows and maintaining surface water quality, particularly in dry months.

Reduction in surface water quality

There is a foreseeable risk of impairment to surface water located on and in the vicinity of the site. The area of the proposed quarry is located in an area upland of the wetlands. Runoff from the proposed quarry could significantly impact the surface water and wetlands on the same parcel of land, as well as surface water and environmentally sensitive areas adjacent to the site.

Negative impacts to surface water may also result from blasting charges that may not completely combust, as well as particulate dust from quarry operations.

The surface of the open water within the wetland area adjacent to the southern boundary of the proposed quarry appears to be at the level of the water table, indicating that it functions as a groundwater monitoring point; for this reason, it may be subject to more stringent groundwater quality rules as found in Wisconsin Administrative Code NR140.

Impact on local water supply wells due to decreased groundwater levels

If dewatering activities occur, or if the quarry operations extend beneath the groundwater level, there is a foreseeable impact to local water supply wells, including residential, farm and irrigation wells.

Disruption of groundwater recharge

The lowlying wetlands area within the parcel, including portions within the mapped area of the proposed quarry, provide a sensitive network of plants and substrates that allow filtering and recharge of the aquifer, replenishing valuable groundwater supply. The project area is located in an upland area, and surface water runoff drains toward the north and south; the proposed quarry would cause a foreseeable impact to the recharge in this area, including negative impacts on both water quality and water quantity.

Photos (Figures 3, 4 and 5) provide views of the environmentally sensitive areas located adjacent to, and within, the proposed quarry site. Figure 3 captures a view of the lower elevation, including the surface water and environmentally sensitive areas to the southeast of the property. Figure 4 provides a view of the surface area as well as the proximity of the access road to the treeline and area of "possible hydric inclusion" identified on the wetland delineation map; the photo also shows the proximity of the proposed staging area and stockpiles to these features (as provided in the Operations Plan dated 3/21/14). Figure 5 provides an additional point of reference for the distance between the treeline and the wetlands, and also shows the proximity of the residences located north of the proposed quarry site.

I trust that the information provided above, in addition to the attached figures and photos, summarize the potential issues associated with the proposed quarry. Please feel free to contact me at 608-886-7245 with any questions or if you are in need of additional information.

Respectfully submitted,



Lori Huntoon, PG
Principal Hydrogeologist
HydroGeoLogic Consulting, llc

Old Geologic Model

A Study of Well Construction for Arsenic Contamination in Northeast Wisconsin

Authors: Elizabeth Heinen, Annetta Weissbach, Keld Lauridsen

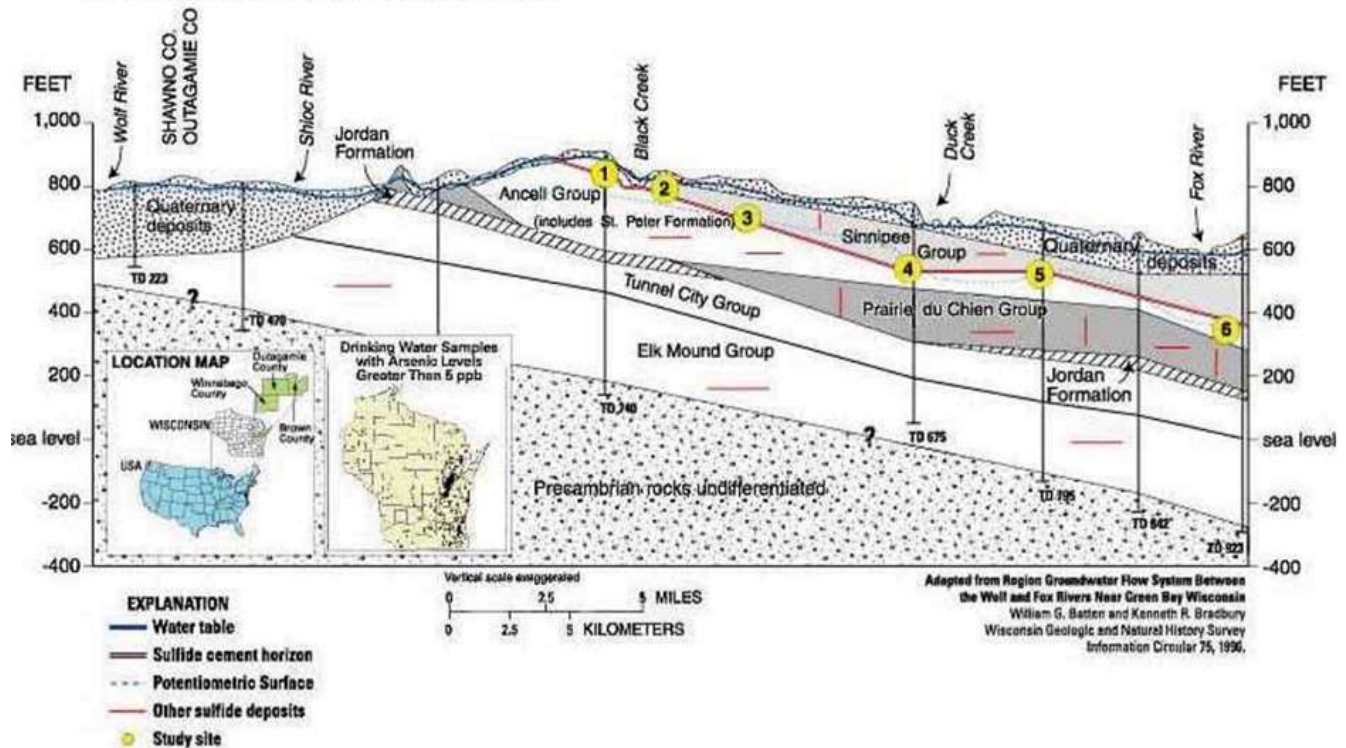


FIGURE 1.

Arsenic issues at contact between Platteville Formation and St. Peter Formation

WDNR, Sulfide Minerals, Wells and Water Quality

Presentation to Wisconsin Soil and Water Conservation Society, 2012.

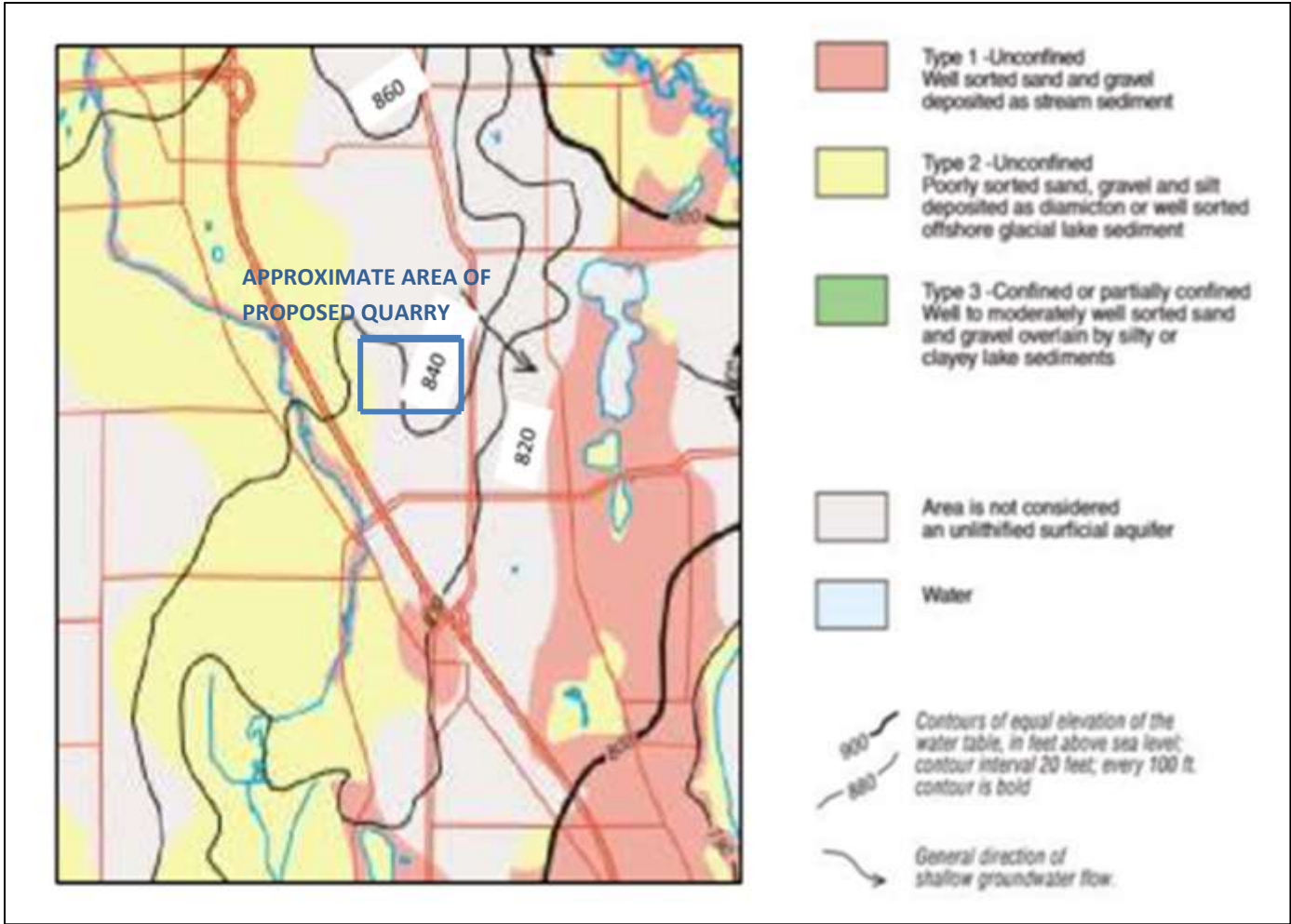


FIGURE 2.

**Water Table Elevations and Un lithified Aquifers
Dane County, Wisconsin**

Source: Hydrogeology of Dane County, Wisconsin, Wisconsin Natural
History and Geological Survey, 1999.



FIGURE 3.

View of the lower elevation directly adjacent to the proposed quarry site, including the surface water and environmentally sensitive areas located south of the property (view looking south).



FIGURE 4.

Project area looking east, showing proximity of proposed staging area and stockpiles (Operations Plan dated 3/21/14) to possible hydric inclusions and surface wetlands.



FIGURE 5.

Proposed project area showing delineated wetland on the north and residences to the north and east.

Lori Huntoon, PG

3909 E. County Road J · Beloit, WI 53511 · 608-886-7245 · lorihuntoonpg@gmail.com

QUALIFICATIONS

Over twenty years of experience in environmental consulting, regulatory assistance, project management, drilling oversight, and business development:

- **Consulting experience** includes efficient and cost effective independent technical evaluations; groundwater resource assessment, evaluation and protection; regulatory negotiation; wetland determination; sustainability consulting; litigation support; and training.
- **Regulatory assistance** includes management of the Technical Section of the Wisconsin Petroleum Environmental Cleanup Fund; completion of corporate compliance audits and ISO14000 environmental management standards; and participation in the initial “integrated environmental plan for the Mexican-US Border” between US EPA and (then) SEDUE in 1992.
- **Project management** experience includes oversight of subcontractors and drilling crews; completion of field and reporting activities associated with groundwater and soil contamination investigations, development of well head protection programs and siting of replacement water supply wells; regulatory compliance; and establishment of consistent objectives for a variety of clients including municipalities, state and federal agencies, and industry throughout the United States and along the US/Mexican border.
- **Drilling oversight** includes management of technical drilling programs, environmental drilling technology workshop presentations; and a broad range of experience managing installation of large-scale groundwater monitoring networks for extensive site investigations.
- **Business development** experience includes: solo entrepreneur with establishment of a women-owned environmental and sustainability consulting firm; development of a strong client base in new geographic areas including assistance with start-up of three new Midwest offices for an international consulting firm; and development of Fortune 500 client leads.

LICENSING & CERTIFICATIONS

Licensed Professional Geologist – State of Wisconsin #13-008, since 1997

Certified Ground Water Professional – National Ground Water Association, since 1991

Certified Secondary Science Teacher – State of Wisconsin, 2008

Certified English As a Second Language Teacher – State of Wisconsin, 2008

EDUCATION & TRAINING

Organizational Facilitation and Negotiation, State of Wisconsin – 1997

Organizational Management and Leadership Training, State of Wisconsin – 1998 - 2000

ISO14000 Environmental Management System Training - 1996

40 Hazardous Waste Operations and Emergency Response Training – NGWA, 1985

B.S., Geology – University of Wisconsin Platteville, 1985

Advanced classes in Hydrogeology – University of Minnesota Minneapolis, 1984-1985

Mining Engineering coursework – University of Wisconsin Platteville, 1980-1982

Water Well Drilling Course, Staples Technical Institute, 1982

Baroid Mud Drilling Technology – Baroid Drilling Institute, Houston Texas, 1981

PROFESSIONAL EXPERIENCE

Owner & Principle Hydrogeologist · February 2013 to present

HydroGeoLogic Consulting LLC, Janesville WI

Founded to provide strong technical assistance to municipalities, non-profits, and businesses, including environmental and sustainability consulting, program oversight, regulatory negotiation, and legal assistance.

Senior Hydrogeologist / Client Development Lead · 2011 to 2013

Fehr Graham Engineering & Environmental Consulting Firm, Monroe WI and Rockford IL

Integral in the development of a marketing strategy for expansion of services into Wisconsin. Expanded database of Wisconsin leads by 400% within first six months. Increased company presence in Wisconsin. Provided leadership and technical support for Brownfields, RCRA and other hazardous waste programs.

Educator - English as a Second Language & Secondary Science · 2008 to 2014

Verona, Janesville, & Madison School Districts (longterm substitute)

Teach classes to English Language Learners ranging from Kindergarten through High School

Section Chief, Wisconsin Petroleum Cleanup Fund · 1997 to 2004

State of Wisconsin Department of Commerce, Madison WI

Oversaw the technical program, fulfilled grant requirements, supervised staff of 24 hydrogeologists and 2 program assistants, served as liaison for Department in regional and national meetings with EPA, prepared reports for the legislature and Governor's office, chaired Administrative Code revision committee.

Project Development Coordinator/Senior Project Manager/Operations Manager, 1985-1997

Environmental & Engineering Consulting Firms, Houston, Milwaukee & Madison

Managed environmental projects including Superfund and RCRA, conducted business development, prepared grant applications, hired and trained staff, participated in strategic planning, provided technical presentations.

PROFESSIONAL ASSOCIATIONS

ASTM International D18-21 on Ground Water Monitoring (1987-2008)

ASTM International E-50 on Environmental Site Assessments (1990-2007)

Department of Interior Subcommittee on Groundwater (2010-present)

Federation of Environmental Technologists Audit Committee CoChair (1990-1994)

Ground Water Age Advisory Board (1987-1990)

International Society of Sustainability Professionals Consultant Cohort (2013)

Rock Trail Coalition Board of Directors (2013-present), Newsletter Editor (2013-present)

National Ground Water Association Ground Water Scientists & Engineers Director (1990-1994)

Wisconsin Ground Water Association President (1988-90), Board member (2008-10)

Wisconsin Water Association, Chair, Small Systems(2012-2013)

Wisconsin Water Well Association Associate Member (1985-present)

Wisconsin Women Environmental Professionals / Madison Chapter – CoChair (2003-2004, 2011)

University Wisconsin Women In Business Council Board Member (1998-2000)