

Appendix A: Timeline of Decisions, Actions, Activities, and Diligence
Winneshiek County Board of Supervisors Moratorium Fact Finding.

March 2, 2015

Dean Thompson and Dennis Karlsbrotten

Q1 2013

Supervisor Thompson attended a public information meeting at Decorah High School on silica sand mining potential in Winneshiek County; 230 persons attended (2/20/2013).¹

BOS held a public comment session to discuss silica sand mining and a possible moratorium. Citizens and local business representatives presented information and recommendations (3/4/2013).²

Supervisors Thompson and Karlsbrotten visited the Fillmore County Zoning Department and Board of Commissioners meeting (3/5/2013).

Supervisors Thompson and Karlsbrotten visited the area of the Rein Quarry, Highland, Minnesota (3/20/2013).³

Winneshiek Board of Supervisors (BOS) Resolution 13-49 (3/25/2013) requested Planning and Zoning Commission input on adoption of Moratorium for industrial sand mining.⁴

Q2 2013

BOS Resolution 13-53 (4/15/2013) adopted Winneshiek County, Iowa Comprehensive Smart Plan 2012.⁵

Supervisors Thompson and Karlsbrotten visited Houston County Planning and Zoning and Environmental Services, Courthouse in Caledonia, Minnesota (4/18/2013).⁶

Supervisors Thompson and Karlsbrotten visit Fairmount Mineral's frac sand mine in Menomonie, Wisconsin (4/24/2013). Followed by fact-finding trip

¹ ("Informational Meeting on Silica Sand Mining Potential in Winneshiek County, February 20, 2013, Decorah, Iowa," 2013)

² BOS Minutes http://www.winneshiekcounty.org/uploads/Minutes_File_6829374.pdf

³ See (Reilly Construction Co., 2013)

⁴ (*Resolution [13-49] of Winneshiek Board of Supervisors Requesting the Planning and Zoning Commission Provide Input on the Adoption of a Moratorium on the Consideration and/or Approval of Conditional Use Permits for Industrial Frac Sand Mining*, 2013)

⁵ BOS Minutes http://www.winneshiekcounty.org/uploads/Minutes_File_67447593.pdf

⁶ (Thompson & Karlsbrotten, 2013)

to Winona County Planning and Environmental Services and Seven Rivers Intermodal Terminals, LLC, City of Winona (4/26/2013).⁷

Winneshiek County Protectors presented BOS with information from Wayne Feyereisn, MD, regarding health risks of silica sand mining and presented information on local, state and federal regulation of mining.⁸

Winneshiek County Protectors presented BOS with petition supporting a 24-month moratorium (5/13/2013).⁹

Planning and Zoning Commission held a public hearing (5/14/2013) and recommended BOS adopt 18-month moratorium.¹⁰

BOS Resolution 13-65 (6/3/2013) established an 18-month moratorium on issuance of any conditional use permit for frac sand mining.¹¹

BOS listened to Dr. Tom Peters, University of Iowa College of Public Health, described the possibility of a Winneshiek County health-impact study regarding air quality and silica sand operations (6/10/2013).¹²

Q3 2013

BOS endorsed University of Iowa Public Health grant to National Institute of Health to study air quality issues relating to silica sand mining (7/15/2013).¹³

Supervisors Thompson and Karlsbrotten attended a frac sand mining conference in Eau Claire, WI (8/1/2013).¹⁴

BOS Resolution (14-20) to deny IDNR application for expansion of an animal feeding operation in Highland Township (8/5/2013).¹⁵

BOS demanded a hearing before the IDNR Environmental Protection Commission and developed a +200 page statement (9/3/2013).¹⁶ (EPC statement included geologic and economic information directly related to

⁷ (Thompson, 2013c)

⁸ (Winneshiek County Protectors, *Presentation to the BOS (4/29/13) on silica sand mining health and regulatory issues.*, 2013)

⁹ (Winneshiek County Protectors: *Petition (implement a 24 month moratorium on the issuance of permits to allow silica sand mining)*, 2013)

¹⁰ (Winneshiek County Zoning Commission *May 14, 2013 Minutes*, 3013); See public input at public hearing <https://drive.google.com/open?id=0B0sxqVnWGVG1UXFzY2Vzd3J0ODQ&authuser=0>

¹¹ (*Resolution [13-65] establishing an 18-month moratorium on issuance of any conditional use permit for frac sand mining*, 2013)

¹² BOS Minutes http://www.winneshiekcounty.org/uploads/Minutes_File_69567385.pdf

¹³ BOS Minutes http://www.winneshiekcounty.org/uploads/Minutes_File_16458840.pdf

¹⁴ (Thompson, 2013a)

¹⁵ BOS Minutes http://www.winneshiekcounty.org/uploads/Minutes_File_6895.pdf

¹⁶ BOS Minutes http://www.winneshiekcounty.org/uploads/Minutes_File_53203144.pdf

study of industrial silica/frac sand mining potentials in northeastern Winneshiek County.)

Q4 2013

Supervisor Thompson visited Dr. Thomas M. Power,¹⁷ Power Consulting, in Missoula, Montana (10/8/2013).

Supervisors Thompson and Karlsbrotten appeared in public hearing before the IDNR Environmental Protection Commission (10/14/2013).¹⁸

Winneshiek County Protectors presented BOS with proposed amendments to the zoning ordinance to address silica sand mining issues (10/28/2013).¹⁹

County and City of Decorah developed proposals for University of Iowa, Iowa Initiative for Sustainable Communities (IISC) partnership. County proposed specific frac sand studies.²⁰

Supervisor Thompson consulted William Mavity, former Commissioner of Pepin County, in Stockholm, Wisconsin; visited frac sand operations in Maiden Rock, Wisconsin and a frac sand transloading site in Wabasha, Minnesota (11/14/2013).²¹

Q1 2014

County submitted grant proposal to IISC (2/7/2014). (see footnote 20)

Community Rights Alliance of Winneshiek County presented BOS a proposed ordinance to establish a bill of rights and prohibit frac-sand extraction in the county (2/17/2014).²²

Community Rights Alliance of Winneshiek County returned to BOS with updates to their proposed ordinance and an on-line petition of support (3/17/2014).^{23 24}

IISC partners with County and City of Decorah for University of Iowa studies.²⁵ BOS approves IISC contract (3/18/2014).²⁶ Supervisor Thompson

¹⁷ See (Power & Power, 2013)

¹⁸ (*Statement Regarding Issuance of Permit, Millenium Agriculture LLC, Facility ID #61285 Winneshiek County*, 2013)

¹⁹ (*Winneshiek County Zoning Ordinance, Proposed New Section 712, Excavation and Mining of Industrial Minerals*, 2013); BOS Minutes http://www.winneshiekcounty.org/uploads/Minutes_File_42148530.pdf

²⁰ (*Iowa Initiative for Sustainable Communities Partner Application -- RFP #15167*, 2014)

²¹ (Thompson, 2013b)

²² (*A Community Bill of Rights Ordinance*, 2014); BOS Minutes

http://www.winneshiekcounty.org/uploads/Minutes_File_4366357.pdf

²³ BOS Minutes http://www.winneshiekcounty.org/uploads/Minutes_File_7843937.pdf

²⁴ On-line petition at MoveOn.org <http://petitions.moveon.org/sign/stop-frac-sand-mining-1>

appointed IISC Community Leader and Project Leader for all frac sand studies.

Q2 2014

Winneshiek County Protectors informed BOS of their position on frac sand mining and intent to encourage the Iowa Legislature to allow local control under Iowa Home Rule (5/12/2014).²⁷

Supervisors Thompson and Karlsbrotten visited the zoning administrator, Allamakee County, Iowa (6/3/2014).²⁸

Supervisor Thompson toured the Pattison Sand Company mine in Clayton, Iowa (6/17/2014).²⁹

Q3 2014

BOS invited scientists and subject-matter specialists to present information on silica sand mining in public meeting. Presentations were publicized in advanced; the public was encouraged to attend and ask questions of presenters. *Presentations*, as noted in following schedules, were held in a large courtroom during the noon hour. Each public presentation to BOS was recorded.

Presentation to the BOS by Dr. Charles Connerly and Nicholas Benson, J.D., Iowa Initiative for Sustainable Communities, on 2014-2015 studies in Winneshiek County and City of Decorah (8/11/2014).³⁰

Presentation to the BOS by Dr. Ray Anderson, Iowa Geological Survey (ret.), University of Iowa, on potential metallic mineral mining in Winneshiek County (8/25/2014).³¹

Supervisor Thompson developed a one-day field trip to initiate IISC studies of frac sand projects; hosted IISC faculty, staff and graduate students on County tour (8/28/2014).³²

Presentation to the BOS by Brian Ridenour, Allamakee County engineer, on county infrastructure and industrial sand mining (9/22/2014).³³

BOS Resolution 15-18 extended moratorium on issuance of any conditional use permit for frac sand mining (9/29/2014).³⁴

²⁵ See <http://iisc.uiowa.edu/partner/decorah-winneshiek-county>

²⁶ BOS Minutes http://www.winneshiekcounty.org/uploads/Minutes_File_7843937.pdf

²⁷ BOS Minutes http://www.winneshiekcounty.org/uploads/Minutes_File_1201745.pdf

²⁸ (Thompson & Karlsbrotten, 2014a)

²⁹ (Thompson, 2014c)

³⁰ (Connerly & Benson, 2014)

³¹ (Anderson & Clark, 2014)

³² (Thompson, 2014a)

³³ (Ridenour, 2014)

Supervisor Thompson established Web-based resources to exchange information with IISC on County projects (9/29/2014).

The Community Rights Alliance of Winneshiek County and Mr. John Olivas, former Commissioner of Mora County, New Mexico, informed BOS of Mora County's Community Bill of Rights to ban extraction of hydrocarbons. Mr. Olivas also reported on associated law suits (9/29/2014).^{35 36}

Q4 2014

Presentation to the BOS by Dr. Peter S. Thorne, Environmental Health Science Research Center, University of Iowa, on silica sand mining and air quality (9/29/2014).³⁷

Supervisor Thompson visited State of Iowa Geologist and University of Iowa (IISC) faculty and staff, Iowa City (10/15/2014).³⁸

Presentation to the BOS by David Osterberg, University of Iowa Public Policy Center, on potential effects of industrial frac sand mining (10/13/2014).³⁹

College of Law University of Iowa legal analysis team visited County for IISC project meeting and tour (10/18/2014).

IISC Economic Impact Study group visited Winneshiek County to interview individuals from private and public sectors (11/10/2014).

Winneshiek County Protectors presented BOS with a comparison of the mining regulations recently adopted in Allamakee County and the WCP's proposed mining ordinance for Winneshiek County (10/17/2014).⁴⁰

Supervisors Thompson and Karlsbrotten sampled St. Peter sandstone in northeastern townships for study of proppant qualities/properties (11/26/2014, 12/1/2014)⁴¹

Presentation to the BOS (videoconference) by IISC: Economic Impact Assessment of Frac Sand Mining in Winneshiek County, Iowa (12/1/2014).⁴²

³⁴ (*Resolution [15-18] Extending the Moratorium on the Issuance of any Conditional Use Permit for Frac Sand Mining in Winneshiek County Board of Supervisors, 2015*)

³⁵ BOS Minutes http://www.winneshiekcounty.org/uploads/Minutes_File_62265990.pdf

³⁶ See ("SWEPI, LP v. MORA COUNTY," 2014)

³⁷ (Thorne, 2014)

³⁸ (Thompson, 2014b)

³⁹ (Kline & Osterberg, 2014)

⁴⁰ (*Winneshiek County Protectors, Comparison of Proposed Winneshiek County Zoning Ordinance Industrial Minerals Mining Section to Approved Allamakee County Zoning Ordinance Mining Section, 2014*)

⁴¹ (Thompson & Karlsbrotten, 2014b)

⁴² (Mitchell, 2014)

Presentation to the BOS (videoconference) by IISC: GEEMap Group on modeling and predicting mine sites for hydraulic fracturing silica sand in northeastern Iowa (12/8/2014).⁴³

Q1 2015

Supervisor Thompson met with University of Iowa (IISC) faculty and staff in Iowa City (1/13/2014).

Presentation to the BOS (videoconference) by IISC: Geo-statistical modeling of St. Peter sandstone in Winneshiek County (2/9/2015).^{44 45}

Presentation to the BOS (videoconference) by IISC: Analysis of Winneshiek St. Peter sandstone for proppant (2/9/2015).⁴⁶

March 2nd: Presentation to Supervisor Thompson by the IISC economic impact study group (mid-second semester progress report).

Anticipated in 2015

March 30th: Presentation to the BOS by Dr. Robert Libra, State of Iowa Geologist on karst hydrogeology in Winneshiek County.

TBD: Mid-semester presentation to the BOS by the IISC engineering study of effects of heavy truck traffic on County secondary roads.

May: Presentations in Decorah of all IISC projects by University of Iowa faculty and graduate students on all 2014-2015 projects.

TBD: Final presentation on air quality studies by Dr. Peter Thorne, University of Iowa (second presentation).

(as 3/2/2015)

⁴³ (Cowles et al., 2014)

⁴⁴ (Austen J. Smith, 2015)

⁴⁵ (Austen J Smith, 2014)

⁴⁶ (Finzel, 2015)

References

- Anderson, R., & Clark, R. (2014). *Characterization of the Mineral Potential of Crystalline Basement Rocks in Northeast Iowa*. Retrieved from <https://drive.google.com/open?id=0B0sxxqVnWGVG1c1lBTHVER3lmUXc&authuser=0>.
- . *A Community Bill of Rights Ordinance*. (2014). Community Rights Alliance of Winneshiek County, Iowa: Retrieved from <https://drive.google.com/uc?export=download&id=0B756ZELdY99DWTgwY2p1WWVSSW5fdWVYR09ISHk1aXZoVlhB>.
- Connerly, C., & Benson, N. G. (2014). *Iowa Initiative for Sustainable Communities: Winneshiek County Board of Supervisors & City of Decorah*. Retrieved from <https://drive.google.com/open?id=0B0sxxqVnWGVG1Smt5TIExNHRJdmc&authuser=0>.
- Cowles, K., Bales, Z., Cervantes, J., Smith, A., Landgren, J., Muñoz, C., . . . Hodson, C. (2014). *Modeling and Predicting Mine Sites for Hydraulic Fracturing Silica Sand in Northeastern Iowa*. University of Iowa: Geoinformatics for Environmental and Energy Modeling and Prediction: Retrieved from <https://drive.google.com/open?id=0B0sxxqVnWGVG1Rl81WGc5dzlReWs&authuser=0>.
- Finzel, E. S. (2015). *Frac Sand Suitability of the St. Peter Formation, Winneshiek County, IA*. Retrieved from <https://drive.google.com/open?id=0B0sxxqVnWGVG1MzVSNDFLX2pZTk0&authuser=0>.
- . Informational Meeting on Silica Sand Mining Potential in Winneshiek County, February 20, 2013, Decorah, Iowa. (2013). Winneshiek County Protectors.
- . *Iowa Initiative for Sustainable Communities Partner Application -- RFP #15167*. (2014). Winneshiek County, Iowa: Winneshiek County and City of Decorah, Iowa Retrieved from <https://drive.google.com/open?id=0B0sxxqVnWGVG1aGZyQzhPaHFxMUk&authuser=0>
<https://drive.google.com/open?id=0B0sxxqVnWGVG1NnMzYlZFcGxwbUk&authuser=0>.
- Kline, A., & Osterberg, D. (2014). *Digging Deeper on Frac Sand Mining: Industry Presents Water, Tourism Issues in Northeast Iowa*. The Iowa Policy Project: Retrieved from <https://drive.google.com/open?id=0B0sxxqVnWGVG1OVUwZTcwTdc5VTg&authuser=0>.
- Mitchell, B., Della Caldwell, Raymond Heitner, Kelsey Morfitt, David Sweeney. (2014). *Frac-Sand Mining in Iowa's Winneshiek County: A Comprehensive Impact Study*. Retrieved from <https://drive.google.com/open?id=0B0sxxqVnWGVG1WUNPUMV3S255S3M&authuser=0>.
- Power, T. M., & Power, D. S. (2013). *The Economic Benefits and Costs of Frac-Sand Mining in West Central Wisconsin: Phase One of Study -- General Economic & Community Overview.*: Retrieved from

- http://www.wisconsinfarmersunion.com/webfiles/fnitools/documents/2013_10_18_fracsandmining.pdf.
- Reilly Construction Co., I. (2013). *Rein Quarry Expansion, Highland, MN*. Retrieved from http://www.co.fillmore.mn.us/docs/dept/zoning/EAW/REIN_EAW_FINAL_Part_1_1-09-13.pdf.
- . *Resolution [13-49] of Winneshiek Board of Supervisors Requesting the Planning and Zoning Commission Provide Input on the Adoption of a Moratorium on the Consideration and/or Approval of Conditional Use Permits for Industrial Frac Sand Mining*. (2013). Board of Supervisors Winneshiek County, Iowa Retrieved from <https://drive.google.com/open?id=0B0sxqVnWGVG1TnY1WmFsZjYzSEk&authuser=0>.
- . *Resolution [13-65] establishing an 18-month moratorium on issuance of any conditional use permit for frac sand mining*. (2013). Board of Supervisors Winneshiek County, Iowa Retrieved from <https://drive.google.com/open?id=0B0sxqVnWGVG1SzIXOW9INUI5Z28&authuser=0>.
- . *Resolution [15-18] Extending the Moratorium on the Issuance of any Conditional Use Permit for Frac Sand Mining in Winneshiek County Board of Supervisors*. (2015). Board of Supervisors Winneshiek County, Iowa Retrieved from <https://drive.google.com/open?id=0B0sxqVnWGVG1bW9TTzZwOEJXN1E&authuser=0>.
- Ridenour, B. T. (2014). *County Road Impacts Due to New Rural Major Developments and Road Impact Funding Options*. Allamakee County Engineer: Retrieved from <https://drive.google.com/open?id=0B0sxqVnWGVG1MnJ1UnZXNFA3SHM&authuser=0>.
- Smith, A. J. (2014). *Assessment of Site Suitability for Frac Sand Mining in Winneshiek County: A Synthesis of Analysis*. Project paper. Geographical and Sustainability Sciences. University of Iowa.
- Smith, A. J. (2015). *Where is the Sand? Using Geo-spatial Point Data to Approximate 3D Subsurface Geology*. Retrieved from <https://drive.google.com/open?id=0B0sxqVnWGVG1clAxZmhfVUZvMzg&authuser=0>.
- . *Statement Regarding Issuance of Permit, Millenium Agriculture LLC, Facility ID #61285 Winneshiek County*. (2013). Iowa DNR Environmental Protection Commission: Winneshiek County, Iowa Board of Supervisors Retrieved from <https://drive.google.com/open?id=0B0sxqVnWGVG1UHpfbHAWRXRQSHM&authuser=0>.
- SWEPI, LP v. MORA COUNTY, No. No. CIV 14-0035 JB/SCY (Dist. Court, D. New Mexico 2014).
- Thompson, D. (2013a). *Trip Report: Frac Sand Mining Conference in Eau Claire, Wisconsin (August 1, 2013)*. Retrieved from <https://drive.google.com/open?id=0B0sxqVnWGVG1NkhFWHZGQk16SzA&authuser=0>.

- Thompson, D. (2013b). *Trip Report: Interview William Mavity, City of Stockholm, Pepin County, Wisconsin*. Retrieved from <https://drive.google.com/open?id=0B0sxxqVnWGVG1dWNzbGhSN3F2Z3c&authuser=0>.
- Thompson, D. (2013c). *Trip Report: Tour of Fairmount Minerals Mine in Menomonie, Wisconsin (4/24/2013) and Trip to Winona, Minnesota (4/26/2013)*. Retrieved from <https://drive.google.com/open?id=0B0sxxqVnWGVG1dmtBajNrUGVFT0k&authuser=0>.
- Thompson, D. (2014a). *August 2014 Field Trip/Tour: Iowa Initiative for Sustainable Communities*. Developed and Hosted by Winneshiek County Board of Supervisors: Retrieved from <https://drive.google.com/open?id=0B0sxxqVnWGVG1blyzZXJEN0x0Z1U&authuser=0>
<https://drive.google.com/open?id=0B0sxxqVnWGVG1aVgycXcwY3llMzg&authuser=0>
<https://drive.google.com/open?id=0B0sxxqVnWGVG1Rm9HeGMxTnVULWM&authuser=0>
<https://drive.google.com/open?id=0B0sxxqVnWGVG1QVhPNWtOWkZCcFU&authuser=0>
<https://drive.google.com/open?id=0B0sxxqVnWGVG1MGxWcGZBckt3Q2s&authuser=0>
<https://drive.google.com/open?id=0B0sxxqVnWGVG1TmlLVWxEdG1qZW&authuser=0>
<https://drive.google.com/open?id=0B0sxxqVnWGVG1QVV1R3JNRE1tNjQ&authuser=0>
<https://drive.google.com/open?id=0B0sxxqVnWGVG1R3Nu3RaOWNOYUU&authuser=0>.
- Thompson, D. (2014b). *Trip Report: Meetings at University of Iowa, Iowa City (10/15/2014)*. Retrieved from <https://drive.google.com/open?id=0B0sxxqVnWGVG1WE11cV9uMVdocHc&authuser=0>.
- Thompson, D. (2014c). *Trip Report: Tour of Mining, Pattison Sand Company, Clayton, Iowa (6/17/2014)*. Retrieved from <https://drive.google.com/open?id=0B0sxxqVnWGVG1UTVzLUhFYzllbDA&authuser=0>.
- Thompson, D., & Karlsbrotten, D. (2013). *Trip Report: Meeting with County Commissioners and Personnel, Houston County, Minnesota (April 18, 2013)*. Retrieved from <https://drive.google.com/open?id=0B0sxxqVnWGVG1SnBuTUI5em5lYWs&authuser=0>.
- Thompson, D., & Karlsbrotten, D. (2014a). *Trip Report: Meeting with Tom Blake, Allamakee County Zoning Administrator (6/3/2014)*. Retrieved from <https://drive.google.com/open?id=0B0sxxqVnWGVG1SkVkTnR3dGcwblU&authuser=0>.

- Thompson, D., & Karlsbrotten, D. (2014b). *Trip Report: Notes on Sampling of St. Peter Sandstone, Winneshiek County, Iowa*. Retrieved from <https://drive.google.com/open?id=0B0sxqVnWGVG1dXNucWgtampiems&authuser=0>.
- Thorne, P. (2014). *The University of Iowa EHSRC Project on Proppant Sand Mining*. University of Iowa Environmental Health Sciences Research Center: Retrieved from <https://drive.google.com/open?id=0B0sxqVnWGVG1b3hfV2dOQlBkaDA&authuser=0>.
- . *Winneshiek County Protectors, Comparison of Proposed Winneshiek County Zoning Ordinance Industrial Minerals Mining Section to Approved Allamakee County Zoning Ordinance Mining Section*. (2014). Winneshiek County Protectors: Retrieved from <https://drive.google.com/open?id=0B0sxqVnWGVG1dHRZTVdrUElJdlE&authuser=0>.
- . *Winneshiek County Protectors, Presentation to the BOS (4/29/13) on silica sand mining health and regulatory issues*. (2013). Retrieved from <https://drive.google.com/open?id=0B0sxqVnWGVG1fkhKWlhESFkxcmpkN2w5SVZOUGpiODB6eGhNaWVSdXNhM2l0UXYyNG80LVU&authuser=0>.
- Winneshiek County Protectors: Petition (implement a 24 month moratorium on the issuance of permits to allow silica sand mining)*. (2013). Retrieved from: <https://drive.google.com/open?id=0B0sxqVnWGVG1YUUtT1FuU1pKN1U&authuser=0>
- . *Winneshiek County Zoning Commission May 14, 2013 Minutes*. (3013). Winneshiek County, Iowa Retrieved from <https://drive.google.com/open?id=0B0sxqVnWGVG1NTJXRgczZV9CYjg&authuser=0>
<https://drive.google.com/open?id=0B0sxqVnWGVG1UXFzY2Vzd3J0ODQ&authuser=0>.
- . *Winneshiek County Zoning Ordinance, Proposed New Section 712, Excavation and Mining of Industrial Minerals*. (2013). Winneshiek County Protectors: Retrieved from <https://drive.google.com/open?id=0B0sxqVnWGVG1eHZfcU1RYWgzVTA&authuser=0>.