From: Holschbach, Andy - DATCP
Sent: Friday, April 19, 2019 10:35 AM
To: Demers, Gerald L - DNR
Subject: FW: Cedarburg - R&R Quarry Groundwater Elevation Issue
Attachments: DOC040119-04012019135423.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Hi Gerald,

In review of the attached report provided by Friess Environmental Consulting dated February 28, 2019, the groundwater elevation on MW-1 was at 813.28' on December 29, 2018.

This data indicates the groundwater elevation is already 3.28' higher than the 810' MSL, the groundwater elevation established for the Reclamation Plan and utilized for Low Hazard Waste Exemption permitting.

I wanted to share this information as it certainly appears to have an impact on Low Hazard Exemption Waste permitting and placement of low hazard waste in regards to groundwater quality protection.

I look forward to hearing from you regarding this matter and hope all is well with you.

Thanks.

Andy

Andy Holschbach, Director
Land & Water Management Department
Ozaukee County
121 W. Main Street, P.O. Box 994
Port Washington, WI 53074
Phone 262-284-8271 or 262-238-8271
Fax 262-284-8367

From: DJ Burns [mailto:djburns@drakecg.com]
Sent: Monday, April 01, 2019 6:48 PM
To: Andy Holschbach
Cc: 'DJ Burns'
Subject: Cedarburg - R&R Quarry Groundwater Elevation Issue

Andy:

Please see the attached correspondence from Friess Environmental Consulting, Inc. to the DNR's Gerald DeMers, P.E. dated 2/28/19.

If you'll recall, I became concerned about this project when I learned of the planned filling of the quarry with waste materials utilizing a low hazard solid waste exemption request process (which required approval of the DNR following their review of the "applicant"provided site information).

As you are aware, the DNR's Low Hazard Solid Waste Exemption approvals for a receiving facility/site can be revoked and each approval specifically states that, "The Department retains its jurisdiction to require the submittal of additional information or to modify or revoke this conditional grant of exemption if the Owners fail to comply with any condition or the project as proposed." The approval letters typically also state that, "The Department also retains its jurisdiction to modify or revoke this conditional grant of exemption if, in the Department's opinion, circumstances or conditions change or if new information is found which would warrant such a modification or condition."

In addition, the Low Hazard Solid Waste Exemption approvals can also be revoked if, for instance, the entity that receives the exemption fails to comply with the "conditions" specified in each of the exemption approvals. Most of the approvals I have reviewed indicate that the owner or its agent, "shall notify the Department when construction excavation activities for the site begin for the purpose of allowing Department personnel the opportunity to inspect soil excavation and soil management practices during active construction. The appropriate inspection fees shall apply as provided in NR 520." The approvals also typically state that the owner or its agent, "shall submit documentation to the Department within sixty (60) days after the conclusion of the work and disposal operations" and the documentation shall include at a minimum the following items: a) photographs showing the project and disposal site before, during and after placement of the excavated material, and; b) the total volume of material actually disposed."

Please be advised that I have repeatedly requested documentation from the Department over the past few years (documentation which I understood to have been a "condition" of many of the low hazard solid waste exemption approvals) but have not received the requested written or photographic documentation which would demonstrate that the applicable permit conditions are being adhered to.

As regards the current conditions at the site, it seems noteworthy that the attached 2/28/19 correspondence now provides empirical evidence obtained and provided by a professional engineer (P.E.) that the measured depth to water in MW-1 was determined by him to be 22.22 feet from the top of casing of that well and Table 3 of the letter then explicitly states that the "Groundwater Elevation" at MW-1 is 813.28 feet mean sea level (MSL).

I would note that the expected post-reclamation elevation of the local groundwater table has been the subject of much debate and conjecture due to differing opinions and local knowledge of historical conditions (and even perhaps business-related interests that may have been better served by claiming that groundwater was not present within the quarry or was at a significant distance below the surface of the quarry).

As you are aware, in correspondence to the Town of Cedarburg dated June 18, 2012, Rick Frieseke, P.E. wrote that, "shallow groundwater is not present at the site. The Owner of the site, who has worked this property for over 50 years, indicates that groundwater is below the depth that has been quarried." Available records indicate that portions of the R&R Quarry had extended to a depth of approximately 760 feet msl, so this correspondence and representation by Mr. Frieseke (a Professional Engineer licensed in the State of Wisconsin) appears to assert that no groundwater was present at the site above an elevation of 760 feet msl. The recent groundwater measurement obtained by Frieseke at

MW-1 (within the quarry) appears to be over 50 feet higher in elevation than the historical information that he has previously provided to the Town of Cedarburg, Ozaukee County, and the Department and this information appears to have formed the basis for some of the Department's earliest exemption approvals.

We'd also note that in correspondence dating back to April 2012, Ready Earth Consulting, LLC's Professional Geologist (P.G.) Jason Bartley (who had previously worked for and with Frieseke) appears to have notified the Department that: a) the R&R Quarry had been conducting "reclamation" activities at the site for approximately the previous 7 years (we'd note that these reclamation activities since 2005 had been conducted without benefit of the owner having previously received the required jurisdictional authority approved NR 135 Reclamation Plan), and b) "groundwater is expected to be present at an elevation of approximately 800 feet msl."

We'd note that Bartley's estimated post-reclamation groundwater elevation of 800 feet is much higher (40 feet higher!) than the 760 feet that Frieseke told the Department and the County to expect, but the recent readings obtained by Frieseke indicate that even Bartley underestimated the actual recorded December 2018 groundwater elevation by over 13 feet (as measured at MW-1). We'd note that Bartley's incorrect 800 foot msl elevation estimate may have formed the basis for the Department's approval of some of the Department's exemption approvals.

In previous correspondence and discussions (some of which included former DNR Bureau of Waste and Materials Management Director Ann Coakley and other waste and remediation & redevelopment "technical" experts), the Department indicated that it was their belief that the groundwater elevation within the quarry following site reclamation activities would likely not exceed 810 feet msl. As we discussed today, it would appear that the 813.28 foot msl elevation measured at MW-1 by professional engineer Rick Frieseke himself exceeded the Department's expected groundwater elevation by over 3 feet already, and the complete reclamation of the quarry has not even occurred as of yet. Unless significant dewatering of the quarry were to occur, it is possible that future filling of the quarry (via reclamation) could drive the observed groundwater levels higher by 5, 10, 15 or more feet than the current 813.28 elevation observed in December 2018, which would put more water directly "in contact" with the low hazard waste materials that were put there (albeit which were approved by the Department presumably based on the professional engineer's – Frieseke's and the professional geologist's-Bartley's respective "representations" that groundwater would not be present above 760 feet or above 800 feet).

As you are aware, the Department has historically stated that it was never their intent to permit the placement of low hazard exempted solid waste materials in contact with water at a receiving site such as the R&R Quarry. In fact, in Director Coakley's September 25, 2012 letter to the Chair of the Ozaukee County Natural Resources Committee, Director Coakley stated the following, "With regard to possible impacts to groundwater quality and water supply wells from the placement of the soil, my staff have indicated that they have not seen evidence establishing that the soils are placed at an elevation where they would come in contact with groundwater." While I strongly disagreed with many of the items contained in Director Coakley's letter, it appeared clear to me that "if" evidence was provided to the Department that Department-approved low hazard exempted solid waste materials were in fact placed at an elevation where they would come in contact (or be below the observed groundwater elevation within MW-1), then the DNR would be forced to take action to resolve this long-standing issue. I'd note that over the past few years, a general consensus has developed whereby the Department does not believe that low hazard exempted solid waste materials should be placed within an area three (3) feet

above an anticipated water table elevation (in this case, it would mean that no low hazard exempted solid waste materials should be allowed to be placed below 816.28 feet msl based on the December 2018 reading, but I'd also note that given this site's unique geological setting, the future groundwater elevation may not even reach its highest elevation until well after reclamation activities have been completed and as such the Department should be extremely careful in determining what their opinion is on the future elevation of the post-reclamation water table.

As previously discussed, my records indicate that in 2001, the quarry operator (Dick Charmoli) who had decades of experience working at this site and his consultant at that time, provided information to the Town of Cedarburg that the elevation of a then-proposed "future lake" at the quarry site would be expected to be situated at an elevation of approximately 830 feet mean sea level. As such, the Department may want to consider establishing a new, anticipated future water table elevation of 830 feet msl and restrict placement of any low hazard exempted solid waste materials at elevations below 833 feet msl.

I'd ask that you please forward a copy of this email to the current Chair of the Ozaukee County Natural Resources Committee as well as the County's Corporation Counsel for their review.

Please let me know if you have any questions regarding this email. I can be reached at (414) 881-0003.

D.J. Burns
N105 W7585 Chatham Street
Cedarburg, WI 53012-3255

FRIESS ENVIRONMENTAL CONSULTING, INC.

February 28, 2019

Mr. Gerald DeMers
Environmental Engineer
Wisconsin Department of Natural Resources
141 NW Barstow Street, Room 180
Waukesha, WI 53188

RE: Soil Disposal Information Associated with the R&R Excavating Site Located on Highway I in the Town of Cedarburg, Wisconsin — FEC Project No. 041013

Dear Mr. Demers:

As you are aware, ***Friess Environmental Consulting, Inc. (FEC)*** has submitted requests for disposal of soils from construction projects at the above-referenced site (the "Site") under the Wisconsin Department of Natural Resources (DNR) low-hazard exemption (LHE) per s. 289.43(8) of the Wisconsin Statutes and/or the exemption per ch. NR 718.12 Wisconsin Administrative Code (WAC). The DNR did grant approval for two projects to dispose of soils in 2018. Several of the approvals required the submittal of an annual report to include a listing of projects that brought soils to the former R&R Excavating site, an estimate of the remaining disposal capacity, and the results of groundwater sampling and analytical testing conducted at the Site. This letter provides documentation for soils disposed of in 2018 and the results of continued groundwater monitoring.

In 2018, FEC documented the disposal of 392 truckloads. It is estimated that each truck contained approximately 10 yards. As such, approximately 3,920 cubic yards of soil were disposed of at the Site in 2018. A summary of the filling operations per month is included on the attached Table. It is estimated that the remaining capacity at the Site is approximately 394,600 cubic yards.

In accordance with the requirements set forth in ch. NR 718.12(1)(c) WAC and as outlined in the approved reclamation plan for the Site, placement of the soils at the Site did not occur within a floodplain; within 100 feet of any wetland or critical habitat area; within 300 feet of any navigable river, stream, lake, pond or flowage; within 100 feet of any on-site water supply well or 300 feet of any off-site water supply well, within 3 feet of the groundwater table, in an area where

single family housing will be the final use, or as use as an exposed final grade layer.

The results of soil and groundwater analytical testing conducted on the source sites were provided to the DNR in each exemption request that was submitted and reviewed by the DNR. The results continue to demonstrate that the PAH and metals detected within the soils are not considered a risk to groundwater. The exposure pathways are further protected with the conditions of the Site, including the final use of the Site as agricultural (no development or potable wells) and capping of the Site with at least 2 feet of clean material, and the approved reclamation plan for the Site.

On July 10, 2018, FEC collected a grab sample from the stormwater pond (SW). A groundwater sample could not be obtained from the monitoring well during the July 2018 sampling event as the monitoring well was damaged and not accessible during the July 2018 sampling event. The well was repaired in December 2018. On December 29, 2018, FEC collected a groundwater sample from MW-1; however, a stormwater sample could not be obtained at that time as the stormwater was frozen during the December 2018 sampling event. The water samples collected were submitted to a DNR-certified laboratory for analyses of volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs) and select RCRA metals. No VOCs, PAHs, or select RCRA metals were detected in the water samples except for several low level or "J Flag" concentrations. The detections are likely attributable to slight turbidity in the samples collected. The results of all the testing were well below their applicable DNR groundwater quality standards. The analytical reports are included with this letter.

As indicated above, MW-1 was damaged during the grading activities on the site. Suspended solids were apparent in the groundwater sample during the last sampling round. FEC will redevelop the well in Spring 2019 and evaluate the integrity of the well. Stormwater levels on the site have increase as a result of the completed filling operation on the neighboring Rettmann property and the continued filling operations on the site. As such, FEC will also evaluate the need for stormwater management as part of future filling activities.

We hope this letter provides sufficient information regarding disposal of material in 2018 at the R&R Excavating Site. If you have any questions or comments regarding this submittal, please contact us at (414) 228-9815.

Respectfully,

Friess Environmental Consulting, Inc.

Trenton J. Ott
Project Manager

Richard W. Frieseke, P.E.
President

CC: Mr. Barry Sullivan; Ozaukee County Resource Board
Mr. Richard Charmoli; Charmoli Holdings, LLC

041013 2018

Table 1
VOC Groundwater Analytical Results
R&R Excavating Site - CDS
Cedarburg, Wisconsin

Sample Location	Sampling Date	Benzene (ppb)	Chloro-ethane (ppb)	1,1-DCA (ppb)	1,2-DCA (ppb)	1,1-DCE (ppb)	cis-1,2-DCE (ppb)	Ethyl-benzene (ppb)	MTBE (ppb)	Naph-thalene (ppb)	Toluene (ppb)	1,1,1-TCA (ppb)	TCE (ppb)	Combined TMBs (ppb)	Vinyl Chloride (ppb)	Total Xylenes (ppb)
QP-1	6/7/12	<0.50	<1.40	<0.98	<0.50	<0.60	<0.74	<0.78	<0.80	<2.10	<0.53	<0.85	<0.47	<1.54	<0.18	<1.90
SW	10/27/15	<0.44	<0.65	<1.1	<0.48	<0.65	<0.45	<0.71	<1.1	<1.6	<0.44	<0.84	<0.47	<3.10	<0.17	<3.10
	6/16/16	<0.44	<0.65	<1.1	<0.48	<0.65	<0.45	<0.71	<1.1	<1.6	<0.44	<0.84	<0.47	<3.10	<0.17	<3.10
	11/3/16	<0.44	<0.65	<1.1	<0.48	<0.65	<0.45	<0.71	<1.1	<1.6	<0.44	<0.84	<0.47	<3.10	<0.17	<3.10
	6/22/17	<0.44	<0.65	<1.1	<0.48	<0.65	<0.45	<0.71	<1.1	<1.6	<0.44	<0.84	<0.47	<3.10	<0.17	<3.10
	10/20/17	<0.44	<0.65	<1.1	<0.48	<0.65	<0.45	<0.71	<1.1	<1.6	<0.44	<0.84	<0.47	<3.10	<0.17	<3.10
	7/10/18	<0.22	<0.61	<0.36	<0.25	<0.42	<0.37	<0.26	<0.28	<2.1	<0.19	<0.33	<0.3	<1.2	<0.2	<0.71
MW-1	8/22/12	<0.50	<1.40	<0.98	<0.50	<0.60	<0.74	<0.78	<0.80	<2.10	<0.53	<0.85	<0.47	<1.54	<0.18	<1.90
	8/30/13	<0.24	<0.63	<0.30	<0.41	<0.40	<0.38	<0.55	<0.23	<1.70	<0.69	<0.33	<0.33	<3.60	<0.18	<1.32
	12/6/13	<0.24	<0.63	<0.30	<0.41	<0.40	<0.38	<0.55	<0.23	<1.70	<0.69	<0.33	<0.33	<3.60	<0.18	<1.32
	5/9/14	<0.24	<0.63	<0.30	<0.41	<0.40	<0.38	<0.55	<0.23	<1.70	<0.69	<0.33	<0.33	<3.60	<0.18	<1.32
	9/10/14	<0.24	<0.63	<0.30	<0.41	<0.40	<0.38	<0.55	<0.23	<1.70	<0.69	<0.33	<0.33	<3.60	<0.18	<1.32
	10/27/15	<0.44	<0.65	<1.1	<0.48	<0.65	<0.45	<0.71	<1.1	<1.6	<0.44	<0.84	<0.47	<3.10	<0.17	<3.10
	6/16/16	<0.44	<0.65	<1.1	<0.48	<0.65	<0.45	<0.71	<1.1	<1.6	<0.44	<0.84	<0.47	<3.10	<0.17	<3.10
	11/3/16	<0.44	<0.65	<1.1	<0.48	<0.65	<0.45	<0.71	<1.1	<1.6	<0.44	<0.84	<0.47	<3.10	<0.17	<3.10
	6/22/17	<0.44	<0.65	<1.1	<0.48	<0.65	<0.45	<0.71	<1.1	<1.6	<0.44	<0.84	<0.47	<3.10	<0.17	<3.10
	10/20/17	<0.44	<0.65	<1.1	<0.48	<0.65	<0.45	<0.71	<1.1	<1.6	<0.44	<0.84	<0.47	<3.10	<0.17	<3.10
	12/29/18	<0.22	<0.61	<0.36	<0.25	<0.42	<0.37	<0.26	<0.28	<2.1	3.20	<0.33	<0.3	<1.2	<0.2	<0.71
ES (ppb)	-	*5*	*400*	*850*	*5*	*7*	*70*	*700*	*60*	*100*	*1,000*	*200*	*5*	*480*	*0.02*	*10,000*
PAL (ppb)	-	*0.5*	*80*	*85*	*0.5*	*0.7*	*7*	*140*	*12*	*10*	*200*	*40*	*0.5*	*96*	*0.2*	*1,000*

Notes:
Concentrations that exceed their respective PALs are in *blue italics*.
Concentrations that exceed their respective ESs are in red bold type.
J Concentration detected slightly above LOD and likely attributable to sediment in sample or laboratory artifact

Table 2
Groundwater PAH & Metals Analytical Results
R&R Excavating Site - CDS
Cedarburg, Wisconsin

Test Description	QP-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	SW-1	MW-1	SW-1	MW-1	SW-1	MW-1	SW-1	MW-1	SW-1	SW-1	MW-1	NR 140	NR 140
Sample Date	6/7/12	8/22/12	8/31/12	8/30/13	12/5/13	5/9/14	9/10/14	10/27/15	10/27/15	6/16/16	6/16/16	11/3/16	11/3/16	6/22/17	6/22/17	10/20/17	10/20/17	7/10/18	12/29/18	PAL	ES
PAHs (µg/kg)																					
acenaphthene	<0.025	0.037J	<0.025	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	0.076	0.032J	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016		-
acenaphthylene	<0.019	<0.019	<0.019	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.058J	<0.02	<0.019	<0.019	0.033J	<0.019	0.033J	<0.019	<0.019	<0.019	-	-
anthracene	<0.018	0.02J	<0.018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	600	3,000
benzo(a)anthracene	<0.024	0.026J	<0.024	<0.025	<0.025	0.031J	<0.025	<0.025	<0.025	<0.025	<0.025	<0.017	<0.017	<0.019	0.0187J	<0.017	<0.017	<0.017	<0.017	-	-
benzo(a)pyrene	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	0.02	0.2
benzo(b)fluoranthene	<0.02	0.022J	<0.02	<0.02	<0.02	<0.02	<0.019	<0.019	<0.019	<0.019	<0.019	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	0.02	0.2
benzo(g,h,i)perylene	<0.019	0.021J	<0.019	<0.023	<0.023	<0.023	<0.024	<0.024	<0.024	<0.024	<0.024	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	-	-
benzo(k)fluoranthene	<0.022	<0.022	<0.022	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.016	<0.016	0.0168J	0.0168J	<0.016	<0.016	<0.016	<0.016	-	-
chrysene	<0.019	0.021J	<0.019	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.2
dibenzo(a,h)anthracene	<0.019	<0.019	<0.019	<0.023	<0.023	<0.023	<0.028	<0.028	<0.028	<0.028	<0.028	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	-	-
fluoranthene	<0.022	0.043J	<0.022	<0.026	<0.026	<0.026	<0.022	<0.022	<0.022	<0.022	<0.022	0.021J	<0.017	0.021J	0.021J	0.021J	<0.017	<0.017	<0.017	80	400
fluorene	<0.02	0.027J	<0.02	<0.02	<0.02	<0.02	<0.022	0.021J	<0.022	0.021J	0.075	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	<0.021	80	400
indeno(1,2,3-cd)pyrene	<0.018	<0.018	<0.018	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	-	-
1-methylnaphthalene	<0.022	<0.022	<0.022	<0.019	<0.019	<0.019	<0.021	<0.021	<0.021	<0.021	0.072	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	0.0296J	0.0296J	-	-
2-methylnaphthalene	<0.024	<0.024	<0.024	<0.016	<0.016	<0.016	<0.024	<0.024	<0.024	<0.024	0.086	<0.024	<0.024	0.0248J	<0.024	<0.024	<0.024	0.033J	<0.033J	-	-
naphthalene	<0.021	<0.021	<0.021	<0.023	<0.025	<0.023	0.033J	0.029J	0.020J	0.029J	0.037	<0.062J	<0.019	<0.062J	<0.019	<0.043J	<0.019	0.079J	<0.019	10	100
phenanthrene	<0.019	<0.019	<0.019	0.035J	<0.018	<0.018	<0.018	<0.018	0.023J	0.251	0.181	0.037J	0.037J	0.037J	0.037J	0.037J	0.038J	0.035J	0.038J	-	-
pyrene	<0.02	0.036J	<0.02	<0.025	<0.025	<0.025	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	0.0316J	<0.03	0.0316J	50	250
Metals (mg/kg)																					
arsenic	<0.25	0.61J	NA	<0.60	<0.6	<0.60	<0.6	<0.6	1.0J	<0.60	<0.60	<0.6	<0.6	<0.7	<0.7	1.3J	0.8J	2.5	0.8J	5	50
barium	<0.36	63	NA	15.5	NA	18.3	NA	NA	NA	16.7J	12.47J	NA	NA	NA	NA	NA	NA	NA	NA	400	2,000
cadmium	<0.16	0.22J	NA	<0.50	NA	<0.50	NA	NA	NA	<0.30	<0.30	NA	NA	NA	NA	NA	NA	NA	NA	0.5	5
chromium	0.57	0.92J	NA	<2.60	NA	<2.60	NA	NA	NA	<1.80	<1.80	NA	NA	NA	NA	NA	NA	NA	NA	10	100
lead	<0.24	1.7	NA	<0.70	<0.7	<0.70	<0.7	<0.7	<0.7	<0.80	<0.80	<0.8	<0.8	<0.9	<0.9	<0.9	<0.9	<0.8	<0.9	1.5	15
mercury	0.02	<0.015	NA	<0.04	NA	<0.04	NA	NA	NA	<0.11	<0.11	NA	NA	NA	NA	NA	NA	NA	NA	0.2	2
selenium	<0.38	2.5	NA	<2.00	NA	<2.00	NA	NA	NA	<1.10	<1.10	NA	NA	NA	NA	NA	NA	NA	NA	10	50
silver	<0.31	<0.31	NA	<10.3	NA	<10.3	NA	NA	NA	<8.4	<8.4	NA	NA	NA	NA	NA	NA	NA	NA	10	50

Notes:

1. "-" = not analyzed or no standards have been established.
2. J Concentration detected slightly above LOD and likely attributable to sediment in sample.
3. Concentrations in red bold exceed their respective enforcement standards (ESs).

Table 3
Groundwater Elevation Measurements
R&R Excavating Site - CDS
Cedarburg, Wisconsin

Well Number	Date	*Total Well Depth	Ground Surface Elevation	Top of Casing Elevation	*Depth to Water Below Casing	Groundwater Elevation
MW-1	8/21/2012	90.00	832.30	835.50	70.21	**765.29**
	5/10/2013				66.87	**768.63**
	8/29/2013				69.82	**765.68**
	12/6/2013				66.87	**768.63**
	5/9/2014				67.41	**768.09**
	9/10/2014				65.40	**770.10**
	10/27/2015				59.57	**775.93**
	6/19/2016				52.22	**783.28**
	11/3/2016				48.80	**786.70**
	6/22/2017				39.93	**795.57**
	10/20/2017	100.00		845.50	38.11	**807.39**
	12/29/2018	90.00		835.50	22.22	**813.28**

Notes:
1. *Measured from the north rim of the top of well casing.
2. All measurements are presented in feet.
3. Elevations are referenced to monument benchmark SE 1/4 of the NE 1/4 corner of Section 22 T 10N R 21E which has an elevation of 833.26 feet.

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

RICK FRIESEKE
FEC. INC.
6635 N. SIDNEY PLACE
MILWAUKEE, WI 53209

Report Date *19-Jul-18*

Project Name R&R EXCAVATING
Project # 041013

Invoice # E34902

Lab Code 5034902A
Sample ID SW
Sample Matrix Water
Sample Date 7/10/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
Arsenic, Dissolved	2.5	ug/L	0.6	2	1	7060A		7/12/2018	CWT	1
Lead, Dissolved	< 0.8	ug/L	0.8	2.7	1	7421		7/13/2018	CWT	1
Organic										
PAH SIM										
Acenaphthene	0.0099 "J"	ug/l	0.008	0.025	1	M8270C	7/12/2018	7/12/2018	NJC	1
Acenaphthylene	0.0136 "J"	ug/l	0.009	0.028	1	M8270C	7/12/2018	7/12/2018	NJC	1
Anthracene	< 0.009	ug/l	0.009	0.03	1	M8270C	7/12/2018	7/12/2018	NJC	1
Benzo(a)anthracene	< 0.017	ug/l	0.017	0.054	1	M8270C	7/12/2018	7/12/2018	NJC	1
Benzo(a)pyrene	< 0.017	ug/l	0.017	0.055	1	M8270C	7/12/2018	7/12/2018	NJC	1
Benzo(b)fluoranthene	< 0.02	ug/l	0.02	0.063	1	M8270C	7/12/2018	7/12/2018	NJC	1
Benzo(g,h,i)perylene	< 0.011	ug/l	0.011	0.036	1	M8270C	7/12/2018	7/12/2018	NJC	1
Benzo(k)fluoranthene	< 0.014	ug/l	0.014	0.044	1	M8270C	7/12/2018	7/12/2018	NJC	1
Chrysene	< 0.019	ug/l	0.019	0.062	1	M8270C	7/12/2018	7/12/2018	NJC	1
Dibenzo(a,h)anthracene	< 0.01	ug/l	0.01	0.031	1	M8270C	7/12/2018	7/12/2018	NJC	1
Fluoranthene	< 0.031	ug/l	0.031	0.098	1	M8270C	7/12/2018	7/12/2018	NJC	1
Fluorene	< 0.011	ug/l	0.011	0.034	1	M8270C	7/12/2018	7/12/2018	NJC	1
Indeno(1,2,3-cd)pyrene	< 0.012	ug/l	0.012	0.038	1	M8270C	7/12/2018	7/12/2018	NJC	1
1-Methyl naphthalene	0.0296 "J"	ug/l	0.0239	0.076	1	M8270C	7/12/2018	7/12/2018	NJC	1
2-Methyl naphthalene	0.033 "J"	ug/l	0.0236	0.0751	1	M8270C	7/12/2018	7/12/2018	NJC	1
Naphthalene	0.079	ug/l	0.023	0.073	1	M8270C	7/12/2018	7/12/2018	NJC	1
Phenanthrene	0.035 "J"	ug/l	0.025	0.081	1	M8270C	7/12/2018	7/12/2018	NJC	1
Pyrene	< 0.03	ug/l	0.03	0.095	1	M8270C	7/12/2018	7/12/2018	NJC	1
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		7/12/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		7/12/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		7/12/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		7/12/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		7/12/2018	CJR	1

CHAIN OF)STODY RECORD

Synergy
Environmental Lab, Inc.
1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # N° 36(3
Page ____ of ____

Sample Handling Request
____ Rush Analysis Date Required ____
(Rushes accepted only with prior authorization)
X Normal Turn Around

Lab I.D. #
Account No. : | Quote No.:
Project #: 041003
Sampler: (signature) BRF
Project (Name / Location): R&R Excavating site

Reports To:	Rick Friesekе	Invoice To:	
Company	FEC	Company	SAME
Address	* 6635 N Sidney Place	Address	
City State Zip	Milw WI 53209	City State Zip	
Phone	414 228-9845	Phone	
FAX	228-9816	FAX	

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 524.2)	VOC (EPA 8260)	8-RCRA METALS	Arsenic	PID/ FID
503567GA	MW-1	12/29/18	AM		X	N	5	GW	itel			X			X							X	X	Arsenic	

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge etc.)

Filter For metals

Sample Integrity - To be completed by receiving lab.
Method of Shipment: Lc
Temp. of Temp. Blank ____ °C On Ice: X
Cooler seal intact upon receipt: X Yes ____ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
Rick Friesekе					

Received in Laboratory By: [signature] Time: 8:00 Date: 1/3/19

Summary of 2018 Filling Operations
R&R Excavating Site
Town of Cedarburg

FEC Project #	Project Name	# of Truckloads	Month	Year
150805	Grafton			
		30	June	2018
		13	August	2018
		2	October	2018
	Total	45		
161101	Griot	6	March	2018
		4	May	2018
	Total	10		
160402	Shorewood Senior	59	February	2018
		36	March	2018
	Total	95		
170702	Innovation Park Hotel	126	April/July	2018
	Total	126		
171103	Franklin Place	116	May	2018
	2018 Total	392		

Summary of Filling Operations
January 1, 2018 to December 31, 2018

R&R Excavating Site -Town of Cedarburg

FEC Project #	Project Name	# of Truckloads	Month	Year
041013	Charmoli Holdings			
		59	February	2018
		42	March	2018
		99	April	2018
		120	May	2018
		30	June	2018
		27	July	2018
		13	August	2018
		2	October	2018
	Total	392		