SCS ENGINEERS

October 16, 2018 File No. 25218118.00

Mr. Jason Lowery Wisconsin Department of Natural Resources 101 S. Webster Street Madison, WI 53707

Subject: Monitoring Well Redevelopment Documentation

Town of Watertown, Jefferson County

BRRTS No. 02-28-000945

WDNR Contract No. 37000-0000008175

Dear Mr. Lowery:

SCS Engineers (SCS) is providing this summary of monitoring well redevelopment work performed for the Keck Farm project. The monitoring wells were redeveloped consistent with the approved August 2018 Quality Assurance Plan (QAP). The work was performed in September 2018.

Monitoring well redevelopment documentation is provided in **Attachment A** and summarized in **Table 1**. About half of the wells produced clear water. Most others purged dry and would not produce clear water. **Table 1** shows proposed sampling methods based on purge rates observed during redevelopment. SCS proposes that 17 of the wells be sampled using low-flow methods, and the remaining 3 wells be sampled by standard purge methods (bailer or pump).

The redevelopment proceeded as planned with the exception of monitoring well MW-11D, which appears to have kink or other feature near the bottom of the well that caused the submersible development pump to become stuck in the well. Several attempts have been made to remove the pump. As discussed by phone on October 1, 2018, SCS plans to remove the pump tubing from the well and leave the stainless steel pump in place near the bottom of the well. The well should still function properly and the stuck pump should not influence the sampling results.

Please contact Robert Langdon at (608) 216-7329 if you have any questions regarding the monitoring well redevelopment work or proposed sampling methods.

Sincerely,

Robert Langdon Senior Project Manager

Pobet & Jang L

SCS Engineers

Michael J. Prattke Division Leader SCS Engineers

REL/AJR/MP



Mr. Jason Lowery October 16, 2018 Page 2

Encl. Table 1 - Monitoring Well Redevelopment Summary Attachment A - Monitoring Well Redevelopment Forms

Table 1 Monitoring Well Redevelopment Summary

Table 1 - Well Redevelopment Summary
Keck Farm Property, Watertown, WI/SCS Engineers Projet No. 25218118.00

Well	Well Redevelopment Completion Date	Depth to Water Prior to Purge (feet)	Total Depth* (feet)	Casing Volume (gallons)	Well Volume (gallons)	Total Volume Purged (gallons)	Casing Volumes Purged	Well Volumes Purged	Total Depth* (feet)	Well Purged Dry?	Well Purged Dry 3 Times or More?	Sustained Yield > 100 ml/min	Water Clear at Conclusion of Purging?	Initial Turbidity Reading (NTU)	Final Turbidity Reading (NTU)	Proposed Sampling Method	Notes
MW01C	9/6/2018	45.59	112.2	10.75	20.55	110	10	5	112.2	N	N	Υ	Υ	600.7	3.36	1	
WW03	9/6/2018	16.64	42.1	3.79	9.50	16	4	2	42.1	Υ	Υ	Υ	N	57.63	39.92	1	Purged dry 4 times
MW04	9/6/2018	27.27	67.5	5.88	11.60	30	5	3	67.5	Y	Υ	Y	N	95.60	96.40	1	Water level recovers at about 3 feet/min after purging dry. Purged dry 5 times.
MW05	9/5/2018	27.82	62.1	4.79	10.51	15	3	1	62.1	Y	Y	Υ	Y	35.27	22.41	1	Water level recovers at about 6 inches/minute after purging dry.
MW06	9/4/2018	37.54	65.4	4.01	9.72	60	15	6	65.4	Y	N	М	N	47.54	333.6	1	High initial turbidity. Well purges dry after 5 well volumes.
MW07	9/6-11/2018	37.50	57.7	3.13	8.85	32	10	4	57.7	Y	Y	Ν	N	315.8	88.61	2	Purged dry with bailer 3 times.
MW08	9/6-11/2018	58.42	72.2	2.01	7.73	24	12	3	72.2	Υ	Υ	N	N	344.6	216.0	2	Purged dry with bailer 3 times.
MW09	9/6-11/2018	37.50	89.7	4.27	9.98	24	6	2	89.7	Y	Υ	Ν	N	> 1000	111.2	2	Purged dry with bailer 3 times.
MW11D	9/4/2018	44.18	140.4	15.90	20.39	60	4	3	140.4	Y	Υ	Y	N	23.27	37.38	1	Water level recovers at about 1 foot/min after purging dry. Purged dry 4 times.
MW19C	9/5/2018	36.72	108.4	11.52	14.15	60	5	4	108.4	Y	N	Y	N	30.62	29.63	1	Purged dry after 4 well volumes and an increased pumping rate of approximately 3.5 gpm.
MW20C	9/4/2018	45.15	114.9	11.33	13.96	45	4	3	114.9	Y	Υ	Υ	N	20.65	57.75	1	Water level recovers at about 1 foot/min after purging dry. Purged dry 4 times.
MW26C	9/6/2018	25.82	124.2	16.25	18.89	130	8	7	124.2	Z	N	Υ	Υ	73.38	2.05	1	
MW28D	9/4/2018	45.97	195.5	24.96	27.61	170	7	6	195.5	Z	N	Υ	Y	25.78	14.01	1	
MW35D	9/7/2018	36.22	153.3	21.01	25.51	120	6	5	153.3	Z	N	Υ	Υ	9.16	4.77	1	
MW36D	9/7/2018	35.27	47.2	17.66	22.16	86	5	4	47.2	N	N	Y	Y	541.3	1.94	1	
MW40D	9/6/2018	38.61	139.6	16.60	21.10	100	6	5	139.6	Ν	N	Υ	Υ	15.32	1.88	1	
MW43D	9/6/2018	23.92	158.8	22.40	26.91	150	7	6	158.8	N	N	Y	Υ	81.16	15.21	1	
MW44D	9/7/2018	39.1 <i>7</i>	145.8	17.56	22.06	123	7	6	145.8	N	N	Y	Υ	10.07	2.45	1	
MW45D	9/4/2018	35.30	137.7	16.83	21.32	101	6	5	137.7	Ν	N	Υ	Υ	832.8	1.85	1	
MW46D	9/10/2018	10.72	128.9	19.46	23.96	100	5	4	128.9	N	N	Y	Y	88.38	2.84	1	

Abbreviations:

N = No

Y = Yes

M = Maybe

Notes:

* - Total Depth measured during well inspection in July 2018

1 - Low-flow sampling

2-Purge with bailer or pump and sample

 $I: \ 25218118.00 \setminus Deliverables \setminus Monitoring \ Well \ Redvelopment \ Summary \setminus [Keck \ Farm \ Well \ ReDevelopment \ Summary \ Table \ 20180912.xls]$

Page 1 Keck

Attachment A Monitoring Well Redevelopment Forms

State of Wisconsin Department of Natural Resources

Remediation/Re	edevelopment X	Other				
Facility/Project Name	County Name		Well Name MW-1C			
Keck Farm	Jeff	erson County	1	The second secon		
Facility License, Permit or Monitoring Number	County Code 28	Wis. Unique Well N	umber DNR W	/ell ID Number		
1. Can this well be purged dry?	Yes 🖾 No	11. Depth to Water		nt After Development		
2. Well development method		(from top of	a. $-\frac{45.5}{9}$ ft	46.88 n.		
surged with bailer and bailed	41	well casing)				
surged with bailer and pumped	61					
	42	Date	609106120	$\frac{i}{y} \frac{g}{y} \frac{O}{m} \frac{9}{m} \frac{1}{d} \frac{G}{d} \frac{1}{y} \frac{2}{y} \frac{0}{y}$		
	62		mm dd y y	y y m m d d y y y		
	70		∏ a.n	a.m.		
	20	Time	c. 09:15 pr	n. <u> 0 : 0 </u> a.m.		
	10					
pumped only	5 1	12. Sediment in well		es _ O . O inches		
pumped slowly	5.0	bottom				
Other		13. Water clarity	Clear 10 Turbid 15	Clear ☑ 20 Turbid ☐ 25		
	<u>55</u> min.		(Describe) 600 NTU	(Describe) 3,36 NTU		
The population was transfer and the same of the same o	2.2 ft.					
5. Inside diameter of well	- <u>0</u> _ in.					
7. Volume of water removed from well 8. Volume of water added (if any) 9. Source of water added		14. Total suspender solids 15. COD	by: Name (first, last) and			
(If yes, attach results)	First Name: Charles Last Name: B.115 Firm: SCS Engineers					
17. Additional comments on development:						
Name and Address of Facility Contact / Owner/Response First Name: Jerome Last Keck Name:	nsible Party	I hereby certify to of my knowledge		on is true and correct to the best		
Facility/Firm: Keck Farm		Signature: U	welles In	`		
Street: P.O. Box 232			hailes A B			
City/State/Zip: Clyman, WI 53016		Firm: SCS	S Engineer	5		

All wells -			, ,
Well Name: MW-1C			
Purge date: 9/6/18	Total tim	e purged (hrs/r	min): 53
Total depth before redevelopment:	12,2 T	otal depth after	redevelopment: 112,2
Calculated well purge volume (gal): 1	x: 10.75 4	x: 43 1	0x:
For wells that do not purge dry	y -		
Depth to water and turbidity (NTU) m	neasurements du	ring purging/re	edevelopment (per well
volume): 1 600.7 N	TU		
1) 46.73 / 67.3 N	TU 6)	46.85	12.60
2) He 79 / 10.50	7)	46.85	1 3.45
3) 46 60 / 8.60	8)	46.85	13.69
4) 46.83 / 6.38	9)	46.85	1 4.08
5) 46.86 / 4.73	10)	46.88	3.36
Flow during redevelopment: 9500 Total volume purged (gallons): 10 1 Estimated sustainable yield: 9500 (no. 1) For wells that purge dry – documents	nl/min). S		ld > 100 ml/min: N m of 24 hours apart
Date/time: Turbidity: No	ne Low High	DTW:	Vol. Removed (gal):
Date/time: Turbidity: No.	ne Low High	DTW:	Vol. Removed (gal):
Date/time: Turbidity: No	ne Low High	DTW:	Vol. Removed (gal):
Notes: Start 94 0915, pump (atc -> 5 gal/2min	cloudy upo	n pumps	tert

Route to: Watershed/Wa	Waste Management					
Remediation/R	edevelopment X	Other				
Facility/Project Name	County Name		Well Name MW-3			
Keck Farm	Jeffe					
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well N	umber	DNR Well	ID Number	
1. Can this well be purged dry?	11. Depth to Water	After Development				
surged with block and bailed surged with block and pumped surged with block, bailed and pumped compressed air bailed only pumped only pumped slowly Other	70 20 10 51	(from top of well casing) Date Time 12. Sediment in well bottom 13. Water clarity	b. <u>O</u> <u>9</u> / <u>O</u> d c. <u>O</u> <u>8</u> : <u>O</u> Clear [] Turbid [4]	$\frac{6}{d} / \frac{2}{y} \frac{o}{y} \frac{i}{y}$ $O \square \text{ p.m.}$ $O \text{ inches}$ 10 15	9 0 9 0 6 1 2 0 1 8 y m m d d y y y y 0 9:30 □ p.m. - 0.0 inches Clear □ 20 Turbid ≥ 25 (Describe)	
4. Depth of well (from top of well casisng)	(Describe) (Describe) 39.42 NTO			39,42 NTO		
	. <u>0</u> _ in.			The state of the s		
7. Volume of water removed from well			d _`	mg/l	nt solid waste facility:mg/l	
10. Analysis performed on water added?	Yes 🗆 No	16. Well developed First Name: CL Firm: SCS	narles	Last Nam		
17. Additional comments on development:						
Name and Address of Facility Contact / Owner/Responsive First Name: Jerome Last Keck Name: Keck Facility/Firm: Keck Facility/Firm: Street: P.O. Box 232	nsible Party	of my knowledge	e.	to	is true and correct to the best	
City/State/Zip: Clyman, WI 53016		Firm: SC	Strgi	neers		

Well Name: M	W-S		
Well Name: M Purge date: 9/6	7/18 Total t	ime purged (hrs/n	nin): 1:30
Total depth befor	e redevelopment: 42,10		redevelopment: 42.10
Calculated well p	ourge volume (gal): 1x: 3,79	4x: 15.16 10)x: 37, 9
For wells that	do not purge dry -		
Depth to water ar	nd turbidity (NTU) measurements	during purging/red	development (per well
volume):	1 57.63 duse 49415		
1) 14.86	159.9 and 49ds 6)	
2) 15.21	138.14 du D Ugals 7)	
3) 18.15	39,92 day & 494/3 8)	
4)	9)		
5)	10	0)	
Estimated sustair	rged (gallons): 16 nable yield: 100 (ml/min).		l > 100 ml/min: № N
For wells that	purge dry – document 3 purge	events a minimun	n of 24 hours apart
Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):
,	Well wrived group needs	anje Mie F	ixed
Notes: Has			

State of Wisconsin Department of Natural Resources

Route to: Watershed/Wastew	ater	Waste Management				
Remediation/Rede	velopment X	Other				
Facility/Project Name	County Name		Well Name MW-4			
Keck Farm	Jeffers	ion				
	County Code 28	Wis. Unique Well No			II ID Number	
1. Can this well be purged dry?	□ No	11. Depth to Water	Maria Maria		After Development	
2. Well development method surged with bailer and bailed	1 2 2 0 0 0 0	well casing) Date	b. $\frac{O}{m} \frac{q}{m} / \frac{O}{d} \frac{G}{d} / \frac{2}{y} \frac{O}{y} \frac{1}{y} \frac{8}{y} \frac{O}{m} \frac{q}{m} / \frac{G}{d} \frac{G}{d}$ c. $\frac{O}{q} : 33 \square pm$. $10 : 23 \square m$			
3. Time spent developing well5	Omin.		(Describe)		(Describe)	
4. Depth of well (from top of well casisng) 6 7	. <u>≤</u> ft.		95.66	7010	46.40 NTO	
5. Inside diameter of well	_ in.		-			
6. Volume of water in filter pack and well casing	. <u>O</u> gal.			mg/l	at solid waste facility:	
10. Analysis performed on water added? [] Ye (If yes, attach results)	s 🗆 No	16. Well developed I First Name: Cho	arles			
17. Additional comments on development:						
Name and Address of Facility Contact/Owner/Responsible First Jerome Last Keck Name: Keck Facility/Firm: Keck Farm Street: P.O. Box 232 City/State/Zip: Clyman, WI 53016	e Party	of my knowledge Signature:		m	is true and correct to the best	

Well Re-development F	orm – Keck Farm; Page 2
All wells -	
Well Name: MW-4	
Purge date: 9/6/18	otal time purged (hrs/min):50
Total depth before redevelopment: 67.5	Total depth after redevelopment: 67.5
Calculated well purge volume (gal): 1x: 5.88	4x: 23.52 10x: 58.8
For wells that do not purge dry -	
Depth to water and turbidity (NTU) measurement	ents during purging/redevelopment (per well
volume): 0) 27.27 / 95,60 1) fumped Dry / 40.93	
1) Pumped Dry 40.93	6) /
2) Pumped Dry / 23.95 3) Pumped Dry / 107.6	7)
3) Pumped Dry 107.6	8)
4) Pumped Dry/ 10P.3	9)
5) pumped Diy / 96,4	10)
Flow during redevelopment: 9500 (ml/min)	
Total volume purged (gallons): 30	A 200
Estimated sustainable yield: 1500 (ml/min).	Sustainable yield > 100 ml/min: № N

For wells that purge dry - document 3 purge events a minimum of 24 hours apart

Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):

Notes: 5+9r+ a+ 0933	, cloudy	upon	appearance
pump rate -> \$ 5941/2min	3		
Recovery rate -> 23ft /min			
done @ 1022			
pumped 2 30gal			

Route to: Watershed/Was	tewater	Waste Management					
Remediation/Re	development X	Other					
Facility/Project Name	County Name		Well Name				
Kech Farm	Jeffer		1	MW-	-5		
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well N	umber	DNR Wel	1 ID Number		
	28						
1. Can this well be purged dry?	Yes 🗆 No	11. Depth to Water	Before De	velopment	After Development		
Well development method surged with bailer and bailed		(from top of well casing) Date	a. $27.82 ft$. $61.05 ft$. b. $\frac{09}{m} \frac{05}{2} \frac{2018}{d} \frac{09}{y} \frac{05}{y} \frac{201}{y} \frac{1}{y} \frac{09}{m} \frac{5}{d} \frac{201}{y} \frac{1}{y} \frac$				
(A)	51 50	12. Sediment in well bottom 13. Water clarity		1 0	_ <u>O</u> . <u>O</u> inches Clear □ 20 Turbid ☑ 25		
3. Time spent developing well	<u>6</u> Omin.		(Describe)		(Describe)		
	2. 1 ft.						
5. Inside diameter of well2	<u>O</u> _ in.						
6. Volume of water in filter pack and well casing	Fill in if drilling fluids were used and well is at solid waste facility: 14. Total suspended mg/l mg/l solids 15. COD mg/l mg/l 16. Well developed by: Name (first, last) and Firm First Name: Charles Last Name: B:115 Firm: SCS Engineers.com						
10. Analysis performed on water added? [] (If yes, attach results)							
17. Additional comments on development:	A (I - E) SAC - TRINICE - C - C - CALICON C -						
Well recovers at	approximate	ely leinches	per N	M.nute	4		
Name and Address of Facility Contact / Owner/Respons First Name: Jerome Last Name: Keck	ible Party	I hereby certify the of my knowledge,		nformation i	is true and correct to the best		
Facility/Firm: Keck Farm		Signature:	varles	- Al	2		
Street: P.O. Box 232		Print Name: Ch	arles A	Bill	15		
City/State/Zip: Clyman, WI 53016		Firm: SCS	S Engir	neers			

pment: <u>(2,1</u> ne (gal): 1x: <u>4.79</u> nurge dry - (NTU) measurement. 27 (3 72 11 :: <u>9500(ml/min)</u> .	4x: 19.16	ter redevelopment: <u>62,1</u>
pment: <u>(2,1</u> ne (gal): 1x: <u>4.79</u> nurge dry - (NTU) measurement. 27 (3 72 11 :: <u>9500(ml/min)</u> .	Total depth aff $4x$: 19.16 ts during purging/ 6) 7) 8)	ter redevelopment: 62,1
pment: <u>(2,1</u> ne (gal): 1x: <u>4.79</u> nurge dry - (NTU) measurement. 27 (3 72 11 :: <u>9500(ml/min)</u> .	Total depth aff $4x$: 19.16 ts during purging/ 6) 7) 8)	ter redevelopment: 62,1
ne (gal): 1x: 4.79 ourge dry - (NTU) measurement .27 23 22 11 :: 9500(ml/min).	4x: 19.16 ts during purging/	10x: <u>47.9</u>
NTU) measuremen. 27 23 21 21 25 20 20 20 20 20 20 20 20 20	ts during purging/ 6) 7) 8)	
(NTU) measurement. 27 (3) (2) (1) (2) (3) (2) (4) (m) (m) (m)	6) 7) 8) 9)	redevelopment (per well
.27 (23 12 11 :: 9500(ml/min).	6) 7) 8) 9)	
(2) 12 11 1: 9500(ml/min).	7) 8) 9)	
: <u>9500(ml/min)</u> .	8) 9)	
: 9500(ml/min).	9)	
: <u>9,5 00</u> (ml/min).		
	10)	
	7. m	
ns):		ield > 100 ml/min: N
ry – document 3 pur	ge events a minin	num of 24 nours apart
idity: None Low Hig	gh DTW:	Vol. Removed (gal):
idity: None Low Hi	gh DTW:	Vol. Removed (gal):
idity: None Low Hi	gh DTW:	Vol. Removed (gal):
)	ry – document 3 pur idity: None Low Hi idity: None Low Hi idity: None Low Hi	ry – document 3 purge events a minin idity: None Low High DTW: idity: None Low High DTW: idity: None Low High DTW:

Route to: Watershed/W	astewater	Waste Management
Remediation/	Redevelopment X	Other
Facility/Project Name	County Name	Well Name
Keck Farm	Jeff	erson County MW-Ce
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number DNR Well ID Number
	28	
1. Can this well be purged dry?	Yes 🗆 No	Before Development After Development 11. Depth to Water
2. Well development method		(from top of a 3 7 5 4 ft 3 8 0 0 ft.
surged with bailer and bailed	1 41	well casing)
surged with bailer and pumped	61	
surged with block and bailed	42	Date b. $\frac{O}{m} \frac{q}{m} / \frac{O}{d} \frac{l}{v} \frac{l}{v} \frac{g}{v} \frac{Q}{v} \frac{q}{v} \frac{l}{m} \frac{g}{m} \frac{l}{d} \frac{l}{d} \frac{l}{v} \frac{l}{v} \frac{g}{v} \frac{g}{v}$
surged with block and pumped	62	mmddyyyy mmddyyyy
surged with block, bailed and pumped	70	1 2ПатПат.
compressed air	20	Time c. 1 3 : 0 2 \(\text{p.m.} \) 1 4 : 0 2 \(\text{p.m.} \)
bailed only	10	
pumped only	J 51	12. Sediment in wellOinchesOo inches
pumped slowly	5.0	bottom
Other		13. Water clarity Clear □ 10 Clear □ 20 Turbid ☑ 15 Turbid ☑ 25
	<u>6</u> 0 min.	(Describe) (Describe) (Describe) 333.60 NTU
4. Depth of well (from top of well casisng)	e 5 . 4 ft.	Fine Sand in discharge
5. Inside diameter of well2	2. <u>0</u> <u>0</u> in.	
Volume of water in filter pack and well casing	LO.5 gal.	
		Fill in if drilling fluids were used and well is at solid waste facility:
7. Volume of water removed from well	e O O gal.	
8. Volume of water added (if any)	_ <u>O</u> , <u>O</u> gal.	14. Total suspended mg/l, mg/l solids
9. Source of water added		15. COD mg/l mg/l
		16. Well developed by: Name (first, last) and Firm
10. Analysis performed on water added?	Yes No	First Name: Charles Last Name: Bills
(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,		Firm: SCS Engineers
17. Additional comments on development:		3
Well went Day after	r 5 well	volumes when pumping at 2.5 gallons/
Name and Address of Facility Contact/Owner/Respo	nsible Party	I hereby certify that the above information is true and correct to the best
First Jerome Last Keck Name:		of my knowledge.
Facility/Firm: Keck Farm		Signature: Charles fri
Street: P.O. Box 232		Print Name: Charles A Bills
City/State/Zip: Clyman, WI 53016		Firm: SCS Engineers

All wells -	ito dovolopinom i	ALL TEOUR E	1111, 1 480 2
Well Name: MW-			
Purge date: 9/4/18	· Tot	al time purged (hrs	s/min):
Total depth before red	levelopment: 65.40	Total depth aft	ter redevelopment: 65.40
	volume (gal): 1x: 4.01	4x: 16,04	10x: 40.1
For wells that do	not purge dry -		
volume).	rbidity (NTU) measuremen	nts during purging/	redevelopment (per well
1) 46.65 /	47.54NTU 49.27 NTU	6) 38	673.72 Mu
2) /	OL	7)	211.89 AM
3) /	OL	8)	154,20 NTU
4) . /	OL	9)	333,60 NTU
5) Ce 3.00	1 OL	10)	
Total volume purged Estimated sustainable	pment: 9500 (ml/min). (gallons): Wat 60 yield: 100 (ml/min).	Sustainable yi	
Date/time:	Turbidity: None Low H	igh DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low H	igh DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low H	igh DTW:	Vol. Removed (gal):
Notes: start whe dry after Turbidity	fire god in 5 will volumes too high for n	4/4/18 dulage neter to rea	ad (OL)

Mell Name Well Name MW-7 de Wis. Unique Well Number DNR Well ID Number
de Wis. Unique Well Number DNR Well ID Number
11. Depth to Water Before Development After Development
(from top of a. 3 7 5 0 ft. 3 5 7 2 ft. well casing)
Date b. $\frac{0}{m} \frac{q}{m} \frac{1}{d} \frac{Q}{d} \frac{Q}{y} \frac{Q}{y} \frac{1}{y} \frac{g}{y} \frac{g}{m} \frac{q}{m} \frac{1}{d} \frac{d}{d} \frac{1}{y} \frac{Q}{y} \frac{1}{y} \frac{1}$
Time c. 04:30 Ma.m. 10:30 Ma.m. 12. Sediment in well 0 0 inches 0 0 inches
bottom 13. Water clarity Clear 10 Clear 20
Turbid ≥ 15 Turbid ≥ 25 (Describe) (Describe)
315.8 NTU 88.6 NTU
Fill in if drilling fluids were used and well is at solid waste facility: 14. Total suspended mg/l mg/l solids 15. COD mg/l mg/l 16. Well developed by: Name (first, last) and Firm First Name: Charles: Last Name: Bills Firm: SCS Engineers
I hereby certify that the above information is true and correct to the best of my knowledge. Signature: Charles A Bill S

Well Name: MW -	1			
Purge date: 9)6/	16 Total	time purged (hrs/min):	
, ,	redevelopment: 57,7	Total depth after red	levelopment: 57.7	
	ge volume (gal): 1x: 3 · 4	4x: 13. μ 10x:	34.0	
For wells that d	o not purge dry -			
Depth to water and volume):	turbidity (NTU) measurements	during purging/redev	velopment (per well	
1) d. 0 3011	5 / 315 Ca 6)		
2) 75 95 MY	5/315.68 6 das@ 12991/133.5 7)		
3)	anto (Edd.) 122.0)		
4)	9)		
5)	1	10)		
Flow during redeve	elopment:(ml/min).	0)		
Flow during redeve Total volume purge Estimated sustainal	elopment:(ml/min).	Sustainable yield	> 100 ml/min: Y N	
Flow during redevent Total volume purget Estimated sustainal For wells that p	elopment:(ml/min). ed (gallons):3 2 ple yield:(ml/min). ourge dry – document 3 purge	Sustainable yield	of 24 hours apart	
Flow during redever Total volume purge Estimated sustainal For wells that purget Date/time:	elopment:(ml/min). ed (gallons): 3 2 ple yield:(ml/min). ourge dry – document 3 purge Turbidity: None Low (light)	Sustainable yield	of 24 hours apart Vol. Removed (gal)	
Flow during redeve Total volume purge Estimated sustainal	elopment:(ml/min). ed (gallons):3 2 ple yield:(ml/min). ourge dry – document 3 purge	Sustainable yield a events a minimum of DTW: 37.50 DTW:	Vol. Removed (gal) 8 9 4 Vol. Removed (gal)	
Flow during redever Total volume purge Estimated sustainal For wells that purge Date/time:	elopment:(ml/min). ed (gallons):3 2 ple yield:(ml/min). ourge dry – document 3 purge Turbidity: None Low High 315.8 Turbidity: None Low High 133.5	Sustainable yield a events a minimum of DTW: 3 7.50 DTW: 3 5.96	Vol. Removed (gal) 8 9 9 1 Vol. Removed (gal) 12 9 9 18	
Flow during redever Total volume purger Estimated sustainal For wells that purger Date/time:	elopment:(ml/min). ed (gallons):3 2 ple yield:(ml/min). ourge dry – document 3 purge Turbidity: None Low High 133.5 Turbidity: None Low High	Sustainable yield a events a minimum of DTW: 3 7.50 DTW: 3 5.96	Vol. Removed (gal) 8 9 a l Vol. Removed (gal)	
Flow during redever Total volume purger Estimated sustainal For wells that purger Date/time: 9/4/18 0930 Date/time: 9/4/18 /060 Date/time: 9/4/18 /060	elopment:(ml/min). ed (gallons):3 2 ole yield:(ml/min). ourge dry – document 3 purge Turbidity: None Low High 133.5 Turbidity: None Low High 133.5 Turbidity: None Low High 133.5	Sustainable yield a events a minimum of DTW: 3 7.50 DTW: 3 5.96	Vol. Removed (gal) 8 9 9 1 Vol. Removed (gal) 12 9 9 8 Vol. Removed (gal)	
Flow during redever Total volume purger Estimated sustainal For wells that purger Date/time: 9/6/18 0930 Date/time: 9/6/16 /060 Date/time:	elopment:(ml/min). ed (gallons):3 2 ple yield:(ml/min). ourge dry – document 3 purge Turbidity: None Low High 133.5 Turbidity: None Low High	Sustainable yield a events a minimum of DTW: 3 7.50 DTW: 3 5.96	Vol. Removed (gal) 8 9 9 1 Vol. Removed (gal) 12 9 9 8 Vol. Removed (gal)	

9/10

Route to: Watershed/Wa		Waste Management			
Remediation/R					
Facility/Project Name	County Name	- ((Well Name	11.	^
Keck Farm		efferson		MW-	
Facility License, Permit or Monitoring Number	County Code 28	Wis. Unique Well N	umber	DNR Well	ID Number
1. Can this well be purged dry?	Yes 🗆 No	11. Depth to Water			After Development
	42 62 70	(from top of well casing) Date Time 12. Sediment in well bottom	b. <u>O q / O G</u> m m d d	/ 2 <u>0</u> <u>i</u> y y y	$\frac{57.72}{y}$ ft. 8 $\frac{09}{m}$ $\frac{1}{m}$ $\frac{1}{d}$ $\frac{1}{2}$ $\frac{018}{y}$ $\frac{1}{y}$
Other		13. Water clarity	Clear □ 1 Turbid ☑ 1		Clear 20 Turbid 25
3. Time spent developing well	min.		(Describe)	(Describe)
4. Depth of well (from top of well casisng)	2.2 ft.		344.6	O NTU	216.0 NTU
5. Inside diameter of well2	. <u>0</u> <u>0</u> in.				
7. Volume of water removed from well	8. 1 gal. 4. 0 gal. 0. 0 gal.	Fill in if drilling flui 14. Total suspended solids 15. COD	1	mg/l	solid waste facility:mg/l
10. Analysis performed on water added?	Yes 🗆 No	16. Well developed First Name: Cha	arl.e	Last Name	
17. Additional comments on development:					
Name and Address of Facility Contact / Owner/Responsibles First	sible Party	I hereby certify the		ormation is	true and correct to the best
Facility/Firm: Keck Farm		Signature:	rareles	ton	
Street: P.O. Box 232		Print Name: C	hartes Es Engi	A	Bills
City/State/Zip: Clyman, WI 53016		Firm: SC	-S Eng.	ineer	-5

All wells -			
Well Name: MW-8			
Purge date:	Total tin	ne purged (hrs/min)	<u> </u>
Total depth before redevelopment: 72	,2 T	otal depth after red	levelopment: 72,2
Calculated well purge volume (gal): 1x:	2.34 4	x: 9.36 10x:	23.4
For wells that do not purge dry -			
Depth to water and turbidity (NTU) mea		ring purging/redev	elopment (per well
volume): / 344.4			1 4
1) 57.77 242.8	(6)		2
2)	7)		
3)	8)		
4)	9)		
5)	10)		
Total volume purged (gallons): 24 Estimated sustainable yield: (ml/r			100 ml/min: Y N f 24 hours apart
Date/time: Turbidity: None 9/4/18 0900 344.4		DTW: 58.42	Vol. Removed (gal):
Date/time: Turbidity: None 9/10/18 1050 242 6		DTW: 57.77	Vol. Removed (gal): 89915
Date/time: Turbidity: None 9 11/2 1100 216/0	Low High	DTW: 57.72	Vol. Removed (gal):
Notes: Dry@ 8gal Muddy	water		•
	4		

gement
Well Name MW-9
Well Number DNR Well ID Number
Water Before Development After Development
b. O q / O G / 2 O 1 8 O q / 1 1 / 2 O 1 8 m m / d d / y y y y m m / d d / y y y y c. O 1: O O p.m. 12: O O p.m. in well O. O inches O. O inches Turbid 15 Turbid 25 (Describe) (Describe) (Describe) + oo h.gh for Meter to Read
ing fluids were used and well is at solid waste facility: pendedmg/lmg/l
mg/lmg/l
Charles Last Name: Bill S Engineers
crify that the above information is true and correct to the best wledge. Charles A BILS SCS Engineers
(

All wells -		3.92.79 197.	
Well Name: MW-	9		
Purge date: 9/4/18	Total	time purged (hrs/min)	15 \ Oal, F.S.
Total depth before red		Total depth after red	evelopment: 89.7
	volume (gal): 1x: <u>4,27</u>	4x: 17,08 10x:	42.7
For wells that do			
	bidity (NTU) measurements	during purging/redev	elopment (per well
volume): 63,37 /		TiTVi	2784 11274
1) 62.42 /	375.2	5)	
2)	7	7) 97(%	30.8-1 10-13
3)	8	3)	- V - P & 800
4)	9	9) .	600
5)]	10)	2785 1 000
Total volume purged (Estimated sustainable		Sustainable yield >	
Date/time:	Turbidity: None Low(High	DTW:	Vol. Removed (gal):
916/18 400	Toohigh to Read	63.37	8 gals
Date/time: 9/10/18 1145	Turbidity: None Low Migh		Vol. Removed (gal): 8 gals
Date/time: 9/11/14 1200	Turbidity: None Low High		Vol. Removed (gal):
Well is h	Redevelop, Primp Kinked & 30ft don er to Redevelop	does not rea	ich weter

Route to: Watershed/Was	tewater	Waste Management			
Remediation/Re	Other				
Facility/Project Name	County Name		Well Name		
Kech Farm	Jeff	erson	MW-11D		
Facility License, Permit or Monitoring Number	County Code 28	Wis. Unique Well No	umber	DNR Well	ID Number
1. Can this well be purged dry?	Yes 🗆 No	11. Depth to Water			After Development
surged with block and bailed surged with block and pumped surged with block, bailed and pumped compressed air bailed only pumped only pumped slowly Other	41 61 42 62 70 20 10 51 50 60 min. 0.4 ft. 0.9 gal. 0.0 gal.	(from top of well casing) Date Time 12. Sediment in well bottom 13. Water clarity Fill in if drilling fluid 14. Total suspended solids	b. <u>O</u> 4/ <u>O</u> 6 m m d d d d d d d d d d d d d d d d d	2 0 1 y y y y y y y y y y y y y y y y y y	40 4 0 ft. 3
9. Source of water added		15. COD			mg/l
10. Analysis performed on water added?	Yes □ No	16. Well developed I First Name: CV Firm: SCS	narl-c	Last Name	: Bills
17. Additional comments on development:					
Purged dry four +	imes				
Name and Address of Facility Contact / Owner/Responsers First Name: Last Keck	ible Party	I hereby certify the of my knowledge.		nformation is	s true and correct to the best
Facility/Firm: Keck Farm		Signature:	harles	for	
Street: P.O. Box 232		Print Name:	Charles	AT	Bill
City/State/Zip: Clyman, WI 53016	-	Print Name:	CS Eng	ineei	- S.

All wells -			,
Well Name: MW -	-11D		
Purge date: 9/4/18	RTot	al time purged (hrs/mi	n):60
Total depth before re-	development: 140,4		edevelopment: 140,4
	e volume (gal): 1x: 15.9	4x: 63.6 10x	: 159.0
For wells that do	not purge dry -		
volume):	arbidity (NTU) measuremen	nts during purging/rede	velopment (per well
1) Pumped Day	1 23.27 NTU	6)	/
2) Pumped Dry	1	7)	/
3) pumped Dry	1	8)	/
4) Remped Dry	1 37.38	9)	/
5)	1	10)	1
Total volume purged Estimated sustainable	*	Sustainable yield	
Date/time:	Turbidity: None Low Hi	gh DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low Hi	gh DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low Hi	gh DTW:	Vol. Removed (gal):
Notes: Segin @	1307	(d.)	
No Sedime	ent after agretion 5 agillans	(Clear) Recovery Z	1 f+/min
Diy aguin a	111		
Pumps Dig	but after more		
Pumped ate	tal of 4 well volume	2:	

Route to: Watershed/Wat	Waste Management				
Remediation/Redevelopment [Facility/Project Name County Name		Olice	Well Name		
Keck Farm	Jeffe	rson	MW-196		
Pacility License, Permit or Monitoring Number	County Code 28	Wis. Unique Well N	lumber	DNR Well I	D Number
1. Can this well be purged dry?	Yes 🗆 No	11. Depth to Water			After Development
surged with block and pumped surged with block, bailed and pumped compressed air bailed only pumped only pumped slowly Other	10	(from top of well casing) Date Time 12. Sediment in well bottom 13. Water clarity Fill in if drilling flu	b. Qq/Qmm d c. LO: 5 Clear Turbid (Describe) 30.6 by: Name (first	25/2 0 1 y y y 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2	solid waste facility: mg/l
	sible Party	I hereby certify the of my knowledge Signature:	hat the above :		true and correct to the best
City/State/Zip: Clyman, WI 53016		Firm: S	CS En	gineer	S

1 Ke-development 1 of	III ILOOK I GIIII	, 1 45 -
19 C		
8 Total	time purged (hrs/mi	n):30
edevelopment: MA 108,4	Total depth after re	edevelopment: 108.4
ge volume (gal): 1x: 11.52	4x: 46.08 10x	x: 115,Z
not purge dry -		
urbidity (NTU) measurement	s during purging/rede	evelopment (per well
30.62		
49.71	6)	
1 33,16	7)	
129.65	8)	
1 30.35	9)	
129.63	10)	
d (gallons): 600 (ml/min).	Sustainable yield	> 100 ml/min: (V) N
urge dry – document 3 purg	ge events a minimum	of 24 hours apart
Turbidity: None Low Hig	h DTW:	Vol. Removed (gal):
Turbidity: None Low Hig	h DTW:	Vol. Removed (gal):
Turbidity: None Low Hig	sh DTW:	Vol. Removed (gal):
Dry @ 1120 hile pumping		
	Total development: MA 108,4 development: MA 108,4 development: MA 108,4 development (gal): 1x: 11.62 development (NTU) measurement: 30.62 development: 30.62 development: 30.62 development: 4.30.35 d	Total time purged (hrs/mindevelopment: 108,4 Total depth after reservolume (gal): 1x: 11.62 4x:

<u>Koute to:</u> Watershed/Wastev Remediation/Rede		Waste Managemen			
Facility/Project Name Keck Farm	County Name		Well Name	UW-200	
Facility License, Permit or Monitoring Number	County Code 28			DNR Well ID Num	
1. Can this well be purged dry?	s 🗆 No	11. Depth to Water		lopment After D	
surged with bailer and pumped surged with block and bailed surged with block and pumped surged with block, bailed and pumped compressed air bailed only pumped only pumped slowly Other 3. Time spent developing well 4. Depth of well (from top of well casisng) 5. Inside diameter of well 6. Volume of water in filter pack and well casing 7. Volume of water removed from well 7. Volume of water added (if any) 9. Source of water added 10. Analysis performed on water added? 7. You have a surged with block and bailed and pumped 5. Inside diameter of well 6. Volume of water added 7. Volume of water added 7. Volume of water added 7. Volume of water added 9. Source of water added	2 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(from top of well casing) Date Time 12. Sediment in well bottom 13. Water clarity Fill in if drilling flu 14. Total suspender solids 15. COD	a 4 5 1 b. 0 9 0 4 d d c. 1 2 : 3 5 Clear [] 1 (Turbid 1 : (Describe)	d well is at solid wa	9 / 0 4 / 2 0 1 / y y y 0 5 □ a.m. 0 . Q inches 1 20 7 25 2) 75 NTU aste facility:mg/l
(If yes, attach results)		Firm: SCS			
17. Additional comments on development: Pumped Dry 5 +	imes				
Recovers at approxi		Conches	am	inute	
Name and Address of Facility Contact/Owner/Responsible First Jerome Last Name: Keck	le Party	I hereby certify to		ormation is true and	l correct to the best
Facility/Firm: Keck Farm			harles		
Street: P.O. Box 232				A Bil	15
City/State/Zip: Clyman, WI 53016		Firm: Sc	CS Engin	eers	

Well Name: MW Purge date: 9/4)-20C			
Purge date: 9/4				
	1/18	Total tim	e purged (hr	s/min):1/30
Total depth before	redevelopment: 115.0			ter redevelopment: 115,0
	urge volume (gal): 1x:			10x: 113,3
	W.			103.
ror wens man	do not purge dry -			
	d turbidity (NTU) measure	ments du	ring purging	redevelopment (per well
volume):	1 20.65			
1) Punpagery	/-	6)		/
2) Pumpodry	/	7)		/
3) Mimpelly	/	8)		/
4) pumped Dry	57.75	9)		/
5)	/	10)		
	velopment: 9500 (ml/m	in).		
Total volume purg Estimated sustaina For wells that	ged (gallons): 45 able yield: 650 (ml/min) purge dry – document 3	. S	rents a minim	num of 24 hours apart
Total volume purg Estimated sustaina For wells that	ged (gallons): 45 able yield: 650 (ml/min)	. S		
Total volume purg	ged (gallons): 45 able yield: 650 (ml/min) purge dry – document 3	. S purge ev	rents a minim	num of 24 hours apart

State of Wisconsm Department of Natural Resources		MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98			
Route to: Watersho	cd/Wastewater	Waste Management			
	tion/Redevelopment X	Other			
Facility/Project Name Keck Farm	County Name Teff		Well Name MW.	-26C	
Facility License, Permit or Monitoring Number	County Code 28	Wis. Unique Well Nun	nber DNR Wei	II ID Number	
1. Can this well be purged dry?	☐ Yes No	11. Depth to Water	Before Development	After Development	
2. Well development method		(from top of	2582ft.	27.85 A.	
surged with bailer and bailed	□ 41	well casing)			
surged with bailer and pumped	□ 61				
surged with block and bailed	□ 42	Date	09106120	18 091061201	
surged with block and pumped	□ 62	0	mmddyyy	1 8 0910612010	
surged with block, bailed and pumped	□ 70				
compressed air	□ 20	Time c	. 12:05 Dp.m.	12:57 a.m.	
bailed only	□ 10				
pumped only	DX 51	12. Sediment in well	_ O O inches	_ O O inches	
pumped slowly	□ 50	bottom			
Other		13. Water clarity	Clear □ 10 Turbid ☑ 15	Clear ⊠ 20 Turbid □ 25	
3. Time spent developing well	<u>52</u> min.		(Describe) 73,38 NTU	(Describe) 2,05 NTU	
4. Depth of well (from top of well casisng)	124.2 ft.				
5. Inside diameter of well	_ 2 . 0 0 in.				
Volume of water in filter pack and well casing	1_9_5 gal.	Eill in if drilling fluids	s were used and well is	nt colid weets facility	
7. Volume of water removed from well	130.0 gal.				
8. Volume of water added (if any)		14. Total suspended solids	mg/l	mg/l	
9. Source of water added		15. COD	mg/l	mg/l	
10. Analysis performed on water added? (If yes, attach results) 17. Additional comments on development:	☐ Yes ☐ No	16. Well developed by First Name: Cha Firm: SCS E	r: Name (first, last) and Firm Nes Last Nam EngineerS	ne: Bills	
17. Additional comments on development:					

Name and Address of Facility Contact/Owner/Responsible Party First Name: Last Name: Keck	I hereby certify that the above information is true and correct to the best of my knowledge.			
Facility/Firm: Keck Farm	Signature: Churles fr			
Street: P.O. Box 232	Print Name: Charles A Bills			
City/State/Zip: Clyman, WI 53016	Firm: SCS Engineers			

	Vell Re-development	Form – k	Keck Far	m; Page 2
All wells -				
Well Name: <u>M</u>				
Purge date: 9/6	//8T	otal time p	urged (hrs/r	nin): 0:52
Total depth befor	re redevelopment: 124,2	Tota	l depth after	redevelopment: 124,2
Calculated well p	ourge volume (gal): 1x:_[6,7]	25 4x:_	65 1	0x:_162.5
For wells that	do not purge dry -			
Depth to water as	nd turbidity (NTU) measurem	nents during	g purging/re	development (per well
volume):	1 73.38 NTU			
1) 27.60	1 73.38 NTU 1 87.06	6) 2	17.84	1 5.01
2) 27.30	1 31.16	7) 2	7.84	/ 3.63
3) 27.83	/ 12.30	8) 2:	7.85	/ 2.05
4) 27.84	12.28	9)		N.
5) 27.84	/ 12.74	10)		
	evelopment: 9500 (ml/min rged (gallons): 130	n).		
Estimated sustain	nable yield: 9000 (ml/min).	Sust	ainable yiel	d > 100 ml/min: № N
For wells that	purge dry – document 3 p	ourge event	s a minimu	m of 24 hours apart
Date/time:	Turbidity: None Low	High D	ΓW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low	High D	ΓW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low	High D'	TW:	Vol. Removed (gal):
Notes: fump Black Jus	ing Rate 2 2,5 gal + after starting, Cle @ 1205	11 Min	, after	1 Volume
3141 +84	(m) 1203			

Route to: Watershed/Wastev Remediation/Rede		Waste Management Other		
Facility/Project Name	County Name		Well Name	
Keck Farm		rson County	MW	1-280
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Num		II ID Number
	28			
1. Can this well be purged dry?	s 🗹 No	11. Depth to Water	Before Development	After Development
2. Well development method surged with bailer and bailed	2 2 0 0	well casing) Date b.	O q / O d / 2 O y	$\frac{124.70}{y} \frac{0}{m} \frac{4}{120} \frac{201}{y} \frac{8}{y} \frac{0}{y} \frac{9}{y} \frac{1}{y} \frac{3}{y} \frac{1}{y} 1$
pumped only pumped slowly Other	1			_ <u>O</u> . <u>O</u> inches Clear □ 20 Turbid ☑ 25
3. Time spent developing well	<u>O</u> <u>Min</u> .		(Describe)	(Describe)
4. Depth of well (from top of well casisng) 195	. <u>5</u> ft.		25.78 NTU	14,01 NTU
5. Inside diameter of well	<u>O</u> in.			
6. Volume of water in filter pack and well casing		14. Total suspended solids		mg/l
10. Analysis performed on water added? (If yes, attach results)	es 🗆 No	First Name: Cha Firm: SCS E	rl-c Last Nam	0 11 (
17. Additional comments on development:				
Name and Address of Facility Contact /Owner/Responsible First Jerome Last Name: Keck	e Party	I hereby certify that of my knowledge.	the above information	is true and correct to the best
Facility/Firm: Keck Farm		Signature:	wiles fr	
Street: P.O. Box 232		Print Name: Ch	erles A Bi	115
City/State/Zip: Clyman, WI 53016		Firm: SCS	Engineer	5

A 17 TO	- 10	78	
AII	wel	S	-

Well Name: MW-28 D

Purge date: 9/4/18

Total time purged (hrs/min): 1:40

Total depth before redevelopment: 195.5

Total depth after redevelopment: 195.5

Calculated well purge volume (gal): 1x: 24.46 4x: 99.84 10x: 249.66

For wells that do not purge dry -

Depth to water and turbidity (NTU) measurements during purging/redevelopment (per well

25.78 NTU

1)/2	28,29 3297	/	18.95 NTU	6) 125,20) /	14.01
2)	125.22	/	29.42 NTO	7)	/	
3)	125.70	/	14.90 NHU	8)	/	
4)	125,20	1	12.54 NTU	9)	/	
5)	124.70	/	10,31 NTU	10)	/	

Flow during redevelopment: 9500 (ml/min).

Total volume purged (gallons): 170 gellons

Estimated sustainable yield: 9000 (ml/min). Sustainable yield > 100 ml/min: N

For wells that purge dry - document 3 purge events a minimum of 24 hours apart

Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):

	gal /2 min.			
	1 94 1020			
darh	liquid atfirs	it, cleared 4	p lomin a	efter
Nosedir	negt, water lev	ul Stasilized	at 2.5 90	al /min
1000	@ 1200			

Route to: Watershed/Wast	ewater	Waste Management			
Remediation/Rec	levelopment X	Other 🗀			
Facility/Project Name	County Name		Well Nan	ne	
Keck Farm	Jeffers	on county		MW-3	35 D
Facility License, Permit or Monitoring Number	County Code 28	Wis. Unique Well No	umber	DNR Well	ID Number
1. Can this well be purged dry?	es 风 No	11. Depth to Water	Before I	Development	After Development
surged with block, bailed and pumped compressed air bailed only pumped only pumped slowly Other	61 42 62 70 20 10 51 50 50 60 60 60 60 60 60 60 60 60 60 60 60 60	(from top of well casing) Date Time 12. Sediment in well bottom 13. Water clarity	b. O 9/6 m m/6 c. I O: Clear [Turbid 2 (Describe 9.1	O 7 / 2 O i y y y y y y 2 O ma.m. O O inches O 10 O 15 O N TO ed and well is a mg/l irst, last) and Firm Last Nam	e: Bills
Name and Address of Facility Contact /Owner/Responsi	ble Party	I hereby certify th		e information	is true and correct to the best
Facility/Firm: Keck Farm		Signature: Co	harles	en	
Street: P.O. Box 232		Print Name: Cl	hanes	A BI	115
City/State/Zip: Clyman, WI 53016	 -	Signature: Co	S EI	nginee	rs

VV C	II Re-developmen	t FOIII	- Neck rail	n; Page 2
All wells -				
Well Name: Mh	1-350			
Purge date: 9/7//	8	Total tin	ne purged (hrs/m	nin):50
	edevelopment: 163,3			redevelopment: 153,3
	ge volume (gal): 1x: 21		x: 84.04 10	0x: 210,1
roi wells that de	o not purge dry -			
•	turbidity (NTU) measur	ements di	ring purging/red	development (per well
volume): o) 36,22	1 9.16 NT)		
1) 44.01	1 70.96	6)	44.27	1 4.77
2) 46.17	/ 31.70	7)		1
3) 43,44	1 6.29	8)		/
4) 44.10	13.41	9)		/
5) 44.32	12.21	10)		
Total volume purge Estimated sustainab	lopment: 9500 (ml/r) d (gallons): 130 le yield: 9500 (ml/mir) urge dry – document	n).		d > 100 ml/min: ♥ N m of 24 hours apart
Date/time:	Turbidity: None Lo	w High	DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Lo	w High	DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Lo	w High	DTW:	Vol. Removed (gal):
Notes: 5 941 5+41+ @	12 min 1020			

Route to: Watershed/Wastew	vater	Waste Management			
Remediation/Rede	velopment X	Other			
Facility/Project Name	County Name		Well Name		
Keck Farm	Jeffer	son County	N	1W-31	O D
Facility License, Permit or Monitoring Number	County Code 28	Wis. Unique Well No	umber	DNR Well	ID Number
1. Can this well be purged dry?	s No	11. Depth to Water	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		After Development
2. Well development method surged with bailer and bailed	1 2 2 0 0 0 0	well casing) Date	b. <u>0</u> <u>9</u> / <u>0</u> c. <u>1</u> <u>2</u> : <u>4</u>	7/201 d y y y 0 2.m. 0 □ p.m.	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
Other	4	13. Water clarity	Clear 🖂	15	Clear 🕱 20 Turbid□ 25
111.2	5 min.		(Describe)	3 NTU	(Describe)
			-		1,94 200
5. Inside diameter of well	in.				
6. Volume of water in filter pack and well casing	. <u>O</u> gal.			mg/l	t solid waste facility:
10. Analysis performed on water added? [] Ye (If yes, attach results)	s 🗆 No	16. Well developed to First Name: Characterist SCS E	arle	Last Name	: Bills
17. Additional comments on development:			-		
Name and Address of Facility Contact / Owner/Responsible First Jerome Last Keck Name: Keck Facility/Firm: Keck Farm Street: P.O. Box 232 City/State/Zip: Clyman, WI 53016	e Party	of my knowledge. Signature:	at the above in acles of harles S En	n A	Bills

All wells -	en Ke-development F	OHH	- Keck I'a	iiii, i age 2		
Well Name: Mu	1-360					
Purge date: 9/7/		tal tir	ne purged (hrs	s/min): 45		
Total denth before	redevelopment:	Teto-	Total denth aft	er redevelopment: 4720 142,6		
	rge volume (gal): 1x: 17.40					
		- 4	+X:	10x:		
For wells that of	do not purge dry -					
	I turbidity (NTU) measureme	nts d	uring purging/	redevelopment (per well		
volume): 0) 35,27	/ 541.3	6)				
1) 36.10 2) 3 7 .25	100.8	7)				
3) 37,32	7.53	8)	and the state of t			
4) 37.35	/ 3,12	9)				
5) 37,32	11.94	10)			
Total volume purg	elopment: 7500 (ml/min) ed (gallons): 90 ble yield: 7500 (ml/min).		Sustainable yi	eld > 100 ml/min: (N		
For wells that	purge dry – document 3 pu	ırge e	vents a minim	um of 24 hours apart		
Date/time:	Turbidity: None Low H	ligh	DTW:	Vol. Removed (gal):		
Date/time:	Turbidity: None Low H	ligh	DTW:	Vol. Removed (gal):		
Date/time:	Turbidity: None Low H	ligh	DTW:	Vol. Removed (gal):		
Notes: Start	9+ 1240					
Muddo	9+ 1240 9 9+ Start					
2 gal/m.n						

Route to: Watershed/Wastewa	iter [Waste Management			
Remediation/Redeve	elopment X	Other			
Facility/Project Name Kech Farm	County Name Teffer	son County	Well Name	Mw-i	100
Facility License, Permit or Monitoring Number	County Code 28	Wis. Unique Well N	umber	DNR Well	I ID Number
1. Can this well be purged dry?	OF No	11. Depth to Water	Annual Control of the		After Development
2. Well development method surged with bailer and bailed	 O min. ✓ ft. O in. Ø gal. O gal. 	Date Time 12. Sediment in well bottom 13. Water clarity Fill in if drilling fluid solids 15. COD	b. O 4 / O m m / d c. D 2 : O Clear Turbide (Describe) 15.3	2 v v y y y y o l a.m. o	
10. Analysis performed on water added? (If yes, attach results)	□ No	16. Well developed by First Name: Ch	arles	Lasi Nam	
17. Additional comments on development:					
Name and Address of Facility Contact / Owner/Responsible I First Last Keck Name: Keck Facility/Firm: Keck Farm Street: P.O. Box 232 City/State/Zip: Clyman, WI 53016	Party	of my knowledge. Signature:		er	s true and correct to the best

A 10 70	71.11
	wells -
人 及用品	VV WRED

Well Name: MW-40D

Purge date: 9/4/18

Total time purged (hrs/min): 0:40

Total depth before redevelopment: 139.55 Total depth after redevelopment: 139.55

Calculated well purge volume (gal): 1x: 16.6 4x: 66.4 10x: 166

For wells that do not purge dry -

Depth to water and turbidity (NTU) measurements during purging/redevelopment (per well

1 1532

1) 41.25	1 14.84	6) 41.33 / 1.88
2) 41.55	1 # 34.64	7) / 194783
3) 41,31	1 7.53	8)
4) 41.34	1 2.46	9)
5) 41,35	1 1,26	10)

Flow during redevelopment: 9500 (ml/min).

Total volume purged (gallons): 100

Estimated sustainable yield: 9500 (ml/min).

Sustainable yield > 100 ml/min: (V) N

For wells that purge dry - document 3 purge events a minimum of 24 hours apart

Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):

Notes:	Start at 1400		flow rate: 5 gal/2min some Muddy water after 2 Volu					
	Clear	water	at Start	some	Muddy	water	ce Her	2 Volumes
							-1102-11111-02-03	

Route to: Watershed/Waste	water	Waste Management			
Remediation/Red	evelopment X	Other			
Facility/Project Name	County Name		Well Name		
Keck Farm	Jeffers	on County		Mw-	
Facility License, Permit or Monitoring Number	County Code 2 8	Wis. Unique Well N	umber	DNR Wel	1 ID Number
1. Can this well be purged dry?	es 🗷 No	11. Depth to Water	Before Dev	elopment	After Development
surged with bailer and pumped surged with block and bailed surged with block and pumped surged with block, bailed and pumped compressed air		(from top of well casing)	b. <u>0 9 / 0 C</u> m m d d	e/201	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
bailed only pumped only pumped slowly Other		12. Sediment in well bottom 13. Water clarity		0	
3. Time spent developing well	60min.		(Describe)		(Describe)
4. Depth of well (from top of well casisng) 1 58	2. <u>8</u> ft,		81.16	NTU	15,21 NTU
5. Inside diameter of well	0 0 in.	Por Control of Control			
7. Volume of water removed from well . 150	7. <u>u</u> gal. 2. <u>o</u> gal. 2. <u>o</u> gal.				nt solid waste facility:
9. Source of water added		15. COD		_ mg/l	mg/l
10. Analysis performed on water added?	es 🗆 No	16. Well developed l First Name: Cha	erlie	Last Nam	100
17. Additional comments on development:			- giric c		
Name and Address of Facility Contact/Owner/Responsib	le Party	I hereby certify th	at the above in	formation :	is true and correct to the best
First Last Name: Keck	260	of my knowledge.	,		0
Pacility/Firm: Keck Farm			Wiles-o		110
Street: P.O. Box 232		Print Name: C	harles. CS Engi	A Si	113
City/State/Zip: Clyman, WI 53016		Firm: S	CSEngi	neer	2

	1, 1	
All wells -		

All Wells -				
Well Name: MW				
Purge date: 9/6/16	8 Tota	l time purged (hr	s/min):	
	edevelopment:_158.8		ter redevelopment	: 158.8
	ge volume (gal): 1x: 22.4	4x: 89.6	10x: 224,0	
For wells that d	o not purge dry -			
Depth to water and volume): 23.92	turbidity (NTU) measurement	s during purging	redevelopment (p	er well
1) 27.65		6) 27.71	/ 17.	32 NTU
2) 27.70	1 60.48 NTU	7) 27.7.3	1 15.2	INTU
3) 27.71	1 30.72 NTU	8)	/	
4) 27.69	1 29.04 NTU	9)	/	
5) 27.73	1 20.84 NTU	10)		
	od (gallons): <u>150</u> ole yield: <u>9000</u> (ml/min). urge dry – document 3 purg		ield > 100 ml/min	
Date/time:	Turbidity: None Low Hig	gh DTW:	Vol. Remo	ved (gal):
Date/time:	Turbidity: None Low Hig	gh DTW:	Vol. Remo	ved (gal):
Date/time:	Turbidity: None Low Hig	gh DTW:	Vol. Remo	ved (gal):
Notes: Sturt durh turbid Flow rate -> 5 gal	@ 1605 water at Start 12min			

Route to: Watershed/Wastewater		Waste Management [
Remediation/Redevelop	ment X	Other			
Facility/Project Name Coun	ity Name		Well Name		
Keck Farm	Jeffers.	on county		MW-L	14D
		Vis. Unique Well Nu	mber	DNR Well	ID Number
	28				
1. Can this well be purged dry?		Depth to Water			After Development
2. Well development method surged with bailer and bailed	nin. ft. in. gal.	(from top of well casing) Date Time 2. Sediment in well bottom 3. Water clarity	b. 0 4 0 7 m m d d d d d d d d d d d d d d d d d	$\frac{7}{3} / \frac{2}{y} \frac{c}{y} \frac{i}{y}$ $\frac{O}{2} \text{ a.m.}$ $\frac{O}{2} \text{ inches}$ 0 5	$ \frac{41.32}{y} \frac{67}{m} \frac{7}{d} \frac{2}{d} \frac{6}{y} \frac{18}{y} \frac{8}{y} \frac{12.50}{m} \frac$
7. Volume of water removed from well 125.0 8. Volume of water added (if any)	1	14. Total suspended solids		mg/l	mg/l
9. Source of water added	:	15. COD			mg/l
(If yes, attach results)	□ No	6. Well developed b First Name: Cha Firm: SCS	arl-e	Last Name	CONTRACTOR OF AND SEC
17. Additional comments on development:					
Name and Address of Facility Contact / Owner/Responsible Part First Name: Last Name: Keck Facility/Firm: Keck Farm Street: P.O. Box 232 City/State/Zip: Clyman, WI 53016		of my knowledge.	harren	- 21	R ILS

Well	Re-development For	rm	 Keck Farm 	; Page 2
All wells -				
Well Name: MW -	140			
Well Name: MW - Purge date: 9/7/18	Tota	al tin	ne purged (hrs/mi	n):50
Total depth before red	development: 145.8			edevelopment: 145.8
	volume (gal): 1x: 17.56	4	x: 70.24 10x	: 175.6
For wells that do	not purge dry -			
Depth to water and tu	rbidity (NTU) measuremen	ts du	ring purging/rede	evelopment (per well
volume):	10.07			
0)39.17 /	12.63	6)	41.31	/ 5.13
2)41.29 /	20,20	7)	41.32	1 2:45
3)41.31	18.62	8)		/
4) 41. 33 /	11.29	9)		
5) 41.35 /	9.73	10)		
Total volume purged Estimated sustainable	yield: 9500 _(ml/min) .			> 100 ml/min: (V) N
For wells that pu	rge dry – document 3 púr	ge er	vents a minimum	of 24 hours apart
Date/time:	Turbidity: None Low Hig	gh	DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low Hig	gh	DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low Hig	gh	DTW:	Vol. Removed (gal):
Notes: Start Ca 2,5 gal 1 Black a				

Route to: Watershed/Wastew	ater [Waste Management				
Remediation/Redev	velopment X	Other				
Facility/Project Name	County Name		Well Name			
Keck Farm	Jeffer	son County		-45D		
Facility License, Permit or Monitoring Number	County Code 28	Wis. Unique Well N	umber DNR	Well ID Number		
1. Can this well be purged dry? 2. Well development method surged with bailer and bailed surged with bailer and pumped surged with block and bailed surged with block and pumped surged with block, bailed and pumped compressed air bailed only	1 1 2 2 0 0	11. Depth to Water (from top of well casing) Date Time	b. 0 9/d 4/2	ent After Development ft. 36.91 ft. $\frac{36.91}{yyymmm}$ ft. $\frac{36.91}{dyyyymm}$ ft. $\frac{36.91}{dyyyy}$ ft.		
pumped only	1	12. Sediment in well bottom 13. Water clarity	Clear [] 10 Turbid [] 15 (Describe)	Clear ≥ 20 Turbid □ 25 (Describe)		
3. Time spent developing well 4. Depth of well (from top of well casisng) 5. Inside diameter of well 2. Co	. 7 ft.			U 1.85 NTU		
6. Volume of water in filter pack and well casing	. <u>O</u> gal.		im	is at solid waste facility: g/lmg/l		
10. Analysis performed on water added? [If yes, attach results]	s 🗆 No	First Name: Cha	by: Name (first, last) and arlic Last) Engineer	Name: 3:115		
Name and Address of Facility Contact/Owner/Responsible First Jerome Last Name: Keck	e Party	of my knowledge		ion is true and correct to the best		
Facility/Firm: Keck Farm Street: P.O. Box 232		Signature:	harles A			
City/State/Zip: Clyman, WI 53016		Firm: SC	harles A ES Engine	eerS		

Well	Re-development Fo	rm	 Keck Farm; 	Page	2
All wells -					
Well Name: MW-					
Purge date: 9/4//	<u>v</u> Tota	al tin	ne purged (hrs/mir	i):_5	0
Total depth before red	levelopment: 137,7	7	otal depth after re	develop	ment: 137,7
Calculated well purge	e volume (gal): 1x: <u>14.83</u>	4	x: 67,32 10x	168.	3
For wells that do	not purge dry -				
volume): 9) 35.30	rbidity (NTU) measuremen	its du		velopme	ent (per well
1) 35.83	1 323 100.2	6)	36,91	/	1.85
2)36:51	12,56	7)		/	
3) 36.98 1	3.31	8)		/	
4) 36.94 /	1.97	9)		/	
5) 36,89	/ 2.17	10)		/	
Total volume purged	pment: 7500 (ml/min). (gallons): 100 yield: 7500 (ml/min).	Ş	Sustainable yield	> 100 m	l/min: (V) N
For wells that pu	rge dry – document 3 pur	ge e	vents a minimum o	of 24 ho	urs apart
Date/time:	Turbidity: None Low Hi	gh	DTW:	Vol. I	Removed (gal):
Date/time:	Turbidity: None Low Hi	gh	DTW:	Vol. I	Removed (gal):
Date/time:	Turbidity: None Low Hi	gh	DTW:	Vol. I	Removed (gal):
Notes: Start (a 11.15				
Cloudy at	first				
2 gel /1	min > pumprate				

i

Route to: Watershed/Wastew	vater	Waste Managemen	t 🔲		
Remediation/Rede	velopment X	Other			
	County Name		Well Name		
Keck Farm	Jeffer	son County		11-4	
Facility License, Permit or Monitoring Number	County Code 28	Wis. Unique Well N	lumber	DNR Wei	I ID Number
1. Can this well be purged dry?	s 🗷 No	11. Depth to Water		velopment	After Development
2. Well development method		(from top of		7 2 ft.	1234A
surged with bailer and bailed 4	1	well casing)			
surged with bailer and pumped \(\sigma 6	1				
surged with block and bailed 4	2	Date	h 0 911	01201	8 09/10/2018
surged with block and pumped 6	2		m m d	d y y y	8 09/10/2018 y m m d d y y y y
surged with block, bailed and pumped 7	0			🕅 a.m.	, , , , px a.m.
compressed air	0	Time	c. 10:0	<u>O</u> □ p.m.	10:40 p.m.
bailed only	0				
pumped only 🔼 5	1	12. Sediment in well	_0	O inches	_ O O inches
pumped slowly		bottom			
Other		13. Water clarity	Clear 🗀		Clear 20 Turbid 25
3. Time spent developing well	<u>O</u> min.		(Describe)		(Describe)
4. Depth of well (from top of well casisng) 128	. <u>9</u> ft.		88.3	8 NTU	2.84 NTU
5. Inside diameter of well22	<u>o</u> in.				
6. Volume of water in filter pack and well			-		-
casing 24	7 pal.				
	. <u> </u>	Fill in if drilling flu	ids were used	and well is a	at solid waste facility:
7. Volume of water removed from well 100	O gal.				
	0	14. Total suspended	1	mg/l	mg/l
8. Volume of water added (if any)	O gal.	solids			
9. Source of water added		15. COD		mg/l	mg/l
		16. Well developed	by: Name (first	last) and Firm	9
10. Analysis performed on water added?	s 🗆 No	First Name: Cha			
(If yes, attach results)	D 110				e. O. I.
		Firm: SCS	- Engil	reers	
17. Additional comments on development:					
Name and Address of Facility Contact/Owner/Responsible	e Party	I hereby certify th	at the above i	nformation i	is true and correct to the best
First Jerome Last Keck Name:	- COLUMNIC OF THE COLUMN TWO	of my knowledge			
Facility/Firm: Keck Farm			wiles		
Street: P.O. Box 232		Print Name: Cl	narles	A Bil	lis
City/State/Zip: Clyman, WI 53016		Print Name: Cl	2S Enc	pinee	rs
				E	

All	wells	-
A MAA	TT WHAN	

Well Name:	MW-46	0

Purge date: 9/10/18

Total time purged (hrs/min): 40

Total depth before redevelopment: 128.9

Total depth after redevelopment: 128,9

Calculated well purge volume (gal): 1x: 19,46 4x: 77.84 10x: 194.6

For wells that do not purge dry -

Depth to water and turbidity (NTU) measurements during purging/redevelopment (per well

volume):
0) 10.72 1 88.38

1) 12.24	1 28.27	6)
2) 12,26	1 5,64	7)
3) 12.29	/ 3.37	8)
4) 12,30	/ 3,30	9)
5) 12.34	1 2.84	10)

Flow during redevelopment: 9500 (ml/min).

Total volume purged (gallons): 100

Estimated sustainable yield: 9500 (ml/min). Sustainable yield > 100 ml/min: N

For wells that purge dry - document 3 purge events a minimum of 24 hours apart

Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):
Date/time:	Turbidity: None Low High	DTW:	Vol. Removed (gal):

tes: Start @ 10		
Clear at sta		
fump rate.	7 2,5 gal /min	