

SEH

421 FRENETTE DRIVE CHIPPEWA FALLS WI 54729-3374 PHONE: (715) 720-6200 FAX: (715) 720-6300 www.sehinc.com Project: REDOG 114987 Print Date: 09/13/2011

Map by: NAW Projection: Monroe Co (ft) Source: HIG, SEH

2010 AERIAL PHOTO

HI-CRUSH PROPPANTS - WYEVILLE SITE Town of Byron, WI

Figure A - 10

Appendix B

Wetland Determination Data Forms

Project/Site: Hi-Crush Wyeville Site	City/County:	Byron, Moni	roe Co_Sampling Date: 8-	11-2011
Applicant/Owner: Hi-Crush Proppants		State: WI	Sampling Poin	
Investigator(s): Natalie White, Shanna Skallet		Section, Tov	wnship, Range: S8,T18N,F	
Landform (hillslope, terrace, etc.): terrace	Loc	cal relief (con	ncave, convex, none): no	ne
Slope (%): 1 Lat.:	Long.:	Datum:		
Soil Map Unit Name Newson loamy sand			NWI Classification:	
Are climatic/hydrologic conditions of the site typical			(If no, explain in remarks)	
Are vegetation X, soil, or hydrolo		ly disturbed?	Are "normal	
Are vegetation, soil, or hydrolo	gynaturally pr	roblematic?	circumstances" pro	esent? Yes
(If needed, explain any answers in remarks)				-
SUMMARY OF FINDINGS				
OUMMANT OF THE INC.				
Hydrophytic vegetation present? N	Is the sample	d area within	n a wetland?	<u> </u>
Hydric soil present? N			_	
Wetland hydrology present?	If yes, optional	wetland site	ID:	
Remarks: (Explain alternative procedures here or in	a separate report.)			
- to the state that the market are a second	t o la material		16.11	
Temperature and precipitation above norn	nal. Sample point in	an agriculti	ural field - row cropped	with
soybeans.				
	_		_	
HYDROLOGY				
			Secondary Indicators (min	imum of two
Primary Indicators (minimum of one is required: che	ack all that annly)		required)	IIIIIuiii Oi two
Primary Indicators (minimum of one is required; che Surface Water (A1) Wa	ter-Stained Leaves (B9)		Surface Soil Cracks (B6	3)
	uatic Fauna (B13)	-	Drainage Patterns (B10	
	rl Deposits (B15)	-	Moss Trim Lines (B16)	·
	drogen Sulfide Odor (C1)	-	Dry-Season Water Tabl	
<u> </u>	dized Rhizospheres on Li	-	Crayfish Burrows (C8)	ic (32)
	ots (C3)	IVIII9	Saturation Visible on A	erial Imagery
	sence of Reduced Iron (0	C4)	(C9)	ona mago.,
 -	cent Iron Reduction in Till	-	Stunted or Stressed Pla	ants (D1)
	ls (C6)		Geomorphic Position (D	
	n Muck Surface (C7)	-	Shallow Aquitard (D3)	/
	er (Explain in Remarks)	-	FAC-Neutral Test (D5)	
Surface (B8)	,	-	Microtopographic Relief	f (D4)
		-		` '
Field Observations:				
Surface water present? Yes No	X Depth (inches)):	Wetland	
Water table present? Yes No	X Depth (inches)):	hydrology	
Saturation present? Yes No	X Depth (inches)):	present?	N
(includes capillary fringe)			_	
Describe recorded data (stream gauge, monitoring	well, aerial photos, prev	ious inspection	ons), if available:	
Demode				
Remarks:				

VEGETATION - Use scientific names of plants SP1U Sampling Point: 50/20 Thresholds 20% 50% Absolute Dominant Indicator Tree Stratum Plot Size (30ft % Cover Species Staus Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 12 30 Woody Vine Stratum **Dominance Test Worksheet** Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 9 Species Across all Strata: Total Cover Percent of Dominant Species that are OBL, Sapling/Shurb Absolute Dominant Indicator FACW, or FAC: 0.00% (A/B) Plot Size (15ft Stratum % Cover Species Staus **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = FACW species 0 x 2 = 0 x 3 = FAC species 0 FACU species 0 x 4 = UPL species 60 x 5 = Column totals 60 (A) 300 Prevalence Index = B/A = = Total Cover **Hydrophytic Vegetation Indicators:** Absolute Dominant Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size (5ft Dominance test is >50% % Cover Species Staus Glycine max UPL Prevalence index is ≤3.0* Morphogical adaptations* (provide 3 supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 9 **Definitions of Vegetation Strata:** 10 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 14 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 60 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Staus Stratum % Cover Species Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet)

SOIL SP1U Sampling Point: Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Remarks Texture (Inches) Loc** Color (moist) % Color (moist) % Type* 0-8 10YR 2/2 loamy sand 8-20 10YR 7/1 sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Hydrogen Sulfide (A4) (LRR R, MLRA 149B Dark Surface (S7) (LRR K, L Stratified Layers (A5) Loamy Mucky Mineral (F1) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? N Depth (inches): Remarks:

Project/Site: Hi-Crush Wyeville Site	City/County:	Byron, Monroe Co	Sampling Date: 8-11-2011
Applicant/Owner: Hi-Crush Proppants		State: WI	Sampling Point: SP1W
Investigator(s): Natalie White, Shanna Skallet		Section, Township	, Range: S17,T18N,R01E
Landform (hillslope, terrace, etc.): terrace	Lo	cal relief (concave, o	convex, none): none
Slope (%): 0 Lat.:	Long.:	Datum:	
Soil Map Unit Name Newson loamy sand			classification:
Are climatic/hydrologic conditions of the site type			explain in remarks)
Are vegetation, soil, or hyd		ly disturbed?	Are "normal
Are vegetation, soil, or hyd	drology naturally p	roblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? Y	is the sample	d area within a wet	land? Y
Hydric soil present?	is the sample	u area witiiii a wet	<u> </u>
	lf antiana	latland atta ID.	Mattered 4
Wetland hydrology present? Y	if yes, optional	I wetland site ID:	Wetland 1
Remarks: (Explain alternative procedures here	or in a separate report \		
Tremarks. (Explain alternative procedures here	or in a separate report.)		
Temperature and precipitation above r	normal. Floodplan fores	t associated with	Lemonweir River and side
channel.	Torrian Frodupian Toroc	t accordated with	zomomica i ara ara ara
Chamen.			
HYDROLOGY			
		Secon	dary Indicators (minimum of two
Primary Indicators (minimum of one is required	; check all that apply)	require	
Surface Water (A1)	Water-Stained Leaves (B9)	•	rface Soil Cracks (B6)
X High Water Table (A2)	Aquatic Fauna (B13)		ainage Patterns (B10)
X Saturation (A3)	Marl Deposits (B15)		oss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		y-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on L		ayfish Burrows (C8)
Drift Deposits (B3)	Roots (C3)		turation Visible on Aerial Imagery
Algal Mat or Crust (B4)	Presence of Reduced Iron (
Iron Deposits (B5)	Recent Iron Reduction in Til		unted or Stressed Plants (D1)
Inundation Visible on Aerial	Soils (C6)	X Ge	eomorphic Position (D2)
Imagery (B7)	Thin Muck Surface (C7)	Sh	allow Aquitard (D3)
Sparsely Vegetated Concave	Other (Explain in Remarks)	—— FA	.C-Neutral Test (D5)
Surface (B8)	- ` '		crotopographic Relief (D4)
			, ,
Field Observations:			
Surface water present? Yes N	No X Depth (inches)):	Wetland
Water table present? Yes X	No Depth (inches)): 6	hydrology
Saturation present? Yes X	No Depth (inches)): 0	present? Y
(includes capillary fringe)			
Describe recorded data (stream gauge, monito	ring well, aerial photos, prev	vious inspections), if	available:
Remarks:			

SOIL SP1W Sampling Point: Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Remarks Texture (Inches) Loc** Color (moist) % Color (moist) % Type* 0-6 10YR 2/1 loamy sand 6-20 10YR 4/2 90 7.5YR 5/8 10 С M sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Hydrogen Sulfide (A4) (LRR R, MLRA 149B Dark Surface (S7) (LRR K, L Stratified Layers (A5) Loamy Mucky Mineral (F1) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) X Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:

Project/Site: Hi-Crush Wyeville Site		City/County:	Byron,	Monroe Co	Sampling Date: 8-	-11-201	1
Applicant/Owner: Hi-Crush Proppants	3		State:	WI	Sampling Poi	nt:	SP2U
Investigator(s): Natalie White, Shanna	Skallet		Section	n, Township	, Range: S17,T18N	1,R01E	
Landform (hillslope, terrace, etc.): ger	ntle slope	Lo	cal relief	(concave, c	convex, none): no	one	
Slope (%): 1 Lat.:	Long.:		Dat	tum:	-		
Soil Map Unit Name Newson loamy san	d			NWI C	lassification:		
Are climatic/hydrologic conditions of the		s time of the yea	r? N	(If no,	explain in remarks))	
	, or hydrology	significant		ed?	Are "normal		
Are vegetation , soil	, or hydrology	naturally p			circumstances" pi	resent?	Yes
(If needed, explain any answers in remain	- · · · · ·				•		
(,						
CHMMARY OF FINDINGS							
SUMMARY OF FINDINGS							
Hydrophytic vegetation present?	N	Is the sample	d area w	ithin a wet	land?	N	
	N						
	N	If yes, optiona	l wetland	site ID:			
Welland flydrology present:	<u> </u>	ii yes, optiona	i wellanu	Sile ID			
Remarks: (Explain alternative procedure	es here or in a sep	arate report.)					
Temperature and precip above	normal Agricult	ural field nlan	ted with	sovheans	2		
remperature and precip above	normal. Agricult	urai neia, pian	ica with	i 30ybcaric	·		
HADBOLOCA							
HYDROLOGY					 		
					dary Indicators (mir	nimum (of two
Primary Indicators (minimum of one is r				require	,		
Surface Water (A1)		ined Leaves (B9)			rface Soil Cracks (B		
High Water Table (A2)	Aquatic Fa	iuna (B13)		Dra	ainage Patterns (B10	ე)	
Saturation (A3)	Marl Depo				ss Trim Lines (B16)		
Water Marks (B1)	Hydrogen	Sulfide Odor (C1))	Dry	y-Season Water Tab	ole (C2)	
Sediment Deposits (B2)	Oxidized F	Rhizospheres on L	_iving	Cra	ayfish Burrows (C8)		
Drift Deposits (B3)	Roots (C3))		Sa	turation Visible on A	erial Im	agery
Algal Mat or Crust (B4)	Presence	of Reduced Iron (C4)	(C9	9)		
Iron Deposits (B5)	Recent Iro	n Reduction in Ti	lled	Stu	unted or Stressed Pl	ants (D'	1)
Inundation Visible on Aerial	Soils (C6)			Ge	eomorphic Position (I	D2)	
Imagery (B7)		Surface (C7)		Sh	allow Aquitard (D3)		
Sparsely Vegetated Concave	Other (Exp	lain in Remarks)		FA	.C-Neutral Test (D5)		
Surface (B8)		,		Mic	crotopographic Relie	ef (D4)	
						, ,	
Field Observations:							
Surface water present? Yes	No X	Depth (inches):		Wetland		
Water table present? Yes	No X	Depth (inches			hydrology		
Saturation present? Yes	No X	Depth (inches			present?	N	
(includes capillary fringe)		_ ' `	′		· –		
, , , , ,							
Describe recorded data (stream gauge,	monitoring well, a	erial photos, pre	vious ins	pections), if	available:		
Remarks:							

VEGETATION - Use scientific names of plants SP2U Sampling Point: 50/20 Thresholds 20% 50% Absolute Dominant Indicator Tree Stratum Plot Size (30ft % Cover Species Staus Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 12 30 Woody Vine Stratum **Dominance Test Worksheet** Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 9 Species Across all Strata: Total Cover Percent of Dominant Species that are OBL, Sapling/Shurb Absolute Dominant Indicator FACW, or FAC: 0.00% (A/B) Plot Size (15ft Stratum % Cover Species Staus **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = FACW species 0 x 2 = 0 x 3 = FAC species 0 FACU species 0 x 4 = UPL species 60 x 5 = Column totals 60 (A) 300 Prevalence Index = B/A = = Total Cover **Hydrophytic Vegetation Indicators:** Absolute Dominant Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size (5ft Dominance test is >50% % Cover Species Staus Glycine max UPL Prevalence index is ≤3.0* Morphogical adaptations* (provide 3 supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 9 **Definitions of Vegetation Strata:** 10 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 14 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 60 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Staus Stratum % Cover Species Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet)

SOIL SP2U Sampling Point: Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Remarks Texture (Inches) Loc** Color (moist) % Color (moist) % Type* 0-16 7.5YR 2.5/2 loamy sand 16-24 10YR 7/1 sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Hydrogen Sulfide (A4) (LRR R, MLRA 149B Dark Surface (S7) (LRR K, L Stratified Layers (A5) Loamy Mucky Mineral (F1) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? N Depth (inches): Remarks:

Project/Site: Hi-Crush Wyeville Site	City/County:	Byron, Monroe	e Co_Sampling Date: 8-11-20	011
Applicant/Owner: Hi-Crush Proppants		State: WI	Sampling Point:	SP2W
Investigator(s): Natalie White, Shanna Skalle	et .	Section, Town	nship, Range: S17,T18N,R01	E
Landform (hillslope, terrace, etc.): swale		cal relief (conca	ave, convex, none): concav	re
Slope (%): 3 Lat.:	Long.:	Datum:		
Soil Map Unit Name Dawson Peat			WI Classification:	
Are climatic/hydrologic conditions of the site			no, explain in remarks)	
		ly disturbed?	Are "normal	
Are vegetation , soil , or h	nydrology naturally p	roblematic?	circumstances" presen	t? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present? Y	Is the sample	ed area within a	wetland?	
Hydric soil present? Y				_
Wetland hydrology present?	If yes, optional	I wetland site ID	: Wetland 2	
Remarks: (Explain alternative procedures he	re or in a separate report.)			
Temperature and precipitation above	e normal.			
HYDROLOGY				
		Se	econdary Indicators (minimun	n of two
Primary Indicators (minimum of one is require	ed: check all that apply)		quired)	ii oi two
Surface Water (A1)	Water-Stained Leaves (B9)		Surface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)	_	Drainage Patterns (B10)	
Saturation (A3)	Marl Deposits (B15)	_	Moss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	_	Dry-Season Water Table (C2	2)
Sediment Deposits (B2)	Oxidized Rhizospheres on L		Crayfish Burrows (C8)	_,
Drift Deposits (B3)	Roots (C3)		Saturation Visible on Aerial I	magery
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	(C9)	
Iron Deposits (B5)	Recent Iron Reduction in Til		Stunted or Stressed Plants (D1)
Inundation Visible on Aerial	Soils (C6)		Geomorphic Position (D2)	,
Imagery (B7)	Thin Muck Surface (C7)		Shallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks)	X	FAC-Neutral Test (D5)	
Surface (B8)		_	Microtopographic Relief (D4))
Field Observations:				
Surface water present? Yes	No X Depth (inches)):	Wetland	
Water table present? Yes	No X Depth (inches)		hydrology	
Saturation present? Yes X	No Depth (inches)): 20	present? Y	_
(includes capillary fringe)				
Describe an ended data (attacks	ta da a constituir da la la la charle a constituir de la charle de la		-) 'f 9-1-1	
Describe recorded data (stream gauge, moni	toring well, aerial photos, pre-	vious inspection	s), if available:	
Remarks:				
Hydrologically connected to the Lam	onwoir Divor			
Hydrologically connected to the Lem	Uliwell Rivel.			

VEGETATION - Use scientific names of plants SP2W Sampling Point: 50/20 Thresholds 20% 50% Absolute Dominant Indicator Tree Stratum Plot Size (30ft % Cover Species Staus Tree Stratum 0 0 Sapling/Shrub Stratum 1 3 Herb Stratum 19 48 Woody Vine Stratum 0 **Dominance Test Worksheet Number of Dominant** Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 9 Species Across all Strata: Total Cover Percent of Dominant Species that are OBL, Indicator Sapling/Shurb Absolute Dominant FACW, or FAC: 100.00% (A/B) Plot Size (15ft Stratum % Cover Species Staus Rhamnus frangula FAC **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = FACW species 95 x 2 = 190 FAC species 5 x 3 = 15 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column totals 100 (A) 205 Prevalence Index = B/A = Total Cover **Hydrophytic Vegetation Indicators:** Absolute Dominant Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size (5ft X Dominance test is >50% % Cover Species Staus X Prevalence index is ≤3.0* Phalaris arundinacea 50 **FACW** Spartina pectinata 40 **FACW** Morphogical adaptations* (provide 3 Solidago gigantea 5 Ν FACW supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 9 **Definitions of Vegetation Strata:** 10 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 14 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 95 Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum Staus % Cover Species Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Remarks: (Include photo numbers here or on a separate sheet)

SOIL SP2W Sampling Point: Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Remarks Texture (Inches) Loc** Color (moist) % Color (moist) % Type* 0-2 10YR 2/1 loamy sand С 2-12 10YR 7/1 90 10YR 5/6 10 Μ sand 12-16 10YR 3/1 loamy sand 16-20 10YR 7/1 95 10YR 5/6 5 С Μ sand 20-24 5YR 3/4 10 С М 10YR 3/1 90 sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Hydrogen Sulfide (A4) (LRR R, MLRA 149B Dark Surface (S7) (LRR K, L X Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Suface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) X Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:

Project/Site: Hi-Crush Wyeville Site		_City/County:	Byron,	Monroe Co	Sampling Date: 8-	11-201	1
Applicant/Owner: Hi-Crush Proppants			State:	WI	Sampling Poir	nt: S	SP3U
Investigator(s): Natalie White, Shanna S	kallet		Section	n, Township	, Range: S17,T18N	I,R01E	
Landform (hillslope, terrace, etc.): gent	le slope	Lo	cal relief	(concave, c	convex, none): no	one	
Slope (%): 1 Lat.:	Long.:		Dat	tum:			
Soil Map Unit Name Newson loamy sand				NWI C	Classification:		
Are climatic/hydrologic conditions of the		time of the yea	r? N	(If no,	explain in remarks)		
	, or hydrology	significant		ed?	Are "normal		
Are vegetation , soil	, or hydrology	naturally p			circumstances" pr	esent?	Yes
(If needed, explain any answers in remain					•		
()	-,						
CUMMARY OF FINDINGS							
SUMMARY OF FINDINGS							
Hydrophytic vegetation present? N		Is the sample	d area w	ithin a wet	land?	1	
Hydric soil present?							
Wetland hydrology present?		If yes, optional	l wetland	site ID:			
Welland Hydrology present:		ii yes, optiona	i wellana	31C 1D.			_
Remarks: (Explain alternative procedure	s here or in a sepa	arate report.)					
Temperature and precip above r	normal Agricultu	ıral field nlan	ted with	sovheans	3		
Tomporatare and proofp above t	iorinai. 7 igriodite	arai noia, pian	tou with	. ooyboan	··		
HYDROLOGY							
HIDROLOGI							
5					dary Indicators (mir	ıımum c	of two
Primary Indicators (minimum of one is re				require	,		
Surface Water (A1)		ned Leaves (B9)			ırface Soil Cracks (Be		
High Water Table (A2)	Aquatic Fa				ainage Patterns (B10		
Saturation (A3)	Marl Depos				oss Trim Lines (B16)		
Water Marks (B1)	Hydrogen S	Sulfide Odor (C1))	Dry	y-Season Water Tab	le (C2)	
Sediment Deposits (B2)	Oxidized R	hizospheres on L	_iving		ayfish Burrows (C8)		
Drift Deposits (B3)	Roots (C3)			Sa	turation Visible on A	erial Ima	agery
Algal Mat or Crust (B4)	Presence o	f Reduced Iron (C4)	(C			
Iron Deposits (B5)	Recent Iron	Reduction in Til	lled	Stu	unted or Stressed Pla	ants (D1)
Inundation Visible on Aerial	Soils (C6)			Ge	eomorphic Position (D	D2)	
Imagery (B7)	Thin Muck	Surface (C7)		—— Sh	allow Aquitard (D3)		
Sparsely Vegetated Concave	Other (Expl	ain in Remarks)		— FA	C-Neutral Test (D5)		
Surface (B8)				Mic	crotopographic Relie	f (D4)	
Field Observations:							
Surface water present? Yes	No X	_ Depth (inches)			Wetland		
Water table present? Yes	No X	Depth (inches)):		hydrology		
Saturation present? Yes	No X	Depth (inches)):		present?	N	
(includes capillary fringe)							
Describe recorded data (stream gauge,	monitoring well, ae	rial photos, pre	vious ins _l	pections), if	available:		
Remarks:							

VEGETATION - Use scientific names of plants SP3U Sampling Point: 50/20 Thresholds 20% 50% Absolute Dominant Indicator Tree Stratum Plot Size (30ft % Cover Species Staus Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 12 30 Woody Vine Stratum **Dominance Test Worksheet** Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 9 Species Across all Strata: Total Cover Percent of Dominant Species that are OBL, Sapling/Shurb Absolute Dominant Indicator FACW, or FAC: 0.00% (A/B) Plot Size (15ft Stratum % Cover Species Staus **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = FACW species 0 x 2 = 0 x 3 = FAC species 0 FACU species 0 x 4 = UPL species 60 x 5 = Column totals 60 (A) 300 Prevalence Index = B/A = = Total Cover **Hydrophytic Vegetation Indicators:** Absolute Dominant Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size (5ft Dominance test is >50% % Cover Species Staus Glycine max UPL Prevalence index is ≤3.0* Morphogical adaptations* (provide 3 supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 9 **Definitions of Vegetation Strata:** 10 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 14 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 60 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Staus Stratum % Cover Species Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet)

SOIL SP3U Sampling Point: Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Remarks Texture (Inches) Loc** Color (moist) % Color (moist) % Type* 0-16 7.5YR 2.5/2 loamy sand 16-24 10YR 7/1 sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Hydrogen Sulfide (A4) (LRR R, MLRA 149B Dark Surface (S7) (LRR K, L Stratified Layers (A5) Loamy Mucky Mineral (F1) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? N Depth (inches): Remarks:

Project/Site: Hi-Crush Wyeville Site	City/County:	Byron, l	Monroe Co	Sampling Date: 8	-11-2011	
Applicant/Owner: Hi-Crush Proppants		State:	WI	Sampling Poi	nt: SP	3W
Investigator(s): Natalie White, Shanna Skallet		Section	, Township,	Range: S17,T18N	1,R01E	
Landform (hillslope, terrace, etc.): swale	Lo	cal relief	(concave, c	onvex, none): c	oncave	
Slope (%): 5 Lat.: Long	j.:	Dat	:um:			
Soil Map Unit Name Dawson Peat				assification:		
Are climatic/hydrologic conditions of the site typical for the				explain in remarks))	
Are vegetation, soil, or hydrology _	significant			Are "normal		
Are vegetation, soil, or hydrology	naturally p	roblemati	ic?	circumstances" p	resent?	Yes
(If needed, explain any answers in remarks)						
SUMMARY OF FINDINGS						
Hydrophytic vegetation present? Y	Is the sample	d aroa w	ithin a wotl	and?	Y	
Hydric soil present?	is the sample	u ai ca w	itiiiii a weti		<u> </u>	
	If you ontional	Lwotland	oito ID:	Wetland 3		
Wetland hydrology present? Y	If yes, optional	i welland	site iD.	welland 5		•
Remarks: (Explain alternative procedures here or in a se	parate report.)					
Temperature and precipitation above normal.						
HYDROLOGY						
			Second	dary Indicators (mi	nimum of t	wo
Primary Indicators (minimum of one is required; check a	ll that apply)		require	• ,		
	ained Leaves (B9)		•	face Soil Cracks (B	6)	
	Fauna (B13)			inage Patterns (B1		
	osits (B15)			ss Trim Lines (B16)		
	n Sulfide Odor (C1))		-Season Water Tab		
Sediment Deposits (B2) Oxidized	Rhizospheres on L	_iving	Cra	yfish Burrows (C8)		
Drift Deposits (B3) Roots (C	3)	•	Sat	uration Visible on A	erial Imag	ery
Algal Mat or Crust (B4) Presence	e of Reduced Iron ((C4)	(C9		•	•
Iron Deposits (B5) Recent I	ron Reduction in Til	lled	Stu	nted or Stressed Pl	ants (D1)	
Inundation Visible on Aerial Soils (C6	5)		X Ge	omorphic Position (D2)	
Imagery (B7) Thin Muc	ck Surface (C7)		Sha	allow Aquitard (D3)		
Sparsely Vegetated Concave Other (E.	xplain in Remarks)		X FA	C-Neutral Test (D5)		
Surface (B8)			Mic	rotopographic Relie	ef (D4)	
E: 11 01						
Field Observations:	5 " "			147 41 1		
Surface water present? Yes NoX				Wetland		
Water table present? Yes No X				hydrology present?	V	
Saturation present? Yes X No (includes capillary fringe)	Depth (inches))		present?	<u>Y</u>	
Describe recorded data (stream gauge, monitoring well,	aerial photos, prev	vious insr	pections) if	available:		
	, p, p					
Remarks:						
Wetland located in swale that connects to the	Lemonweir Rive	er. Surfa	ace water i	n deepest part.		

VEGETATION - Use scientific names of plants SP3W Sampling Point: 50/20 Thresholds 20% 50% Absolute Dominant Indicator Tree Stratum Plot Size (30ft % Cover Species Staus Tree Stratum 0 0 Sapling/Shrub Stratum 1 3 Herb Stratum 53 21 Woody Vine Stratum **Dominance Test Worksheet Number of Dominant** Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 9 Species Across all Strata: Total Cover Percent of Dominant Species that are OBL, Indicator Sapling/Shurb Absolute Dominant FACW, or FAC: 100.00% (A/B) Plot Size (15ft Stratum % Cover Species Staus Rhamnus frangula FAC **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = FACW species $105 \times 2 =$ 210 FAC species 5 x 3 = 15 FACU species 0 x 4 = 0 UPL species 0 x 5 = O Column totals 110 (A) 225 Prevalence Index = B/A = Total Cover **Hydrophytic Vegetation Indicators:** Absolute Dominant Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size (5ft X Dominance test is >50% % Cover Species Staus X Prevalence index is ≤3.0* Phalaris arundinacea 80 **FACW** Spartina pectinata Ν **FACW** Morphogical adaptations* (provide 3 Solidago gigantea 5 Ν FACW supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 9 **Definitions of Vegetation Strata:** 10 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 14 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 105 Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum Staus % Cover Species Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Remarks: (Include photo numbers here or on a separate sheet)

SOIL SP3W Sampling Point: Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Remarks Texture (Inches) Loc** Color (moist) % Color (moist) % Type* 0-2 10YR 2/1 loamy sand С 2-12 10YR 7/1 90 10YR 5/6 10 Μ sand 12-16 10YR 3/1 loamy sand 16-20 10YR 7/1 95 10YR 5/6 5 С Μ sand 20-24 5YR 3/4 10 С М 10YR 3/1 90 sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Hydrogen Sulfide (A4) (LRR R, MLRA 149B Dark Surface (S7) (LRR K, L X Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Suface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) X Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:

Project/Site: Hi-Crush Wyeville Site	City/County:	Byron,	Monroe Co	Sampling Date: 8-11	-2011
Applicant/Owner: Hi-Crush Proppants		State:		Sampling Point:	SP4U
Investigator(s): Natalie White, Shanna Skall	et	Section	n, Township	o, Range: S17,T18N,R	01E
Landform (hillslope, terrace, etc.): gentle si	ope Lo	ocal relief	(concave,	convex, none): none)
Slope (%): 1 Lat.:	Long.:	Da	tum:		
Soil Map Unit Name Newson loamy sand			NWI (Classification:	
Are climatic/hydrologic conditions of the site				explain in remarks)	
	nydrologysignificant			Are "normal	
Are vegetation, soil, or l	nydrology naturally p	problemat	tic?	circumstances" pres	ent? Yes
(If needed, explain any answers in remarks)					
SUMMARY OF FINDINGS					
Hydrophytic vegetation present? N	ls the sample	od aroa w	ithin a wo	tland? N	
Hydrophytic vegetation present? N N N	Is the sample	eu area w	numi a we	ualiu!	
	If you antions	المصوالميين الم	oito ID:		
Wetland hydrology present? N	If yes, optiona	ai welland	site iD.		
Remarks: (Explain alternative procedures he	ure or in a senarate report)				
Tremarks. (Explain alternative procedures ne	re or in a separate report.)				
_					
Temperature and precip above norn	าal. Agricultural field, plar	nted with	ı soybean	S.	
HYDROLOGY					
			Secor	ndary Indicators (minim	um of two
Primary Indicators (minimum of one is require	ed: check all that apply)		requir		
Surface Water (A1)	Water-Stained Leaves (B9))	•	urface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)	,		rainage Patterns (B10)	
Saturation (A3)	Marl Deposits (B15)			oss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1	1)		ry-Season Water Table ((C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on			rayfish Burrows (C8)	()
Drift Deposits (B3)	Roots (C3)	9		aturation Visible on Aeria	al Imagery
Algal Mat or Crust (B4)	Presence of Reduced Iron	(C4)		(9)	
Iron Deposits (B5)	Recent Iron Reduction in Ti			tunted or Stressed Plant	s (D1)
Inundation Visible on Aerial	Soils (C6)			eomorphic Position (D2)	
Imagery (B7)	Thin Muck Surface (C7)			hallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks))		AC-Neutral Test (D5)	
Surface (B8)	<u> </u>	,	M	icrotopographic Relief ([04)
					,
Field Observations:					
Surface water present? Yes	No X Depth (inches	s):		Wetland	
Water table present? Yes	No X Depth (inches			hydrology	
Saturation present? Yes	No X Depth (inches	s):		present? N	
(includes capillary fringe)		,			
Describe recorded data (stream gauge, mon	itoring well, aerial photos, pre	evious ins	pections), i	f available:	
Remarks:					

VEGETATION - Use scientific names of plants SP4U Sampling Point: 50/20 Thresholds 20% 50% Absolute Dominant Indicator Tree Stratum Plot Size (30ft % Cover Species Staus Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 12 30 Woody Vine Stratum **Dominance Test Worksheet** Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 9 Species Across all Strata: Total Cover Percent of Dominant Species that are OBL, Sapling/Shurb Absolute Dominant Indicator FACW, or FAC: 0.00% (A/B) Plot Size (15ft Stratum % Cover Species Staus **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = FACW species 0 x 2 = 0 x 3 = FAC species 0 FACU species 0 x 4 = UPL species 60 x 5 = Column totals 60 (A) 300 Prevalence Index = B/A = = Total Cover **Hydrophytic Vegetation Indicators:** Absolute Dominant Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size (5ft Dominance test is >50% % Cover Species Staus Glycine max UPL Prevalence index is ≤3.0* Morphogical adaptations* (provide 3 supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 9 **Definitions of Vegetation Strata:** 10 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 14 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 60 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Staus Stratum % Cover Species Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet)

SOIL SP4U Sampling Point: Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Remarks Texture (Inches) Loc** Color (moist) % Color (moist) % Type* 0-8 7.5YR 2.5/2 loamy sand 8-24 10YR 7/1 sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Hydrogen Sulfide (A4) (LRR R, MLRA 149B Dark Surface (S7) (LRR K, L Stratified Layers (A5) Loamy Mucky Mineral (F1) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? N Depth (inches): Remarks:

Project/Site: Hi-Crush Wyeville Site	City/County	y: Byron, Monroe Co	o_Sampling Date: <u>8-11-2</u>	2011
Applicant/Owner: Hi-Crush Proppants		State: WI	Sampling Point:	SP4W
Investigator(s): Natalie White, Shanna Ska	llet	Section, Townshi	p, Range: S17,T18N,R0 ⁻	1E
Landform (hillslope, terrace, etc.): basin		Local relief (concave,	convex, none): conca	ve
Slope (%): 1 Lat.:	Long.:	Datum:		
Soil Map Unit Name Dawson peat			Classification:	
Are climatic/hydrologic conditions of the site	e typical for this time of the	/ear? N (If no	, explain in remarks)	
Are vegetation X, soil , or		antly disturbed?	Are "normal	
Are vegetation, soil, or	hydrologynatural	ly problematic?	circumstances" preser	nt? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS				
Hydraphytic vegetation present?	lo the com	nlad area within a wa	stland?	
Hydrophytic vegetation present? Hydric soil present? Y	is the same	pled area within a we	etland? Y	_
	. If was anti-	and watland site ID:	Watland 4	
Wetland hydrology present? Y	if yes, option	onal wetland site ID:	Wetland 4	
Remarks: (Explain alternative procedures h	ere or in a separate report.)			
` '	' ' '			
Draginitation and townships abou	o normal Craallhaain is	a a a dha a a fial d		
Precipitation and temperature above	e normal. Small basin ii	i soybean ileid.		
HYDROLOGY				
			ndary Indicators (minimu	m of two
Primary Indicators (minimum of one is requ		requir	·	
Surface Water (A1)	Water-Stained Leaves (I		urface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)		rainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)		loss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (ry-Season Water Table (C	;2)
Sediment Deposits (B2)	Oxidized Rhizospheres		crayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)		aturation Visible on Aerial	Imagery
X Algal Mat or Crust (B4)	Presence of Reduced Iro		C9)	
Iron Deposits (B5)	Recent Iron Reduction in		tunted or Stressed Plants	(D1)
Inundation Visible on Aerial	Soils (C6)		Geomorphic Position (D2)	
Imagery (B7)	Thin Muck Surface (C7)		hallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remar		AC-Neutral Test (D5)	
X Surface (B8)		N	licrotopographic Relief (D4	i)
Field Observations:				
Field Observations:	No V Donth (incl	200/:	Wetland	
Surface water present? Yes	No X Depth (inch			
Water table present? Yes Saturation present? Yes X	No X Depth (inch		hydrology	
	No Depth (inch	nes):2	present? Y	_
(includes capillary fringe)				
Describe recorded data (stream gauge, mo	nitoring well serial photos	nrevious inspections)	if available:	
Describe recorded data (stream gauge, mo	illitoring well, aerial priotos, i	previous irispections),	ii avaliable.	
Remarks:				

VECETATION	 Use scientific names of plants 	
A F G F I W I I O I A	· USE SCIERRING HARRIES OF DIALIES	

			plants				Sampling Point: SP4W 50/20 Thresholds
				A I I 4 -	Danainant	la dia atau	
Γree Stratum	Plot Size (30ft	1	Absolute	Dominant	Indicator	20% 50%
	,		,	% Cover	Species	Staus	Tree Stratum 0 0
							Sapling/Shrub Stratum 0 0
				-			Herb Stratum 2 5
							Woody Vine Stratum 0 0
							Troody Time Caladani
							Dominance Test Worksheet
							Number of Dominant
							Species that are OBL,
							FACW, or FAC: 0 (A)
							Total Number of Dominant
							Species Across all Strata: 1 (B)
				0	= Total Cover		
			_		- Total Cover		Percent of Dominant
							Species that are OBL,
apling/Shurb	DI 10: /	450	,	Absolute	Dominant	Indicator	FACW, or FAC: 0.00% (A/
Stratum	Plot Size (15ft)	% Cover	Species	Staus	
Otratam				70 0010.	Орослос	Otado	
							Prevalence Index Worksheet
							Total % Cover of:
							OBL species $0 \times 1 = 0$
							FACW species $0 \times 2 = 0$
							FAC species0x 3 =0
							FACU species 0 x 4 = 0
							UPL species 10 x 5 = 50
							Column totals 10 (A) 50 (B)
							Prevalence Index = $B/A = 5.00$
							Trovaloneo indox Birt
					T O		
			_	0	= Total Cover		
							Hydrophytic Vegetation Indicators:
Herb Stratum	Diot Sizo /	5ft	\	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
iero Straturri	Plot Size (Sit)	% Cover	Species	Staus	Dominance test is >50%
Glycine max				10	Y	UPL	Prevalence index is ≤3.0*
Ciyomo max							
							
			_ =				Morphogical adaptations* (provide
			_ =				Morphogical adaptations* (provide supporting data in Remarks or on a
							Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
							Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
							Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation*
							Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain)
							Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must
							Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain)
							Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic
							Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must
							Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata:
							Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet
							Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata:
							Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height.
							Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH a
							Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height.
					= Total Cover		Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1 m) tall.
					= Total Cover		Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardles
Moody Vins				10			Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1 m) tall.
•	Plot Size ()	10 Absolute	Dominant	Indicator	Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardles
Woody Vine Stratum	Plot Size ()	10			Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardles size, and woody plants less than 3.28 ft tall.
•	Plot Size ()	10 Absolute	Dominant	Indicator	Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardles size, and woody plants less than 3.28 ft tall.
•	Plot Size ()	10 Absolute	Dominant	Indicator	Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardles size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft it
Stratum	<u> </u>) 	10 Absolute	Dominant	Indicator	Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in
Stratum	Plot Size () 	10 Absolute	Dominant	Indicator	Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in
	<u> </u>) 	10 Absolute	Dominant	Indicator	Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in
Stratum	<u> </u>) 	10 Absolute	Dominant	Indicator	Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardles size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft i height.
Stratum	<u> </u>) 	10 Absolute % Cover	Dominant	Indicator	Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamet breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardles size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.

Soybeans planted thru basin - at boundary, beans are stressed and stunted. In deepest part, no vegetation growing.

SOIL SP4W Sampling Point: Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Remarks Texture (Inches) Loc** Color (moist) % Color (moist) % Type* 0-6 10YR 2/1 loamy sand 6-20 10YR 7/1 90 10YR 5/8 10 С M sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Hydrogen Sulfide (A4) (LRR R, MLRA 149B Dark Surface (S7) (LRR K, L Stratified Layers (A5) Loamy Mucky Mineral (F1) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Suface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) X Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:

Project/Site: Hi-Crush Wyeville S	ite	City/County:	Byron,	Monroe Co	Sampling Date: 8-	11-2011	
Applicant/Owner: Hi-Crush Propp	ants	_	State:	WI	Sampling Poir	nt: S	P5U
Investigator(s): Natalie White, Shan	na Skallet		Section	n, Township	, Range: S17,T18N	I,R01E	
Landform (hillslope, terrace, etc.):	gentle slope	Lo	ocal relief	f (concave, d	convex, none): no	one	
Slope (%): 1 Lat.:	Long.	:	Da	tum:	_		
Soil Map Unit Name Dawson peat				NWI C	Classification:		
Are climatic/hydrologic conditions of	the site typical for thi	s time of the yea	ır? <u>N</u>	(If no,	explain in remarks)		
Are vegetation X, soil	, or hydrology	significant			Are "normal		
Are vegetation, soil	, or hydrology	naturally p	problemat	tic?	circumstances" pr	esent?	Yes
(If needed, explain any answers in r	emarks)						
SUMMARY OF FINDINGS							
Hydrophytic vegetation present? Hydric soil present?	N N	Is the sample	ed area w	vithin a wet	land? N	1	
Wetland hydrology present?	N	If yes, optiona	ıl wetland	site ID:			_
Remarks: (Explain alternative proce	dures here or in a sep	arate report.)					
Tomporature and presin abo	vo pormal Agricult	ural field bloo	tad with	a a a wha a a a	•		
Temperature and precip abo	ve normal. Agricult	urai ileid, pian	itea witi	i soybeans	5.		
HYDROLOGY							
				Secon	dary Indicators (mir	nimum of	two
Primary Indicators (minimum of one	is required; check all	that apply)		require	•		
Surface Water (A1)		ined Leaves (B9)		•	ırface Soil Cracks (B	6)	
High Water Table (A2)		auna (B13)			ainage Patterns (B10		
Saturation (A3)	Marl Depo				oss Trim Lines (B16)		
Water Marks (B1)		Sulfide Odor (C1))		y-Season Water Tab		
Sediment Deposits (B2)		Rhizospheres on l			ayfish Burrows (C8)	,	
Drift Deposits (B3)	Roots (C3				turation Visible on A	erial Ima	aerv
Algal Mat or Crust (B4)	Presence	of Reduced Iron ((C4)	(C			,
Iron Deposits (B5)		n Reduction in Ti			unted or Stressed Pla	ants (D1)	
Inundation Visible on Aerial	Soils (C6)				eomorphic Position ([
Imagery (B7)		Surface (C7)			nallow Aquitard (D3)	,	
Sparsely Vegetated Concave		olain in Remarks)			C-Neutral Test (D5)		
Surface (B8)		,			crotopographic Relie	f (D4)	
						` ′	
Field Observations:							
Surface water present? Yes	NoX	Depth (inches			Wetland		
Water table present? Yes	No X	Depth (inches			hydrology		
Saturation present? Yes	No X	Depth (inches	s):		present?	N	
(includes capillary fringe)							
Describe recorded data (stream gau	ao monitoring well a	orial photos, pro-	vious inc	noctions) if	available:		
Describe recorded data (stream gat	ige, monitoring well, a	enai priotos, pre	vious ilis	pections), ii	avallable.		
Remarks:							

VEGETATION - Use scientific names of plants SP5U Sampling Point: 50/20 Thresholds 20% 50% Absolute Dominant Indicator Tree Stratum Plot Size (30ft % Cover Species Staus Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 12 30 Woody Vine Stratum **Dominance Test Worksheet** Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 9 Species Across all Strata: Total Cover Percent of Dominant Species that are OBL, Sapling/Shurb Absolute Dominant Indicator FACW, or FAC: 0.00% (A/B) Plot Size (15ft Stratum % Cover Species Staus **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = FACW species 0 x 2 = 0 x 3 = FAC species 0 FACU species 0 x 4 = UPL species 60 x 5 = Column totals 60 (A) 300 Prevalence Index = B/A = = Total Cover **Hydrophytic Vegetation Indicators:** Absolute Dominant Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size (5ft Dominance test is >50% % Cover Species Staus Glycine max UPL Prevalence index is ≤3.0* Morphogical adaptations* (provide 3 supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 9 **Definitions of Vegetation Strata:** 10 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 14 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 60 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Staus Stratum % Cover Species Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet)

SOIL SP5U Sampling Point: Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Remarks Texture (Inches) Loc** Color (moist) % Color (moist) % Type* 0-16 7.5YR 2.5/2 loamy sand 16-24 10YR 7/1 sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Hydrogen Sulfide (A4) (LRR R, MLRA 149B Dark Surface (S7) (LRR K, L Stratified Layers (A5) Loamy Mucky Mineral (F1) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? N Depth (inches): Remarks:

Project/Site: Hi-Crush Wyeville Site	City/County:	Byron, Monroe	e Co_Sampling Date: 8-11	-2011
Applicant/Owner: Hi-Crush Proppants		State: WI	Sampling Point:	
Investigator(s): Natalie White, Shanna Skallet		Section, Town	ship, Range: S17,T18N,R	01E
Landform (hillslope, terrace, etc.): basin		cal relief (conca	ave, convex, none): cond	cave
Slope (%): 1 Lat.:	Long.:	Datum:		
Soil Map Unit Name Dawson peat			WI Classification:	
Are climatic/hydrologic conditions of the site type			no, explain in remarks)	
Are vegetation X, soil, or hyd		ly disturbed?	Are "normal	
Are vegetation , soil , or hyd	rologynaturally p	roblematic?	circumstances" pres	ent? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present? Y	Is the sample	ed area within a	wetland? Y	
Hydric soil present? Y				
Wetland hydrology present? Y	If yes, optional	l wetland site ID:	: Wetland 5	
Remarks: (Explain alternative procedures here	or in a separate report.)			
Temperature and precipitation above r	normal. Very similar to v	wetland 4 - sm	nall basin in soybean fi	eld.
Tomporation of the property of	Torrican vory amman as		1011 1000 12 j 1 2 1	o.c.
HYDROLOGY				
		Se	econdary Indicators (minim	num of two
Primary Indicators (minimum of one is required	; check all that apply)		quired)	
Surface Water (A1)	Water-Stained Leaves (B9)		Surface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)	_	Drainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)	_	Moss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	<u> </u>	Dry-Season Water Table	(C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on L	_iving	Crayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)	_	Saturation Visible on Aeri	al Imagery
X Algal Mat or Crust (B4)	Presence of Reduced Iron ((C9)	
Iron Deposits (B5)	Recent Iron Reduction in Til	lled X	Stunted or Stressed Plant	
Inundation Visible on Aerial	Soils (C6)	_	Geomorphic Position (D2)
Imagery (B7)	Thin Muck Surface (C7)	_	Shallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks)	_	FAC-Neutral Test (D5)	
X Surface (B8)		_	Microtopographic Relief (I	D4)
Field Observations:				
	No X Depth (inches)	١٠	Wetland	
	No X Depth (inches)			
	No Depth (inches)		hydrology	,
	10Deptil (iliches)):	present? Y	<u> </u>
(includes capillary fringe)				
Describe recorded data (stream gauge, monitor	ring well, aerial photos, prev	vious inspections	s) if available:	
20001160 10001404 4444 (24.22 32.23.2)	mg, some p, p		0), 11 3 3 3 3 5 5	
Remarks:				

VEGETATION - Use scientific names of pla	ants

							50/20 Thresholds		
				Absolute	Dominant	Indicator	00,20 1111 00110100	20%	50%
Tree Stratum	Plot Size (30ft)				Trop Ctratum		
				% Cover	Species	Staus	Tree Stratum	0	0
							Sapling/Shrub Stratum	0	0
							Herb Stratum	2	5
							Woody Vine Stratum	0	0
							Dominance Test Workshe	of	
								51	
							Number of Dominant		
7						Species that are OBL,			
							FACW, or FAC:	0	(A)
							Total Number of Dominant		
							Species Across all Strata:	1	(B)
				0 =	Total Cause		' -	- '	(D)
				=	Total Cover		Percent of Dominant		
							Species that are OBL,		
Sapling/Shurb				Absolute	Dominant	Indicator	FACW, or FAC:	0.00%	(A/E
Stratum	Plot Size (15ft)	% Cover	Species	Staus	-	0.007	
Stratum				76 COVEI	Species	Staus			
							Prevalence Index Workshop	eet	
2							Total % Cover of:		
							OBL species 0 x 1:	_ ^	
							·		
							FACW species 0 x 2		
3							FAC species 0 x 3 :	= 0	
							FACU species 0 x 4 :	= 0	
							UPL species 10 x 5	= 50)
							Column totals 10 (A)	50	
							``,		<u>, (D)</u>
							Prevalence Index = B/A =	5.00	
				0 =	 Total Cover 				
							Hydrophytic Vegetation In	dicators	s:
				Absolute	Dominant	Indicator	Rapid test for hydrophyt	ic veaet	ation
Herb Stratum	Plot Size (5ft)	% Cover	Species	Staus	Dominance test is >50%	•	
Chroine mov					Y	UPL	Prevalence index is ≤3.0		
Glycine max				10		UPL	_		
2							Morphogical adaptations		
							supporting data in Rema	arks or o	n a
							separate sheet)		
							Problematic hydrophytic	venetat	ion*
								vegetat	1011
							X (explain)		
							*Indicators of hydric soil and wetla	nd hydrolo	gy must
							present, unless disturbed or proble	ematic	
			_				Definitions of Vegetation S	Strata:	
							Tree - Woody plants 3 in. (7.6 cm)	or more in	n diamete
							breast height (DBH), regardless of		
								-	
			-				Sapling/shrub - Woody plants les	s than 3 ir	n. DBH aı
							greater than 3.28 ft (1 m) tall.		
				10 =	Total Cover		` '		
					TOTAL COVE		Herb - All herbaceous (non-woody) plants, re	egardless
							size, and woody plants less than 3		3
Woody Vine	Plot Size ()	Absolute	Dominant	Indicator	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Stratum	. 101 0120 (,	% Cover	Species	Staus	Woody vines - All woody vines gr	eater than	3.28 ft ir
							height.		
							Hydrophytic		
							vegetation		
					T-4-1 0				
				0 =	Total Cover		present? Y		

Soybeans planted thru basin - at boundary, beans are stressed and stunted. In deepest part, no vegetation growing.

SOIL SP5W Sampling Point: Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Remarks Texture (Inches) Loc** Color (moist) % Color (moist) % Type* 0-6 10YR 2/1 loamy sand 6-20 10YR 7/1 90 10YR 5/8 10 С M sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Hydrogen Sulfide (A4) (LRR R, MLRA 149B Dark Surface (S7) (LRR K, L Stratified Layers (A5) Loamy Mucky Mineral (F1) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Suface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) X Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:

Appendix C

Site Photographs



Photo 1 Wetland 1. Floodplain forest with secondary channel of Lemonweir River visible in bottom of frame.



Photo 2 Upland west of Wetland 1.





Photo 3 Wetland 2 – Fresh (wet) Meadow



Photo 4 Upland south of Wetland 2. Wetland boundary visible on left side of frame, upland to the right. Facing east towards Lemonweir River.





Photo 5 Wetland 3 – Facing northwest from sample point. Deep marsh portion visible in center of photograph.



Photo 6 Upland south of Wetland 3. Contiguous with upland soybean field surrounding Wetlands 5 and 6 as well.





Photo 7 Wetland 5. Farmed basin.

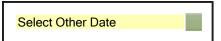


Photo 8 Wetland 6. Farmed Basin



Appendix D

Climate Summary Data



These data are preliminary and have not undergone final quality control by the National Climatic Data Center (NCDC). Therefore, these data are subject to revision. Final and certified climate data can be accessed at the NCDC - http://www.ncdc.noaa.gov.

Climatological Report (Monthly)

000 CXUS53 KMPX 011528 CLMEAU

CLIMATE REPORT NATIONAL WEATHER SERVICE CHANHASSEN MN 1025 AM CDT THU SEP 01 2011

... THE EAU CLAIRE WI CLIMATE SUMMARY FOR THE MONTH OF AUGUST 2011...

	CLIMATE CLIMATE	NORMAL RECORD	PERIO		71 TO 20			
WEATHER ITEM	OBSERVED VALUE	DATE(S)	NORMAL VALUE	DEPART FROM NORMAL	LAST Y VALUE	EAR DATE(S)		
MONTHLY	REPORT	AUGUS'	г 20	11	EAU	AIRPORT		
TEMPS		ACTUA	L NOR	MAL D	EPART		RANK	
AVG	MAX	80.7	80	.3	0.4	WARMER	NEAR	NORM
AVG	MIN	58.4	58	.3	0.1	WARMER	NEAR	NORM
MONTH	MEAN	69.6	69	.3	0.3	WARMER	NEAR	NORM
DAILY	MAX	86	AUG-02-2	011				
DAILY	MIN		AUG-10-2	-				
RECORD	HIGHS	0	.100 10 2	011				
RECORD	LOWS	0						
HDD		ACTUA	L NOR	MAT. T	EPART		RANK	
TOTAL	MONTH	3	2		-25	WARMER	13	WARM
TOTAL	SEASON	4	3		-35	WARMER	5	WARM
an n		3 CITITA 1		\			D 3 3 3 3 7 7 7	
CDD	MONTHI	ACTUA:	_		EPART	GOOT ED	RANK	NIODNI
TOTAL	MONTH	150	16		-11	COOLER	50	NORM
TOTAL	ANNUAL	587	52	/	60	WARMER	NEAR	NORM
PCP		ACTUA:	L NOR	MAL D	EPART		RANK	
MONTH	TOTAL	2.34	4.	47 -	2.13	DRIER	29	DRY
ANNUAL	TOTAL	27.51	22.	12	5.39	WETTER	12	WET
DAILY	MAX	0.85	AUG-16-	2011				

RECORD	PCP	0					
SNOW		ACTUAL	AVG	DEPART		RANK	
MONTH	TOTAL	0.0	0.0	0.0	NORMAI		
SEASON	TOTAL	0.0	0.0	0.0	NORMAI		
DAILY	MAX		G-01-2011		NORMAI	L IN/A	
MAX	DEPTH		G-01-2011 G-01-2011				
MAX RECORD	SNOW	0 AUC	3-01-201	<u>-</u>			
RECORD	SNOM	U					
AUGUST	EXTREMES	WARMEST/COI	LDEST/WET	TTEST ON REC	ORD FOR	COMPAR	ISON
EXTREME	AUGUST	EXTREME	YEAR	DEPART		RANK	
AUGUST	MAX	92.0	2007	11.7	WARMEST	1	WARM
AUGUST	MAX	74.3	1903	-6.0	COLDEST	1	COLD
AUGUST	MIN	65.9	1947	7.6	WARMEST	1	WARM
AUGUST	MIN	52.1	1950	-6.2	COLDEST	1	COLD
AUGUST	MEAN	78.2	1947	8.9	WARMEST	1	WARM
AUGUST	MEAN	63.8	2004	-5.5	COLDEST	1	COLD
AUGUST	HDD	0	1998	-28	WARMEST	1	WARM
AUGUST	HDD	104	2004	76	COLDEST	1	COLD
AUGUST	CDD	415	1947	254	WARMEST	1	WARM
AUGUST	CDD	57	1927	-104	COLDEST	1	COLD
AUGUST	PCP	11.64	1980	7.17	WETTEST	1	WET
AUGUST	PCP	0.23	1898	-4.24	DRIEST	1	DRY
AUGUST	SNOW	0.23	NONE	RECORDED	WETTEST	1	WET
AUGUST	SNOW	0.0	NONE	RECORDED	DRIEST	1	DRY
AUGUSI	SNOW	0.0	NONE	RECORDED	DKIESI	Τ.	DKI
WIND	MPH	ACTUAL	NORMAI	L DEPART			
MONTH	AVERAGE	4.9	9.5	-4.6			
PEAK WIND GUST		WEST	AUG-24-	-2011			
FASTEST 2-MINU	TE 28 MPH	NORTHWEST	AUG-24-	-2011			
CINCLIAND							
SUNSHINE		#TNT T 0.000 1101	TO CATA	HOHD LOGG D	OE O TIT		~
-	_	MIN-LOSS HOU		HOUR-LOSS PO			S
JAN-AUG	413	-138	6.9	-2.3	100	-33	
SUNSHINE							
MONTHLY	MIN-GAIN N	MIN-LOSS HOU	JR-GAIN	HOUR-LOSS PO	CT-GAIN I	PCT-LOS	S
AUG	0	-85	0.0	-1.4	0	-21	
WEATHER		ACTUAL					
TYPE	NCDC	COUNT					
1=FOG/MIST		23					
2=FOG DENSE	0.5	10					
3=THUNDER	6.4	5					
4=IP/SLEET		0					
5=HAIL		0					
6=FRZ RAIN		0					
7=BLWG DUST		0					
8=HAZE/SMK		2					
9=BLWG SNW		0					
TEMP	COUNT	NUMBER	OF DAYS				
MAXIMUM	ACTUAL	AVERAGE	DEPART	Γ			

<=32	0	0	0	NORMAL			
>=50	31	31	0	NORMAL			
>=60	31	31	0	WARMER			
>=70	30	29	1	WARMER			
>=80	22	18	4	WARMER			
>=90	0	3	-3	COOLER			
TEMP	COUNT	NUMBER	OF DAYS				
				1			
MINIMUM	ACTUAL	AVERAGE	DEPART				
<= 32	0	0	0	NORMAL			
<= 20	0	0	0	NORMAL			
<= 10	0	0	0	NORMAL			
<= 0	0	0	0	NORMAL			
<= -10	0	0	0	NORMAL			
>= 50	31	28	3	WARMER			
PCP	COUNT	NUMBER	OF DAYS				
PCP	ACTUAL	AVERAGE	DEPART	1			
T (ONLY)	1	3	-2	DRIER			
>= 0.01	13	10	3	WETTER			
>= 0.10	6	7	-1	DRIER			
>= 0.10	4	, 5	-1				
	=			DRIER			
>= 0.50	1	3	-2	DRIER			
>= 1.00	0	1	-1	DRIER			
SNOW	COUNT	NUMBER	OF DAYS				
SNOW	ACTUAL	AVERAGE	DEPART	i			
T (ONLY)	0	0	0	NORMAL			
>= 0.1	0	0	0	NORMAL			
>= 1.0	0	0	0	NORMAL			
>= 1.5	0	0	0	NORMAL			
>= 2.0	0	0	0	NORMAL			
>= 3.0	0	0	0	NORMAL			
MEM DATEM	DECODDS		TTOTTMO		DDEMIONS		
NEW DAILY	RECORDS	AMOTINE	LISTING		PREVIOUS	01 D	77E 7 D
NEW DAILY	SET/TIE	AMOUNT	DATE	YEAR	SET/TIE	ОГО	YEAR
NO NEW RECORD	DAILY	EXTREMES					
3-MONTH	DATA	JUNE	JULY	AUGUST	(JJA)		
JJA	2011	ACTUAL	NORMAL	DEPART	(/	RANK	
JJA-11	MAX	81.3	80.6	0.7	WARMER		NORM
JJA-11	MIN	59.0	57.9	1.1	WARMER	36	WARM
JJA-11	MEAN	70.2	69.3	0.9	WARMER	39	WARM
JJA-11	HDD	73	101	-28	WARMER	49	WARM
JJA-11	CDD	571	495	76	WARMER	43	WARM
JJA-11	PRECIP	17.00	12.48	4.52	WETTER	9	WET
JJA-11	SNOW	0.0	0.0	0.0	NORMAL	N/A	
2 MONTHLE TURNSTON	a wantee '	GOT DEGE /		DEGODE	COMPIDIO		
3-MONTH EXTREME					COMPARISO		
EXTREME	JJA	EXTREME	YEAR	DEPART		RANK	
JUN-JUL-AUG	MAX	87.2	1988	6.6	WARMEST	1	WARM
JUN-JUL-AUG	MAX	75.0	1915	-5.6	COLDEST	1	COLD
JUN-JUL-AUG	MIN	62.5	1949	4.6	WARMEST	1	WARM
JUN-JUL-AUG	MIN	62.5	1949	4.6	COLDEST	1	COLD
						_	

JUN-JUL-AUG	MEAN	74.6	1949	5.3	WARMEST	1	WARM
JUN-JUL-AUG	MEAN	64.5	1915	-4.8	COLDEST	1	COLD
JUN-JUL-AUG	HDD	6	1932	-95	WARMEST	1	WARM
JUN-JUL-AUG	HDD	250	1915	149	COLDEST	1	COLD
JUN-JUL-AUG	CDD	929	1949	434	WARMEST	1	WARM
JUN-JUL-AUG	CDD	228	1915	-267	COLDEST	1	COLD
JUN-JUL-AUG	PRECIP	22.97	1989	10.49	SNOWIEST	1	WET
JUN-JUL-AUG	PRECIP	3.00	1897	-9.48	DRIEST	1	DRY
JUN-JUL-AUG	SNOW	0.0	NONE	RECORDED	WETTER	1	WET
JUN-JUL-AUG	SNOW	0.0	NONE	RECORDED	WETTER	1	DRY
ANNUAL	DATA						
JAN-AUG	2011	ACTUAL	NORMAL	DEPART		RANK	
JAN-AUG-11	MAX	55.8	57.8	-2.0	COOLER	29	COLD
JAN-AUG-11	MIN	35.5	36.3	-0.8	COOLER		NORM
JAN-AUG-11	MEAN	45.7	47.1	-1.4	COOLER	48	COLD
JAN-AUG-11	HDD-ANN	5161	4822	339	COOLER	44	COLD
JUL-AUG-11	HDD-SEA	4	39	-35	WARMER	5	WARM
JAN-AUG-11	CDD	587	527	-33 60	WARMER		NORM
		27.51	22.12			12	WET
JAN-AUG-11	PRECIP			5.39	WETTER		
JAN-AUG-11	SNOW-ANN	39.2	31.2	8.0	SNOWIER	31	WET
JUL-AUG-11	SNOW-SEA	0.0	NONE	RECORDED		N/A	
ANNUAL EXTREMES	WARMEST/C	OLDEST/WE	TTEST ON RI	ECORD FOR	COMPARISON		
ANNUAL EXTREMES JAN-AUG	WARMEST/C	OLDEST/WET	ITEST ON RI YEAR	ECORD FOR DEPART	COMPARISON	RANK	
	WARMEST/C				COMPARISON WARMEST		WARM
JAN-AUG		EXTREME	YEAR	DEPART		RANK	WARM COLD
JAN-AUG JAN-AUG	MAX	EXTREME 63.6	YEAR 1931	DEPART 5.8	WARMEST	RANK 1	
JAN-AUG JAN-AUG JAN-AUG	MAX MAX	EXTREME 63.6 52.0	YEAR 1931 1979	DEPART 5.8 -5.8	WARMEST COLDEST	RANK 1 1	COLD
JAN-AUG JAN-AUG JAN-AUG JAN-AUG	MAX MAX MIN	EXTREME 63.6 52.0 41.1 30.2	YEAR 1931 1979 1921 1950	DEPART 5.8 -5.8 4.8 -6.1	WARMEST COLDEST WARMEST	RANK 1 1 1	COLD WARM
JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG	MAX MAX MIN MIN	EXTREME 63.6 52.0 41.1	YEAR 1931 1979 1921	DEPART 5.8 -5.8 4.8	WARMEST COLDEST WARMEST COLDEST	RANK 1 1 1 1	COLD WARM COLD
JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG	MAX MAX MIN MIN MEAN MEAN	EXTREME 63.6 52.0 41.1 30.2 52.3 41.25	YEAR 1931 1979 1921 1950 1931 1950	DEPART 5.8 -5.8 4.8 -6.1 5.2 -5.9	WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST	RANK	COLD WARM COLD WARM COLD
JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG	MAX MAX MIN MIN MEAN MEAN HDD-ANN	63.6 52.0 41.1 30.2 52.3 41.25 3874	YEAR 1931 1979 1921 1950 1931 1950	DEPART 5.8 -5.8 4.8 -6.1 5.2 -5.9 -948	WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST	RANK 1 1 1 1 1 1 1	COLD WARM COLD WARM COLD WARM
JAN-AUG	MAX MAX MIN MIN MEAN MEAN HDD-ANN HDD-ANN	63.6 52.0 41.1 30.2 52.3 41.25 3874 5981	YEAR 1931 1979 1921 1950 1931 1950 1931	DEPART 5.8 -5.8 4.8 -6.1 5.2 -5.9 -948 1159	WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST	RANK 1 1 1 1 1 1 1	COLD WARM COLD WARM COLD WARM COLD
JAN-AUG	MAX MAX MIN MIN MEAN MEAN HDD-ANN HDD-ANN HDD-SEA	63.6 52.0 41.1 30.2 52.3 41.25 3874 5981 0	YEAR 1931 1979 1921 1950 1931 1950 1931 1950	DEPART 5.8 -5.8 4.8 -6.1 5.2 -5.9 -948 1159 -39	WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST	RANK 1 1 1 1 1 1 1 1 1	COLD WARM COLD WARM COLD WARM COLD WARM
JAN-AUG JUL-AUG JUL-AUG	MAX MAX MIN MIN MEAN MEAN HDD-ANN HDD-ANN HDD-SEA HDD-SEA	63.6 52.0 41.1 30.2 52.3 41.25 3874 5981 0 122	YEAR 1931 1979 1921 1950 1931 1950 1931 1950 1998	DEPART 5.8 -5.8 4.8 -6.1 5.2 -5.9 -948 1159 -39 83	WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST	RANK 1 1 1 1 1 1 1 1 1	COLD WARM COLD WARM COLD WARM COLD WARM COLD
JAN-AUG	MAX MAX MIN MIN MEAN MEAN HDD-ANN HDD-ANN HDD-SEA HDD-SEA CDD	63.6 52.0 41.1 30.2 52.3 41.25 3874 5981 0 122 1051	YEAR 1931 1979 1921 1950 1931 1950 1931 1950 1998 1950	DEPART 5.8 -5.8 4.8 -6.1 5.2 -5.9 -948 1159 -39 83 524	WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST	RANK 1 1 1 1 1 1 1 1 1 1 1	COLD WARM COLD WARM COLD WARM COLD WARM COLD WARM
JAN-AUG	MAX MAX MIN MIN MEAN MEAN HDD-ANN HDD-ANN HDD-SEA HDD-SEA CDD CDD	63.6 52.0 41.1 30.2 52.3 41.25 3874 5981 0 122 1051 276	YEAR 1931 1979 1921 1950 1931 1950 1950 1998 1950 1934 1915	DEPART 5.8 -5.8 4.8 -6.1 5.2 -5.9 -948 1159 -39 83 524 -251	WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST	RANK 1 1 1 1 1 1 1 1 1 1 1 1 1	COLD WARM COLD WARM COLD WARM COLD WARM COLD WARM COLD
JAN-AUG JUL-AUG JUL-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG	MAX MAX MIN MIN MEAN MEAN HDD-ANN HDD-ANN HDD-SEA HDD-SEA CDD CDD PRECIP	EXTREME 63.6 52.0 41.1 30.2 52.3 41.25 3874 5981 0 122 1051 276 39.79	YEAR 1931 1979 1921 1950 1931 1950 1931 1950 1998 1950 1934 1915	DEPART 5.8 -5.8 4.8 -6.1 5.2 -5.9 -948 1159 -39 83 524 -251 17.67	WARMEST COLDEST WARMEST	RANK 1 1 1 1 1 1 1 1 1 1 1 1 1	COLD WARM COLD WARM COLD WARM COLD WARM COLD WARM COLD WARM COLD WET
JAN-AUG JUL-AUG JUL-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG	MAX MAX MIN MIN MEAN MEAN HDD-ANN HDD-SEA HDD-SEA CDD CDD PRECIP PRECIP	EXTREME 63.6 52.0 41.1 30.2 52.3 41.25 3874 5981 0 122 1051 276 39.79 11.64	YEAR 1931 1979 1921 1950 1931 1950 1931 1950 1998 1950 1934 1915	DEPART 5.8 -5.8 4.8 -6.1 5.2 -5.9 -948 1159 -39 83 524 -251 17.67 -10.48	WARMEST COLDEST	RANK 1 1 1 1 1 1 1 1 1 1 1 1 1	COLD WARM COLD
JAN-AUG JUL-AUG JUL-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG	MAX MAX MIN MIN MEAN MEAN HDD-ANN HDD-SEA HDD-SEA CDD CDD PRECIP PRECIP SNOW-ANN	63.6 52.0 41.1 30.2 52.3 41.25 3874 5981 0 122 1051 276 39.79 11.64 80	YEAR 1931 1979 1921 1950 1931 1950 1931 1950 1998 1950 1934 1915 1938 1910	DEPART 5.8 -5.8 4.8 -6.1 5.2 -5.9 -948 1159 -39 83 524 -251 17.67 -10.48 48.8	WARMEST COLDEST WETTER DRIER SNOWIEST	RANK 1 1 1 1 1 1 1 1 1 1 1 1 1	COLD WARM COLD WET DRY WET
JAN-AUG JUL-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG	MAX MAX MIN MIN MEAN MEAN HDD-ANN HDD-ANN HDD-SEA CDD CDD PRECIP PRECIP SNOW-ANN SNOW-ANN	63.6 52.0 41.1 30.2 52.3 41.25 3874 5981 0 122 1051 276 39.79 11.64 80 8.7	YEAR 1931 1979 1921 1950 1931 1950 1938 1950 1934 1915 1938 1910 1929	DEPART 5.8 -5.8 4.8 -6.1 5.2 -5.9 -948 1159 -39 83 524 -251 17.67 -10.48 48.8 -22.5	WARMEST COLDEST WETTER DRIER SNOWIEST DRIEST	RANK 1 1 1 1 1 1 1 1 1 1 1 1 1	COLD WARM COLD WARM COLD WARM COLD WARM COLD WARM COLD WARM COLD WET DRY WET DRY
JAN-AUG JUL-AUG JUL-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG JAN-AUG	MAX MAX MIN MIN MEAN MEAN HDD-ANN HDD-SEA HDD-SEA CDD CDD PRECIP PRECIP SNOW-ANN	63.6 52.0 41.1 30.2 52.3 41.25 3874 5981 0 122 1051 276 39.79 11.64 80	YEAR 1931 1979 1921 1950 1931 1950 1931 1950 1998 1950 1934 1915 1938 1910	DEPART 5.8 -5.8 4.8 -6.1 5.2 -5.9 -948 1159 -39 83 524 -251 17.67 -10.48 48.8	WARMEST COLDEST WETTER DRIER SNOWIEST	RANK 1 1 1 1 1 1 1 1 1 1 1 1 1	COLD WARM COLD WET DRY WET

These data are preliminary and have not undergone final quality control by the National Climatic Data Center (NCDC). Therefore, these data are subject to revision. Final and certified climate data can be accessed at the NCDC - http://www.ncdc.noaa.gov.

Climatological Report (Monthly)

000 CXUS53 KMPX 010832 CLMEAU

CLIMATE REPORT NATIONAL WEATHER SERVICE CHANHASSEN MN 330 AM CDT MON AUG 01 2011

...THE EAU CLAIRE WI CLIMATE SUMMARY FOR THE MONTH OF JULY 2011...

1971 TO 2000 CLIMATE NORMAL PERIOD CLIMATE RECORD PERIOD 1900 TO 2011

WEATHER	OBSERVED VALUE I	DATE(S)	NORMAL VALUE	DEPART FROM NORMAL	LAST YI VALUE	EAR`S DATE(S)		
MONTHLY	REPORT	JU	LY	2011	EAU	AIRPORT		
TEMPS		ACT	'UAL N	IORMAL	DEPART		RANK	
AVG	MAX	85	.3	82.6	2.7	WARMER	37	WARM
AVG	MIN	63	.9	60.2	3.7	WARMER	10	WARM
MONTH	MEAN	74	.6	71.4	3.2	WARMER	22	WARM
DAILY	MAX	9	6 JUL-01	-2011				
DAILY	MIN	5	2 JUL-13	3-2011				
RECORD	HIGHS	0						
RECORD	LOWS	0						
HDD		ACT	'UAL N	IORMAL	DEPART		RANK	
TOTAL	MONTH	1		16	-15	WARMER	24	WARM
TOTAL	SEASON	1		16	-15	WARMER	24	WARM
CDD		ACT	'UAL N	IORMAL	DEPART		RANK	
TOTAL	MONTH	30	6	214	92	WARMER	22	WARM
TOTAL	ANNUAL	43	7	370	67	WARMER	37	WARM
PCP		ACT	'UAL N	IORMAL	DEPART		RANK	
MONTH	TOTAL	7.	43	3.94	3.4	49 WETTER	6	WET
ANNUAL	TOTAL	25.	17 1	.8.51	6.6	66 WETTER	4	WET
DAILY	MAX	1.	44 JUL-1	0-2011				
RECORD	PCP	1						
SNOW		ACT	'UAL	AVG	DEPART		RANK	
MONTH	TOTAL	0.	0	0.0	0.0	NORMAL	N/A	
SEASON	TOTAL	0.	0	0.0	0.0	NORMAL	N/A	

DAILY	MAX		L-01-2011				
MAX	DEPTH		L-01-2011				
RECORD	SNOW	0					
JULY	EXTREMES	WARMEST/CO	LDEST/WETTE	ST ON REC	ORD FOR C	COMPARI	SON
EXTREME	JULY	EXTREME	YEAR	DEPART		RANK	
JULY	MAX	95.1	1936	12.5	WARMEST	1	WARM
JULY	MAX	75.0	1992	-7.6	COLDEST	1	COLD
JULY	MIN	67.8	1935	7.6	WARMEST	1	WARM
JULY	MIN	53.8	2009	-6.4	COLDEST	1	COLD
JULY	MEAN	80.4	1936	9	WARMEST	1	WARM
JULY	MEAN	65.5	1992	-5.9	COLDEST		COLD
JULY	HDD	0	2010	-16	WARMEST		WARM
JULY	HDD	42	1972	26	COLDEST		COLD
JULY	CDD	487	1936	273	WARMEST		WARM
JULY	CDD	60	2009	-154	COLDEST		COLD
JULY	PCP	8.88	1900	4.94	WETTEST		WET
JULY	PCP	0.12	1936	-3.82	DRIEST		DRY
JULY	SNOW	0.0	NONE	RECORDED			WET
JULY	SNOW	0.0	NONE	RECORDED	DRIEST	1	DRY
WIND	MPH	ACTUAL	NORMAL	DEPART			
MONTH	AVERAGE	5.5	9.6	-4.1			
PEAK WIND GUST			T JUL-10-20	11			
FASTEST 2-MINUTE			T JUL-23-20				
	33 112	11 1101111111	1 002 20 20				
SUNSHINE							
ANNUAL	MIN-GN	MIN-LS	HR-GN	HR-LS	PCNT GN	PCNT	LS
JAN-AUG	413	-53	6.9	-0.88	-100	-13	
MONTHLY	MIN-GN	MIN-LS	HR-GN	HR-LS	PCNT GN	PCNT	LS
JUL	0	-50	0.00	-0.83	0	-12	
WEATHER							
TYPE		COUNT					
1=FOG/MIST		0					
2=FOG DENSE		0					
3=THUNDER		0					
4=IP/SLEET		0					
5=HAIL		0					
6=FRZ RAIN		0					
7=BLWG DUST		0					
7-DEWG DODI		O					
TEMP	COUNT	NUMBER	OF DAYS				
MAXIMUM	ACTUAL	AVERAGE	DEPART				
<=32	0	0	0	NORMAL			
>=50	31	31	0	NORMAL			
>=60	31	31	0	NORMAL			
>=70	31	30	1	WARMER			
>=80	26	22	4	WARMER			
>=90	20 6	5	1	WARMER			
>= 90	Ö	5	Т.	MAKMEK			
TEMP	COUNT	NUMBER	OF DAYS				
MINIMUM	ACTUAL	AVERAGE	DEPART				
<= 32	0	0	0	NORMAL			
<= 20	0	0	0	NORMAL			

<= 10	0	0	0	NORMAL			
<= 0	0	0	0	NORMAL			
<= -10	0	0	0	NORMAL			
>= 50	31	30	1	WARMER			
>= 50	31	30	_	WARRIER			
PCP	COUNT	NUMBER	OF DAYS				
PCP	ACTUAL	AVERAGE	DEPART				
T (ONLY)	3	3	0	WETTER			
>= 0.01	14	11	3	WETTER			
>= 0.01	11	7	4	WETTER			
>= 0.10	10	, 5	5				
			3	WETTER			
>= 0.50	6	3		WETTER			
>= 1.00	3	1	2	WETTER			
SNOW	COUNT	NUMBER	OF DAYS				
SNOW	ACTUAL	AVERAGE	DEPART				
	0	O 0	0	MODMAT			
T (ONLY)				NORMAL			
>= 0.1	0	0	0	NORMAL			
>= 1.0	0	0	0	NORMAL			
>= 1.5	0	0	0	NORMAL			
>= 2.0	0	0	0	NORMAL			
>= 3.0	0	0	0	NORMAL			
NEW DAILY	RECORDS		LISTING		PREVIOUS		
NEW DAILY	SET/TIE	AMOUNT	DATE	YEAR	SET/TIE		YEAR
WARM LOW		76		9-2011			1942
	TIE->				TIES->		
PRECIP	NEW->	1.40	001-2	3-2011	OLD->	0.81	1987
3-MONTH	DATA	MAY	JUNE	JULY	(MJJ)		
	DATA 2011	MAY ACTUAL	JUNE NORMAL	JULY DEPART	(MJJ)	RANK	
MJJ	2011	ACTUAL	NORMAL	DEPART		RANK NEAR	NORM
MJJ-11	2011 MAX	ACTUAL 76.7	NORMAL 53.7	DEPART 23.0	WARMER	NEAR	NORM WARM
MJJ-11 MJJ-11	2011 MAX MIN	ACTUAL 76.7 54.6	NORMAL 53.7 38.4	DEPART 23.0 16.2	WARMER WARMER	NEAR 38	WARM
MJJ-11 MJJ-11 MJJ-11	2011 MAX MIN MEAN	ACTUAL 76.7 54.6 65.7	NORMAL 53.7 38.4 46.1	DEPART 23.0 16.2 19.6	WARMER WARMER WARMER	NEAR 38 47	WARM WARM
MJJ-11 MJJ-11 MJJ-11 MJJ-11	2011 MAX MIN MEAN HDD	ACTUAL 76.7 54.6 65.7 354	NORMAL 53.7 38.4 46.1 337	DEPART 23.0 16.2 19.6 17	WARMER WARMER WARMER COOLER	NEAR 38 47 46	WARM WARM COLD
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11	2011 MAX MIN MEAN HDD CDD	ACTUAL 76.7 54.6 65.7 354 421	NORMAL 53.7 38.4 46.1 337 325	DEPART 23.0 16.2 19.6 17 96	WARMER WARMER WARMER COOLER WARMER	NEAR 38 47 46 44	WARM WARM COLD WARM
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11	2011 MAX MIN MEAN HDD CDD PRECIP	ACTUAL 76.7 54.6 65.7 354 421 14.66	NORMAL 53.7 38.4 46.1 337 325 8.21	DEPART 23.0 16.2 19.6 17 96 6.45	WARMER WARMER WARMER COOLER WARMER WETTER	NEAR 38 47 46 44 17	WARM WARM COLD
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11	2011 MAX MIN MEAN HDD CDD	ACTUAL 76.7 54.6 65.7 354 421	NORMAL 53.7 38.4 46.1 337 325	DEPART 23.0 16.2 19.6 17 96	WARMER WARMER WARMER COOLER WARMER	NEAR 38 47 46 44	WARM WARM COLD WARM
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11	2011 MAX MIN MEAN HDD CDD PRECIP SNOW	76.7 54.6 65.7 354 421 14.66 0.0	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0	DEPART 23.0 16.2 19.6 17 96 6.45 0.0	WARMER WARMER WARMER COOLER WARMER WETTER	NEAR 38 47 46 44 17	WARM WARM COLD WARM
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR C	WARMER WARMER WARMER COOLER WARMER WETTER NORMAL	NEAR 38 47 46 44 17 N/A	WARM WARM COLD WARM
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 S-MONTH EXTREMES EXTREME	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR COURT OF CO	WARMER WARMER COOLER WARMER WETTER NORMAL	NEAR 38 47 46 44 17 N/A	WARM WARM COLD WARM WET
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 S-MONTH EXTREMES EXTREME MAY-JUN-JUL	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ MAX	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME 85.9	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR 1934	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR C DEPART 32.2	WARMER WARMER COOLER WARMER WETTER NORMAL OMPARISON WARMEST	NEAR 38 47 46 44 17 N/A RANK 1	WARM WARM COLD WARM WET
MJJ MJJ-11	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ MAX MAX	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME 85.9 70.7	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR 1934 1915	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR CO DEPART 32.2 17.0	WARMER WARMER COOLER WARMER WETTER NORMAL OMPARISON WARMEST COLDEST	NEAR 38 47 46 44 17 N/A RANK 1	WARM COLD WARM WET WARM COLD
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 3-MONTH EXTREMES EXTREME MAY-JUN-JUL MAY-JUN-JUL MAY-JUN-JUL	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ MAX MAX MIN	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME 85.9 70.7 59.0	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR 1934 1915 1934	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR CO DEPART 32.2 17.0 20.6	WARMER WARMER WARMER COOLER WARMER WETTER NORMAL OMPARISON WARMEST COLDEST WARMEST	NEAR 38 47 46 44 17 N/A RANK 1 1	WARM COLD WARM WET WARM COLD WARM
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 3-MONTH EXTREMES EXTREME MAY-JUN-JUL MAY-JUN-JUL MAY-JUN-JUL MAY-JUN-JUL	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ MAX MAX MIN MIN	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME 85.9 70.7 59.0 49.4	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR 1934 1915 1934 1924	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR C DEPART 32.2 17.0 20.6 11.0	WARMER WARMER WARMER COOLER WARMER WETTER NORMAL OMPARISON WARMEST COLDEST WARMEST COLDEST	NEAR 38 47 46 44 17 N/A RANK 1 1 1	WARM COLD WARM WET WARM COLD WARM COLD
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 3-MONTH EXTREMES EXTREME MAY-JUN-JUL MAY-JUN-JUL MAY-JUN-JUL MAY-JUN-JUL MAY-JUN-JUL MAY-JUN-JUL	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ MAX MAX MIN MIN MEAN	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME 85.9 70.7 59.0 49.4 72.5	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR 1934 1915 1934 1924 1934	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR C DEPART 32.2 17.0 20.6 11.0 26.4	WARMER WARMER WARMER COOLER WARMER WETTER NORMAL OMPARISON WARMEST COLDEST WARMEST COLDEST WARMEST	NEAR 38 47 46 44 17 N/A RANK 1 1 1	WARM COLD WARM WET WARM COLD WARM COLD WARM
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 3-MONTH EXTREMES EXTREME MAY-JUN-JUL MAY-JUN-JUL MAY-JUN-JUL MAY-JUN-JUL MAY-JUN-JUL MAY-JUN-JUL MAY-JUN-JUL MAY-JUN-JUL	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ MAX MAX MIN MIN MEAN MEAN MEAN	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME 85.9 70.7 59.0 49.4 72.5 60.7	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR 1934 1915 1934 1924 1934 1934	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR CO DEPART 32.2 17.0 20.6 11.0 26.4 14.6	WARMER WARMER WARMER COOLER WARMER WETTER NORMAL OMPARISON WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST	NEAR 38 47 46 44 17 N/A RANK 1 1 1	WARM WARM COLD WARM COLD WARM COLD WARM COLD
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 3-MONTH EXTREMES EXTREME MAY-JUN-JUL	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ MAX MAX MIN MIN MEAN MEAN HDD	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME 85.9 70.7 59.0 49.4 72.5 60.7 113	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR 1934 1915 1934 1924 1934 1915 1934	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR CO DEPART 32.2 17.0 20.6 11.0 26.4 14.6 -224	WARMER WARMER WARMER COOLER WARMER WETTER NORMAL OMPARISON WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST	NEAR 38 47 46 44 17 N/A RANK 1 1 1 1	WARM COLD WARM WET WARM COLD WARM COLD WARM COLD WARM COLD WARM
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 3-MONTH EXTREMES EXTREME MAY-JUN-JUL	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ MAX MAX MIN MIN MIN MEAN HDD HDD	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME 85.9 70.7 59.0 49.4 72.5 60.7 113 543	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR 1934 1915 1934 1924 1934 1915 1934 1915	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR C DEPART 32.2 17.0 20.6 11.0 26.4 14.6 -224 206	WARMER WARMER WARMER COOLER WARMER WETTER NORMAL OMPARISON WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST WARMEST COLDEST COLDEST	NEAR 38 47 46 44 17 N/A RANK 1 1 1 1	WARM COLD WARM WET WARM COLD WARM COLD WARM COLD WARM COLD WARM COLD
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 3-MONTH EXTREMES EXTREME MAY-JUN-JUL	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ MAX MAX MIN MIN MEAN MEAN HDD HDD CDD	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME 85.9 70.7 59.0 49.4 72.5 60.7 113 543 815	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR 1934 1915 1934 1924 1934 1915 1934 1915	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR C DEPART 32.2 17.0 20.6 11.0 26.4 14.6 -224 206 490	WARMER WARMER WARMER COOLER WARMER WETTER NORMAL OMPARISON WARMEST COLDEST WARMEST	NEAR 38 47 46 44 17 N/A RANK 1 1 1 1 1 1 1	WARM COLD WARM
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 3-MONTH EXTREMES EXTREME MAY-JUN-JUL	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ MAX MAX MIN MIN MEAN MEAN HDD HDD CDD CDD	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME 85.9 70.7 59.0 49.4 72.5 60.7 113 543 815 163	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR 1934 1915 1934 1924 1934 1915 1934 1915	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR C DEPART 32.2 17.0 20.6 11.0 26.4 14.6 -224 206 490 -162	WARMER WARMER WARMER COOLER WARMER WETTER NORMAL OMPARISON WARMEST COLDEST COLDEST	NEAR 38 47 46 44 17 N/A RANK 1 1 1 1 1 1 1 1	WARM COLD
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 3-MONTH EXTREMES EXTREME MAY-JUN-JUL	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ MAX MAX MIN MIN MEAN MEAN HDD HDD CDD CDD CDD PCP	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME 85.9 70.7 59.0 49.4 72.5 60.7 113 543 815 163 23.03	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR 1934 1915 1934 1924 1934 1915 1934 1924 1934 1915 1934 1925 1934 1925 1938	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR C DEPART 32.2 17.0 20.6 11.0 26.4 14.6 -224 206 490 -162 14.82	WARMER WARMER WARMER COOLER WARMER WETTER NORMAL OMPARISON WARMEST COLDEST WARMEST	NEAR 38 47 46 44 17 N/A RANK 1 1 1 1 1 1 1 1 1	WARM COLD WARM
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 3-MONTH EXTREMES EXTREME MAY-JUN-JUL	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ MAX MAX MIN MIN MEAN MEAN HDD HDD CDD CDD	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME 85.9 70.7 59.0 49.4 72.5 60.7 113 543 815 163 23.03 4.11	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR 1934 1915 1934 1924 1934 1915 1934 1915	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR C DEPART 32.2 17.0 20.6 11.0 26.4 14.6 -224 206 490 -162	WARMER WARMER WARMER COOLER WARMER WETTER NORMAL OMPARISON WARMEST COLDEST COLDEST	NEAR 38 47 46 44 17 N/A RANK 1 1 1 1 1 1 1 1	WARM COLD
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 3-MONTH EXTREMES EXTREME MAY-JUN-JUL	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ MAX MAX MIN MIN MEAN MEAN HDD HDD CDD CDD CDD PCP	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME 85.9 70.7 59.0 49.4 72.5 60.7 113 543 815 163 23.03	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR 1934 1915 1934 1924 1934 1915 1934 1924 1934 1915 1934 1925 1934 1925 1938	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR C DEPART 32.2 17.0 20.6 11.0 26.4 14.6 -224 206 490 -162 14.82	WARMER WARMER WARMER COOLER WARMER WETTER NORMAL OMPARISON WARMEST COLDEST SNOWIEST	NEAR 38 47 46 44 17 N/A RANK 1 1 1 1 1 1 1 1 1	WARM COLD WARM
MJJ MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 MJJ-11 3-MONTH EXTREMES EXTREME MAY-JUN-JUL	2011 MAX MIN MEAN HDD CDD PRECIP SNOW WARMEST/CO MJJ MAX MAX MIN MIN MEAN MEAN HDD HDD CDD CDD CDD PCP PCP	ACTUAL 76.7 54.6 65.7 354 421 14.66 0.0 LDEST/WETT EXTREME 85.9 70.7 59.0 49.4 72.5 60.7 113 543 815 163 23.03 4.11	NORMAL 53.7 38.4 46.1 337 325 8.21 0.0 EST ON REC YEAR 1934 1915 1934 1924 1934 1915 1934 1915 1934 1915 1934 1915 1934 1915	DEPART 23.0 16.2 19.6 17 96 6.45 0.0 ORD FOR C DEPART 32.2 17.0 20.6 11.0 26.4 14.6 -224 206 490 -162 14.82 -4.10	WARMER WARMER COOLER WARMER WETTER NORMAL OMPARISON WARMEST COLDEST SNOWIEST DRIEST	NEAR 38 47 46 44 17 N/A RANK 1 1 1 1 1 1 1 1 1 1	WARM COLD

ANNUAL	DATA						
JAN-JUL	2011	ACTUAL	NORMAL	DEPART		RANK	
JAN-JUL-11	MAX	52.2	54.0	-1.8	COOLER	27	COLD
JAN-JUL-11	MIN	32.2	32.3	-0.1	COOLER	NEAR	NORM
JAN-JUL-11	MEAN	42.2	43.2	-1.0	COOLER	46	COLD
JAN-JUL-11	HDD-ANN	5158	4950	208	COOLER	42	COLD
JUL-JUL-11	HDD-SEA	1	16	-15	WARMER	24	WARM
JAN-JUL-11	CDD	437	370	67	WARMER	37	WARM
JAN-JUL-11	PRECIP	25.17	18.51	6.66	WETTER	4	\mathtt{WET}
JAN-JUL-11	SNOW-ANN	39.2	33.4	5.8	SNOWIER	31	\mathtt{WET}
JUL-JUL-11	SNOW-SEA	0.0	NONE	RECORDED			
ANNUAL EXTREMES	WARMEST/COL	DEST/WETTE	ST ON RECOR	RD FOR CO	MPARISON		
JAN-JUL		EXTREME	YEAR	DEPART		RANK	
JAN-JUL	MAX	60.8	1931	6.8	WARMEST	1	WARM
JAN-JUL	MAX	48.5	1979	-5.5	COLDEST	1	COLD
JAN-JUL	MIN	38.7	1931	6.4	WARMEST	1	WARM
JAN-JUL	MIN	27	1950	-5.3	COLDEST	1	COLD
JAN-JUL	MEAN	49.8	1931	6.6	WARMEST	1	WARM
JAN-JUL	MEAN	37.95	1950	-5.3	COLDEST	1	COLD
JAN-JUL	HDD-ANN	3844	1931	-1106	WARMEST	1	WARM
JAN-JUL	HDD-ANN	5883	1950	933	COLDEST	1	COLD
JULY	HDD-SEA	0	2010	-16	WARMEST	1	WARM
JULY	HDD-SEA	42	1972	26	COLDEST	1	COLD
JAN-JUL	CDD	827	1934	457	WARMEST	1	WARM
JAN-JUL	CDD	174	1904	-196	COLDEST	1	COLD
JAN-JUL	PRECIP	34.72	1938	16.21	WETTER	1	WET
JAN-JUL	PRECIP	8.84	1910	-9.67	DRIER	1	DRY
JAN-JUL	SNOW-ANN	80	1929	46.6	SNOWIEST	1	WET
JAN-JUL	SNOW-ANN	8.7	1921	-24.7	DRIEST	1	DRY
JULY	SNOW-SEA	0	NONE	RECORDED	SNOWIEST	1	\mathtt{WET}
JULY	SNOW-SEA	0	NONE	RECORDED	DRIEST	1	DRY

These data are preliminary and have not undergone final quality control by the National Climatic Data Center (NCDC). Therefore, these data are subject to revision. Final and certified climate data can be accessed at the NCDC - http://www.ncdc.noaa.gov.

Climatological Report (Monthly)

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WEATHER

JUNE

CLIMATE REPORT NATIONAL WEATHER SERVICE CHANHASSEN MN 845 PM CDT MON JUL 04 2011

... THE EAU CLAIRE WI CLIMATE SUMMARY FOR THE MONTH OF JUNE 2011...

CLIMATE NORMAL PERIOD 1971 TO 2000 CLIMATE RECORD PERIOD 1900 TO 2011

OBSERVED NORMAL DEPART LAST YEAR'S

WHITE IN	VALUE DAT	E(S) VALUI	E FROM NORMAL	VALUE	DATE(S)		
MONTHLY	REPORT	JUNE	2011	EAU	AIRPORT		
TEMPS AVERAGE AVERAGE MONTH	MAX MIN MEAN	ACTUAL 77.8 54.6 66.2		DEPART -0.7 -0.4 -0.6		48	NORM COLD
DAILY DAILY RECORD RECORD	MAX MIN HIGHS LOWS	100 JUN- 37 JUN- 1 0	-07-2011 -12-2011				
HDD TOTAL TOTAL	MONTH SEASON	ACTUAL 72 8295	NORMAL 58 8196	DEPART 14 99	COOLER COOLER	RANK 40 43	COLD
CDD TOTAL TOTAL	MONTH ANNUAL	ACTUAL 115 131	NORMAL 111 156	DEPART 4 -25	WARMER COOLER	RANK NEAR 45	NORM COLD
PCP MONTH ANNUAL DAILY RECORD	TOTAL TOTAL MAX PCP	7.23 17.74	NORMAL 4.27 14.57 N-18-2011				WET WET
SNOW MONTH SEASON DAILY MAX RECORD	TOTAL TOTAL MAX DEPTH SNOW		AVG 0.0 50.4 N-01-2011 N-01-2011	DEPART 0.0 21.1	NORMAL WETTER	RANK N/A 6	WET

EXTREMES WARMEST/COLDEST/WETTEST ON RECORD FOR COMPARISON

EXTREME JUNE JUNE JUNE JUNE JUNE JUNE JUNE JUN	JUNE MAX MAX MIN MIN MEAN MEAN HDD HDD CDD CDD CDD PCP PCP SNOW SNOW	EXTREME 90.1 68.3 64.4 49.3 77.3 58.8 1 196 386 13 10.42 0.59 0.0 0.0	YEAR 1933 1969 1933 1969 1933 1969 1933 1928 1990 1910 NONE NONE	DEPART 11.6 -10.2 9.4 -5.7 10.5 -8 -57 138 275 -98 6.15 -3.68 RECORDED RECORDED		RANK 1 1 1 1 1 1 1 1 1 1 1 1	WARM COLD WARM COLD WARM COLD WARM COLD WARM COLD WARM COLD WET DRY WET DRY
WIND MONTH PEAK WIND GUST FASTEST 2-MINUTE	MPH AVERAGE 51 MPH 38 MPH		NORMAL 10.0 JUN-18-2011 JUN-18-2011	DEPART -1.9			
SUNSHINE MIN / HOURS GAINED LOST	MONTHLY MINUTES 16 -3		TOTAL ANNUAL 413 -3	ANNUAL HOURS 6.9 -0.1	ANN-PCT POSSIBLE 100 -1		
TYPE 1=FOG/MIST 2=FOG DENSE 3=THUNDER 4=IP/SLEET 5=HAIL 6=FRZ RAIN 7=BLWG DUST 8=HAZE/SMK 9=BLWG SNOW		COUNT 18 4 5 0 0 0 3 0					
TEMP MAXIMUM <=32 >=50 >=60 >=70 >=80 >=90	COUNT ACTUAL 0 30 28 24 12	NUMBER AVERAGE 0 30 29 26 14 3	OF DAYS DEPART 0 0 -1 -2 -2 1	NORMAL NORMAL COOLER COOLER COOLER WARMER			
TEMP MINIMUM <= 32 <= 20 <= 10 <= 0 <= -10 >= 50	COUNT ACTUAL 0 0 0 0 0 25	NUMBER AVERAGE 0 0 0 0 0 24	OF DAYS DEPART 0 0 0 0 1	NORMAL NORMAL NORMAL NORMAL NORMAL WARMER			
PCP PCP T (ONLY) >= 0.01 >= 0.10 >= 0.25	COUNT ACTUAL 4 9 7 6	NUMBER AVERAGE 3 12 8 5	OF DAYS DEPART 1 -3 -1 1	WETTER DRIER DRIER WETTER			

>= 0.50	2	3	-1	DRIER			
>= 1.00	1	1	0	WETTER			
SNOW	COUNT	NUMBER	OF DAYS				
SNOW	ACTUAL	AVERAGE	DEPART				
T (ONLY)	0	0	0	NORMAL			
>= 0.1	0	0	0	NORMAL			
>= 1.0	0	0	0	NORMAL			
>= 1.5	0	0	0	NORMAL			
>= 2.0	0	0	0	NORMAL			
>= 3.0	0	0	0	NORMAL			
NEW DAILY	RECORDS		LISTING		PREVIOUS		
NEW DAILY	SET/TIE	AMOUNT	DATE	YEAR	SET/TIE	OL'D	YEAR
MAX	NEW->	100		7-2011	OLD->	95	1987
PRECIP	NEW->	4.74		8-2011	OLD->	1.94	
PRECIP MONTH	NEW->	4.74		-2011	OLD->		JUN-19-1931
				3-2011			
COLD MAX	NEW->	60	0 UN - 2	3-2011	OLD->	61	1974
3-MONTH	DATA	APRIL	MAY	JUNE	(LMA)		
AMJ	2011	ACTUAL	NORMAL	DEPART		RAN	
AMJ-11	MAX	66.0	68.4	-2.4	COOLER	24	COLD
AMJ-11	MIN	44.5	44.7	-0.2	COOLER	49	COLD
AMJ-11	MEAN	55.3	56.6	-1.3	COOLER	38	COLD
AMJ-11	HDD	992	922	70	COOLER	35	COLD
AMJ-11	CDD	131	156	-25	COOLER	45	COLD
AMJ-11	PRECIP	13.31	10.87	2.44	WETTER	24	WET
AMJ-11	SNOW	1.9	2.5	-0.6	DRIER	NEAR	NORM
3-MONTH EXTREMES	WARMEST/CO	LDEST/WETT	EST ON REC	ORD FOR C	OMPARISON		
EXTREME	AMJ	EXTREME	YEAR	DEPART		RANK	
APR-MAY-JUN	MAX	75.0	1934	6.6	WARMEST	1	WARM
APR-MAY-JUN	MAX	62.7	1950	-5.7	COLDEST	1	COLD
APR-MAY-JUN	MIN	50.2	1934	5.5	WARMEST	1	WARM
APR-MAY-JUN	MIN	39.8	1961	-4.9	COLDEST	1	COLD
APR-MAY-JUN	MEAN	62.6	1934	6.0	WARMEST	1	WARM
APR-MAY-JUN	MEAN	51.8	1907	-4.8	COLDEST	1	COLD
		527					
APR-MAY-JUN	HDD		1977 1907	-395	WARMEST	1	WARM
APR-MAY-JUN	HDD	1307		385	COLDEST	1	COLD
APR-MAY-JUN	CDD	484	1934	328	WARMEST	1	WARM
APR-MAY-JUN	CDD	35	1928	-121	COLDEST	1	COLD
APR-MAY-JUN	PRECIP	23.72	1938	12.85	SNOWIEST	1	WET
APR-MAY-JUN	PRECIP	4.79	1985	-6.08	DRIEST	1	DRY
APR-MAY-JUN	SNOW	31.1	1928	28.6	WETTER	1	WET
APR-MAY-JUN	SNOW	0	2006	-2.5	DRIER	1	DRY
ANNUAL	DATA						
JAN-JUN	2011	ACTUAL	NORMAL	DEPART		RAN	K
JAN-JUN-11	MAX	46.7	49.2	-2.5	COOLER	23	COLD
JAN-JUN-11	MIN	27.0	27.7	-0.7	COOLER	NEAR	NORM
JAN-JUN-11	MEAN	36.8	38.5	-1.7	COOLER	40	COLD
JAN-JUN-11	HDD-ANN	5160	4934	226	COOLER	40	COLD
JUL-JUN-11	HDD-SEA	8295	8196	99	COOLER	43	COLD
JAN-JUN-11	CDD	131	156	-25	COOLER	45	COLD
JAN-JUN-11	PRECIP	17.74	14.57	3.17	WETTER	28	WET
JAN-JUN-11	SNOW-ANN	39.2	33.4	5.8	SNOWIER	31	WET
JUL-JUN-11	SNOW-SEA	71.5	50.4	21.1	SNOWIER	6	WET
ANNUAL EXTREMES W	ARMEST/COL				MPARISON		
JAN-JUN		EXTREME	YEAR	DEPART		RANK	
JAN-JUN	MAX	56.2	1987	7.0	WARMEST	1	WARM

JAN-JUN	MAX	42.9	1979	-6.3	COLDEST	1	COLD
JAN-JUN	MIN	34.6	1931	6.9	WARMEST	1	WARM
JAN-JUN	MIN	22.1	1950	-5.6	COLDEST	1	COLD
JAN-JUN	MEAN	45.3	1931	6.8	WARMEST	1	WARM
JAN-JUN	MEAN	32.85	1979	-5.7	COLDEST	1	COLD
JAN-JUN	HDD-ANN	3844	1931	-1090	WARMEST	1	WARM
JAN-JUN	HDD-ANN	5859	1950	925	COLDEST	1	COLD
JUL-JUN	HDD-SEA	6722	1922	-1474	WARMEST	1	WARM
JUL-JUN	HDD-SEA	9196	1980	1000	COLDEST	1	COLD
JAN-JUN	CDD	484	1934	328	WARMEST	1	WARM
JAN-JUN	CDD	35	1928	-121	COLDEST	1	COLD
JAN-JUN	PRECIP	29.94	1938	15.37	WETTER	1	WET
JAN-JUN	PRECIP	6.37	1910	-8.20	DRIER	1	DRY
JAN-JUN	SNOW-ANN	80.0	1929	46.6	SNOWIEST	1	\mathtt{WET}
JAN-JUN	SNOW-ANN	8.7	1921	-24.7	DRIEST	1	DRY
JUL-JUN	SNOW-SEA	89.5	1997	39.1	SNOWIEST	1	WET
JUL-JUN	SNOW-SEA	15.1	1968	-35.3	DRIEST	1	DRY

These data are preliminary and have not undergone final quality control by the National Climatic Data Center (NCDC). Therefore, these data are subject to revision. Final and certified climate data can be accessed at the NCDC - http://www.ncdc.noaa.gov.

Climatological Report (Monthly)

000 CXUS53 KMPX 040841 CCA CLMEAU

CLIMATE REPORT...CORRECTED HDD VALUES... NATIONAL WEATHER SERVICE CHANHASSEN MN 100 AM CDT SAT JUN 04 2011

...THE EAU CLAIRE WI CLIMATE SUMMARY FOR THE MONTH OF MAY 2011...

CLIMATE NORMAL PERIOD 1971 TO 2000 CLIMATE RECORD PERIOD 1900 TO 2011

WEATHER	OBSERVED VALUE DA	NORM ATE(S) VALU			AR`S DATE(S)
MONTHLY	REPORT	MAY	2011	EAU	AIRPORT
TEMPS AVG	MAX	ACTUAL 66.8	NORMAL 70.2	DEPART	COOLER

MONTHLI	REPORT	MAI	2011	EAU	AIRPORI	
TEMPS		ACTUAL	NORMAL	DEPART		RANK
AVG	MAX	66.8	70.2	-3.4	COOLER	30 COLD
AVG	MIN	45.4	45.7	-0.3	COOLER	NEAR NORM
MONTH	MEAN	56.1	58.0	-1.9	COOLER	42 COLD
DAILY	MAX	86 MAY	-30-2011			
DAILY	MIN	26 MAY	-04-2011			
RECORD	HIGHS	0				
RECORD	LOWS	0				
HDD		ACTUAL	NORMAL	DEPART		RANK
TOTAL	MONTH	284	263	21	COOLER	46 COLD
TOTAL	SEASON	8223	8138	85	COOLER	44 COLD
CDD		ACTUAL	NORMAL	DEPART		RANK
TOTAL	MONTH	16	44	-28	COOLER	42 COLD
TOTAL	ANNUAL	16	45	-29	COOLER	36 COLD
PCP		ACTUAL	NORMAL	DEPART		RANK
MONTH	TOTAL	3.28	3.69	-0.41	DRIER	NEAR NORM
ANNUAL	TOTAL	10.51	10.3	0.21	WETTER	NEAR NORM
DAILY	MAX	1.12 MA	Y-09-2011			
RECORD	PCP	0				
SNOW		ACTUAL	AVG	DEPART		RANK
MONTH	TOTAL	T	T	0	NORMAL	NEAR NORM
SEASON	TOTAL	71.5	50.4	21.1	SNOWIER	6 WET

DAILY	MAX	T MA	Y-02-2011				
MAX	DEPTH	0 MA	Y-01-2011				
RECORD	SNOW	0					
MAY	EXTREMES	WARMEST/CO	LDEST/WETTES	T ON REC	ORD FOR O	COMPAR	ISON
EXTREME	MAY	EXTREME	YEAR	DEPART		RANK	
MAY	MAX	82.7	1934	12.5	WARMEST	1	WARM
MAY	MAX	60.9	1896	-9.3	COLDEST	1	COLD
MAY	MIN	54	1934	8.3	WARMEST	1	WARM
MAY	MIN	37.2	1907	-8.5	COLDEST	1	COLD
MAY	MEAN	68.4	1934	10.4	WARMEST	1	WARM
MAY	MEAN	49.8	1907	-8.2	COLDEST	1	COLD
MAY	HDD	83	1977	-180	WARMEST	1	WARM
MAY	HDD	467	1907	204	COLDEST	1	COLD
MAY	CDD	204	1934	160	WARMEST	1	WARM
MAY	CDD	0	2008	-44	COLDEST	1	COLD
MAY	PCP	10.54	1938	6.85	WETTEST	1	WET
MAY	PCP	0.75	1900	-2.94	DRIEST	1	DRY
MAY	SNOW	3.3	2001	3.3	WETTEST	1	WET
MAY	SNOW	0.0	2009	-T	DRIEST	1	DRY
				_		_	
WIND	MPH	ACTUAL	NORMAL	DEPART			
MONTH	AVERAGE	8.8	10.8	-2.0			
PEAK WIND GUST	53 MPH 1	EAST	MAY-09-2011				
FASTEST 2-MINUTE	40 MPH S	SOUTHEAST	MAY-09-2011				
SUNSHINE	MONTHLY	MON-PCT	TOTAL	ANNUAL	ANN-PCT		
MIN / HOURS	MINUTES	ANN-TOT	ANNUAL	HOURS	POSSIBLE	C	
GAINED	68	16	397	6.6	96		
LOST	0	0	0	0	0		
my D II		COLINE					
TYPE		COUNT					
1=FOG/MIST		0					
2=FOG DENSE		0					
3=THUNDER		0					
4=IP/SLEET		0					
5=HAIL		0					
6=FRZ RAIN		0					
7=BLWG DUST		0					
8=HAZE/SMK		0					
9=BLWG SNOW		0					
TEMP	COUNT	NUMBER	OF DAYS				
MAXIMUM	ACTUAL	AVERAGE	DEPART				
<=32	0	0	0	NORMAL			
>=50	28	31	-3	COOLER			
>=60	24	26	-2	COOLER			
>=70	14	16	-2	COOLER			
>=80	3	6	-3	COOLER			
>=90	0	1	-1	COOLER			
>=90			-1	COOLER			
TEMP	0 COUNT	1 NUMBER	OF DAYS	COOLER			
TEMP MINIMUM	0 COUNT ACTUAL	1 NUMBER AVERAGE	OF DAYS DEPART	COOLER			
TEMP MINIMUM <= 32	0 COUNT	1 NUMBER	OF DAYS	COOLER			
TEMP MINIMUM	0 COUNT ACTUAL	1 NUMBER AVERAGE	OF DAYS DEPART				

<= 10	0	0	0	NORMAL			
<= 0	0	0	0	NORMAL			
<= -10	0	0	0	NORMAL			
>= 50	12	10	2	WARMER			
, 30		10	_	771111111111			
PCP	COUNT	NUMBER	OF DAYS				
PCP	ACTUAL	AVERAGE	DEPART				
T (ONLY)	8	4	5	WETTER			
>= 0.01	10	12	-2	DRIER			
>= 0.10	7	7	0	DRIER			
>= 0.10	4	4	0	DRIER			
>= 0.23	3	2	1				
	3 1	1	0	WETTER			
>= 1.00	1	1	U	WETTER			
SNOW	COUNT	NUMBER	OF DAYS				
SNOW	ACTUAL	AVERAGE	DEPART				
T (ONLY)	1	O 0	0.8	SNOWIER			
>= 0.1	0	0	-0.1	DRIER			
>= 1.0	0	0	0	NORMAL			
>= 1.5	0	0	0	NORMAL			
>= 2.0	0	0	0	NORMAL			
>= 3.0	0	0	0	NORMAL			
NEW DAILY	RECORDS		LISTING		PREVIOUS		
NEW DAILY	SET/TIE	AMOUNT	DATE	YEAR	SET/TIE		YEAR
COLD MAX		39		2-2011			2005
COLD MAX	TIE->	39	MAI-U	2-2011	TIES->	39	2005
3-MONTH	DATA MAR	.CHAPRIL	MAY (MAI	M)			
MAM	2011	ACTUAL	NORMAL	DEPART		RANK	
MAM-11	MAX	52.4	55.7	-3.3	COOLER	24	COLD
MAM-11	MIN	32.2	33.3	-1.1	COOLER	46	COLD
MAM-11	MEAN	42.3	44.6	-2.3	COOLER	33	COLD
MAM-11	HDD	2076	1928	148	COOLER	35	COLD
MAM-11	CDD	16	45	-29	COOLER	36	COLD
MAM-11	PRECIP	8.65	8.46	0.19	WETTER		NORM
MAM-11	SNOW	10.4	11.7	-1.3	DRIER		NORM
MAM-II	SNOW	10.4	11.7	-1.3	DRIER	NEAR	NORM
3-MONTH EXTREMES	WARMEST/CO	LDEST/WETT	EST ON REC	ORD FOR C	OMPARISON		
EXTREME	MAM	EXTREME	YEAR	DEPART		RANK	
MAR-APR-MAY	MAX	64.0	1910	8.3	WARMEST	1	WARM
MAR-APR-MAY	MAX	46.8	1950	-8.9	COLDEST	1	COLD
MAR-APR-MAY	MIN	40.3	1977	7.0	WARMEST	1	WARM
MAR-APR-MAY	MIN	27.3	1956	-6.0	COLDEST	1	COLD
MAR-APR-MAY	MEAN	51.6	1977	7.0	WARMEST	1	WARM
MAR-APR-MAY	MEAN	37.3	1950	-7 . 3	COLDEST	1	COLD
MAR-APR-MAY	HDD	1350	1977	-578	WARMEST	1	WARM
MAR-APR-MAY	HDD	2542	1950	614	COLDEST	1	COLD
MAR-APR-MAY		216		171		1	
	CDD		1934		WARMEST	1	WARM
MAR-APR-MAY	CDD	0	2008	-45	COLDEST		COLD
MAR-APR-MAY	PRECIP	19.50	1938	11.04	SNOWIEST	1	WET
MAR-APR-MAY	PRECIP	3.06	1895	-5.40	DRIEST	1	DRY
MAR-APR-MAY	SNOW	37.6	1928	25.9	WETTER	1	WET
MAR-APR-MAY	SNOW	0	1981	-11.7	DRIER	1	DRY
ANNUAL	DATA						

JAN-MAY	2011	ACTUAL	NORMAL	DEPART		RANK	
JAN-MAY-11	MAX	40.4	43.4	-3.0	COOLER	22	COLD
JAN-MAY-11	MIN	21.4	22.2	-0.8	COOLER	NEAR	NORM
JAN-MAY-11	MEAN	31.0	32.8	-1.8	COOLER	37	COLD
JAN-MAY-11	HDD-ANN	5088	4876	212	COOLER	39	COLD
JUL-MAY-11	HDD-SEA	8223	8138	85	COOLER	44	COLD
JAN-MAY-11	CDD	16	45	-29	COOLER	36	COLD
JAN-MAY-11	PRECIP	10.51	10.30	0.21	WETTER	NEAR	NORM
JAN-MAY-11	SNOW-ANN	39.2	33.4	5.8	SNOWIER	31	WET
JUL-MAY-11	SNOW-SEA	71.5	50.4	21.1	SNOWIER	6	WET
ANNUAL EXTREMES	WARMEST/COL	DEST/WETTE		RD FOR CO	MPARISON		
JAN-MAY		EXTREME	YEAR	DEPART		RANK	
JAN-MAY	MAX	50.9	1987	7.5	WARMEST	1	WARM
JAN-MAY	MAX	35.4	1893	-8.0	COLDEST	1	COLD
JAN-MAY	MIN	29.6	1931	7.4	WARMEST	1	WARM
JAN-MAY	MIN	15.7	1950	-6.5	COLDEST	1	COLD
JAN-MAY	MEAN	39.7	1998	6.9	WARMEST	1	WARM
JAN-MAY	MEAN	25.8	1893	-7.0	COLDEST	1	COLD
JAN-MAY	HDD-ANN	3824	1931	-1085	WARMEST	1	WARM
JAN-MAY	HDD-ANN	5842	1893	933	COLDEST	1	COLD
JUL-MAY	HDD-SEA	6689	1922	-1482	WARMEST	1	WARM
JUL-MAY	HDD-SEA	9135	1980	964	COLDEST	1	COLD
JAN-MAY	CDD	216	1934	171	WARMEST	1	WARM
JAN-MAY	CDD	0	2008	-45	COLDEST	1	COLD
JAN-MAY	PRECIP	22.23	1938	11.93	WETTER	1	WET
JAN-MAY	PRECIP	4.48	1895	-5.82	DRIER	1	DRY
JAN-MAY	SNOW-ANN	80.0	1929	56.1	SNOWIEST	1	WET
JAN-MAY	SNOW-ANN	8.7	1921	-24.7	DRIEST	1	DRY
JUL-MAY	SNOW-SEA	89.5	1997	39.1	SNOWIEST	1	WET
JUL-MAY	SNOW-SEA	15.1	1968	-35.3	DRIEST	1	DRY



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E-3 – SEH Technical Memorandum, Wetland Delineation Update, October 13, 2011	_



TO: Mr. Bruce Norton, U. S. Army Corps of Engineers

Mr. Dan Helsel, Wisconsin Department of Natural Resources

FROM: Shanna Skallet, SEH

Biologist

DATE: October 13, 2011

RE: Hi-Crush Proppants LLC Wyeville Site Wetland Delineation Update

SEH No. REDOG 114987

Introduction

As requested during the September 22, 2011 agency site review for the wetland delineation at the Wyeville Site located in the Town of Byron, Monroe County, Wisconsin, Short Elliott Hendrickson Inc. (SEH) is providing this Technical Memorandum Wetland Delineation Update as an update to the "Wetland Delineation Report, Wyeville Site, Town of Byron, Wisconsin, September 2011". During the September site visit and subsequent conversations, additional review of farmed wetland areas was requested by the U.S. Army Corps of Engineers (USACE) and the Wisconsin Department of Natural Resources (WDNR).

Site Description

The project site is located in the SE ¼ of Section 08 and the NE ¼ of Section 17 in Township 18 North, Range 01 East in the Town of Byron, Monroe County, Wisconsin. The approximately 190-acre site is bounded on the north by a constructed cranberry bed, on the east by the Lemonweir River, and on the southwest by railroad tracks.

Wetland Definition

Wetlands are defined in federal Executive Order 11990 as follows:

"Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

According to Corps of Engineers Wetlands Delineation Manual (USACE 1987) and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (USACE 2009) one positive indicator (except in certain situations) from each of three elements must be present in order to make a positive wetland determination, which are as follows:

- Greater than 50 percent dominance of hydrophytic plant species.
- Presence of hydric soil.
- The area is either permanently or periodically inundated, or soil is saturated to the surface during the growing season of the dominant vegetation.

Wetland Delineation Results

On September 30, 2011, several areas of crop stress within the agricultural field at the Wyeville Site were further investigated for evidence of wetland parameters. Several wetland depressions were identified, delineated, and classified (**Figure 5**). Data sheets for one representative transect are included as **Appendix A**. Relevant photographs of the site are included in **Appendix B**.

Farmed Wetland Areas – Seasonally Flooded Basin (Type 1/PEMAf/E4Kf)

The wetland areas delineated within the agricultural field between the railroad tracks and Wetland 1 are small farmed wetland basins surrounded by upland agricultural field (**Figure 5**). The total area of the farmed wetland basins is 1.66 acres and the wetlands are classified as seasonally flooded basins (Type 1/PEMAf/E4Kf). While soybeans (*Glycine max* – UPL) were the dominant vegetation in the wetland basins, the plants were stressed and stunted within the wetland boundary and absent entirely from the lowest part of the basins.

A typical soil profile in the wetland areas consists of 16 inches of dark loam (10YR 2/1) underlain by 4 inches of loamy sand (10YR 3/1) and at least 10 inches of sand with a depleted matrix (10YR 5/2) with redoximorphic features as iron concentrations (10YR 3/6) over 5 percent of the soil matrix. The soil meets technical criteria for hydric soil indicator A12 – Thick Dark Surface. All wetland sample points were within a cropped agricultural field and soil was disturbed.

The typical hydrology observed in the wetland areas included two primary hydrology indicators, algal mat or crust (B4) and sparsely vegetated concave surface (B8), and four secondary hydrology indicators, surface soil cracks (B6), dry-season water table (C2), stunted or stressed plants (D1), and geomorphic position (D2). The typical hydrology in the wetland areas included saturation present at approximately 16 inches below ground surface and the water table, as free water in the soil pit, at approximately 20 inches below ground surface. The hydrology within the wetland areas is seasonal with flooding occurring during the spring and during periods of heavy precipitation.

The upland areas adjacent to the farmed wetland areas include cropped agricultural field dominated by soybeans. Upland soil consists of 12 inches of dark loam (10YR 2/1) underlain by 3 inches of sandy loam (10YR 3/1), 5 inches of sand (2.5Y 4/1), 4 inches of dark sandy loam (7.5YR 2.5/2), and at least 6 inches of sand (10YR 5/3). The soil does not meet the technical criteria for hydric soil indicators. All upland sample points were within a cropped agricultural field and soil was disturbed. No primary or secondary hydrology indicators were observed in the upland sample points. Typical soil saturation was observed at approximately 30 inches below ground surface and the water table, as free water in the soil pit, was encountered at approximately 30 inches below ground surface.

Supporting documentation of field observations are found in Attachment 2 on data sheets labeled SP6W (wetland sample points) and SP6U (upland sample points).

Contacts

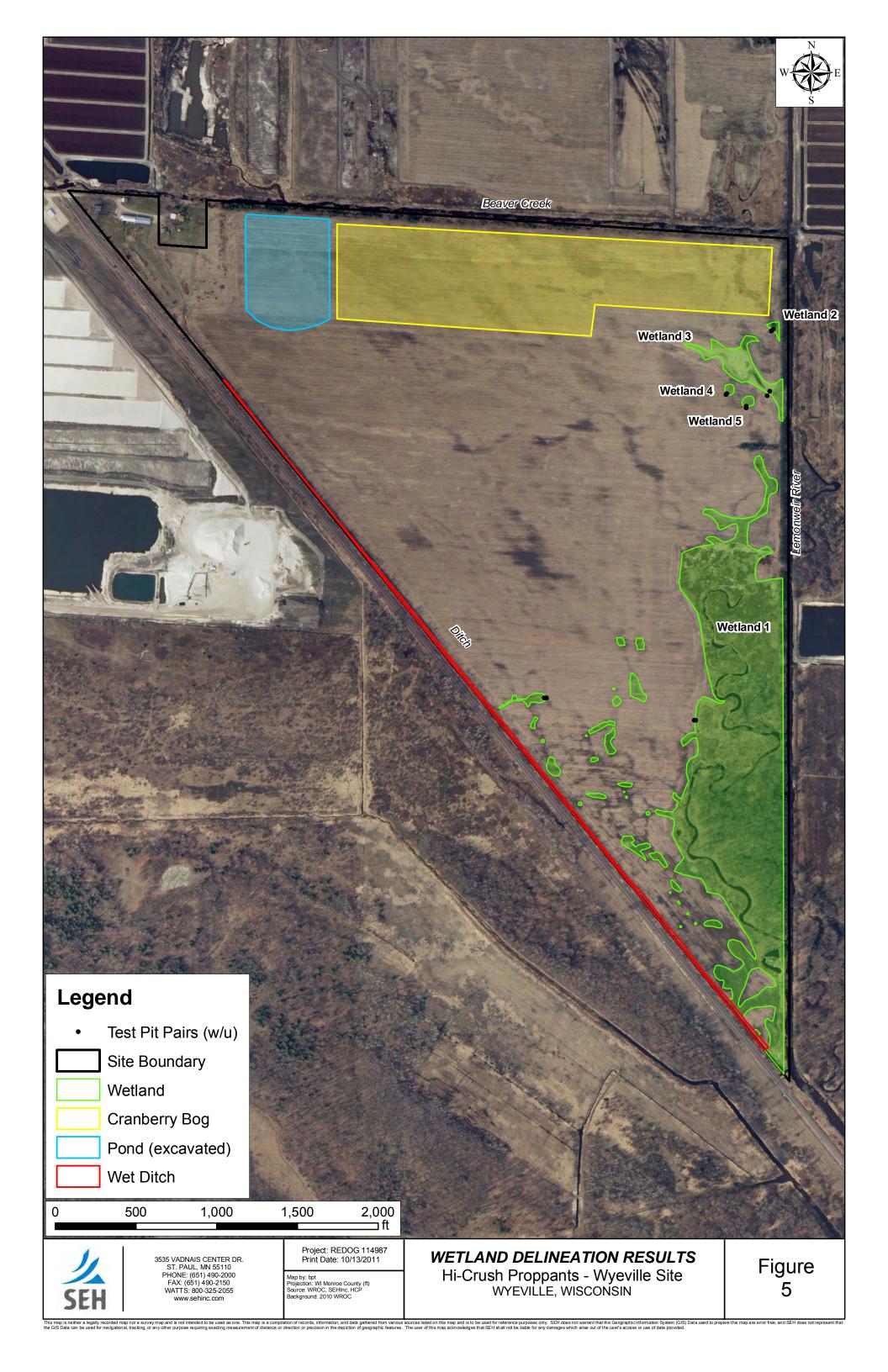
Questions or comments regarding this Technical Memorandum may be directed to Shanna Skallet at 715.720.6263 or via e-mail at sskallet@sehinc.com.

SLS

Attachments

c: Mr. Kurt Rasmussen, WDNR Mr. Tyler Deines, Hi-Crush Mr. Jav Alston, Hi-Crush

Figures



Attachment A

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

		Town of Byi	ron/		
Project/Site: Wyeville Site	City/County:	Monroe Cou	unty	Sampling Date: 9/30/2011	
Applicant/Owner: Hi-Crush Proppants LLC	_	State:		Sampling Point: SP6W	
Investigator(s): Shanna Skallet			wnship,	Range: Section 17, T18N, R1E	
Landform (hillslope, terrace, etc.): Depression	Lo			onvex, none): Concave	
Slope (%): 0-1% Lat.: Long.		Datum:			
Soil Map Unit NameLows sandy loam				assification: E1Ka	
Are climatic/hydrologic conditions of the site typical for this	s time of the year			explain in remarks)	
Are vegetation X , soil X , or hydrology		ly disturbed?		Are "normal	
Are vegetation , soil , or hydrology X		roblematic?		circumstances" present? Yes	
(If needed, explain any answers in remarks)		1001011.000			
(II Heeded, explain any anomore in remaine)					
SUMMARY OF FINDINGS					
Hydrophytic vegetation present? Hydric soil present? Y Y	Is the sample	d area withir	n a wetla	and? Y	
Wetland hydrology present? Y	If yes, optional	I wetland site	ID:		
Remarks: (Explain alternative procedures here or in a sep	parate report.)				
Wetland is within a cropped agricultural field. W		nov is seasc	nnal		
Welland is within a cropped agricultural hold.	Charle Hydrolo	gy is scaes	niai.		
HYDROLOGY					
			Second	lary Indicators (minimum of two	
Primary Indicators (minimum of one is required; check all	that apply)		required		
Primary Indicators (minimum of one is required; check all				a) face Soil Cracks (B6)	
<u> </u>	ined Leaves (B9) auna (B13)	ı			
		ı	inage Patterns (B10)		
Saturation (A3) Marl Depo		,	Moss Trim Lines (B16)		
	Sulfide Odor (C1)		-Season Water Table (C2)		
	Rhizospheres on L	_iving		yfish Burrows (C8)	
Drift Deposits (B3) Roots (C3		·~		uration Visible on Aerial Imagery	
	of Reduced Iron ((C9		
	on Reduction in Til	lled		nted or Stressed Plants (D1)	
Inundation Visible on Aerial Soils (C6)				omorphic Position (D2)	
	Surface (C7)			allow Aquitard (D3)	
· , , , , , , , , , , , , , , , , , , ,	plain in Remarks)			C-Neutral Test (D5)	
X Surface (B8)			Mic	rotopographic Relief (D4)	
			-		
Field Observations:					
Surface water present? Yes NoX	Depth (inches)		.	Wetland	
Water table present? Yes X No	Depth (inches)			hydrology	
Saturation present? Yes X No	Depth (inches)):16		present? Y	
(includes capillary fringe)	_	_			
Describe recorded data (stream gauge, monitoring well, a	erial photos, pre	vious inspecti	ions), if	available:	
Remarks:					
Wetland is a depression within a cropped agricu	ultural field. Hv	rdrology is s	season	al	
Violidità le a depression mann à croppes ag	altarar nora,	diology is s	JOGCO	ai.	

VEGETATION - Use scientific names of plants SP6W Sampling Point: 50/20 Thresholds Absolute **Dominant** Indicator 20% 50% Tree Stratum Plot Size (30 % Cover Species Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 3 1 Woody Vine Stratum 0 0 **Dominance Test Worksheet** Number of Dominant Species that are OBL, 8 FACW, or FAC: (A) **Total Number of Dominant** 9 Species Across all Strata: 10 (B) Ω Total Cover Percent of Dominant Species that are OBL, Sapling/Shrub Absolute Dominant Indicator FACW, or FAC: 0.00% (A/B) Plot Size (Stratum Status % Cover Species Prevalence Index Worksheet Total % Cover of: OBL species x 1 = FACW species 0 x 2 = _x 3 = FAC species 0 x 4 = FACU species 0 UPL species 5 x 5 = 25 Column totals (A) 25 (B) Prevalence Index = B/A = 5.00 0 Total Cover **Hydrophytic Vegetation Indicators:** Rapid test for hydrophytic vegetation Indicator Absolute Dominant Herb Stratum Plot Size (% Cover **Species** Status Dominance test is >50% UPL Glycine max 5 Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* X (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic **Definitions of Vegetation Strata:** 10 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in, DBH and greater than 3.28 ft (1 m) tall. Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Indicator Absolute Dominant Plot Size (15 Stratum % Cover **Species** Status Woody vines - All woody vines greater than 3.28 ft in Hydrophytic vegetation = Total Cover present? Remarks: (Include photo numbers here or on a separate sheet) Depression wetland has very little vegetation. Soybeans within wetland are highly stressed and stunted.

SOIL SP6W **Sampling Point:** Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks (Inches) % Loc** Color (moist) Color (moist) % Type* 0-16 10YR 2/1 100 Loam 16-20 100 10YR 3/1 Loamy sand 20-30 10YR 5/2 95 10YR 3/6 5 С Μ Sand **Prominent Concentrations** *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Coast Prairie Redox (A16) (LRR K, L, R) Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Hydrogen Sulfide (A4) (LRR R, MLRA 149B Dark Surface (S7) (LRR K, L Stratified Layers (A5) Loamy Mucky Mineral (F1) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11 (LRR K, L) X Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: NA Hydric soil present? Y Depth (inches): Remarks: Soil meets technical criteria for hydric soil indicator. Sample point is within a cropped agricultural field and soil is disturbed.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

		Town of By	ron/		
Project/Site: Wyeville Site	_City/County:	Monroe Co	unty Sampling Date: 9/30/2011		
Applicant/Owner: Hi-Crush Proppants LLC		State:	Sampling Point: SP6U		
Investigator(s): Shanna Skallet		Section, To	wnship, Range: Section 17, T18N, R1E		
Landform (hillslope, terrace, etc.): Nearly flat surface	Lo	cal relief (cor	ncave, convex, none): None		
Slope (%): 0-1% Lat.: Long.:		Datum:			
Soil Map Unit NameLows sandy loam			NWI Classification: E1Ka		
Are climatic/hydrologic conditions of the site typical for this	time of the year	r? Y	(If no, explain in remarks)		
Are vegetation X, soil X, or hydrology	significantl	y disturbed?	Are "normal		
Are vegetation , soil , or hydrology	naturally p	roblematic?	circumstances" present? Yes		
(If needed, explain any answers in remarks)					
SUMMARY OF FINDINGS					
Library bution property N	In the comple	-1 within	N		
Hydrophytic vegetation present? N	Is the sample	d area witiiii	n a wetland? N		
Hydric soil present? N					
Wetland hydrology present? N	If yes, optional	wetland site	ID:		
Remarks: (Explain alternative procedures here or in a sepa	arate report)				
· · · · · · · · · · · · · · · · · · ·	• ,				
Sample location is within a cropped agricultural	ileiu.				
HYDROLOGY					
			Secondary Indicators (minimum of two		
Primary Indicators (minimum of one is required; check all t	hat annly)		required)		
	ned Leaves (B9)		Surface Soil Cracks (B6)		
High Water Table (A2) Aquatic Fall	, ,		Drainage Patterns (B10)		
Saturation (A3) Aquatic Fati	, ,		Moss Trim Lines (B16)		
	Sulfide Odor (C1)		Dry-Season Water Table (C2)		
Drift Deposits (B3) CXIdized Right Oxidized Right O	hizospheres on L	livirig			
	of Reduced Iron (0	C4)	Saturation Visible on Aerial Imagery		
			(C9) Stunted or Stressed Plants (D1)		
	n Reduction in Till	iea	Stunted or Stressed Plants (D1)		
Inundation Visible on Aerial Soils (C6)	0::-fa-a- (07)		Geomorphic Position (D2)		
<u> </u>	Surface (C7)		Shallow Aquitard (D3)		
	lain in Remarks)		FAC-Neutral Test (D5)		
Surface (B8)			Microtopographic Relief (D4)		
Field Observations:			I		
Surface water present? Yes No X	Depth (inches)	١-	Wetland		
Water table present? Yes X No	Depth (inches)		hydrology		
Saturation present? Yes X No	Depth (inches)		present?		
(includes capillary fringe)). <u> </u>	hieseiit:		
(includes capillary infige)					
Describe recorded data (stream gauge, monitoring well, ae	erial photos prev	vious inspect	ions) if available:		
besome recorded data (stream gadge, monitoring men, ac	mai priotos, pro-	vious inopest	ions), ii available.		
Remarks:					
No primary or secondary hydrology indicators ob	ncerved at the	unland sai	mala nainte		
I NO primary or secondary rigarology indicators of	JSCI VCG at the	upianu sai	mple points.		

VEGETATION - Use scientific names of plants Sampling Point: SP6U 50/20 Thresholds Absolute **Dominant** Indicator 20% 50% Tree Stratum Plot Size (30 % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 16 40 Woody Vine Stratum 0 0 **Dominance Test Worksheet** Number of Dominant Species that are OBL, 8 FACW, or FAC: (A) **Total Number of Dominant** 9 Species Across all Strata: 10 (B) Ω Total Cover Percent of Dominant Species that are OBL, Sapling/Shrub Absolute Dominant Indicator FACW, or FAC: 0.00% (A/B) Plot Size (Stratum Status % Cover **Species** Prevalence Index Worksheet Total % Cover of: OBL species x 1 = FACW species 0 x 2 = _x 3 = FAC species 0 0 FACU species 0 x 4 = 0 UPL species 80 400 x 5 = Column totals 80 (A) 400 Prevalence Index = B/A = 5.00 0 Total Cover **Hydrophytic Vegetation Indicators: Dominant** Indicator Rapid test for hydrophytic vegetation Absolute Herb Stratum Plot Size (% Cover **Species** Status Dominance test is >50% UPL Prevalence index is ≤3.0* Glycine max 80 Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic **Definitions of Vegetation Strata:** 10 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 80 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Indicator Absolute Dominant Plot Size (15 Stratum % Cover **Species** Status Woody vines - All woody vines greater than 3.28 ft in Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet) Upland areas are cropped with soybeans.