# Appendix D: Wetland and Surface Water Report



Imagine the result

Oregon Clean Energy, LLC

# Wetland and Surface Water Delineation Report

Oregon Clean Energy Center 816 N. Lallendorf Road Oregon, Ohio

November 2012

# **ARCADIS**

Munt Tenon

Vincent Tremante Project Ecologist

#### Wetland and Surface Water Delineation Report

Oregon Clean Energy Center 816 N. Lallendorf Road Oregon, Ohio

Prepared for: Oregon Clean Energy, LLC

Prepared by: ARCADIS U.S., Inc. 100 E Campus View Blvd Suite 200 Columbus Ohio 43235-1447 Tel 614 985 9100 Fax 614 985 9170

Our Ref.: MA001187.0001

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# **Table of Contents**

1.	Introduction					
	1.1	Project Summary				
	1.2	Site Description				
2.	Methodology					
	2.1	Agency	Resource Information	2		
		2.1.1	Topographic Map	3		
		2.1.2	Aerial Photography	3		
		2.1.3	Soil Survey of Lucas County, Ohio	3		
		2.1.4	National Wetlands Inventory – Wetlands Mapper	4		
		2.1.5	Federal Emergency Management Agency Flood Insurance Rate Map	4		
		2.1.6	USFWS and ODNR Coordination	5		
	2.2	Wetlan	d Determination	7		
	2.3	Headw	ater Habitat Evaluation Index (HHEI)	8		
3.	Result	5		10		
	3.1	Wetlan	d Determination	10		
	3.2 Streams		IS	11		
		3.2.1	Stream 1 – Driftmeyer Ditch (HHEI #1)	11		
		3.2.2	Stream 2 – Johlin Ditch (HHEI #2)	12		
		3.2.3	Upland Ditch 1	12		
Ta	bles					
	Table	1.	Federal Listed Species	6		
	Table	2.	Stream Characteristics	12		

# Figures

Figure 1.	Site Location Map
Figure 2.	Aerial Map
Figure 3.	Soil Survey



# **Table of Contents**

Figure 4.	National Wetland Inventory
Figure 5.	FEMA Flood Insurance Rate Map
Figure 6.	Field Data Points

### Appendices

- A Agency Correspondence
- B Photographs
- C Wetland Determination Data Forms
- D HHEI Scoring Sheets



Oregon Clean Engery Center 816 N. Lallendorf Road Oregon, Ohio

#### 1. Introduction

#### 1.1 Project Summary

Oregon Clean Energy, LLC (OCE) is in the process of planning and designing an 800 megawatt (MW) natural gas-fired combined cycle electric generating plant to convert clean natural gas to electricity. The new facility, called the Oregon Clean Energy Center (the Project), will provide a clean alternative for planned closures of several aging regional coal burning facilities and provide enough energy for approximately 500,000 homes. Understanding natural resources on the Project site is important to designing a layout that will result in minimal environmental impact. This report documents the investigations and results associated with delineating wetland and surface water resources in accordance with state and federal methodologies and procedures.

#### 1.2 Site Description

The Project area is an approximately 30-acre parcel located at 816 N. Lallendorf Road, Oregon, Lucas County, Ohio (the Site). The Site center is more specifically located at 41°40'02.30" N and 83°26'38.28" W. A Site location map and aerial photography are provided as Figures 1 and 2, respectively.

The Site is zoned Commercial-Industrial within the Cedar Point Development Park, a designated Foreign Trade Zone. The setting is within a mixed industrial, commercial and agricultural area that is located east of N. Lallendorf Road, west of actively managed farmland located at 4632 Cedar Point Road, north of the Norfolk Southern Railroad, and south of the John Gradel and Sons' Farms. Access to the Site is via N. Lallendorf Road. The eastern edge of the Site is transected by Johlin Ditch, while Driftmeyer Ditch transects the western portion of the Site. Both ditches flow north to Lake Erie, located less than 2 miles north of the Site. First Energy-owned transmission lines extend in an east-west direction just to the north of the Site.

The Site land use consists of actively managed farmland with associated structures, including two single-family dwellings, a garage and a barn. The majority of the parcel is in and has historically been in active agricultural use. Site topography is relatively flat, at an elevation of approximately 590 feet above mean sea level (NADV 88). The Maumee River, which flows southwest to northeast to its confluence with Lake Erie, is situated approximately 2 miles northwest of the Site.



Oregon Clean Engery Center 816 N. Lallendorf Road Oregon, Ohio

### 2. Methodology

Field data collection was conducted on October 11-12, 2012 in accordance with methods outlined in the <u>Regional Supplement to the Corps of Engineers Wetlands</u> <u>Delineation Manual: Northcentral and Northeast Region, Version 2.0.<sup>1</sup></u>

#### 2.1 Agency Resource Information

Agency resource information was compiled prior to the field reconnaissance to identify existing information for the Site. These resources include the following:

- Topographic Map<sup>2</sup>
- Lucas County Orthophotography<sup>3</sup>
- Digital Soil Survey of Lucas County, Ohio<sup>4</sup>
- National Wetland Inventory (NWI) Map<sup>5</sup>
- Federal Emergency Management Act (FEMA) Flood Insurance Rate Map (FIRM)<sup>6</sup>
- U.S. Fish and Wildlife Service (USFWS) and Ohio Department of Natural Resources (ODNR) Coordination

<sup>&</sup>lt;sup>1</sup> U.S. Army Corps of Engineers. 2011. *Regional Supplement to the corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*, ed. J.S. Wakeley, R.W. Lichvar, C.V. Noble, and J.F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

 <sup>&</sup>lt;sup>2</sup> "NGS\_TOPO\_US\_2D". ArcGIS. USA Topographic Maps. National Geographic Society, 2010.
 <sup>3</sup> USDA NRCS Geospacial Data Gateway. http://datagateway.nrcs.usda.gov/. Accessed October 23, 2012

October 23, 2012. <sup>4</sup> Natural Resources Conservation Service. U.S. Department of Agriculture. Soil Survey Geographic (SSURGO) database for Lucas County, Ohio, April 27, 2012.

<sup>&</sup>lt;sup>5</sup> U. S. Fish and Wildlife Service. September 24, 2012. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. http://www.fws.gov/wetlands/

<sup>&</sup>lt;sup>6</sup> Federal Emergency Management Agency (FEMA), Flood Insurance Rate Maps (FIRM), Lucas County, Ohio, August 16, 2011.



Oregon Clean Engery Center 816 N. Lallendorf Road Oregon, Ohio

#### 2.1.1 Topographic Map

The digital geographic information system (GIS) topographic map for the Site was used to determine stream gradients, watershed areas, and general hydrologic regimes (e.g., intermittent, perennial). The topographic map for the Site serves as a background for Figure 1.

#### 2.1.2 Aerial Photography

Aerial photography of Lucas County from 2011 was reviewed to evaluate surface cover and land use, and serve as the background for Figure 2.

#### 2.1.3 Soil Survey of Lucas County, Ohio

The digital Web Soil Survey was used to identify soil mapping units on the Site, and to determine if field observations match the profiles and descriptions in the soil survey. According to this resource, the soil units on the Site are mapped as Latty silty clay (Lc), Fulton silty clay loam, 0 to 2 percent slope (FuA) and Water.

Lc is a nearly level, deep, very poorly drained soil on lake plains with restrictive layers greater than 80 inches in depth. This soil receives runoff from adjacent, higher lying soils and is subject to ponding but not flooding. Depth to water table may be from 0 to 12 inches. Where the soil has been drained, the root zone is deep. Surface ditches can be used to lower the water table. Lc soils contain predominantly Latty components but also Toledo, and may also develop hydric indicators if the water table is above 12 inches during the growing season or there is long to very long ponding during the growing season. The majority of the Site is comprised of this soil type.

FuA is a nearly level, somewhat poorly drained soils on lake plains on a convex rise with restrictive layers occurring greater than 80 inches in depth and having no ponding or flooding. Depth to water table may be 6 to 18 inches. FuA soils have small components of both Toledo and Latty soil types in narrow drainage ways or low areas which may be hydric if the water table is above 12 inches during the growing season or there is long to very long ponding during the growing season.

There is an open water pond immediately north of the west portion of the Site. Soil survey mapping is intended for use in general farm, local and wider area planning and are considered valid at 1:15,840 scale. Mapping may not be accurate when used as smaller scales for smaller sites. The soil unit mapping indicates the W area extends to



Oregon Clean Engery Center 816 N. Lallendorf Road Oregon, Ohio

just within the Project site bounds. Site investigations and aerial mapping confirm that the water area indicated by the W soil unit is, in fact, north of the Site and not within the Project area.

Two drainage features transverse the east and west ends of the Site. These drainage features appear to keep the water table low during the growing season to promote agricultural use of the land. The soil survey map for the Site is included in Figure 3.

#### 2.1.4 National Wetlands Inventory - Wetlands Mapper

The NWI Program was established by the USFWS in 1974 to conduct a nationwide inventory of United States wetlands to provide its biologists and others with information on the distribution of wetlands to aid in wetland conservation efforts. The NWI developed a wetland classification system which is now both the official Service wetland classification system and the federal standard for wetland classification. NWI mapping is generated from aerial photography or digital aerial imagery and provides indications of where potential wetlands may occur. Field verification is, therefore, required to establish if wetland criteria exist within mapped areas.

The NWI Program produces wetland maps and geospatial wetland data for use in the United States. The status of mapping has been made available through various media such as state atlases, regional status maps, and through the internet via the Wetlands Mapper online tool.

Wetland Mapper data indicate there are no wetlands within the Site. There are several freshwater ponds indicated within the surrounding areas. One pond is immediately adjacent to the northwest portion of the Site; a second is approximately 800 feet west of the Site. There are several residential ponds just under ½ mile south of the Site. There is one freshwater forested wetland indicated approximately ¼ mile east-southeast. The NWI mapping for the Project is included as Figure 4.

#### 2.1.5 Federal Emergency Management Agency Flood Insurance Rate Map

The identification and location of the any mapped 100-year flood hazard zones within the Site was determined by reviewing the FEMA's FIRM. Panel number 115 of FIRM map number 39095C0115E indicates that there are Zone–A 100-year flood hazard areas mapped within the Site. Driftmeyer Ditch crosses the west end of the Site and is the only mapped Zone–A within the Site. Mapping indicates the zone is restricted to



Oregon Clean Engery Center 816 N. Lallendorf Road Oregon, Ohio

within the banks of the ditch and does not expand further onto the Site. The extent of the 100-year flood hazard zone is shown in Figure 5.

#### 2.1.6 USFWS and ODNR Coordination

Under the Endangered Species Act of 1973, the USFWS is the lead federal agency tasked with the identification, protection and recovery of any listed endangered or threatened species. "Endangered" species are considered in danger of extinction through all or a significant portion of their range. "Threatened" species are considered likely to become endangered with the foreseeable future. Pre-coordination with the USFWS is recommended to avoid any unauthorized "taking" of federally protected species. Should any favorable habitat for threatened or endangered species be identified or actual species observed within a project area, formal coordination with the USFWS may be required.

During the Site visit, favorable habitat for federally listed species were investigated to determine if any of these habitats were located within the project area or within ¼ mile surrounding the Site. Federally listed endangered and threatened species in Lucas County Ohio include the Indiana Bat (*Myotis sodalis*), Karner Blue Butterfly (*Lycaeides melissa samuelis*), Kirtland's Warbler (*Dendroica kirtlandii*), Piping Plover (*Charadrius melodus*), Rayed Bean (*Villosa fabalis*), and the Eastern Prairie Fringed Orchid (*Platanthera leucophaea*).

No favorable habitat for these species was observed within the Site. No favorable habitat for all but the Indiana Bat was observed in the adjacent ¼ mile surrounding area. One small isolated forest area located approximately 2,500 feet southeast of the site and approximately 6.5 acres was observed. There was no access to evaluate the area for favorable roost trees. However, past experience with presence/absence surveys for Indiana Bat with the USFWS has shown that small isolated stands of uniform age with no significant adjacent water bodies are poor habitat even if favorable roost trees do exist. Table 1 below is a summary table of the federally listed species habitat findings.



Oregon Clean Engery Center 816 N. Lallendorf Road Oregon, Ohio

Species Name	Scientific Name	Federal <sup>1</sup> Status	Favorable Habitat <sup>2</sup>	Habitat Observed On Site	Habitat Observed ¼ Mile of Site
Eastern Prairie Fringed Orchid	Platanthera leucophaea	Т	Mesic prairie, sedge meadows, marshes, bogs	No	No
Indiana Bat	Myotis sodalis	E	Humid caves, wooded areas with loose bark trees, snags	No	Maybe <sup>3</sup>
Karner Blue Butterfly	Lycaeides melissa samuelis	E	Pine, oak savanna/barrens supporting wild lupine (larval host plant and adult nectar source)	No	No
Kirtland's Warbler	Dendroica kirtlandii	E	Large stands of 6-22 year old Jack pines ( <i>Pinus</i> <i>banksiana</i> )	No	No
Piping Plover	Charadrius melodus	E	Wide, flat, open, sandy, beaches with little grass or other vegetation	No	No
Rayed Bean	Villosa fabalis	E	Smaller headwater creeks with sand and gravel substrates; requires host fish for life cycle (no fish observed)	No	No

#### Table 1. Federal Listed Species

1- T = Threatened; E = Endangered

2- Summarized from USFWS Fact Sheets

3- One area (approx. 6.5 acres) of mature forest is within the ¼ mile radius but was inaccessible. Small remote/isolated forest stands that are uniform (no flyways) without adjacent water sources are poor habitat candidates for Indiana Bat even if favorable roost trees exist within the site.

Pre-coordination was requested of the USFWS for the identification of any threatened or endangered species or favorable habitat for these species in or around the Site. A response was received on issued October 11, 2012 which indicated there are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. Additionally, the response letter indicated that due to the project type, size, and location, no impacts on federally listed, endangered, threatened, candidate species or their habitats was anticipated. A copy of the USFWS response letter is included in Appendix A.



Oregon Clean Engery Center 816 N. Lallendorf Road Oregon, Ohio

The ODNR Division of Wildlife has the legal authority over Ohio's fish and wildlife. Ohio law<sup>7</sup> allows the chief of the Division to adopt rules restricting the taking or possession of native wildlife threatened with statewide extirpation. The Division uses six categories to define the status of selected wildlife: endangered, threatened, species of concern, special interest, extirpated and extinct. Pre-coordination with the ODNR is recommended to avoid any unauthorized "taking" of state protected species. Should any favorable habitat for state protected species be identified or actual species observed within a project area, formal coordination with the ODNR would be required.

Pre-coordination was requested of the ODNR Division of Wildlife to search the Natural Heritage Database for the identification of any known records of rare or endangered species within one mile of the Site. A response was received on September 17, 2012 which indicated there are no records of unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildfire refuges, parks or forests or other protect natural areas within one mile of the Project area. A copy of the response letter is included in Appendix A.

#### 2.2 Wetland Determination

The routine wetland determination procedure for sites larger than 5 acres as described in the 1987 *Corps of Engineers Wetland Delineation Manual* was conducted at the Site on October 11, 2012. Three meandering transects were walked observing potential wetland indicators (e.g., hydrophytes, depressions, saturated/inundated areas) of wetland systems and observation points were sampled approximately every 500 feet. Where no change in vegetation or hydrology was observed, sampling distance between observation points was increased.

Soil, hydrology and vegetation observations were recorded at each sample point and each category was evaluated for potential wetland characteristics. No potential wetlands areas were observed at the Site. Photographs were taken at each sampling point and are included in Appendix B. Routine wetland determination forms are filled out for each data point location and are included in Appendix C. When potential wetlands are identified, a wetland and upland data point are recorded to establish the boundary location. Data point locations were recorded with sub-meter global positioning system (GPS) equipment.

<sup>&</sup>lt;sup>7</sup> Ohio Revised Code 1531.25 Protection of species threatened with statewide extinction.

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# Wetland and Surface Water Delineation Report

Oregon Clean Engery Center 816 N. Lallendorf Road Oregon, Ohio

At most observation points, a soil pit was excavated to approximately 14 inches below the ground surface. Soils were characterized according to their physical properties such as texture, color, and saturation. The Munsell Soil Color Charts were used to determine the value and chroma of the soil matrix, any mottles and/or gleyed soils. The Lucas County Soil Survey and aerial photography was used to provide additional soil information and descriptions. Indicators of hydrology such as drift lines, drainage patterns, sediment deposits, or inundation/saturation were noted to determine if the suspected area satisfied the criteria for hydrology.

Dominant plant species within each of the four strata (i.e., tree, shrub/sapling, woody vine, and herbaceous) were identified to species in accordance with methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region.* The indicator status of each dominant species was obtained from the revised 2012 National Wetlands Plant List for the Northcentral and Northeast Region.

#### 2.3 Headwater Habitat Evaluation Index (HHEI)

The Ohio Environmental Protection Agency (Ohio EPA) has developed the Headwater Habitat Evaluation Index (HHEI) as a numeric evaluation index capable of defining the aquatic life use potential of Primary Headwater Habitat (PHWH) streams in Ohio.<sup>8</sup> The HHEI is intended for primary headwater streams with drainage areas less than one square mile.

The HHEI is composed of the following principal metrics:

- Substrate (type and quality)
- Maximum Pool Depth
- Bank Full Width

<sup>&</sup>lt;sup>8</sup> Ohio EPA. 2012. Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams. Version 3.0. Ohio EPA Division of Surface Water, Columbus, Ohio. 117 pp.



Oregon Clean Engery Center 816 N. Lallendorf Road Oregon, Ohio

The maximum possible HHEI score is 100. Each of the metrics are scored individually and then summed to provide the total HHEI score. Photographs and HHEI scoring sheets are included in Appendix B and D, respectively.

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# Wetland and Surface Water Delineation Report

Oregon Clean Engery Center 816 N. Lallendorf Road Oregon, Ohio

#### 3. Results

Based on a review of available Site information and application of the guidance in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region,* no potential wetlands were identified within the Site. Two potentially jurisdictional streams were identified within Site. Field data is described below.

#### 3.1 Wetland Determination

Twelve data points were sampled throughout the Site (as shown on Figure 6). None of the data point locations contained all three wetland criteria; therefore, no wetlands were identified on the Site. Site photographs and "routine"-level Wetland Determination Data Forms can be found in Appendices A and B, respectively.

When there are periods with below-normal rainfall, different procedures for determining wetland hydrology may be required. WETS tables, provided by the Natural Resource Conservation Service's National Water and Climate Center, are used to determine "normal" precipitation and are calculated from 30-years of weather records. Despite drier than normal conditions throughout much of the Midwest in 2012, annual rainfall (Oregon, OH) through September 31<sup>st</sup> was 24.4 inches and was within a "normal" range. Average annual rainfall for the same time period is 25.4 inches.<sup>9</sup> Additionally, above "normal" rainfall occurred over the preceding three months of July, August and September. Actual recorded rainfall for this time period was 11.2 inches; the WETS<sup>10</sup> table "normal" upper limit for those same three months was 10.9 inches. Therefore, no problem hydrology criteria were evaluated.

Surface disturbance at a site can create a "problematic" circumstance for evaluation of wetland criteria and require additional investigation. At the time of field reconnaissance, the Site was in row crop agriculture which is only considered problematic for hydrophytic vegetation when there are hydric soils and one primary or two secondary indicators of wetland hydrology. Only one sample area had observable signs of hydrology, but it did not have hydric soil indicators. The observed hydrologic

<sup>&</sup>lt;sup>9</sup> "History for Toledo Metcalf, OH". Weather Underground. October, 24, 2012.<http://www.wunderground.com /history/airport/KTDZ/2012/1/1/CustomHistory.html?dayend=12&monthend=10&yearend=2012&req\_city= NA&req\_state=NA&req\_statename=NA>.

<sup>&</sup>lt;sup>10</sup> "Climate Information – Wetlands Retrieval for Ohio". U.S. Department of Agriculture Natural Resources Conservation Service. October 24, 2012.

<sup>&</sup>lt;http://www.wcc.nrcs.usda.gov/ftpref/support/climate/wetlands/oh/39095.txt>



Oregon Clean Engery Center 816 N. Lallendorf Road Oregon, Ohio

indicators (B3-Drift Deposits and D1-Stunted or Stressed Plants) at this location were marginal and may have other causes such as flash flooding or competition for light and water by adjacent woody vegetation. Additionally, a reference vegetation site was identified with undisturbed soils and vegetation adjacent to Driftmeyer Ditch. An analysis of the vegetation at this location did not show a predominance of hydrophytic vegetation. Therefore, additional "problematic" criteria were not evaluated for hydrophytic vegetation.

#### 3.2 Streams

The following is a description of each stream identified within the Site during the investigation. The stream locations are shown in Figure 6 and photographs are located in Appendix B. HHEI forms can be found in Appendix D.

3.2.1 Stream 1 – Driftmeyer Ditch (HHEI #1)

This small headwater stream is a direct tributary to Lake Erie. The drainage area of this stream is less than one square mile. Surrounding land use is primarily row-crop agriculture, with two residential parcels. The average bank full width of the reach within the Site was approximately 9.25 feet with a maximum pool depth of 3.5 inches. The assessed segment of Stream 1 transverses the west end of the Site running south to north. The stream enters the Site through two 53-inch steel culverts from under the railroad tracks. There is a large 83-inch concrete culvert approximately 25 feet long under an agricultural road that crosses over the ditch. Culvert locations are identified in Figure 6.

Silt and muck were the two predominant substrates in this reach of the stream; other substrates included sand and fine detritus. Approximately 60 percent canopy coverage, no sinuosity, and a very narrow riparian zone of approximately 15 feet were observed. This segment of the stream was noted to be low-gradient, stagnant, and silt-laden. Based on Ohio EPA's PHWH guidance, Stream 1 received an HHEI score of 41 which classifies it as a Modified Class II PHWH. "Modified" PHWH streams represent a degraded condition resulting from permanent disturbance such as channelization and have limited ability to support Warm Water Habitat communities.

Table 2 presents a summary of the stream characteristics observed during the field investigations.



Oregon Clean Engery Center 816 N. Lallendorf Road Oregon, Ohio

Stream	Flow Regime*	Connectivity	HHEI Score	Average Bank Full Width	Max. Pool Depth**
Stream 1	Р	HC	41	9.25'	3.5"
Stream 2	E	HC	25	8.3'	None

#### Table 2.Stream Characteristics

Notes:P=Perennial; E=Ephemeral; HC=Hydrologically Connected/Jurisdictional

\* Perennial stream reach contained greater than 3 inches of water

\*\* Measured under normal flow conditions

#### 3.2.2 Stream 2 – Johlin Ditch (HHEI #2)

This small headwater stream is tributary to Lake Erie. The drainage area of this stream is less than one square mile. Surrounding land use is row-crop agriculture. The average bank full width of the reach within the Site was approximately 8.3 feet. The channel was dry at the time of evaluation, so there was no maximum pool depth. The assessed segment of Stream 1 transverses the east end of the Site running south to north.

Clay and leaf pack/woody debris were the two predominant substrates in this reach of the stream. Approximately 100 percent canopy coverage, no sinuosity, and very narrow riparian zone of approximately 15 feet were observed. This segment of the stream was noted to be low-gradient. Based on Ohio EPA's PHWH guidance, Stream 2 received an HHEI score of 25 and has a PHWH classification of Modified Class I PHWH.

Table 2 presents a summary of the stream characteristics observed during the field investigations.

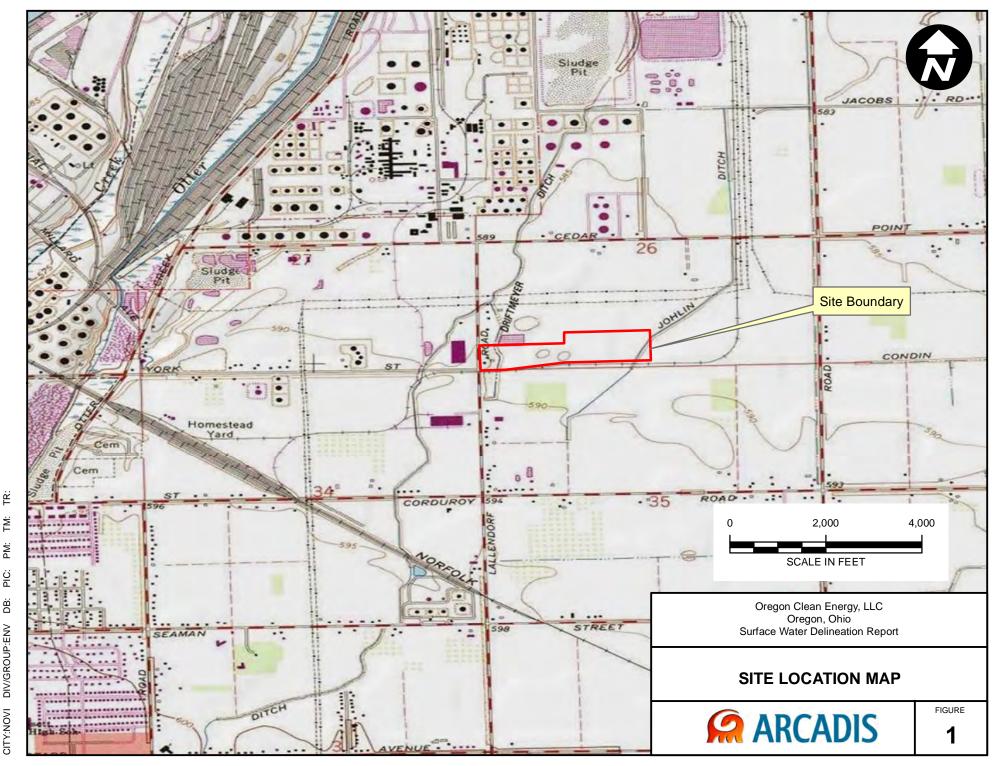
#### 3.2.3 Upland Ditch 1

A man made drainage feature was observed along the north side of the adjacent railroad tracks on the southern boundary for the Site. This feature is located just outside of the Site boundary for the Project, however, observations are provided due to its immediate proximity. The drainage feature is recently maintained in some sections (Photo 16) and less recently in others (Photo 17). This ditch should not be considered jurisdictional as it is a railroad drainage feature which is currently maintained for the

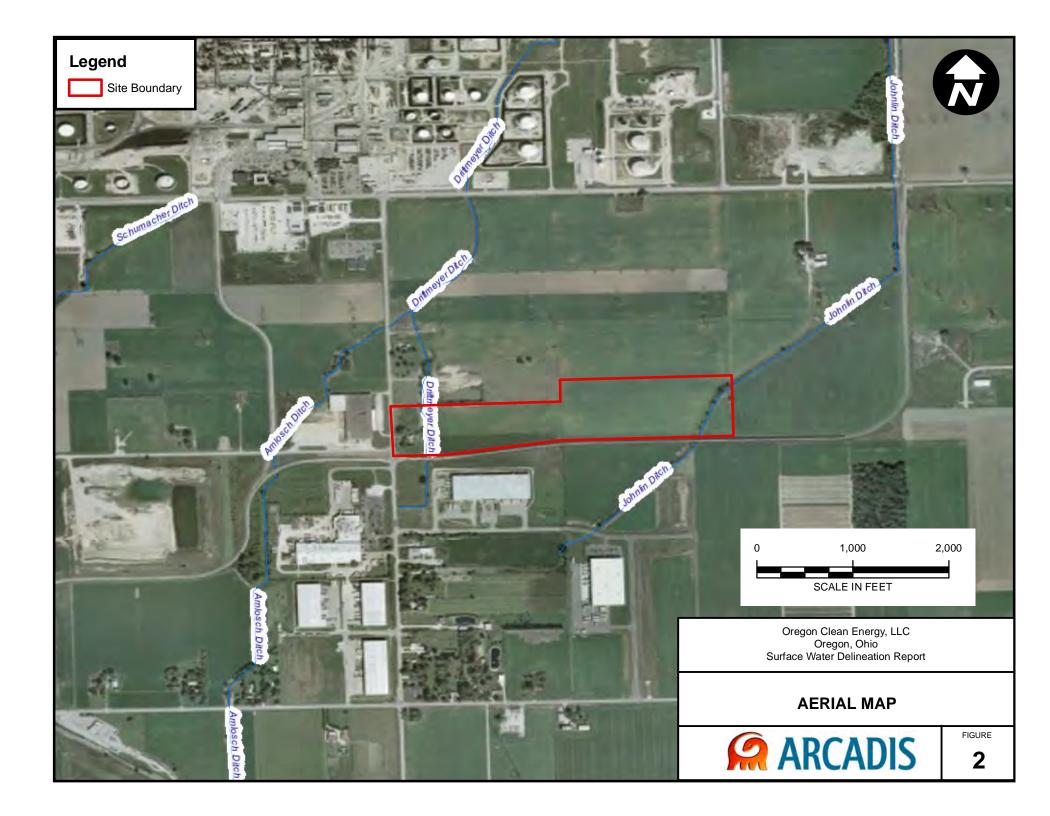


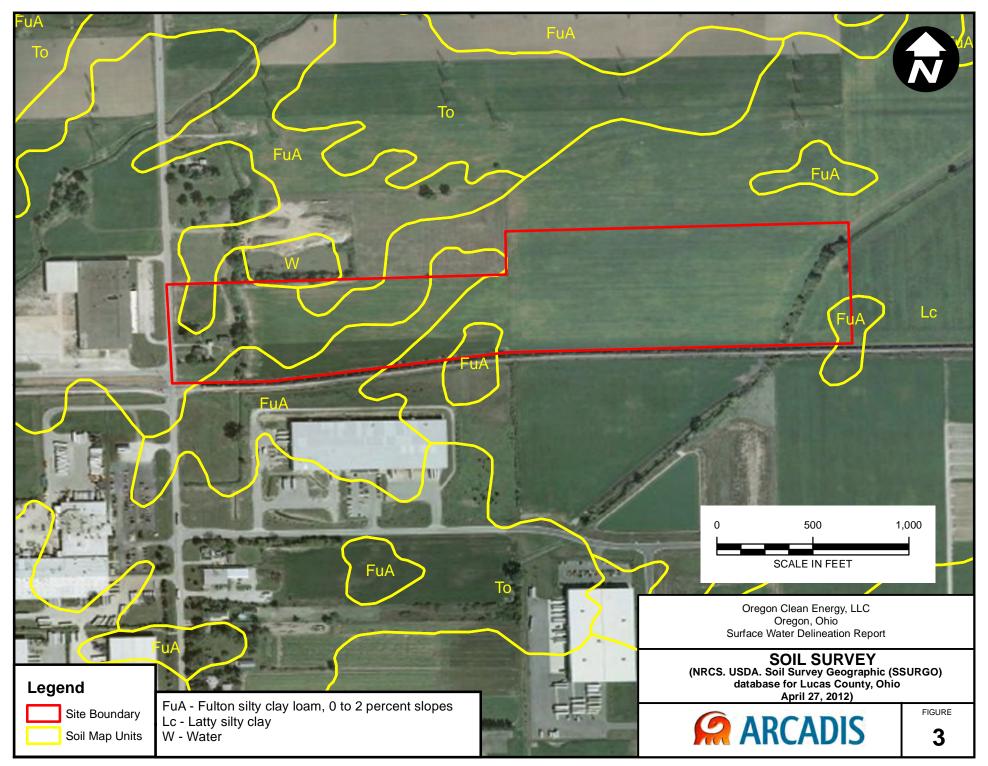
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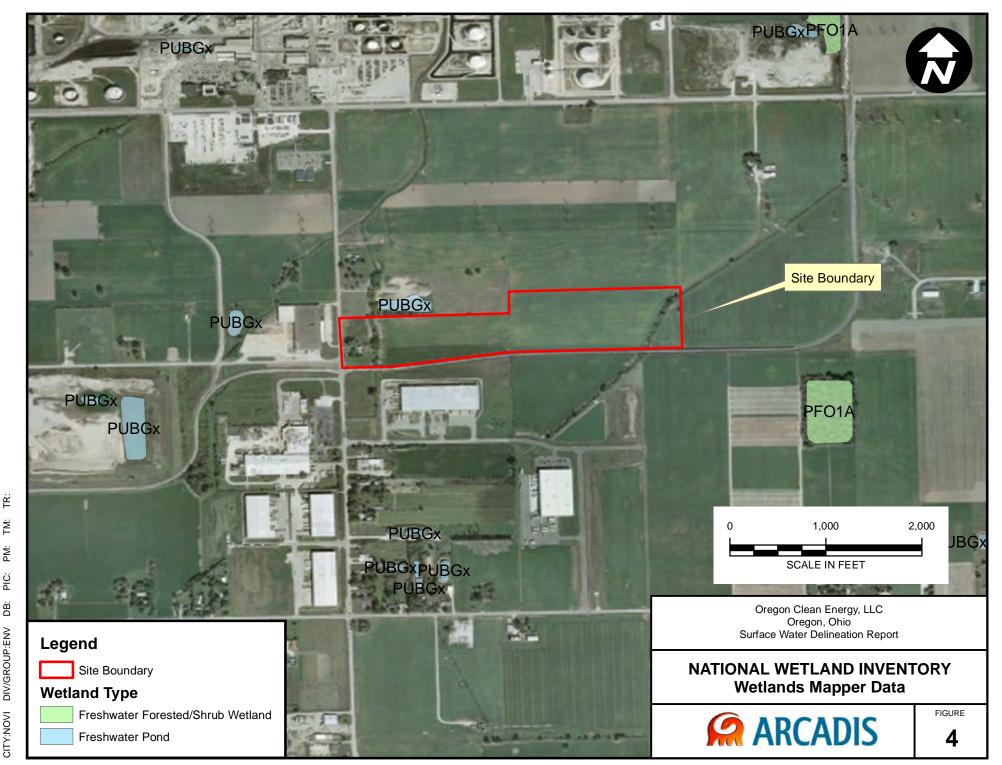
sole purpose of conveying storm water runoff from the adjacent railroad tracks. An HHEI assessment was not performed on this maintained, man-made drainage feature.

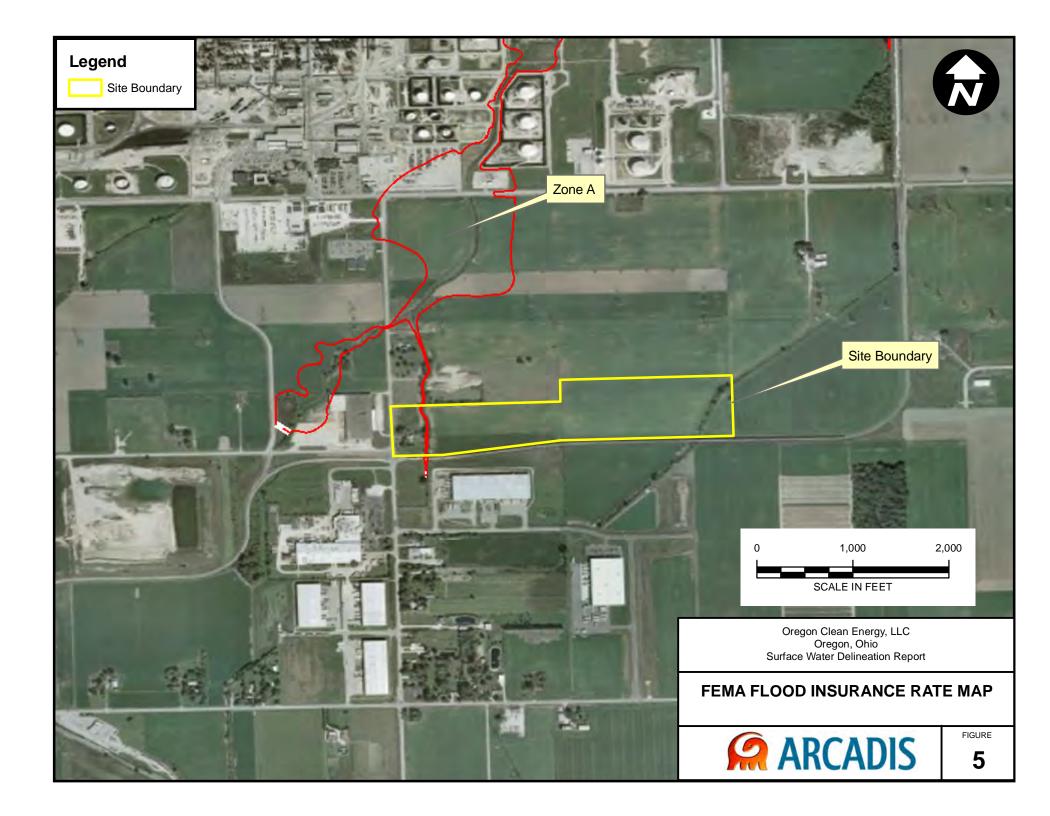


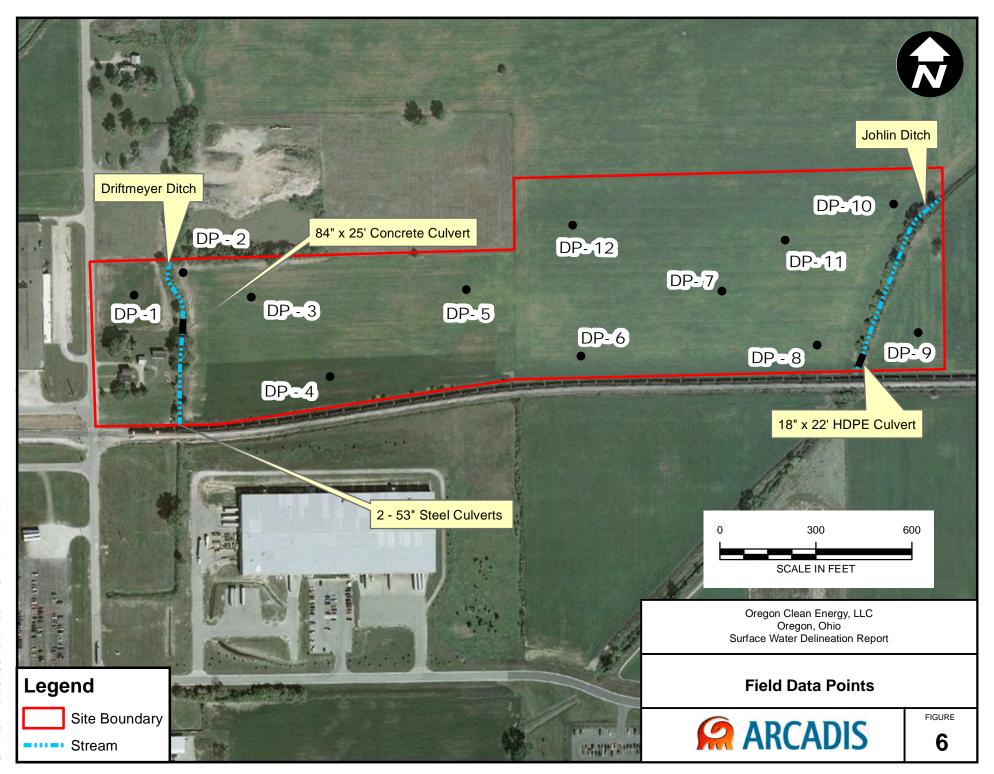
PROJECT NUMBER: CITY:NOVI DIV/GROUP:ENV DB: PIC: PM: TM:













# Appendix A

Agency Correspondence



# United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Ecological Services 4625 Morse Road, Suite 104 Columbus, Ohio 43230 (614) 416-8993 / FAX (614) 416-8994 October 11, 2012

ARCADIS U.S., Inc. Attn: Lynn Gresock 1 Executive Drive, Suite 303 Chelmsford, Massachusetts 01824

Reference: Oregon Clean Energy Project – City of Oregon in Lucas County, Ohio

Dear Ms. Gresock,

TAILS # 03E15000-2012-TA-1444

We have received your recent correspondence requesting information about the subject proposal. There are no Federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. Based on the information you have provided, at this time we have no objection to the proposed project.

ENDANGERED SPECIES COMMENTS: Due to the project type, size, and location, we do not anticipate any impact on federally listed endangered, threatened, or candidate species, or their habitats. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts.

If you have additional questions or require further assistance with your project proposal, please contact me at the following number (614) 416-8993, x12. I would be happy to discuss the project in further detail with you and provide additional assistance if necessary. In addition, you can find more information on natural resources in Ohio, and a county list of federally threatened and endangered species in Ohio, by visiting our homepage at: http://www.fws.gov/midwest/ohio.

Sincerely,

Mary Knapp, Ph.D. Field Supervisor



# Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Ohio Division of Wildlife Scott Zody, Chief 2045 Morse Rd., Bldg. G Columbus, OH 43229-6693 Phone: (614) 265-6300

September 17, 2012

Lynn Gresock ARCADIS U.S., Inc. One Executive Drive, Suite 303 Chelmsford, MA, 01824

Dear Ms. Gresock

After reviewing the Natural Heritage Database, I find the Division of Wildlife has no records of rare or endangered species in the Oregon Clean Energy Center project area, including a one mile radius, at 816 Lallendorf Road, in the City of Oregon, Lucas County, Ohio. We are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forests, national wildlife refuges, parks or forests or other protected natural areas within a one mile radius of the project area.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although we inventory all types of plant communities, we only maintain records on the highest quality areas.

This letter only represents a review of rare species and natural features data within the Ohio Natural Heritage Database. It does not fulfill coordination under the National Environmental Policy Act (NEPA) or the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq.) and does not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Please contact me at 614-265-6452 if I can be of further assistance.

Sincerely,

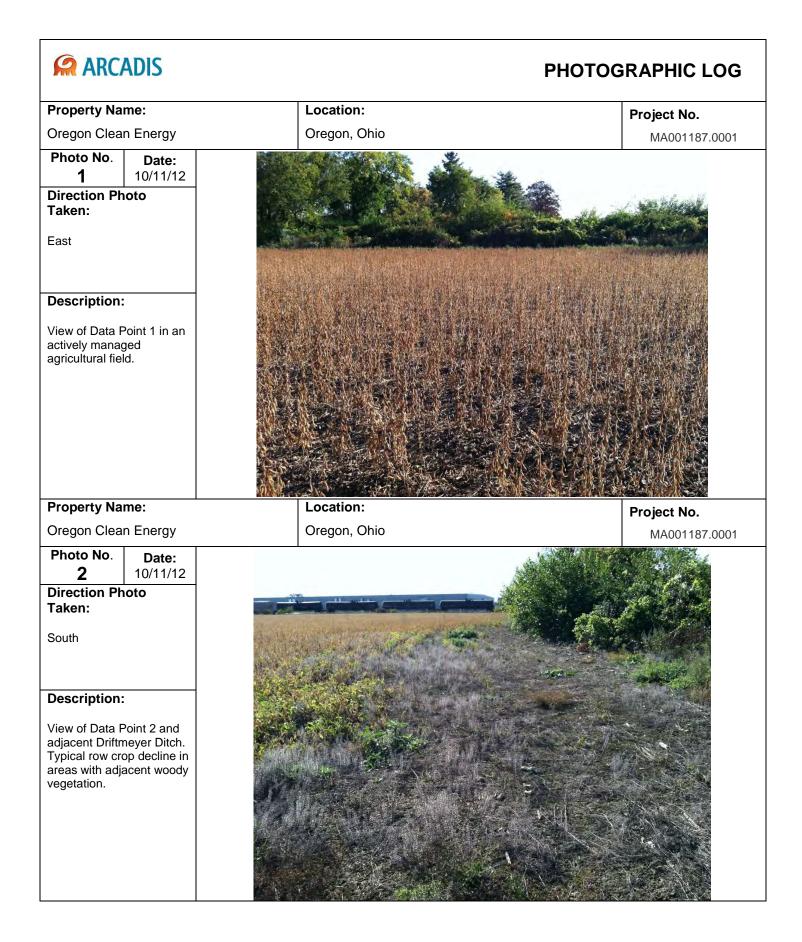
Greg Schneiden

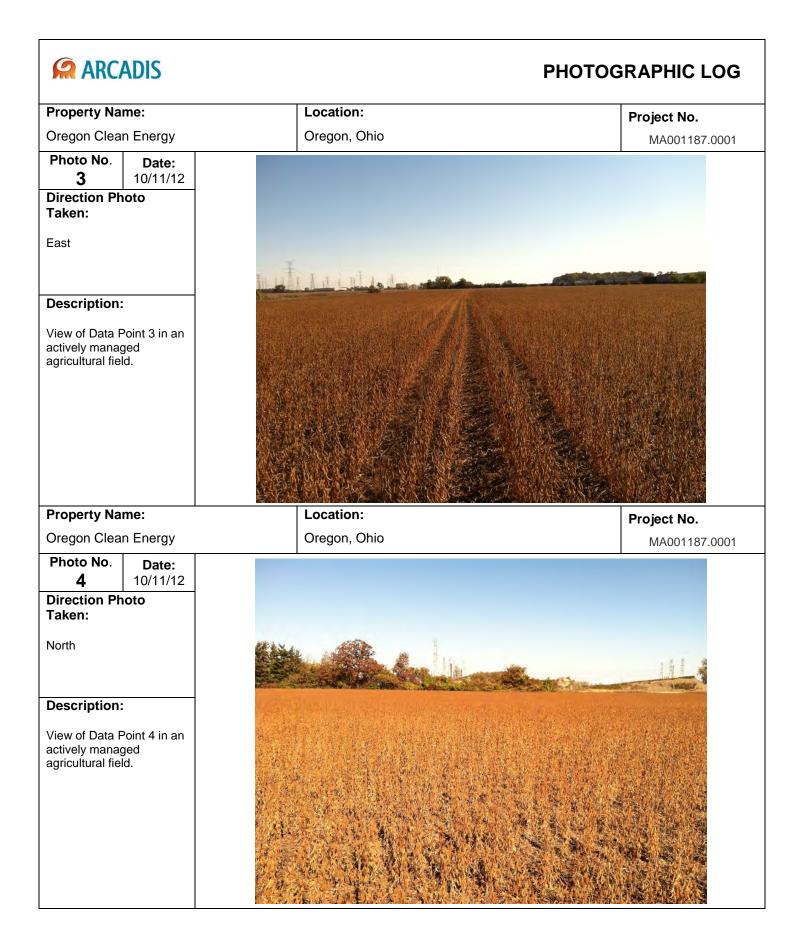
Greg Schneider, Administrator Ohio Natural Heritage Program

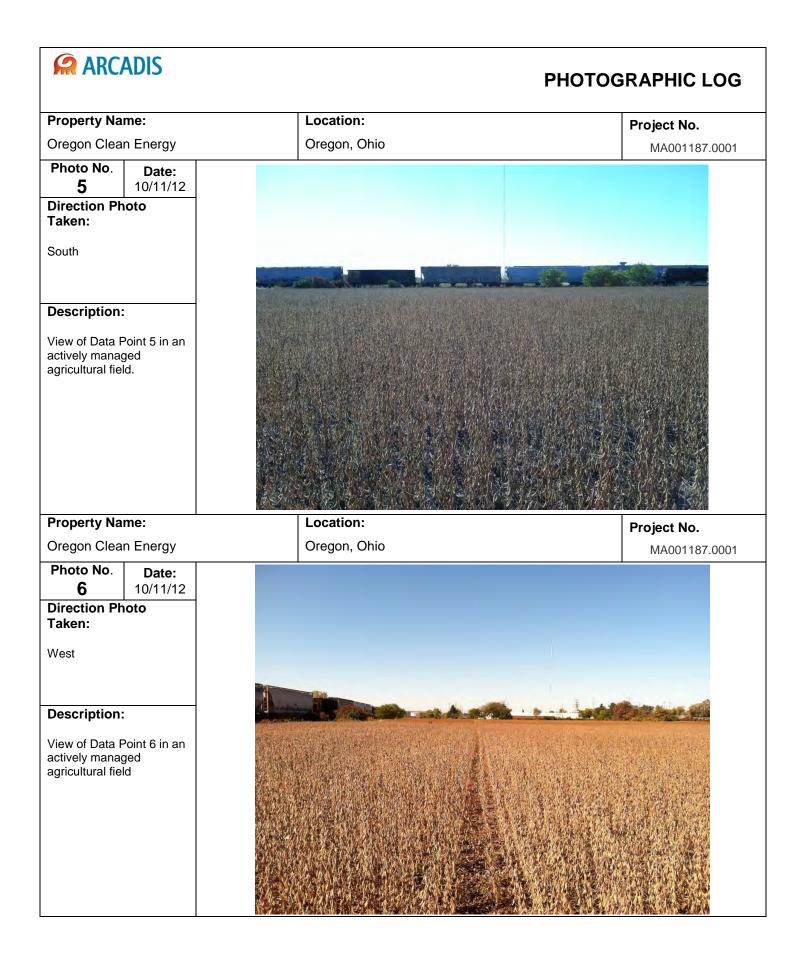


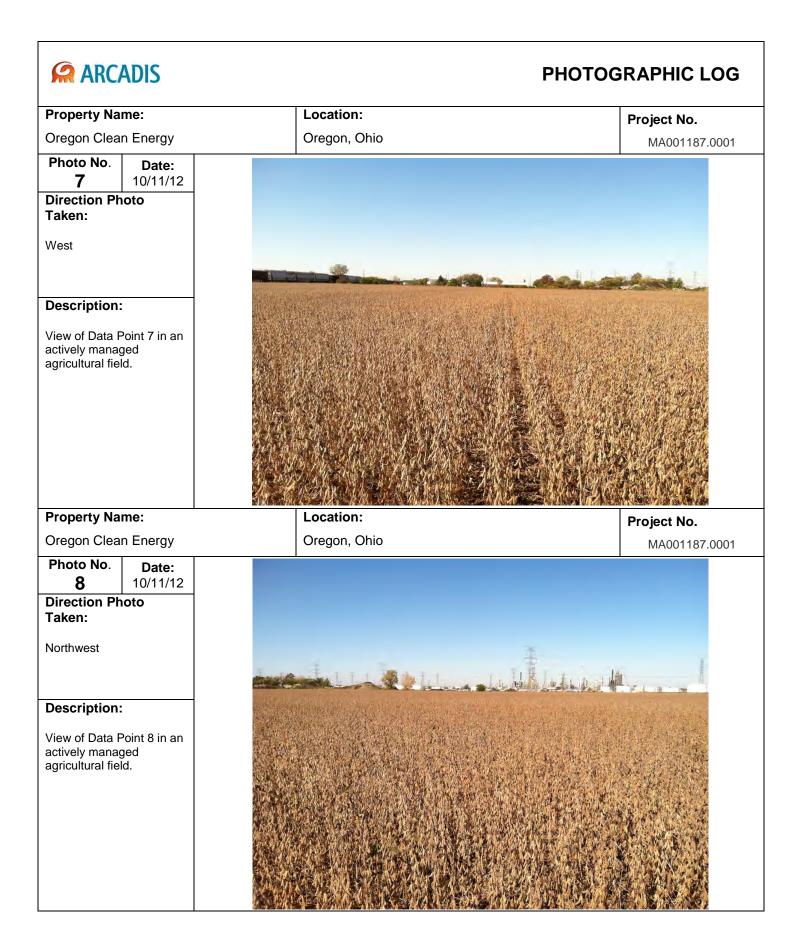
# Appendix B

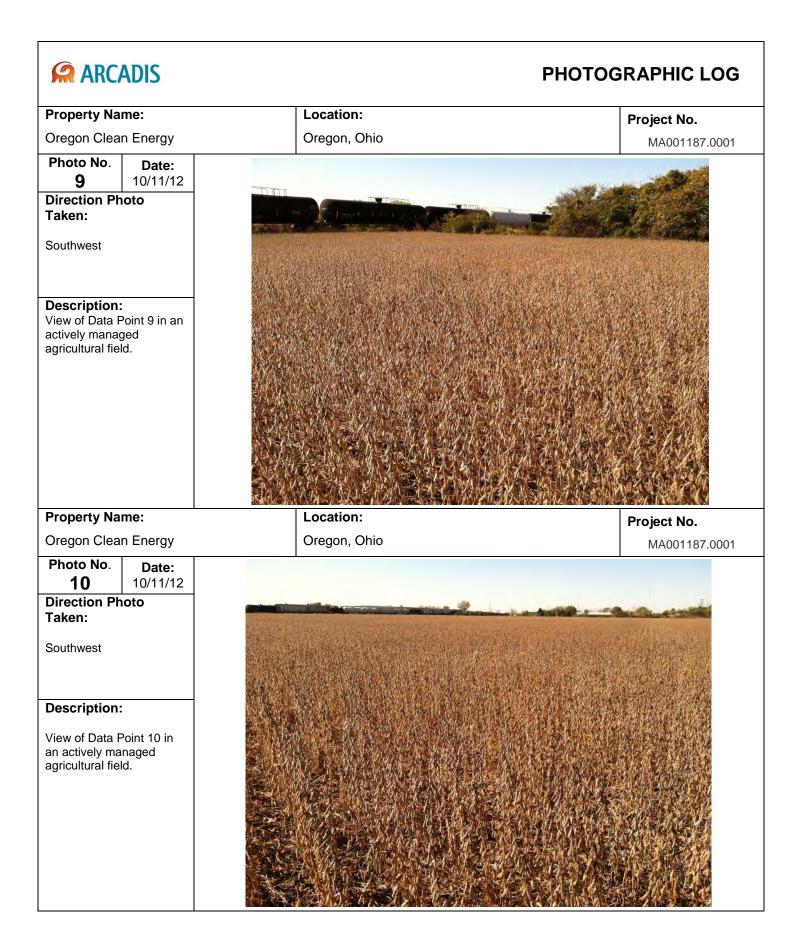
Photographs

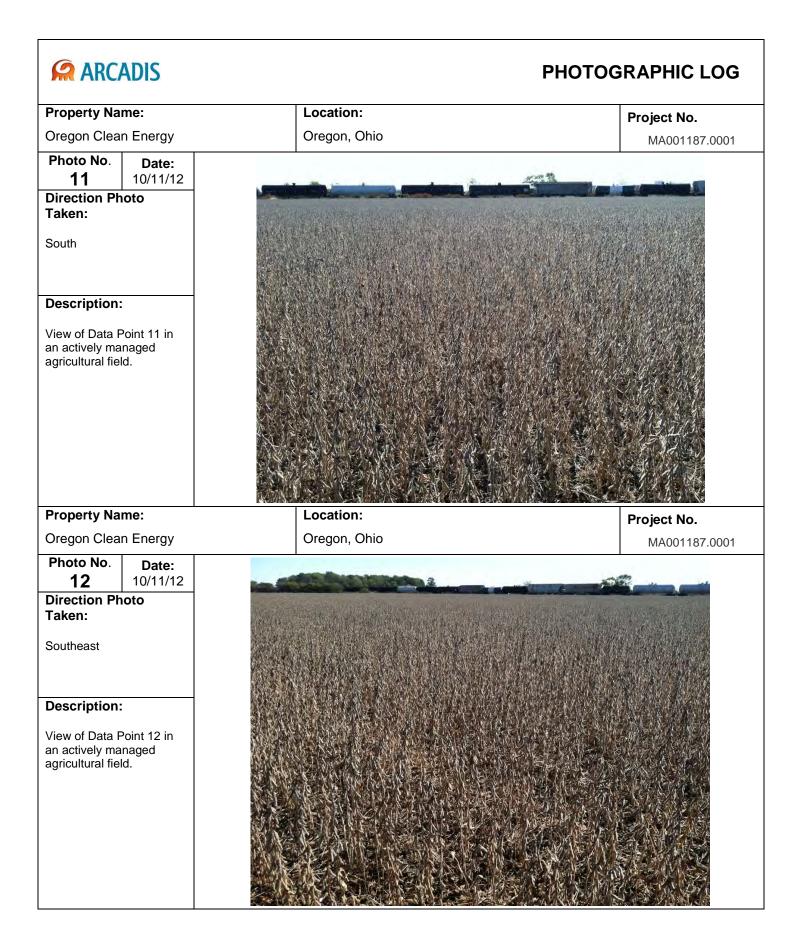


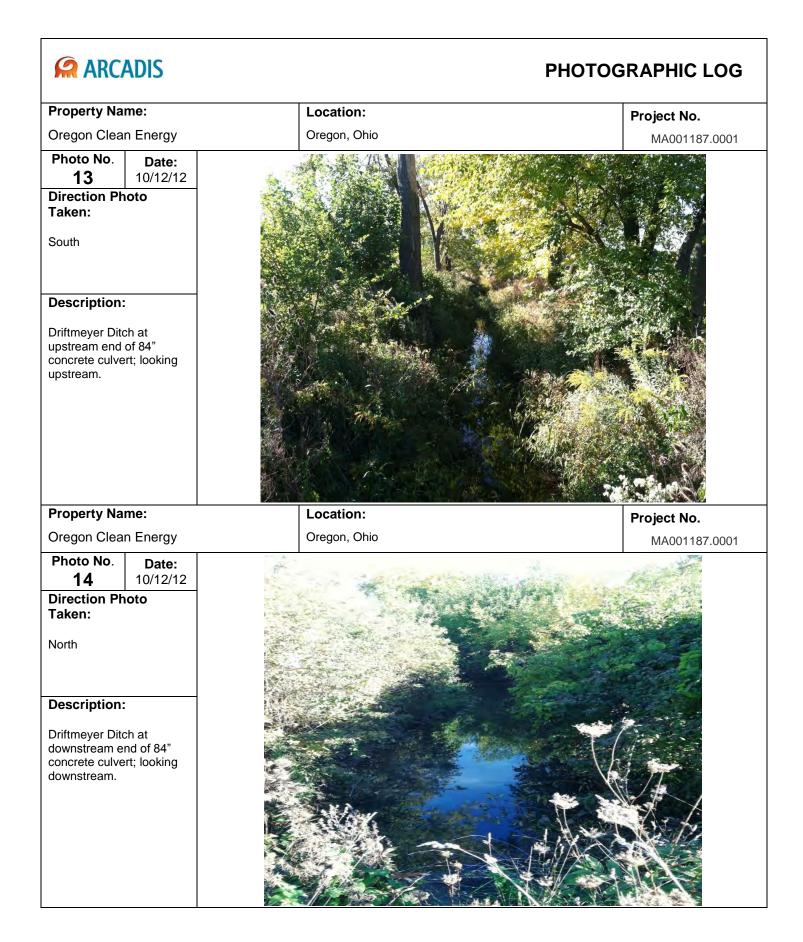


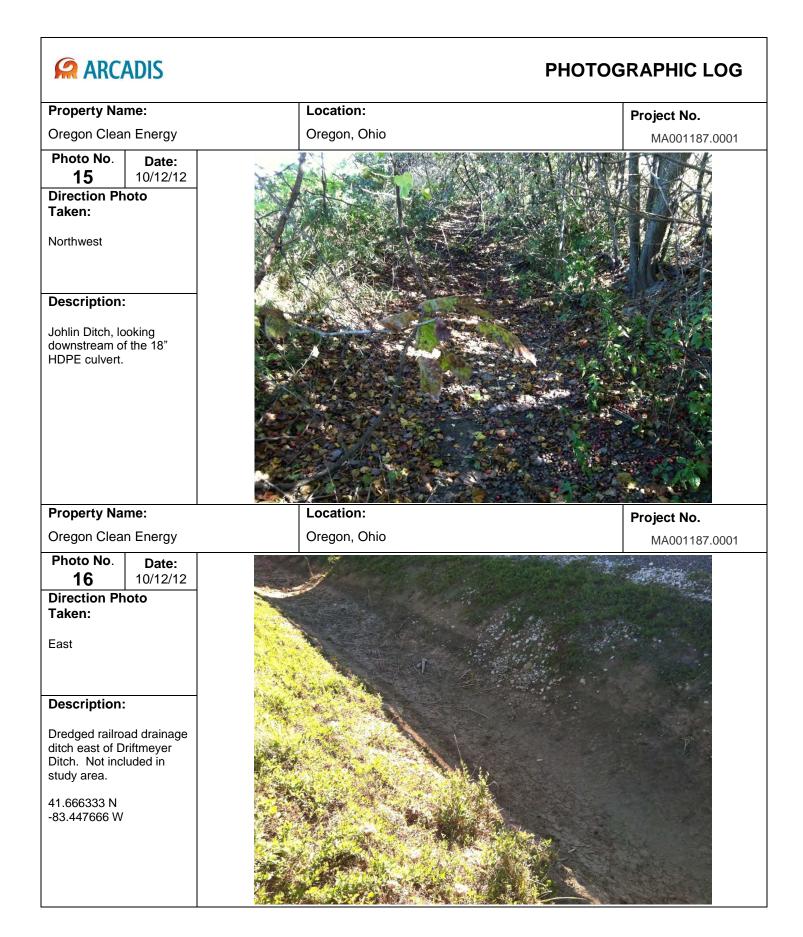


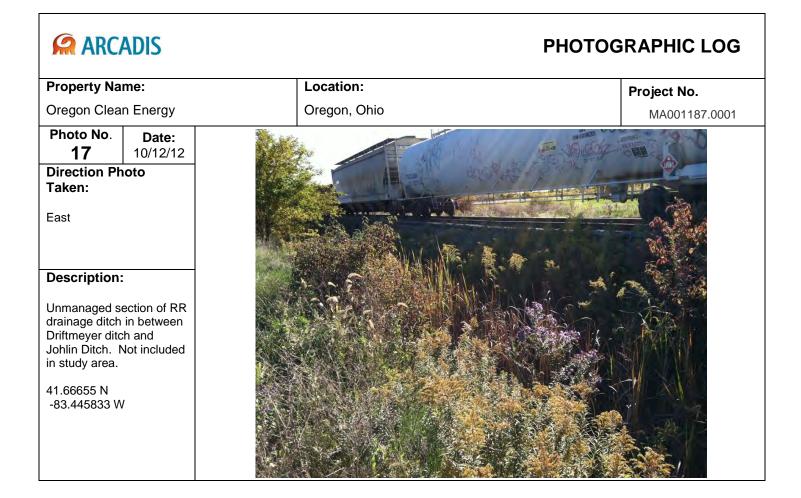














## Appendix C

Wetland Determination Data Forms

Site: 816 N. Lallendorf Road	Cr	ity/County: Oregon, Lu	cas County	Sampling Date: 10/11/2012
Applicant/Owner: Oregon Clean Energy	/ LLC		State:	OH Sampling Point: DP-1
Investigator(s): V. Tremante		Section, Tov	vnship, Range:	
Landform: (hillslope, terrace, etc.): low te	rrace	Local relief (cond	cave, convex, none):	None Slope (%):
Subregion (LLR or MLRA):	L	Lat. 41d 40m 2.	.399s Long	. <u>-83d 26m 54.599s</u> Datum:
Soil Map Unit Name: Fulton silty clay loam				NWI Classification: <u>n/a</u>
Are climatic/hydrologic conditions on the site	stypical for time of year?		Yes X No	0(If no, explain in the Remarks)
Are Vegetation X Sector	oil <u>X</u> or Hydrold	ogy significantly	/ disturbed?	
Are Vegetation Sector S	oil or Hydrold	ogy naturally pr	oblematic?	
Are Normal Circumstances Present?	Yes <u>X</u> No	(If needed,	explain any answers ir	n Remarks)
SUMMARY OF FINDINGS				
Hydrophytic Vegetation P	Present? YesNo	<u> </u>	Is the Sampled Area	within a Wetland?
Hydric Soil P	Present? YesNo	X	Yes No	<u> </u>
Wetland Hydrology P	Present? YesNo	<u> </u>	If yes, optional Weland	d Site ID:
Domorko:	have disturbed the soil and ration and have been in place	<b>u</b>	-	n the site and have likely affected the site hydrology, they uld be normal.
HYDROLOGY				
Wetland Hydrology Indicators:				
Primary Indicator	rs (check all that apply)			Secondary Indicators
Surface Water (A1)	Water Stai	ined Leaves (B9)	Surface Soil C	racks (B6)
High Water Table (A2)	Aquatic Fa	una (B13)	Drainage Patte	ərns (B10)
Saturation (A3)	Marl Depos	sits (B15)	Moss Tim Line	es (B6)
Water Marks (B1)	Hydrogen	Sulfide Odor (C1)	Dry-Season W	/ater Table (C2)
Sediment Deposits (B2)	Ovidized F	histophorop on Living	Crayfish Burro	ws (C8)
Drift Deposits (B3)	Roots (C3)	Rhizospheres on Living )	Saturation Visi	ible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Presence	of Reduced Iron (C4)	Stunted or Stre	essed Plants (D1)
Iron Deposits (B5)		Destruction in Tilled	Geomorphic P	osition (D2)
	Recent Iror Soil (C6)	n Reduction in Tilled	Shallow Aquita	ard (D3)
Inundation Visible on Aerial Imagery (B	37) Thin Muck	Surface (C7)	Microtopograp	hic Relief (D4)
	Other (Exp	plain in Remarks)	FAC-Neutral T	
Sparsely Vegetated Concave Surface	<b>_</b>			
Field Observations:				
Surface Water Present? Yes	No No	X Depth (inches)		
Water Table Present? Yes		X Depth (inches)	Wetland Hydr	rology
Saturation Present? Yes		X Depth (inches)	Present?	Yes No X
		· · · ·		
Describe Recorded Data (stream guage, mo	onitoring well, aerial photos	a. previous inspections), i	f available:	
		· · · · · · · · ·		
Remarks: Normal rainfall for the year and al	hove normal rain fall for the	e previous 3 months acc	ording to WETS.	

	Absolute %	Dominant		Dominance Test Worksheet
Free Stratum Plot size:	Cover	Species	Indicator Status	
1.       2.				Number of dominant species that are OBL, FACW, or FAC:0(A)
3				Total number of dominant species across all strata:1(B)
5 6				Percent of dominant species that are OBL, FACW, or FAC:0% (A/B)
7.				Prevalence Index Worksheet:
		Total Cover		Total % cover of:
Shrub StratumPlot size:		'		OBL species x 0
1.	-			FACW species 0 x 2 0
2.				FAC species 0 x 3 0
3.				FACU species 0 x 4 0
4.				UPL species 100 x 5 500
5.				Column Totals: 100 (A) 500 (B)
6.				Prevalence Index: 5.0 (B/A)
7.				Hydrophytic Vegetation Indicators:
		Total Cover		Rapid Test for Hydrophytic Vegetation
User Obstance		j		
Herb Stratum Plot size: 5' radius				Dominance Test is >50%
Herb Stratum Plot size: <u>5 radius</u> 1. <i>Glycine max</i>	100	Y	UPL	Prevalence Index is $\leq 3.0^*$
1. Glycine max				
1. Glycine max       2.				Prevalence Index is $\leq 3.0^*$
1. Glycine max       2.				Prevalence Index is <u>&lt;</u> 3.0* Morphological Adaptations*
1. Glycine max       2.       3.       4.				Prevalence Index is ≤3.0* Morphological Adaptations* Problematic Hydrophytic Vegetation*
1. Glycine max       2.       3.       4.       5.				Prevalence Index is ≤3.0* Morphological Adaptations* Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present,
1. Glycine max         2.         3.         4.         5.         6.				Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Definitions of Vegetation Strata:
1. Glycine max         2.         3.         4.         5.         6.         7.				Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Definitions of Vegetation Strata:
1. Glycine max         2.         3.         4.         5.         6.         7.         8.				Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Definitions of Vegetation Strata:         Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast heig (DBH), regardless of height
1.       Glycine max         2.				Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Definitions of Vegetation Strata:         Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast heig (DBH), regardless of height
1. Glycine max         2.         3.         4.         5.         6.         7.         8.         9.         10.				Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Definitions of Vegetation Strata:         Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast heig (DBH), regardless of height         Sapling/shrub - Woody plants less than 3 in. DBH and greater than equal to 3.28 ft (1M) tall.
1. Glycine max         2.         3.         4.         5.         6.         7.         8.         9.         10.         11.				Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Definitions of Vegetation Strata:         Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast heig (DBH), regardless of height         Sapling/shrub - Woody plants less than 3 in. DBH and greater than
1.       Glycine max         2.				Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Definitions of Vegetation Strata:         Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast heig (DBH), regardless of height         Sapling/shrub - Woody plants less than 3 in. DBH and greater than equal to 3.28 ft (1M) tall.         Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
1. Glycine max         2.         3.         4.         5.         6.         7.         8.         9.         10.         11.				Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Definitions of Vegetation Strata:         Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast heigi (DBH), regardless of height         Sapling/shrub - Woody plants less than 3 in. DBH and greater than equal to 3.28 ft (1M) tall.         Herb - All herbaceous (non-woody) plants, regardless of size, and
1. Glycine max         2.         3.         4.         5.         6.         7.         8.         9.         10.         11.         12.         Woody Vine Stratum_ Plot size:		Total Cover		Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Definitions of Vegetation Strata:         Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast heigh (DBH), regardless of height         Sapling/shrub - Woody plants less than 3 in. DBH and greater than equal to 3.28 ft (1M) tall.         Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
1. Glycine max         2.         3.         4.         5.         6.         7.         8.         9.         10.         11.         12.         Woody Vine Stratum Plot size:         1.		Total Cover		Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Definitions of Vegetation Strata:         Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast heigi (DBH), regardless of height         Sapling/shrub - Woody plants less than 3 in. DBH and greater than equal to 3.28 ft (1M) tall.         Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
1. Glycine max         2.         3.         4.         5.         6.         7.         8.         9.         10.         11.         12.         Woody Vine Stratum Plot size:         1.         2.		Total Cover		Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Definitions of Vegetation Strata:         Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast heigi (DBH), regardless of height         Sapling/shrub - Woody plants less than 3 in. DBH and greater than equal to 3.28 ft (1M) tall.         Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.         Woody Vines - All woody vines greater than 3.28 ft in height.
1.       Glycine max         2.		Total Cover		Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Definitions of Vegetation Strata:         Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast heig (DBH), regardless of height         Sapling/shrub - Woody plants less than 3 in. DBH and greater than equal to 3.28 ft (1M) tall.         Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
1.       Glycine max         2.		Total Cover		Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Definitions of Vegetation Strata:         Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast heig (DBH), regardless of height         Sapling/shrub - Woody plants less than 3 in. DBH and greater than equal to 3.28 ft (1M) tall.         Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.         Woody Vines - All woody vines greater than 3.28 ft in height.

OIL								Sampling Point:	DP-1
ofile Description	(Describe to d	epth needed	to documen	t the indi	cator or	confirm al	osence of indica	tors.)	-
Depth	Mat	rix	Redox F	eatures		1	, , , , , , , , , , , , , , , , , , ,		
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks	
0-14	10YR 3/3	100	None				clay loam		
									_
Type: C=Concentr	ation, D=Depletio	n, RM=Reduc	ced Matrix, C	S=Coated	Sand gr	ains **Loc	ation: PL=Pore L	ining, M=Matrix	
dric Soil Indicato	ors:			- <b>T</b>				Indicators for Proble	matic Soils
Histosol (A1)				Strippe	d Matrix	(S6)		2 cm Muck (A10) (LRR K, L,	MLRA 149B)
Histic Epipedor	n (A2)			Dark S	urface (S	57)(LRR R,I	MLRA 149B)	Coast Prairie Redox (A16)	
Black Histic (A	3)			Polyv			(S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	K, L, R)
Hydrogen Sulfi	de (A4)				IV	ILRA 149B	)	Dark Surface (S7) (LRR K, L	, M)
Stratified Layer	rs (A5)			Thin Da	ark Surfa	ce (S9)		Polyvalve Below Surface (S8	3) (LRR K, L)
Depleted Below	v Dark Surface (A	A11)		Loamy	Mucky N	lineral (F1)		Thin Dark Surface (S9) (LRR	. K, L)
Thick Dark Sur	face (A12)			Loamy	Gleyed N	Matrix (F2)		Iron-Manganese Masses (F1	2) (LRR K, L, R)
Sandy Mucky M	/lineral (S1)			Deplete	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA 1	144A, 145, 149B)
Sandy Gleyed	Matrix (S4)			Redox	Dark Su	rface (F6)		Red Parent Material (F21)	
Sandy Redox (	S5)			Deplete	ed Dark S	Surface (F7	')	Very Shallow Dark Surface (	TF12)
				Redox	Depress	ions (F8)		Other (Explain in Remarks)	
strictive Layer (i	f observed)								
Type:					_				
Depth (inches):					-	Hydric	Soil Present?	/esNoX	-
marks:					1				

Site: 816 N. Lallendorf Road	Citv/C	ounty: Oregon Lu	ucas County Sampling Date: 10/11/2012
Applicant/Owner: Oregon Clean Energy LLC	0.0.0.		State: OH Sampling Point: DP-2
Investigator(s): V. Tremante			
Landform: (hillslope, terrace, etc.): low terrace			ownship, Range:
Subregion (LLR or MLRA): LLR L		-	
- · · · · · · · · · · · · · · · · · · ·		Lat. 410 4011 3	3.600s Long83d 26m 52.200s Datum:
Soil Map Unit Name: Latty Silty Clay			NWI Classification: N/A
Are climatic/hydrologic conditions on the site typical	-		Yes X No (If no, explain in the Remarks)
Are Vegetation X Soil			
	or Hydrology		
Are Normal Circumstances Present?	Yes <u>X</u> No	(If needed	, explain any answers in Remarks)
SUMMARY OF FINDINGS			
Hydrophytic Vegetation Present?	Yes No	<u>X</u>	Is the Sampled Area within a Wetland?
Hydric Soil Present?	Yes No	X	Yes <u>No X</u>
Wetland Hydrology Present?	Yes X No		If yes, optional Weland Site ID:
	sturbed the soil and you	notation layors. The	ough ditches exist within the site and have likely affected the site hydrology, they
			at current conditions would be normal.
HYDROLOGY			
Wetland Hydrology Indicators:			
Primary Indicators (che	ck all that apply)		Secondary Indicators
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 Tim Lines (B6)
Water Marks (B1)	Hydrogen Sulfi	de Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)		anti-anti-anti-attac	Crayfish Burrows (C8)
X Drift Deposits (B3)	Roots (C3)	spheres on Living	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Presence of Re	educed Iron (C4)	X Stunted or Stressed Plants (D1)
Iron Deposits (B5)			Geomorphic Position (D2)
	Recent Iron Re Soil (C6)	duction in Tilled	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Thin Muck Surf	ace (C7)	Microtopographic Relief (D4)
	Other (Explain	, ,	FAC-Neutral Test (D5)
Sparsely Vegetated Concave Surface (B8)			
	4		
Field Observations:			
Surface Water Present? Yes	No X	Depth (inches)	
Water Table Present? Yes	NoX	• · · · /	Wetland Hydrology
Saturation Present? Yes	No	Depth (inches)	Present? Yes X No
			<u> </u>
Describe Recorded Data (stream guage, monitoring	g well, aerial photos, pre	vious inspections),	if available:
result of a flash flood event a	nd not represent a true	hydrologic indicator	own as there were no coarse bark trees in or around the site. They could be a r. Additionally, in perimeter areas around the field stunted soybeans would occur or shade or water competition or both. Stunted vegetation therefore may not be

1.       Ailanthus altissima       0.1         2.	Total Cover          Y         Y         Total Cover         Y         Total Cover         Y         N         N	UPL FACU UPL FACU	Dominance Test Worksheet         Number of dominant species that are OBL,         FACW, or FAC:       0         Total number of dominant species across all strata:       3         Strata:       3         Percent of dominant species that are OBL,       0%         FACW, or FAC:       0%         Prevalence Index Worksheet:       0%         Total % cover of:       0         OBL species       0       x       1         OBL species       0       x       2       0         FAC species       0       x       3       0         FAC species       0       x       3       0         FACU species       30.1       x       5       150.5         Column Totals:       50.1       (A)       230.5 (B)         Prevalence Index:       4.6 (B/A)       4.6 (B/A)         Hydrophytic Vegetation Indicators:       Rapid Test for Hydrophytic Vegetation       Dominance Test is >50%         Prevalence Index is ≤3.0*       Morphological Adaptations*       Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic       adaptations
2.	Total Cover          Y         Y         Total Cover         Y         Total Cover         Y         N         N	UPL FACU UPL FACU	FACW, or FAC:0(A)Total number of dominant species across all strata:3(B)Percent of dominant species that are OBL, FACW, or FAC:0%(A/B)Prevalence Index Worksheet:0%(A/B)Total % cover of:0x10OBL species0x10FACW species0x20FAC species0x30FACU species20x480UPL species30.1x5150.5Column Totals:50.1(A)230.5(B)Prevalence Index:4.6(B/A)Hydrophytic Vegetation Indicators:Rapid Test for Hydrophytic VegetationDominance Test is >50%Prevalence Index is $\leq 3.0^*$ Morphological Adaptations*Problematic Hydrophytic Vegetation** Indicators of hydric soil and wetland hydrology must be present, unles disturbed or problematic
4.	Total Cover Y Total Cover Y Total Cover Y N N	UPL FACU UPL FACU	strata:       3       (B)         Percent of dominant species that are OBL, FACW, or FAC:       0%       (A/B)         Prevalence Index Worksheet:       0%       (A/B)         Total % cover of:       0       X       1       0         OBL species       0       X       1       0         FACW species       0       X       2       0         FAC species       0       X       3       0         FAC species       20       X       4       80         UPL species       30.1       x       5       150.5         Column Totals:       50.1       (A)       230.5       (B)         Prevalence Index:       4.6       (B/A)         Hydrophytic Vegetation Indicators:
6.	Total Cover          Y         Y         Total Cover         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         Y         N         Image: State	UPL FACU UPL FACU	FACW, or FAC: $0\%$ (A/B)         Prevalence Index Worksheet:       Total % cover of:         OBL species       0       x       1       0         FACW species       0       x       2       0         FAC species       0       x       3       0         FAC species       20       x       4       80         UPL species       20       x       4       80         UPL species       30.1       x       5       150.5         Column Totals:       50.1       (A)       230.5       (B)         Prevalence Index:       4.6       (B/A)         Hydrophytic Vegetation Indicators:       Rapid Test for Hydrophytic Vegetation         Dominance Test is >50%       Prevalence Index is $\leq 3.0^*$ Morphological Adaptations*         Problematic Hydrophytic Vegetation*       * Indicators of hydric soil and wetland hydrology must be present, unles disturbed or problematic
0           Shrub Stratum         Plot size:         15-ft radius           1.         Ailanthus altissima         0.1           2.	Total Cover          Y         Y         Total Cover         Y         Y         Y         Y         Y         Y         N	UPL FACU UPL FACU	Total % cover of:         OBL species       0       x       1       0         FACW species       0       x       2       0         FAC species       0       x       3       0         FACU species       20       x       4       80         UPL species       30.1       x       5       150.5         Column Totals:       50.1       (A)       230.5 (B)         Prevalence Index:       4.6 (B/A)         Hydrophytic Vegetation Indicators:
Shrub Stratum         Plot size:         15-ft radius           1.         Ailanthus altissima         0.1           2.	Y Total Cover Y Y N	FACU UPL FACU	OBL species       0       x       1       0         FACW species       0       x       2       0         FAC species       0       x       3       0         FACU species       20       x       4       80         UPL species       30.1       x       5       150.5         Column Totals:       50.1       (A)       230.5       (B)         Prevalence Index:       4.6       (B/A)         Hydrophytic Vegetation Indicators:
1.       Ailanthus altissima       0.1         2.	Total Cover Y Y N	FACU UPL FACU	FACW species       0       x       2       0         FAC species       0       x       3       0         FAC species       20       x       4       80         UPL species       30.1       x       5       150.5         Column Totals:       50.1       (A)       230.5       (B)         Prevalence Index:       4.6       (B/A)         Hydrophytic Vegetation Indicators:
2.	Total Cover Y Y N	FACU UPL FACU	FAC species       0       x       3       0         FACU species       20       x       4       80         UPL species       30.1       x       5       150.5         Column Totals:       50.1       (A)       230.5 (B)         Prevalence Index:       4.6 (B/A)         Hydrophytic Vegetation Indicators:       Rapid Test for Hydrophytic Vegetation         Dominance Test is >50%       Prevalence Index is <3.0*
2.	Total Cover Y Y N	FACU UPL FACU	FAC species       0       x       3       0         FACU species       20       x       4       80         UPL species       30.1       x       5       150.5         Column Totals:       50.1       (A)       230.5 (B)         Prevalence Index:       4.6 (B/A)         Hydrophytic Vegetation Indicators:       Rapid Test for Hydrophytic Vegetation         Dominance Test is >50%       Prevalence Index is <3.0*
3.	Total Cover Y Y N	FACU UPL FACU	FACU species       20       x       4       80         UPL species       30.1       x       5       150.5         Column Totals:       50.1       (A)       230.5       (B)         Prevalence Index:       4.6       (B/A)         Hydrophytic Vegetation Indicators:       Rapid Test for Hydrophytic Vegetation       0         Dominance Test is >50%       Prevalence Index is ≤3.0*       Morphological Adaptations*         Problematic Hydrophytic Vegetation*       * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
4.	Total Cover Y Y N	FACU UPL FACU	UPL species       30.1       x       5       150.5         Column Totals:       50.1       (A)       230.5       (B)         Prevalence Index:       4.6       (B/A)         Hydrophytic Vegetation Indicators:
5.	Total Cover Y Y N	FACU UPL FACU	Column Totals:       50.1       (A)       230.5 (B)         Prevalence Index:       4.6 (B/A)         Hydrophytic Vegetation Indicators:         Rapid Test for Hydrophytic Vegetation         Dominance Test is >50%         Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
6.	Total Cover Y Y N	FACU UPL FACU	Prevalence Index:       4.6 (B/A)         Hydrophytic Vegetation Indicators:         Rapid Test for Hydrophytic Vegetation         Dominance Test is >50%         Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
7.       0.1         Herb Stratum       Plot size:       5-ft radius         1.       Chamaesyce maculata       15         2.       Lepidium campestre       30         3.       Oxalis corniculata       5         4.	Total Cover Y Y N	FACU UPL FACU	Hydrophytic Vegetation Indicators:         Rapid Test for Hydrophytic Vegetation         Dominance Test is >50%         Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
O.1           Herb Stratum         Plot size:         5-ft radius           1.         Chamaesyce maculata         15           2.         Lepidium campestre         30           3.         Oxalis corniculata         5           4.	Total Cover Y Y N	FACU UPL FACU	Rapid Test for Hydrophytic Vegetation         Dominance Test is >50%         Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Herb Stratum         Plot size:         5-ft radius           1.         Chamaesyce maculata         15           2.         Lepidium campestre         30           3.         Oxalis corniculata         5           4.	Y Y N	UPL FACU	Dominance Test is >50%         Prevalence Index is ≤3.0*         Morphological Adaptations*         Problematic Hydrophytic Vegetation*         * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.       Chamaesyce maculata       15         2.       Lepidium campestre       30         3.       Oxalis corniculata       5         4.	Y N	UPL FACU	Prevalence Index is ≤3.0* Morphological Adaptations* Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2.       Lepidium campestre       30         3.       Oxalis corniculata       5         4.	Y N	UPL FACU	Morphological Adaptations* Problematic Hydrophytic Vegetation* * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
3.       Oxalis corniculata       5         4.	N	FACU	Problematic Hydrophytic Vegetation*  * Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
3. Oxalis corniculata       5         4.			* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
5.			disturbed or problematic
6.			
7.			Definitions of Vegetation Strata:
8.			Tree Weady plants 2 in (7 fam) or more in diameter at breast height
10			<b>Tree</b> - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height
11			<b>Sapling/shrub -</b> Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.
			Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12			-
50 Woody Vine Stratum_ Plot size:	Total Cover		Woody Vines - All woody vines greater than 3.28 ft in height.
1			
			1
			Hydrophytic Vogotaion Procent?
3			Hydrophytic Vegetaion Present?
4			4
0	Total Cover		Yes <u>No X</u>
Remarks: Photo 2. Agriculture row crops have distur	ed the veretation	n Undiaturhad raf	erence areas greater than 1 year old with similar hydrology and adjacent

Depth	Mat	rix	Redox Fe	eatures							
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks			
0-14	10YR5/2	100	None								
e: C=Concentra	ation, D=Depletio	n, RM=Reduc	ced Matrix, CS	S=Coated	Sand gra	ains **Loca	ation: PL=Pore Lini	ng, M=Matrix			
c Soil Indicato	rs:							Indicators for Problematic	Soils		
Histosol (A1)				Strippe	d Matrix (	(S6)		2 cm Muck (A10) (LRR K, L, MLRA	4 149B)		
Histic Epipedor	n (A2)			Dark Su	urface (S	7)(LRR R,N	/LRA 149B)	Coast Prairie Redox (A16)			
Black Histic (A3	3)			Polyv	valve Bel	ow Surface	(S8) (LRR R,	5 cm Mucky Peat (S3) (LRR K, L, I	R)		
Hydrogen Sulfie	de (A4)				Ν	/LRA 149B	5)	Dark Surface (S7) (LRR K, L, M)			
Stratified Layer	s (A5)			Thin Da	ark Surfac	ce (S9)		Polyvalve Below Surface (S8) (LR	R K, L)		
Depleted Belov	v Dark Surface (A	(11)		Loamy	Mucky M	ineral (F1)		Thin Dark Surface (S9) (LRR K, L)			
Thick Dark Surl	ace (A12)			Loamy	Gleyed N	/latrix (F2)		Iron-Manganese Masses (F12) (LF	₹R K, L, R)		
Sandy Mucky N	lineral (S1)			Deplete	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA 144A,	145, 149B)		
Sandy Gleyed I						face (F6)		Red Parent Material (F21)			
Sandy Redox (				Deplete	ed Dark S	Surface (F7)	)	Very Shallow Dark Surface (TF12)			
· · ·					Depressi			Other (Explain in Remarks)			
			•								
ictive Layer (if	observed)										
Type:											
pth (inches):						Hydrid	c Soil Present? Ye	es No X			
					-						

Site: 816 N. Lallend	orf Road			City/C	ounty:	Oregon, Lu	cas Co	ounty				Sampli	ing D	ate:	10/11	1/2012		
Applicant/Owner:	Oregon Clean	Energy LLC	)						State:	OF	4	Sampli	ing P	oint:	DP-3			
Investigator(s):	V. Tremante					Section, Tow	nship,	Range:										
Landform: (hillslope,	terrace, etc.):	low terrace	9		Loca	al relief (conc	ave, c	convex, n	one):	Non	ne				Slope	e (%):		
Subregion (LLR or N	/ILRA):	LLR L			Lat.	41d 40m 2.	399s		Long	. <u>-83</u> 0	d 26m 4	49.799s	Da	atum:				
Soil Map Unit Name	: Latty silty clay									NW	l Class	ification:	No	one				
Are climatic/hydrolog	gic conditions on	the site typi	ical for tim	e of year?			Yes	Х	Nc	)	(lf n	o, explai	n in t	he Re	emark	s)		
Are Vegetation	Х	Soil	Х	or Hydrology		significantly	distur	rbed?										
Are Vegetation				or Hydrology														
Are Normal Circums	stances Present?			X No		(If needed,			swers i	n Rer	narks)							
SUMMARY OF	FINDINGS																	
Ну	drophytic Veget	ation Preser	nt? Yes	No	Х		ls the	Sample	d Area	with	in a We	etland?						
	Hydric	c Soil Preser	nt? Yes	No			Yes		No	Х								
	Wetland Hydro	ology Preser	nt? Yes	No	X		lf yes,	, optional	Welan	d Site	e ID:							
Remarks:	-			d the soil and ve have been in p	-		-						-	' affec	cted th	ne site h	nydrolog	ју,
HYDROLOGY																		
Wetland Hydrology	/Indicators:																	
		dicators (cl	neck all th	nat apply)					ç	Seco	ndary I	ndicato	rs					
Surface Water				Water Stained	Leaves	(B9)		Surface										
High Water Ta				Aquatic Fauna				Drainag			<u> </u>							
Saturation (A3				Marl Deposits				Moss T										
Water Marks (I	,			Hydrogen Sulfi	. ,	r (C1)		Dry-Sea				C2)						
Sediment Dep	osits (B2)							Crayfisł				,						
Drift Deposits (				Oxidized Rhizo Roots (C3)	spheres	s on Living						I Imagery	y (C9	))				
Algal Mat or C	rust (B4)			Presence of R	educed	Iron (C4)		Stunted	l or Stre	essed	l Plants	; (D1)		,				
Iron Deposits (								Geomo	rphic P	ositio	n (D2)	. ,						
				Recent Iron Re Soil (C6)	duction	in Tilled		Shallow										
Inundation Visi	ible on Aerial Ima	agery (B7)		Thin Muck Sur	face (C7	7)		Microto		,		4)						
				Other (Explain	in Rema	arks)		FAC-Ne	eutral T	est (D	) )	,						
Sparsely Vege	tated Concave S	Surface (B8)				/					- /							
Field Observations	:																	
Surface Water Pres	ent?	Yes		No X	Dept	h (inches)		_										
Water Table Presen		Yes		No X	-	h (inches)		– Wetlan	d Hydr	ology	y							
Saturation Present?		Yes		No X	-	h (inches)		Presen	-	0.	Yes		No	D		х		
Describe Recorded	Data (stream gu	age, monito	ring well, a	aerial photos, pr	evious i	inspections),	if ava	ilable:										
Remarks: Normal ra	ainfall for the yea	ar and above	e normal r	ain fall for the pr	evious (	3 months acc	cordin	g to WET	īS.									

VEGETATION				Sampling Point: DP-3
Tree Stratum Plot size:	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1.       2.				Number of dominant species that are OBL, FACW, or FAC:0_(A)
3 4				Total number of dominant species across all strata:1(B)
5 6				Percent of dominant species that are OBL, FACW, or FAC: 0% (A/B)
7				Prevalence Index Worksheet:
		Total Cover		Total % cover of:
Shrub Stratum Plot size:				OBL species x _10
1				FACW species x0_
2				FAC species 0 x 3 0
3				FACU species 0 x 4 0
4				UPL species X 500
5				Column Totals: 100 (A) 500 (B)
6.				Prevalence Index: 5.0 (B/A)
7.				Hydrophytic Vegetation Indicators:
		Total Cover		Rapid Test for Hydrophytic Vegetation
Herb Stratum Plot size: 5' radius		•		Dominance Test is >50%
1. Glycine max	100	Y	UPL	Prevalence Index is ≤3.0*
2.				Morphological Adaptations*
3.				Problematic Hydrophytic Vegetation*
4				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
				Definitions of Vegetation Strata:
6 7				<b>Tree</b> - Woody plants 3 in. (7.6cm) or more in diameter at breast height
8				(DBH), regardless of height
9 10				<b>Sapling/shrub -</b> Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.
11	<u></u>			<b>Herb -</b> All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
		Total Cover		Woody Vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum Plot size:				
1				4
2				4
3	·			Hydrophytic Vegetaion Present?
4	·			-
	0	Total Cover		YesNoX
Remarks: Photo 3. Agriculture row cr adjacent to the ditches sho		-		ference areas greater than 1 year old with similar hydrology and

								<b></b>
L							Sampling Point	: DP-3
ile Description:	(Describe to d	lepth needed	to document the	indicator o	r confirm a	bsence of indica	itors.)	-
Depth	Ma	trix	Redox Feature	s	T			_
(inches)	Color	%	Color	% Type*	Loc**	Texture	Remarks	
None								
ype: C=Concentra	ation, D=Depleti	on, RM=Redu	uced Matrix, CS=Co	ated Sand g	grains **Lo	cation: PL=Pore I	_ining, M=Matrix	
Iric Soil Indicato	rs:						Indicators for Proble	ematic Soils
Histosol (A1)			Stri	pped Matrix	(S6)		2 cm Muck (A10) (LRR K, L	, MLRA 149B)
Histic Epipedon	(A2)		Dai	k Surface (S	67)(LRR R,I	VLRA 149B)	Coast Prairie Redox (A16)	
Black Histic (A3	)		P			(S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	R K, L, R)
Hydrogen Sulfid	le (A4)			N	/LRA 1498	)	Dark Surface (S7) (LRR K,	L, M)
Stratified Layers	s (A5)		Thi	n Dark Surfa	ace (S9)		Polyvalve Below Surface (S	8) (LRR K, L)
Depleted Below	Dark Surface (	A11)	Loa	my Mucky N	Mineral (F1)		Thin Dark Surface (S9) (LR	R K, L)
Thick Dark Surf	ace (A12)		Loa	my Gleyed	Matrix (F2)		Iron-Manganese Masses (F	12) (LRR K, L, R)
Sandy Mucky M	lineral (S1)		De	leted Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)
Sandy Gleyed N	/latrix (S4)		Re	lox Dark Su	rface (F6)		Red Parent Material (F21)	
Sandy Redox (S	S5)		De	leted Dark	Surface (F7	)	Very Shallow Dark Surface	(TF12)
			Ree	lox Depress	ions (F8)		Other (Explain in Remarks)	
strictive Layer (if	observed)							
Туре:								
Depth (inches):					Hydric	Soil Present? Y	es <u>No</u>	_
narks:	No soil pit exca	avated.						
	-							

Site: 816 N. Lallendorf Road		City/Co	ounty: O	) regon, Lucas (	County	Samplir	ng Date: 10/11/2012
Applicant/Owner: Oregon Clean Er	nergy LLC					OH Samplin	
Investigator(s): V. Tremante						·	
Landform: (hillslope, terrace, etc.):	ow terrace				convex, none):		Slope (%):
Subregion (LLR or MLRA):	LR L		Lat.	41d 40m 0	.00s Long.	-83d 26m 46.799s	Datum:
Soil Map Unit Name: Fulton silty clay k						NWI Classification:	
Are climatic/hydrologic conditions on th	e site typical for time	e of year?		Yes	X No	- (If no, explain	n in the Remarks)
Are Vegetation X	Soil X	or Hydrology	si				
Are Vegetation	Soil						
Are Normal Circumstances Present?		X No			ain any answers ir	n Remarks)	
					-		
SUMMARY OF FINDINGS							
Hydrophytic Vegetati	on Present? Yes	No	Х	ls th	e Sampled Area	within a Wetland?	
Hydric S	oil Present? Yes	No	X	Yes	No	X	
	gy Present? Yes		Х	If yes	s, optional Weland	d Site ID:	
-			-			in the site and have li ns would be normal.	ikely affected the site hydrology,
HYDROLOGY							
Wetland Hydrology Indicators:							
Primary India	cators (check all th	at apply)			S	econdary Indicator	S
Surface Water (A1)		Water Stained	Leaves (B	39)	Surface Soil Cr	acks (B6)	
High Water Table (A2)		Aquatic Fauna	(B13)		Drainage Patte	rns (B10)	
Saturation (A3)		Marl Deposits (	(B15)		Moss Tim Lines	s (B6)	
Water Marks (B1)		Hydrogen Sulfi	ide Odor (0	C1)	Dry-Season Wa	ater Table (C2)	
Sediment Deposits (B2)		Ovidine d Dhine		n Lining	Crayfish Burrow	ws (C8)	
Drift Deposits (B3)		Oxidized Rhizo Roots (C3)	spheres o		Saturation Visit	ole on Aerial Imagery	r (C9)
Algal Mat or Crust (B4)		Presence of Re	educed Iro	on (C4)	Stunted or Stre	ssed Plants (D1)	
Iron Deposits (B5)		Descetives De		Tille el	Geomorphic Po	osition (D2)	
		Recent Iron Re Soil (C6)	eduction in	Tilled	Shallow Aquita	rd (D3)	
Inundation Visible on Aerial Imag	ery (B7)	Thin Muck Surf	face (C7)		Microtopograph	nic Relief (D4)	
		Other (Explain	in Remark	(S)	FAC-Neutral Te	est (D5)	
Sparsely Vegetated Concave Su	rface (B8)						
Field Observations:							
Surface Water Present? Y	/es	No X	Depth (	(inches)			
Water Table Present? Y	/es	No X	Depth (	(inches)	Wetland Hydro	ology	
Saturation Present? Y	/es	No X	Depth (	(inches)	Present?	Yes	No X
Describe Recorded Data (stream guag	je, monitoring well, a	aerial photos, pr	revious ins	pections), if av	ailable:		
Remarks: Normal rainfall for the year a	and above normal ra	ain fall for the pr	revious 3 n	nonths accordi	ng to WETS.		

VEGETATION				Sampling Point: DP-4
Tree Stratum Plot size:	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1.       2.				Number of dominant species that are OBL, FACW, or FAC: 0 (A)
3 4				Total number of dominant species across all strata:1(B)
5 6	·			Percent of dominant species that are OBL, FACW, or FAC: 0% (A/B)
7.				Prevalence Index Worksheet:
	0	Total Cover		Total % cover of:
Shrub Stratum Plot size:				OBL species 0 x 1 0
1				FACW species 0 x 2 0
2.				FAC species 0 x 3 0
3.				FACU species 0 x 4 0
4				UPL species 100 x 5 500
5.				Column Totals: 100 (A) 500 (B)
6.				Prevalence Index: 5.0 (B/A)
7.				Hydrophytic Vegetation Indicators:
	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb Stratum Plot size: 5' radius				Dominance Test is >50%
1. Glycine max	100	Y	UPL	Prevalence Index is ≤3.0*
2.				Morphological Adaptations*
3.				Problematic Hydrophytic Vegetation*
4				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	·			Definitions of Vegetation Strata:
7.				<b>Tree</b> - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height
8 9				<b>Sapling/shrub -</b> Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.
10 11				<b>Herb -</b> All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12		Total Cover		<b>Woody Vines -</b> All woody vines greater than 3.28 ft in height.
Woody Vine Stratum_ Plot size:				
1				•
2				•
3				Hydrophytic Vegetaion Present?
4				4
	0	Total Cover		YesNoX
Remarks: Photo 4. Agriculture row creating adjacent to the ditches show		-		ference areas greater than 1 year old with similar hydrology and

DIL									
file Description:	(Deceribe to de	nth noodod	to document	the indi	ontor or	oonfirm	heapon of india	Sampling Point:	DP-4
	Matr		Redox Fe			contirm a	ibsence of indic	ators.)	ו
(inches)	Color	<u>الا</u> %	Color	%	Tupo*	Loc**	Texture	Remarks	
(inches)				70	Type*	LUC		Remarks	1
0-11	10YR4/1	100	None	05	0		clay loam		1
11-14	10YR4/2	75	10YR4/6	25	С	Μ	clay loam		1
									]
ype: C=Concentra	ation, D=Depletio	n. RM=Reduc	ced Matrix. CS	S=Coated	l Sand d	rains **Lo	ocation: PI =Pore	Lining M=Matrix	
Iric Soil Indicato		.,						Indicators for Proble	matic Soils
Histosol (A1)				Stripped	d Matrix (	(S6)		2 cm Muck (A10) (LRR K, L,	MLRA 149B)
Histic Epipedon	(A2)						MLRA 149B)	Coast Prairie Redox (A16)	
Black Histic (A3	3)			Polyva	alve Belo	w Surface	e (S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	K, L, R)
Hydrogen Sulfic	de (A4)			-	Μ	LRA 149E	3)	Dark Surface (S7) (LRR K, L	
Stratified Layers				Thin Da	irk Surfa	ce (S9)		Polyvalve Below Surface (S8	
Depleted Below	/ Dark Surface (A	.11)		Loamy	Mucky N	Thin Dark Surface (S9) (LRR	: K, L)		
Thick Dark Surf	ace (A12)			Loamy	Gleyed N	/latrix (F2)		Iron-Manganese Masses (F1	2) (LRR K, L, R)
Sandy Mucky M	1ineral (S1)			Deplete	d Matrix	(F3)		Mesic Spodic (TA6) (MLRA 1	44A, 145, 149B)
Sandy Gleyed N	Matrix (S4)			Redox I	Dark Sur	face (F6)		Red Parent Material (F21)	
Sandy Redox (S	S5)			Deplete	d Dark S	Surface (F7	7)	Very Shallow Dark Surface (	TF12)
				Redox I	Depressi	ons (F8)		Other (Explain in Remarks)	
trictive Layer (if	observed)								
Type:					_				
Depth (inches):					_	Hydric	Soil Present?	/es <u>No X</u>	_
narks:	No redox conce	ntrations in to	op 10 inches.						

Site: 816 N. Lallendorf Road		Citv/Co	ountv: C	Dregon, Lucas C	County	Samplir	ng Date: 10/11/2012
Applicant/Owner: Oregon Clean	Eneray LLC					OH Samplin	
Investigator(s): V. Tremante							
Landform: (hillslope, terrace, etc.):	low terrace		_		convex, none):		Slope (%):
	LLR L		-				Datum:
Soil Map Unit Name: Latty silty clay						NWI Classification:	
Are climatic/hydrologic conditions on	the site typical for tim	e of vear?		Yes	X No	) (If no, explain	
	Soil X	-	s			(,p	
Are Vegetation	Soil						
Are Normal Circumstances Present?		X No			in any answers i	n Remarks)	
			(				
SUMMARY OF FINDINGS							
Hydrophytic Vegeta	ation Present? Yes	No	Х	Is the	e Sampled Area	within a Wetland?	
	Soil Present? Yes				No		
	logy Present? Yes				, optional Welan		
	5,						
-			-				ikely affected the site hydrology,
tney are a perr	nanent alteration and	i nave been in pi	lace for su	ufficient time tha	t current conditio	ons would be normal.	
HYDROLOGY							
Wetland Hydrology Indicators:							
	dicators (check all t	hat apply)				Secondary Indicators	S
Surface Water (A1)		Water Stained	Leaves (E	39)	Surface Soil C	ľ	-
High Water Table (A2)		Aquatic Fauna		,	Drainage Patte		
Saturation (A3)		Marl Deposits (			Moss Tim Line		
Water Marks (B1)		Hydrogen Sulfi		C1)		ater Table (C2)	
Sediment Deposits (B2)			, v	,	Crayfish Burro	· · ·	
Drift Deposits (B3)		Oxidized Rhizo Roots (C3)	ospheres c	on Living		ble on Aerial Imagery	(C9)
Algal Mat or Crust (B4)		Presence of Re	educed Irc	on (C4)	Stunted or Stre	essed Plants (D1)	
Iron Deposits (B5)					Geomorphic P		
		Recent Iron Re Soil (C6)	eduction in	n Tilled	Shallow Aquita	· · ·	
Inundation Visible on Aerial Ima	agery (B7)	Thin Muck Surf	face (C7)		Microtopograp	hic Relief (D4)	
		Other (Explain		ks)	FAC-Neutral T	est (D5)	
Sparsely Vegetated Concave S	Surface (B8)			,			
Field Observations:							
Surface Water Present?	Yes	No X	Depth	(inches)			
Water Table Present?	Yes X		-	(inches)	— Wetland Hydr	ology	
Saturation Present?	Yes	No X	-	(inches)	Present?	Yes	No X
			_ '	· · · _	_		
Describe Recorded Data (stream gua	age, monitoring well	aerial photos. pr	revious ins	spections). if ava	ailable:		
	<u> </u>	,, <b>b</b> .		, ,			
Remarks: Normal rainfall for the yea	r and above normal r	ain fall for the pr	revious 3 r	months accordir	ng to WETS.		
		· - F.					

VEGETATION				Sampling Point: DP-5
Tree Stratum Plot size:	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1.       2.				Number of dominant species that are OBL, FACW, or FAC:0_(A)
3 4				Total number of dominant species across all strata:1(B)
5 6				Percent of dominant species that are OBL, FACW, or FAC:0%(A/B)
7				Prevalence Index Worksheet:
		Total Cover		Total % cover of:
Shrub Stratum Plot size:				OBL species x _1
1				FACW species x0
2				FAC species <u>0</u> x 3 <u>0</u>
3				FACU species <u>0</u> x 4 <u>0</u>
4				UPL species X 5 500
5				Column Totals: 100 (A) 500 (B)
6.				Prevalence Index: 5.0 (B/A)
7.				Hydrophytic Vegetation Indicators:
		Total Cover		Rapid Test for Hydrophytic Vegetation
Herb Stratum Plot size: 5' radius				Dominance Test is >50%
1. Glycine max	100	Y	UPL	Prevalence Index is ≤3.0*
2.				Morphological Adaptations*
3.				Problematic Hydrophytic Vegetation*
4				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
				Definitions of Vegetation Strata:
6 7				<b>Tree</b> - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height
8	·			
9 10				<b>Sapling/shrub -</b> Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.
11	<u></u>			<b>Herb -</b> All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
		Total Cover		Woody Vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum Plot size:				
1	·			4
2	·			1
3				Hydrophytic Vegetaion Present?
4				4
	0	Total Cover		YesNoX
Remarks: Photo 5. Agriculture row creation adjacent to the ditches show		-		ference areas greater than 1 year old with similar hydrology and

IL									Sampling Point:	DP-5
file Description:	(Describe to de	pth needed	to docu	ment	the indic	cator or	confirm a	bsence of indica	ators.)	-
Depth	Matr	ix	Redo	ox Fea	atures					4
(inches)	Color	%	Colo	or	%	Type*	Loc**	Texture	Remarks	
0-14	10YR3/2	100	Non	ne				Silty clay		4
										_
vpe: C=Concentra	ation, D=Depletio	n, RM=Redu	ced Matri	ix, CS	S=Coated	Sand g	rains **Lo	cation: PL=Pore	Lining, M=Matrix	
ric Soil Indicato	rs:		<u> </u>		1				Indicators for Proble	matic Soils
Histosol (A1)					Stripped	Matrix (	(S6)		2 cm Muck (A10) (LRR K, L,	MLRA 149B)
Histic Epipedon	n (A2)				Dark Su	rface (S	7)(LRR R,I	MLRA 149B)	Coast Prairie Redox (A16)	
Black Histic (A3	3)				Polyva			(S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	K, L, R)
Hydrogen Sulfic	de (A4)				MLRA 149B)				Dark Surface (S7) (LRR K, L	., M)
Stratified Layers	s (A5)				Thin Da	rk Surfa	ce (S9)		Polyvalve Below Surface (Sa	8) (LRR K, L)
Depleted Below	/ Dark Surface (A	.11)			Loamy Mucky Mineral (F1)				Thin Dark Surface (S9) (LRF	R K, L)
Thick Dark Surf	ace (A12)				Loamy (	Gleyed N	Aatrix (F2)		Iron-Manganese Masses (F	12) (LRR K, L, R)
Sandy Mucky M	lineral (S1)			Х	Deplete	d Matrix	(F3)		Mesic Spodic (TA6) (MLRA	144A, 145, 149B)
Sandy Gleyed	Matrix (S4)				Redox D	Dark Sur	face (F6)		Red Parent Material (F21)	
Sandy Redox (	S5)				Deplete	d Dark S	Surface (F7	)	Very Shallow Dark Surface (	TF12)
					Redox D	Depressi	ons (F8)		Other (Explain in Remarks)	
trictive Layer (if	observed)									
Type:										
epth (inches):							Hydric	Soil Present? Y	es <u>X</u> No	_
narks:										

Site: 816 N. Lallendorf Road		Citv/C	ounty: Oregon.	_ucas Countv	Sampling Date: 10/11/2	2012
	in Energy LLC				e: OH Sampling Point: DP-6	
Investigator(s): V. Tremante					c	
Landform: (hillslope, terrace, etc.):				ncave, convex, none		%):
Subregion (LLR or MLRA):			-		ng. 83d 26m 36.000s Datum:	
Soil Map Unit Name: Latty silty cla					NWI Classification: None	
Are climatic/hydrologic conditions of		or time of year?		Yes X	No (If no, explain in the Remarks)	
		X or Hydrology	significan		···· (······ , ·· , ·· ,	
Are Vegetation		or Hydrology				
Are Normal Circumstances Presen		es X No		d, explain any answei	s in Remarks)	
		<u> </u>	(			
SUMMARY OF FINDINGS						
	etation Present?	/es No	Х	Is the Sampled Ar	ea within a Wetland?	
	ric Soil Present?			Yes No		
	Irology Present?		x	If yes, optional We		
-				-	vithin the site and have likely affected the	site hydrology,
they are a pe	ermanent alteratio	n and have been in p	lace for sufficient	ime that current cond	itions would be normal.	
HYDROLOGY						
Wetland Hydrology Indicators:						
	ndicators (check	all that apply)			Secondary Indicators	
Surface Water (A1)		Water Stained	Leaves (B9)	Surface Soi	Cracks (B6)	
High Water Table (A2)		Aquatic Fauna			atterns (B10)	
Saturation (A3)		Marl Deposits (		Moss Tim L		
Water Marks (B1)		Hydrogen Sulfi			Water Table (C2)	
Sediment Deposits (B2)		i iyarogori odin		Crayfish Bu		
Drift Deposits (B3)		Oxidized Rhizo Roots (C3)	ospheres on Living		/isible on Aerial Imagery (C9)	
Algal Mat or Crust (B4)		. ,	educed Iron (C4)		Stressed Plants (D1)	
Iron Deposits (B5)		Tresence of Re			Position (D2)	
		Recent Iron Re Soil (C6)	eduction in Tilled	Shallow Aqu		
Inundation Visible on Aerial Ir	mageny (B7)	Thin Muck Sur	face (C7)		aphic Relief (D4)	
		Other (Explain	· ·	FAC-Neutra		
Sparsely Vegetated Concave	Surface (B8)		in Remarks)	r AC-Neulla		
Sparsely vegetated Concave						
Field Observations:						
	Voo	No X	Dooth (inchoo)			
Surface Water Present?	Yes	NoX	,		drology	
Water Table Present?	Yes	<u>No X</u>	-	Wetland Hy Present?	arology Yes No X	
Saturation Present?	Yes	NoX	_ Depth (inches)			
Describe Descrided Data (star			oulous terres of	) if our list is		
Describe Recorded Data (stream g	juage, monitoring	weii, aeriai priotos, pr	evious inspection	s), il avallable:		
	or ond shares	mal rain fall for the		according to MICTO		
Remarks: Normal rainfall for the ye	ear and above hol	mai rain fail for the pr	evious 3 months a	according to WETS.		

VEGETATION				Sampling Point: DP-6
Tree Stratum Plot size:	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1.       2.				Number of dominant species that are OBL, FACW, or FAC: 0 (A)
3 4				Total number of dominant species across all strata:1(B)
5 6				Percent of dominant species that are OBL, FACW, or FAC: 0% (A/B)
7.				Prevalence Index Worksheet:
	0	Total Cover		Total % cover of:
Shrub Stratum Plot size:	_			OBL species x0
1				FACW species 0 x 2 0
2				FAC species 0 x 3 0
3				FACU species <u>0</u> x 4 <u>0</u>
4				UPL species 100 x 5 500
5.				Column Totals: 100 (A) 500 (B)
6.				Prevalence Index: 5.0 (B/A)
7.				Hydrophytic Vegetation Indicators:
	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb Stratum Plot size:				Dominance Test is >50%
1. Glycine max	100	Y	UPL	Prevalence Index is ≤3.0*
2.				Morphological Adaptations*
3.				Problematic Hydrophytic Vegetation*
4				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
				Definitions of Vegetation Strata:
7.				<b>Tree</b> - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height
8 9				<b>Sapling/shrub -</b> Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.
10 11				<b>Herb -</b> All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12		Total Cover		Woody Vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum_ Plot size:				
1				
2				
3				Hydrophytic Vegetaion Present?
4		<u></u>		
	0	Total Cover		YesNoX
Remarks: Photo 6. Agriculture row of adjacent to the ditches sh		-		ference areas greater than 1 year old with similar hydrology and

									<b></b>		
DIL								Sampling Point:	DP-6		
file Description:	(Describe to de	epth needed	to document	the indi	cator or	confirm al	bsence of indica	itors.)	-		
Depth	Mat	rix	Redox Fea	atures					-		
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks	_		
0-5	10YR3/2	100	None				Silty clay		_		
5-11	10YR3/2	95%	10YR4/1	5	с	М	Silty clay		_		
11-14	10YR5/1	70	10YR4/6	30	С	М	Silty clay				
ype: C=Concentra	ation, D=Depletic	on, RM=Redu	uced Matrix, CS	=Coated	d Sand g	rains **Lo	cation: PL=Pore I	_ining, M=Matrix			
dric Soil Indicato	rs:							Indicators for Probler	natic Soils		
Histosol (A1)				Strippe	d Matrix	(S6)		2 cm Muck (A10) (LRR K, L,	MLRA 149B)		
Histic Epipedon	n (A2)			Dark Su	urface (S	7)(LRR R,I	/ILRA 149B)	Coast Prairie Redox (A16)			
Black Histic (A3	3)			Polyva	olyvalve Below Surface (S8) (LRR R,			5 cm Mucky Peat (S3) (LRR K, L, R)			
Hydrogen Sulfic	de (A4)				Μ	LRA 149B)		Dark Surface (S7) (LRR K, L	, M)		
Stratified Layers	s (A5)			Thin Da	ark Surfa	ce (S9)		Polyvalve Below Surface (S8	6) (LRR K, L)		
Depleted Below	/ Dark Surface (A	A11)		Loamy	Mucky N	lineral (F1)		Thin Dark Surface (S9) (LRR	K, L)		
Thick Dark Surf	ace (A12)			Loamy	Gleyed N	Aatrix (F2)		Iron-Manganese Masses (F12) (LRR K, L, R)			
Sandy Mucky M	lineral (S1)		х	Deplete	ed Matrix	(F3)		Mesic Spodic (TA6) (MLRA 1	44A, 145, 149B)		
Sandy Gleyed	Matrix (S4)			Redox	Dark Sur	face (F6)		Red Parent Material (F21)			
Sandy Redox (	S5)			Deplete	ed Dark S	Surface (F7	)	Very Shallow Dark Surface (	TF12)		
				Redox	Depressi	ons (F8)		Other (Explain in Remarks)			
strictive Layer (if	observed)										
Туре:					_						
Depth (inches):					_	Hydric	Soil Present? Y	es <u>X</u> No	_		
marks:											

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Site: 816 N. Lallendorf Road		City/C	ounty: Ore	egon, Lucas Co	ounty	Samplin	ng Date: 10/11/2012
Applicant/Owner: Oregon Clean	Energy LLC				State:	OH Samplin	ng Point: DP-7
Investigator(s): V. Tremante			Sectio	on, Township,	Range:		
Landform: (hillslope, terrace, etc.):	low terrace		Local relie	ef (concave, c	convex, none):	None	Slope (%):
Subregion (LLR or MLRA):	LLR L		Lat. 41d	40m 3.600s	Long.	83m 26s 30.00s	Datum:
Soil Map Unit Name: Latty silty clay						NWI Classification:	None
Are climatic/hydrologic conditions on	the site typical for tin	ne of year?		Yes	X No	(If no, explain	n in the Remarks)
Are Vegetation X	Soil X	or Hydrology	sign	nificantly distur	rbed?		
Are Vegetation	Soil	or Hydrology	natu	urally problem	atic?		
Are Normal Circumstances Present?	Yes	X No	(If n	needed, explai	n any answers ir	n Remarks)	
SUMMARY OF FINDINGS							
Hydrophytic Vegeta	ation Present? Yes	No	х	Is the	Sampled Area	within a Wetland?	
Hydric	Soil Present? Yes	No		Yes	No	X	
Wetland Hydro	logy Present? Yes	No	x	lf yes,	, optional Weland	d Site ID:	
-				-			ikely affected the site hydrology,
they are a perr	nament alteration and	nave been in p	lace for sume	cient time that	current conditio	ns would be normal.	
HYDROLOGY							
Wetland Hydrology Indicators:							
	licators (check all t	hat annly)			G	Secondary Indicators	s
Surface Water (A1)		Water Stained	Leaves (B9)		Surface Soil Ci	•	•
High Water Table (A2)		Aquatic Fauna		/	Drainage Patte		
Saturation (A3)		Marl Deposits			Moss Tim Line		
Water Marks (B1)		Hydrogen Sulfi		)		ater Table (C2)	
Sediment Deposits (B2)				)		, ,	
		Oxidized Rhizo Roots (C3)	ospheres on I	Living	Crayfish Burrov		(00)
Drift Deposits (B3)		. ,		(0.1)		ble on Aerial Imagery	(C9)
Algal Mat or Crust (B4)		Presence of R	educed Iron	(C4)		essed Plants (D1)	
Iron Deposits (B5)		Recent Iron Re	eduction in Ti	illed	Geomorphic P	· ·	
		Soil (C6)			Shallow Aquita		
Inundation Visible on Aerial Ima	agery (B7)	Thin Muck Sur	· · ·		Microtopograp	. ,	
		Other (Explain	in Remarks)	)	FAC-Neutral T	est (D5)	
Sparsely Vegetated Concave S	surface (B8)						
Field Observations:							
Surface Water Present?	Yes	No X	Depth (inc	ches)	_		
Water Table Present?	Yes	No X	Depth (inc	ches)	_Wetland Hydro Present?	ology	
Saturation Present?	Yes	No X	Depth (inc	ches)		Yes	No X
Describe Recorded Data (stream gua	age, monitoring well,	aerial photos, pr	revious inspe	ections), if ava	ilable:		
Remarks: Normal rainfall for the yea	r and above normal	ain fall for the pr	revious 3 mo	onths according	g to WETS.		

VEGETATION				Sampling Point: DP-7
Tree Stratum Plot size:	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1.       2.				Number of dominant species that are OBL, FACW, or FAC: 0 (A)
3 4				Total number of dominant species across all strata:1(B)
5 6				Percent of dominant species that are OBL, FACW, or FAC:0%(A/B)
7				Prevalence Index Worksheet:
		Total Cover		Total % cover of:
Shrub Stratum Plot size:				OBL species <u>0</u> x 1 <u>0</u>
1				FACW species 0 x 2 0
2				FAC species 0 x 3 0
3				FACU species <u>0</u> x 4 <u>0</u>
4				UPL species X 5500
5.				Column Totals: 100 (A) 500 (B)
6.				Prevalence Index: 5.0 (B/A)
7.				Hydrophytic Vegetation Indicators:
	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb StratumPlot size:				Dominance Test is >50%
1. Glycine max	100	Y	UPL	Prevalence Index is ≤3.0*
2.				Morphological Adaptations*
3.				Problematic Hydrophytic Vegetation*
4				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
				Definitions of Vegetation Strata:
7.				Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height
8 9				<b>Sapling/shrub -</b> Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.
10 11				<b>Herb -</b> All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12		Total Cover		<b>Woody Vines -</b> All woody vines greater than 3.28 ft in height.
Woody Vine Stratum_ Plot size:				······································
1				
2				
3				Hydrophytic Vegetaion Present?
4				]
	0	Total Cover		YesNoX
Remarks: Photo 7. Agriculture row of adjacent to the ditches sho		-		ference areas greater than 1 year old with similar hydrology and

								Sampling Point:	DP-7	
e Description:	(Describe to d	lepth needed	d to document t	the indic	cator or	confirm al	osence of indica			
Depth	Mat		Redox Feat					·····	]	
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks		
None								No Soil Pit Excavation		
e: C=Concentra	tion, D=Depleti	on, RM=Redu	uced Matrix, CS=	=Coated	Sand g	rains **Lo	cation: PL=Pore L	ining, M=Matrix		
c Soil Indicato	'S:							Indicators for Proble	matic Soils	
Histosol (A1)				Stripped	I Matrix (	(S6)		2 cm Muck (A10) (LRR K, L,	MLRA 149B)	
Histic Epipedon (A2) Dark S						7)(LRR R,N	/LRA 149B)	Coast Prairie Redox (A16)		
Black Histic (A3)				Polyva			(S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	K, L, R)	
Hydrogen Sulfid	lydrogen Sulfide (A4)				M	LRA 149B)		Dark Surface (S7) (LRR K, L	., M)	
Stratified Layers	(A5)			Thin Da	rk Surfac	ce (S9)		Polyvalve Below Surface (S8	8) (LRR K, L)	
Depleted Below	Dark Surface (A	A11)		Loamy N	Mucky M	lineral (F1)		Thin Dark Surface (S9) (LRF	t K, L)	
Thick Dark Surfa	ace (A12)			Loamy (	Gleyed N	/latrix (F2)		Iron-Manganese Masses (F1	2) (LRR K, L, R)	
Sandy Mucky M	ineral (S1)			Deplete	d Matrix	(F3)		Mesic Spodic (TA6) (MLRA 2	144A, 145, 149B)	
Sandy Gleyed N	latrix (S4)			Redox D	Dark Sur	face (F6)		Red Parent Material (F21)		
Sandy Redox (S	5)			Deplete	d Dark S	Surface (F7	)	Very Shallow Dark Surface (	TF12)	
				Redox D	Depressi	ons (F8)		Other (Explain in Remarks)		
ictive Layer (if	observed)									
Туре:										
pth (inches):						Hydric	Soil Present? Ye	es <u>No</u>	_	

Site: 816 N. Lallendorf Road		City/Co	ounty:	Oregon, Luca	as County		Samplir	ng Date:	10/11/2012	
Applicant/Owner: Oregon Clean En	ergy LLC						OH Samplir			
Investigator(s): V. Tremante							·			
Landform: (hillslope, terrace, etc.): lov	w terrace						None		Slope (%):	
Subregion (LLR or MLRA):	_R L		-				83d 26m 25.799s	_ Datum		
Soil Map Unit Name: Latty silty clay							NWI Classification:			
Are climatic/hydrologic conditions on the	e site typical for time	e of year?		Y	es X		– (If no, explair		emarks)	
Are Vegetation X			:						,	
Are Vegetation										
		X No		(If needed, e		swers ir	n Remarks)			
				(	, , .		,			
SUMMARY OF FINDINGS										
Hydrophytic Vegetatio	n Present? Yes	No	х	ls	the Sample	d Area	within a Wetland?			
	oil Present? Yes				es					
	y Present? Yes		х		yes, optional					
,,										
-			-		-		in the site and have I	ikely affe	cted the site I	nydrology,
they are a perman	nent alteration and	nave been in pi	lace for s	sumcient time	that current of	conalitio	ns would be normal.			
HYDROLOGY										
Wetland Hydrology Indicators:										
Primary Indica	ators (check all th	at apply)				5	Secondary Indicator	s		
Surface Water (A1)		Water Stained	Leaves (	(B9)	Surface		racks (B6)			
High Water Table (A2)		Aquatic Fauna					erns (B10)			
Saturation (A3)		Marl Deposits (			Moss T					
Water Marks (B1)		Hydrogen Sulfi		(C1)	Dry-Sea	ason W	ater Table (C2)			
Sediment Deposits (B2)					Crayfisl					
Drift Deposits (B3)		Oxidized Rhizo Roots (C3)	spheres	on Living			ble on Aerial Imagery	' (C9)		
Algal Mat or Crust (B4)		Presence of Re	educed Ir	ron (C4)	Stunted	l or Stre	essed Plants (D1)			
Iron Deposits (B5)							osition (D2)			
		Recent Iron Re Soil (C6)	eduction i	in Tilled	Shallow	/ Aquita	rd (D3)			
Inundation Visible on Aerial Image	ery (B7)	Thin Muck Surf	face (C7)	)	Microto	pograpl	hic Relief (D4)			
		Other (Explain			FAC-Ne	eutral To	est (D5)			
Sparsely Vegetated Concave Surf	face (B8)			ŕ						
Field Observations:										
Surface Water Present? Ye	es	No X	Depth	ı (inches)						
		No X	-	(inches)		d Hydr	ology			
Saturation Present? Ye		No X	-	(inches)	Presen	-	Yes	No	х	
								_		-
Describe Recorded Data (stream guage	e. monitorina well	aerial photos, pr	revious in	spections), if	available					
gudge	,			,						
Remarks: Normal rainfall for the year ar	nd above normal ra	ain fall for the pr	revious 3	months acco	ordina to WF1	ΓS.				
						-				

VEGETATION				Sampling Point: DP-8
Tree Stratum Plot size:	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1.       2.				Number of dominant species that are OBL, FACW, or FAC:0_(A)
3				Total number of dominant species across all strata:1(B)
5 6				Percent of dominant species that are OBL, FACW, or FAC: 0% (A/B)
7.				Prevalence Index Worksheet:
		Total Cover		Total % cover of:
Shrub Stratum Plot size:				OBL species 0 x 1 0
1	_			FACW species 0 x 2 0
2.				FAC species 0 x 3 0
3.				FACU species 0 x 4 0
4.				UPL species 100 x 5 500
5.				Column Totals: 100 (A) 500 (B)
6.				Prevalence Index: 5.0 (B/A)
7.				Hydrophytic Vegetation Indicators:
	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb Stratum Plot size:	0			Dominance Test is >50%
	 100	Y	UPL	Prevalence Index is ≤3.0*
				Morphological Adaptations*
3.		·		Problematic Hydrophytic Vegetation*
4.       5.				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
6				Definitions of Vegetation Strata:
7.       8.				<b>Tree</b> - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height
9				Sapling/shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.
10 11				<b>Herb -</b> All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12		Total Cover		<b>Woody Vines -</b> All woody vines greater than 3.28 ft in height.
Woody Vine Stratum Plot size:				
1				
2				
3				Hydrophytic Vegetaion Present?
4				ļ
	0	Total Cover		YesNoX
Remarks: Photo 8. Agriculture row c adjacent to the ditches sho		-		ference areas greater than 1 year old with similar hydrology and

L							Sampling Point:	DP-8		
ile Description:	(Describe to d	lepth needeo	d to document the	indicator or	· confirm a	bsence of indica	tors.)	7		
Depth	Ma	trix	Redox Feature	s						
(inches)	Color	%	Color	% Type*	6 Type* Loc** Texture		Remarks			
None							No soil pit excavation	-		
ype: C=Concentra	ation, D=Depleti	on, RM=Red	uced Matrix, CS=Co	ated Sand g	ırains **Lo	cation: PL=Pore L	ining, M=Matrix			
Iric Soil Indicato	rs:						Indicators for Proble	natic Soils		
Histosol (A1)			Stri	pped Matrix	(S6)		2 cm Muck (A10) (LRR K, L,	MLRA 149B)		
Histic Epipedon	(A2)		Dai	k Surface (S	67)(LRR R,I	VLRA 149B)	Coast Prairie Redox (A16)			
Black Histic (A3	)		P			(S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	K, L, R)		
Hydrogen Sulfid	le (A4)			N	1LRA 149B	)	Dark Surface (S7) (LRR K, L	, M)		
Stratified Layers	s (A5)		Thi	n Dark Surfa	ice (S9)		Polyvalve Below Surface (S8	3) (LRR K, L)		
Depleted Below	Dark Surface (	A11)	Loa	imy Mucky N	/lineral (F1)		Thin Dark Surface (S9) (LRR	Thin Dark Surface (S9) (LRR K, L)		
Thick Dark Surf	ace (A12)		Loa	ımy Gleyed I	Matrix (F2)		Iron-Manganese Masses (F1	2) (LRR K, L, R)		
Sandy Mucky M	lineral (S1)		De	pleted Matrix	: (F3)		Mesic Spodic (TA6) (MLRA 1	44A, 145, 149B)		
Sandy Gleyed N	/latrix (S4)		Re	dox Dark Su	rface (F6)		Red Parent Material (F21)			
Sandy Redox (S	S5)		De	oleted Dark	Surface (F7	)	Very Shallow Dark Surface (TF12)			
			Ree	dox Depress	ions (F8)		Other (Explain in Remarks)			
strictive Layer (if	observed)									
Туре:										
Depth (inches):					Hydric	Soil Present? Yo	es <u>No</u>	_		
narks:	No soil pit exca	avation								

Site: 816 N. Lallendorf Road		City/Co	ounty: C	Dregon, Lucas C	County	Samplir	ng Date: 10/11/2012		
Applicant/Owner: Oregon Clean Er	nergy LLC					OH Samplir			
Investigator(s): V. Tremante	07					·			
Landform: (hillslope, terrace, etc.): lo	ow terrace		_		convex, none):		Slope (%):		
· · · · · · · -			-				Datum:		
Soil Map Unit Name: Fulton silty clay lo			- —			NWI Classification:			
Are climatic/hydrologic conditions on the				Yes		- (If no, explain			
	Soil X					、	,		
Are Vegetation	Soil								
Are Normal Circumstances Present?		X No			in any answers ir	n Remarks)			
			`		,	· · ,			
SUMMARY OF FINDINGS									
Hydrophytic Vegetatio	on Present? Yes	No	Х	Is the	e Sampled Area	within a Wetland?			
	oil Present? Yes				No				
	gy Present? Yes		х		, optional Weland				
					-				
-			-				ikely affected the site hydrology,		
they are a perma	inent alteration and	nave been in pi	lace for su	inicient time tha	it current conditio	ns would be normal.			
HYDROLOGY									
Wetland Hydrology Indicators:									
	ators (check all th	at apply)			S	econdary Indicator	S		
Surface Water (A1)		Water Stained	Leaves (E	39)	Surface Soil Cr	acks (B6)			
High Water Table (A2)		Aquatic Fauna			Drainage Patte				
Saturation (A3)		Marl Deposits (		Moss Tim Lines (B6)					
Water Marks (B1)		Hydrogen Sulfi		r (C1) Dry-Season Water Table (C2)					
Sediment Deposits (B2)					Crayfish Burrov	vs (C8)			
Drift Deposits (B3)		Oxidized Rhizo Roots (C3)	ospheres c	on Living	Saturation Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4)		Presence of Re	educed Irc	on (C4)	Stunted or Stre	essed Plants (D1)			
Iron Deposits (B5)					Geomorphic Position (D2)				
		Recent Iron Re Soil (C6)	eduction in	n Tilled	Shallow Aquita	rd (D3)			
Inundation Visible on Aerial Image	ery (B7)	Thin Muck Surf	face (C7)		Microtopograph	nic Relief (D4)			
		Other (Explain	in Remark	ks)	FAC-Neutral Te	est (D5)			
Sparsely Vegetated Concave Sur	face (B8)	· · ·		·					
· · · ·									
Field Observations:									
Surface Water Present? Y	es	No X	Depth (	(inches)					
Water Table Present? Y		No X	-	(inches)	- Wetland Hydro	ology			
	/es	No X	-	(inches)	Present?	Yes	No X		
				·	_				
Describe Recorded Data (stream guage	e, monitoring well. a	aerial photos, pr	revious ins	spections), if ava	ailable:				
, J.	<b>J</b>	. /1		- **					
Remarks: Normal rainfall for the year a	and above normal ra	ain fall for the pr	revious 3 r	nonths accordir	ng to WETS.				

VEGETATION				Sampling Point: DP-9
Tree Stratum Plot size:	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1.       2.				Number of dominant species that are OBL, FACW, or FAC:0_(A)
3				Total number of dominant species across all strata:1(B)
5 6				Percent of dominant species that are OBL, FACW, or FAC: 0% (A/B)
7.				Prevalence Index Worksheet:
		Total Cover		Total % cover of:
Shrub Stratum_ Plot size:				OBL species x0
1				FACW species 0 x 2 0
2				FAC species 0 x 3 0
3.				FACU species 0 x 4 0
4				UPL species 100 x 5 500
5.				Column Totals: 100 (A) 500 (B)
6.				Prevalence Index: 5.0 (B/A)
7.				Hydrophytic Vegetation Indicators:
	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb Stratum Plot size:		•		Dominance Test is >50%
1. Glycine max	- 100	Y	UPL	Prevalence Index is ≤3.0*
2.	_			Morphological Adaptations*
3.				Problematic Hydrophytic Vegetation*
4				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
		·		Definitions of Vegetation Strata:
				<b>Tree</b> - Woody plants 3 in. (7.6cm) or more in diameter at breast height
7.       8.				(DBH), regardless of height
9 10				<b>Sapling/shrub -</b> Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.
11				<b>Herb -</b> All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12		Total Cover		Woody Vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum_ Plot size:				
1				-
2		·		-
3		·		Hydrophytic Vegetaion Present?
4				
	0	Total Cover		YesNoX
Remarks: Photo 9. Agriculture row c adjacent to the ditches sho		-		ference areas greater than 1 year old with similar hydrology and

L								Sampling Point	:: DP-9		
ile Description:	(Describe to de	epth needed	to documen	t the indic	ator or	confirm al	bsence of indic	ators.)	-		
Depth	Matr	rix 🛛	Redox Fe	eatures					_		
(inches)	Color	%	Color	%	Type*	* Loc** Texture		Remarks			
0-14	0-14 10YR4/2 100 None					Silty Clay		_			
									_		
/pe: C=Concentra	ation, D=Depletio	n, RM=Reduc	ced Matrix, C	S=Coated	Sand g	rains **Lo	cation: PL=Pore	Lining, M=Matrix			
ric Soil Indicato	ers:			1				Indicators for Proble	ematic Soils		
Histosol (A1)				Stripped	Matrix	(S6)		2 cm Muck (A10) (LRR K, L, MLRA 149B)			
Histic Epipedor	n (A2)			Dark Su	rface (S	57)(LRR R,N	/ILRA 149B)	Coast Prairie Redox (A16)			
Black Histic (A3	k Histic (A3) Polyvalve B						(S8) (LRR R,	5 cm Mucky Peat (S3) (LRF	R K, L, R)		
Hydrogen Sulfide (A4)				_	IV	ILRA 149B)	,	Dark Surface (S7) (LRR K,	L, M)		
Stratified Layer	s (A5)			Thin Dar	k Surfa	ce (S9)		Polyvalve Below Surface (S	88) (LRR K, L)		
Depleted Below	v Dark Surface (A	.11)		Loamy N	/lucky N	lineral (F1)		Thin Dark Surface (S9) (LR	R K, L)		
Thick Dark Surf	face (A12)			Loamy G	Gleyed N	Matrix (F2)		Iron-Manganese Masses (F	Iron-Manganese Masses (F12) (LRR K, L, R)		
Sandy Mucky M	/lineral (S1)			Depleted	d Matrix	(F3)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
Sandy Gleyed I	Matrix (S4)			Redox D	ark Sur	face (F6)		Red Parent Material (F21)			
Sandy Redox (	S5)			Depleted	d Dark S	Surface (F7	)	Very Shallow Dark Surface	Very Shallow Dark Surface (TF12)		
				Redox D	epressi	ions (F8)		Other (Explain in Remarks)			
trictive Layer (if	observed)										
Type:											
Depth (inches):						Hydric	Soil Present?	Yes <u>No X</u>	_		
narks:	No redox conce	entrations.									

Site: 816 N. Lallendorf Road		City/C	ounty: Or	egon, Lucas C	ounty	Samplir	ng Date: 10/11/2012			
Applicant/Owner: Oregon Clean	Energy LLC				State:	OH Samplin	ng Point: DP-10			
Investigator(s): V. Tremante			Sect	tion, Township,	, Range:					
Landform: (hillslope, terrace, etc.):	low terrace		Local re	lief (concave, c	convex, none):	None	Slope (%):			
Subregion (LLR or MLRA):	LLR L		Lat. 410	d 40m 6.000s	Long.	-83d 26m 22.799s	Datum:			
Soil Map Unit Name: Latty silty clay						NWI Classification:	None			
Are climatic/hydrologic conditions on	the site typical for tim	ne of year?		Yes	X No	(If no, explain	n in the Remarks)			
Are Vegetation X	Soil X	or Hydrology	sig	significantly disturbed?						
Are Vegetation	Soil	or Hydrology	nat	turally problem	atic?					
Are Normal Circumstances Present?	Yes	X No	(If	needed, explai	in any answers ir	n Remarks)				
SUMMARY OF FINDINGS										
Hydrophytic Vegeta	ation Present? Yes	No	X	Is the	Sampled Area	within a Wetland?				
Hydric	Soil Present? Yes	No		Yes	No	X				
Wetland Hydro	logy Present? Yes	No	<u> </u>	lf yes,	, optional Weland	d Site ID:				
-	crops have disturbe nanent alteration and			-			ikely affected the site hydrology,			
they are a pen		r nave been in p				ns would be normal.				
HYDROLOGY										
Wetland Hydrology Indicators:										
	dicators (check all t	hat apply)			s	Secondary Indicator	S			
Surface Water (A1)	,	Water Stained	Leaves (B9	9)	Surface Soil Cr	•	-			
High Water Table (A2)		Aquatic Fauna		,	Drainage Patte					
Saturation (A3)		Marl Deposits (			Moss Tim Line					
Water Marks (B1)		Hydrogen Sulfi								
Sediment Deposits (B2)		i i jai egen eam		.,	Crayfish Burrov					
Drift Deposits (B3)		Oxidized Rhizo Roots (C3)	ospheres on	Living		ble on Aerial Imagery	(C9)			
Algal Mat or Crust (B4)		Presence of Re	educed Iron	) (C4)	Stunted or Stressed Plants (D1)					
Iron Deposits (B5)				(04)						
		Recent Iron Re Soil (C6)	eduction in T	Tilled	Geomorphic Po Shallow Aquita	· ·				
Inundation Visible on Aerial Ima			face (C7)							
		Thin Muck Sur	· · ·		Microtopograph	. ,				
	)	Other (Explain	In Remarks	5)	FAC-Neutral Te	est (D5)				
Sparsely Vegetated Concave S	Surrace (B8)									
Field Observations:										
	Vee	No. V	Danth (in							
Surface Water Present?	Yes	_No <u>X</u>			-					
Water Table Present?	Yes	No X	-		_Wetland Hydro Present?	ology Yes	No X			
Saturation Present?	Yes	No X	Depth (ir	nches)	-					
Describe Recorded Data (stream gua	age, monitoring well,	aerial photos, pr	revious insp	ections), if ava	ulable:					
Remarks: Normal rainfall for the yea	r and above normal r	ain fall for the pr	revious 3 m	onths accordin	g to WETS.					

VEGETATION				Sampling Point: DP-10
Tree Stratum Plot size:	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1.       2.				Number of dominant species that are OBL, FACW, or FAC: 0 (A)
3				Total number of dominant species across all strata:1(B)
5 6				Percent of dominant species that are OBL, FACW, or FAC: 0% (A/B)
7.				Prevalence Index Worksheet:
	0	Total Cover		Total % cover of:
Shrub Stratum Plot size:				OBL species 0 x 1 0
1				FACW species 0 x 2 0
2.				FAC species 0 x 3 0
3.				FACU species 0 x 4 0
4.				UPL species 100 x 5 500
5.				Column Totals: 100 (A) 500 (B)
6.				Prevalence Index: 5.0 (B/A)
7.				Hydrophytic Vegetation Indicators:
	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb Stratum_ Plot size:				Dominance Test is >50%
1. Glycine max	100	Y	UPL	Prevalence Index is ≤3.0*
2.				Morphological Adaptations*
3.				Problematic Hydrophytic Vegetation*
4				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
				Definitions of Vegetation Strata:
7.				<b>Tree</b> - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height
8 9				<b>Sapling/shrub -</b> Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.
10 11				<b>Herb -</b> All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12		Total Cover		<b>Woody Vines -</b> All woody vines greater than 3.28 ft in height.
Woody Vine Stratum_ Plot size:				
1				
2				
3				Hydrophytic Vegetaion Present?
4				
	0	Total Cover		YesNoX
Remarks: Photo 10. Agriculture row adjacent to the ditches sho				eference areas greater than 1 year old with similar hydrology and

L								Sampling Point:	DP-10	
le Description:	(Describe to d	epth needeo	to document t	he indicate	or or c	confirm al	osence of indica	tors.)	7	
Depth	Matrix Red		Redox Feat	tures					_	
(inches)	Color	%	Color	% Ту	/pe*	Loc**	Texture	Remarks		
None								No soil pit excavated.		
pe: C=Concentra	tion, D=Depletic	on, RM=Redu	uced Matrix, CS=	=Coated Sa	and gra	ains **Loo	cation: PL=Pore I	_ining, M=Matrix		
ric Soil Indicator	's:							Indicators for Proble	matic Soils	
Histosol (A1)			5	Stripped Ma	atrix (S	S6)		2 cm Muck (A10) (LRR K, L,	MLRA 149B)	
Histic Epipedon	(A2)		(	Dark Surfa	ce (S7	/)(LRR R,N	/LRA 149B)	Coast Prairie Redox (A16)		
Black Histic (A3)	)			Polyvalve			(S8) (LRR R,	5 cm Mucky Peat (S3) (LRR	K, L, R)	
Hydrogen Sulfide (A4)					ML	_RA 149B)		Dark Surface (S7) (LRR K, L	., M)	
Stratified Layers	(A5)		Thin Dark Su					Polyvalve Below Surface (S8	3) (LRR K, L)	
Depleted Below	Dark Surface (A	A11)	L L	Loamy Mucky				Thin Dark Surface (S9) (LRF	Thin Dark Surface (S9) (LRR K, L)	
Thick Dark Surfa	ace (A12)		I	Loamy Gle	yed M	Matrix (F2)		Iron-Manganese Masses (F12) (LRR K, L, R)		
Sandy Mucky M	ineral (S1)		[	Depleted N	latrix (	x (F3)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy Gleyed M	latrix (S4)		F	Redox Darl	k Surfa	ırface (F6)		Red Parent Material (F21)		
Sandy Redox (S	55)		[	Depleted D	ark Su	Surface (F7)		Very Shallow Dark Surface (TF12)		
			F	Redox Dep	oressio	ons (F8)		Other (Explain in Remarks)	Other (Explain in Remarks)	
trictive Layer (if	observed)									
Туре:										
epth (inches):						Hydric	Soil Present? Y	es <u>No</u>	_	
narks:	No soil pit exca	vated.								

Site: 816 N. Lallendorf Road							bling Date: 10/11/2012			
Applicant/Owner: Oregon Clean E	Energy LLC				State	e: <u>OH</u> Samp	bling Point: DP-11			
Investigator(s): V. Tremante			_ Se	ction, Townshi	ip, Range:					
Landform: (hillslope, terrace, etc.):	low terrace		Local r	elief (concave	, convex, none)	None	Slope (%):			
Subregion (LLR or MLRA):	LLR L		Lat. 4	1d 40m 4.799	s Lor	ng. <u>-83d 26m 26.999</u>	sDatum:			
Soil Map Unit Name: <u>Latty silty clay</u>						NWI Classification	n: None			
Are climatic/hydrologic conditions on t	the site typical for tim	e of year?		Yes	<u> </u>	No(If no, expla	ain in the Remarks)			
Are Vegetation X	Soil X	or Hydrology	si	significantly disturbed?						
Are Vegetation	Soil	or Hydrology	na	aturally proble	matic?					
Are Normal Circumstances Present?	Yes	X No	(I	f needed, exp	lain any answers	s in Remarks)				
SUMMARY OF FINDINGS										
Hydrophytic Vegeta	tion Present? Yes	No	Х	ls ti	he Sampled Are	ea within a Wetland?	?			
Hydric	Soil Present? Yes	No		Yes	s <u>No</u>	X				
Wetland Hydrol	ogy Present? Yes	No	Х	lf ye	es, optional Wela	and Site ID:				
-			-			ithin the site and have tions would be norma	e likely affected the site hydrology, al.			
HYDROLOGY										
Wetland Hydrology Indicators:										
	liantara (akaak all ti					Cocondom/Indicot				
	licators (check all th		L / D	20)	Quinta da Cali	Secondary Indicat	ors			
Surface Water (A1)		Water Stained		59)		Cracks (B6)				
High Water Table (A2)		Aquatic Fauna			Drainage Pa					
Saturation (A3)		Marl Deposits (		2.()	Moss Tim Li					
Water Marks (B1)		Hydrogen Sulfi	ide Odor (0	C1)		Water Table (C2)				
Sediment Deposits (B2)			ospheres on Living		Crayfish Bur					
Drift Deposits (B3)		Roots (C3)				isible on Aerial Image	ery (C9)			
Algal Mat or Crust (B4)		Presence of Re	educed Iro	ed Iron (C4) Stunted or Stressed Plants (D1)						
Iron Deposits (B5)		Recent Iron Re	eduction in	Tilled	Geomorphic	Position (D2)				
		Soil (C6)			Shallow Aqu	itard (D3)				
Inundation Visible on Aerial Ima	gery (B7)	Thin Muck Sur	face (C7)		Microtopogra	aphic Relief (D4)				
		Other (Explain	in Remark	(S)	FAC-Neutral	Test (D5)				
Sparsely Vegetated Concave S	urface (B8)									
Field Observations:										
Surface Water Present?	Yes	No X	Depth (	inches)						
Water Table Present?	Yes	No X	Depth (	(inches)	Wetland Hy	drology				
Saturation Present?	Yes	No X	Depth (	(inches)	Present?	Yes	No X			
Describe Recorded Data (stream gua	nce monitoring well	aerial photos pr	revious inc	nections) if a	vailable.					
					· aliable.					
Remarks: Normal rainfall for the year	and above normal r	ain fall for the pr	revious 3 n	nonths accord	ling to WETS.					

VEGETATION				Sampling Point: DP-11
Tree Stratum Plot size:	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1.       2.				Number of dominant species that are OBL, FACW, or FAC: 0 (A)
3				Total number of dominant species across all strata:1(B)
5 6				Percent of dominant species that are OBL, FACW, or FAC:0% (A/B)
7.				Prevalence Index Worksheet:
	0	Total Cover		Total % cover of:
Shrub Stratum Plot size:	_			OBL species x0_
1				FACW species 0 x 2 0
2.				FAC species 0 x 3 0
3				FACU species <u>0</u> x 4 <u>0</u>
4				UPL species 100 x 5 500
5.				Column Totals: 100 (A) 500 (B)
6.				Prevalence Index: 5.0 (B/A)
7.				Hydrophytic Vegetation Indicators:
	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb StratumPlot size:				Dominance Test is >50%
1. Glycine max	100	Y	UPL	Prevalence Index is $\leq 3.0^*$
2				Morphological Adaptations*
3				Problematic Hydrophytic Vegetation*
4 5.				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
6.		·		Definitions of Vegetation Strata:
7				<b>Tree</b> - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height
9.				<b>Sapling/shrub -</b> Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.
10 11 12.				<b>Herb -</b> All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12		Total Cover		Woody Vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum_ Plot size:				
1				•
2		·		-
3				Hydrophytic Vegetaion Present?
4				4
	0	Total Cover		YesNoX
Remarks: Photo 11. Agriculture row adjacent to the ditches sho				eference areas greater than 1 year old with similar hydrology and

file Description: (D Depth (inches) 0-13 13-14	Describe to de Matri Color 10YR4/1 10YR4/2	-	Redox Fea		ator or	confirm a	bsence of indica	Sampling Point: tors.)		
Depth (inches) 0-13	Matri Color 10YR4/1	ix	Redox Fea			••••••••••				
(inches) 0-13	10YR4/1	%							]	
			Color	% -	Type*	Loc**	Texture	Remarks		
13-14	10VP4/2	100	None				Silty clay			
	10114/2	75	10YR5/6	25	С	М	Silty clay			
rpe: C=Concentratio	-	n, RM=Reduc	ced Matrix, CS	S=Coated S	Sand gr	ains **Lo	ocation: PL=Pore L	ining, M=Matrix Indicators for Proble	matic Sails	
Histosol (A1)				Stripped N	Matrix (	S6)				
						,		2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16)		
Black Histic (A3)	~_)				Surface (S7)(LRR R,MLRA 149B)			5 cm Mucky Peat (S3) (LRR	K. I. R)	
Hydrogen Sulfide (A4)				1 olyvalv		_RA 149B		Dark Surface (S7) (LRR K, L		
Stratified Layers (A						e (S9)		Polyvalve Below Surface (S8	,	
Depleted Below Da	ark Surface (A	11)		Loamy M	Mucky Mineral (F1)			Thin Dark Surface (S9) (LRR K, L)		
Thick Dark Surface	e (A12)	i		Loamy Gl	Gleyed Matrix (F2)			Iron-Manganese Masses (F12) (LRR K, L, R)		
Sandy Mucky Mine	eral (S1)			Depleted	Matrix	atrix (F3)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy Gleyed Mat	trix (S4)			Redox Da	Dark Surface (F6)			Red Parent Material (F21)		
Sandy Redox (S5)				Depleted	Dark Surface (F7)			Very Shallow Dark Surface (TF12)		
				Redox De	epressi	ons (F8)		Other (Explain in Remarks)		
<b>trictive Layer (if ob</b> Type:	oserved)									
Depth (inches):						Hydric	Soil Present? Ye	es <u>No X</u>	-	
narks: No	o redox conce	ntrations with	in the top 6 in	ches or sta	arting w	ithin the to	op 10 inches.			

Site: 816 N. Lallendorf Road		City/C	ounty: C	) region Lucas	County	Samplin	ng Date: 10/11/2012		
Applicant/Owner: Oregon Clean	Epergy					OH Samplir			
Investigator(s): V. Tremante									
Landform: (hillslope, terrace, etc.):	low terrace		_		convex, none):		Slope (%):		
	LLR L		-						
			Lai. 4	10 4011 5.5995			_Datum:		
Soil Map Unit Name: Latty silty clay		(		Ma a		NWI Classification:			
Are climatic/hydrologic conditions on		-				(If no, explain	i in the Remarks)		
				significantly disturbed?					
Are Vegetation		or Hydrology							
Are Normal Circumstances Present?	Yes	<u>    X   </u> No	(I	f needed, expla	in any answers ir	n Remarks)			
SUMMARY OF FINDINGS									
Hydrophytic Vegeta	ation Present? Yes	No	Х	Is the	e Sampled Area	within a Wetland?			
Hydric	Soil Present? Yes	No	Х	Yes	No	X			
	ology Present? Yes		Х	If yes	s, optional Weland	d Site ID:			
-	v crops have disturbe manent alteration and		-				ikely affected the site hydrology,		
HYDROLOGY									
Wetland Hydrology Indicators:									
Primary Inc	dicators (check all t	hat apply)			s	secondary Indicator	S		
Surface Water (A1)		Water Stained	Leaves (E	39)	Surface Soil Cr	acks (B6)			
High Water Table (A2)		Aquatic Fauna	(B13)		Drainage Patte	rns (B10)			
Saturation (A3)		Marl Deposits (	(B15)		Moss Tim Lines	s (B6)			
Water Marks (B1)		Hydrogen Sulfi	ide Odor ((	C1)	Dry-Season W	ater Table (C2)			
Sediment Deposits (B2)					Crayfish Burrov	ws (C8)			
Drift Deposits (B3)		Oxidized Rhizo Roots (C3)	ospheres o	on Living		ole on Aerial Imagery	r (C9)		
Algal Mat or Crust (B4)		Presence of Re	educed Irc	on (C4)	Stunted or Stre	essed Plants (D1)			
Iron Deposits (B5)						morphic Position (D2)			
		Recent Iron Re Soil (C6)	eduction in	Tilled	Shallow Aquita	· ·			
Inundation Visible on Aerial Ima	agery (B7)	Thin Muck Sur	face (C7)		Microtopograph				
		Other (Explain		(S)	FAC-Neutral Te	. ,			
Sparsely Vegetated Concave S	Surface (B8)			<i>,</i>	1				
Field Observations:									
Surface Water Present?	Yes	No X	Depth (	(inches)	_				
Water Table Present?	Yes	No X	Depth (	(inches)	Wetland Hydro	ology			
Saturation Present?	Yes	_NoX	Depth (	(inches)	Present?	Yes	<u>No X</u>		
Describe Described Data (stars)	ogo montesis es "	opriol shates	enviewe 1	nontices) if a	ailablar				
Describe Recorded Data (stream gua	age, monitoring well,	aeriai pnotos, pr	ievious ins	spections), if ava					
Remarks: Normal rainfall for the yea	r and above normal	rain fall for the pr	revious 3 r	nonths accordir	ng to WETS.				
,		· ···- P.							

VEGETATION				Sampling Point: DP-12
Tree Stratum Plot size:	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1.       2.				Number of dominant species that are OBL, FACW, or FAC: 0 (A)
3				Total number of dominant species across all strata:1(B)
5 6				Percent of dominant species that are OBL, FACW, or FAC:0% (A/B)
7.				Prevalence Index Worksheet:
	0	Total Cover		Total % cover of:
Shrub Stratum_ Plot size:				OBL species 0 x 1 0
1				FACW species 0 x 2 0
2.				FAC species 0 x 3 0
3.				FACU species 0 x 4 0
4.				UPL species 100 x 5 500
5.				Column Totals: 100 (A) 500 (B)
6.				Prevalence Index: 5.0 (B/A)
7.				Hydrophytic Vegetation Indicators:
	0	Total Cover		Rapid Test for Hydrophytic Vegetation
Herb Stratum Plot size:				Dominance Test is >50%
1. Glycine max	 100	Y	UPL	Prevalence Index is ≤3.0*
2.				Morphological Adaptations*
				Problematic Hydrophytic Vegetation*
3 4 5.				* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
				Definitions of Vegetation Strata:
7 8				<b>Tree</b> - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height
9				<b>Sapling/shrub -</b> Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1M) tall.
11				<b>Herb -</b> All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.		Total Cover		Woody Vines - All woody vines greater than 3.28 ft in height.
Woody Vine Stratum_ Plot size:				
1				•
2				•
3				Hydrophytic Vegetaion Present?
4				4
	0	Total Cover		YesNoX
Remarks: Photo 12. Agriculture row adjacent to the ditches sho				eference areas greater than 1 year old with similar hydrology and

Description:	(Describe to de	pth needed	to document	the indica	ator or	confirm al	bsence of indicate	ors.)		
Depth	Matr	ix	Redox Fea	atures						
(inches)	Color	%	Color	%	Type*	Loc**	Texture	Remarks		
0-14 10YR4/1 100 None		None				Silty clay		_		
e: C=Concentra	ation, D=Depletio	n, RM=Redu	ced Matrix, CS	S=Coated S	Sand gr	rains **Lo	cation: PL=Pore Li	ning, M=Matrix		
ic Soil Indicato	rs:							Indicators for Prob	lematic Soils	
Histosol (A1)				Stripped	Matrix (	S6)		2 cm Muck (A10) (LRR K,	L, MLRA 149B)	
Histic Epipedon	(A2)			Dark Surface (S7)(LRR R,MLRA 149B)				Coast Prairie Redox (A16)		
Black Histic (A3	)			Polyvalve Below Su			(S8) (LRR R,	5 cm Mucky Peat (S3) (LR	R K, L, R)	
Hydrogen Sulfide (A4)				М	LRA 149B)		Dark Surface (S7) (LRR K	, L, M)		
Stratified Layers	s (A5)			Thin Dark Surf				Polyvalve Below Surface (	S8) (LRR K, L)	
Depleted Below	Dark Surface (A	.11)		Loamy Mucky Mineral				Thin Dark Surface (S9) (L	RR K, L)	
Thick Dark Surf	ace (A12)			Loamy G	ileyed N	Aatrix (F2)		Iron-Manganese Masses (F12) (LRR K, L, R)		
Sandy Mucky M	lineral (S1)			Depleted	Matrix	(F3)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy Gleyed N	/latrix (S4)			Redox Da	ark Sur	face (F6)		Red Parent Material (F21)		
Sandy Redox (S	S5)			Depleted	Dark S	Surface (F7	)	Very Shallow Dark Surface (TF12)		
				Redox De	epressi	ons (F8)		Other (Explain in Remarks	3)	
rictive Layer (if	observed)									
Туре:										
epth (inches):						Hydric	Soil Present? Ye	s <u>No X</u>		
				ches or sta						

Site: 816 N. Lallendorf Road								ng Date: <u>10/11/2012</u>
Applicant/Owner: Oregon Clean E	nergy LLC					-	<u>OH</u> Samplir	
Investigator(s): V. Tremante			- Se	ection, Town	ship, Range	:		
Landform: (hillslope, terrace, etc.):	ow terrace		Local	relief (conca	ve, convex,	none):	None	Slope (%):
Subregion (LLR or MLRA):	_LR L		Lat.	41d 40m 0.1	518s	Long.	-83d 26m 52.0584s	Datum:
Soil Map Unit Name: <u>Latty silty clay</u>							NWI Classification:	None
Are climatic/hydrologic conditions on th	ne site typical for tim	e of year?		Y	′es X	No		n in the Remarks)
Are Vegetation	Soil	or Hydrology	s	significantly	disturbed?			
Are Vegetation	Soil	or Hydrology	r	naturally prol	blematic?			
Are Normal Circumstances Present?	Yes	<u>X</u> No	(	If needed, e	xplain any a	nswers ir	n Remarks)	
SUMMARY OF FINDINGS								
Hydrophytic Vegetat	ion Present? Yes	No		le	s the Sampl	ed Area	within a Wetland?	
Hydric S	Soil Present? Yes	No		Y	′es	No		
Wetland Hydrold	ogy Present? Yes	No		If	yes, option	al Welan	d Site ID:	
Remarks: Data point repre data points in the		disturbed referei	nce cond	idtion for ve	getation. Rip	oarian ve	getation is several ye	ears old and hydrology is simila
HYDROLOGY								
Wetland Hydrology Indicators:								
Primary Indi	cators (check all t	hat apply)				5	Secondary Indicator	'S
Surface Water (A1)		Water Stained	Leaves (	B9)	Surfac	ce Soil C	racks (B6)	
High Water Table (A2)		Aquatic Fauna	(B13)		Draina	age Patte	erns (B10)	
Saturation (A3)		Marl Deposits (	(B15)		Moss	Tim Line	s (B6)	
Water Marks (B1)		Hydrogen Sulfie	de Odor (	(C1)	Dry-S	eason W	ater Table (C2)	
Sediment Deposits (B2)		Oxidized Rhizo	spheres	on Living	Crayfi	sh Burro	ws (C8)	
Drift Deposits (B3)		Roots (C3)		Ű	Satura	ation Visi	ble on Aerial Imagery	/ (C9)
Algal Mat or Crust (B4)		Presence of Re	educed Ir	on (C4)	Stunte	ed or Stre	essed Plants (D1)	
Iron Deposits (B5)		Recent Iron Re	duction in	n Tilled	Geom	orphic P	osition (D2)	
		Soil (C6)		Thica	Shallo	w Aquita	rd (D3)	
Inundation Visible on Aerial Imag	jery (B7)	Thin Muck Surf	face (C7)		Microt	opograp	hic Relief (D4)	
		Other (Explain	in Remar	·ks)	FAC-N	Veutral T	est (D5)	
Sparsely Vegetated Concave Su	irface (B8)							
Field Observations:								
Surface Water Present?	Yes	No X	Depth	(inches)				
Water Table Present?	Yes	No X	Depth	(inches)	Wetla	nd Hydr	ology	
Saturation Present?	Yes	No X	-	(inches)	Prese	nt?	Yes	No X
Describe Recorded Data (stream sure		aorial photos		chaotiona) -	fougilables			
Describe Recorded Data (stream guag	ye, monitoring well,	aenai priotos, pr		spections), l	avallable:			
Remarks: Normal rainfall for the year	and above normal r	ain fall for the pr	evious 3	months acco	ording to WE	TS.		

	ADSOIUTE %	Dominant			Sampling Po	
Tree Stratum Plot size: 50x15	Cover	Species	Indicator Status	Do	ominance Test W	/orksheet
1. Celtis occidentalis	30	Υ	FAC	Number of dominant s	species that are C	)BI
2. Morus rubra	20	Υ	FACU	FACW,	•	(A)
3. Ailanthus altissima	5	Y	UPL	Total number of domin	ant species acros	s all
4			#N/A	stra		<u> </u>
5			#N/A	Percent of dominant s	species that are O	IBI
6			#N/A	FACW,		(A/B)
7			#N/A	Prevalence Index Wo	rksheet:	
	55	Total Cover		Total % cover o	of:	
Shrub Stratum Plot size: 11x15	_			OBL species	0 x	1
1. Lonicera maackii	50	Y	UPL	FACW species	<u>1</u> x	2 2
2. Cornus drummondii	20	Y	FAC	FAC species	50 x	3 150
3				FACU species	105 x	4 420
4				UPL species	55 x	5 275
5				Column Totals:	<u>211</u> (A)	847 (B)
6					Prevalence In	ndex: 4.0 (B/A)
7				Hydrophytic Vegetati	on Indicators:	
	70	Total Cover		Rapid Test for	Hydrophytic Vege	tation
Herb Stratum Plot size:	_			Dominance Te	st is >50%	
1. Poa pratensis	30	Y	FACU	Prevalence Ind	lex is <u>&lt;</u> 3.0*	
2. Festuca pratensis	20	Y	FACU	Morphological /	Adaptations*	
3. Solidago canadensis	20	Y	FACU	Problematic Hy	drophytic Vegeta	tion*
4. Daucus carota	10		UPL	-		hydrology must be present,
5. Symphyotrichum ericoides	10		FACU	uni	ess disturbed or p	problematic
6. <u>Nepeta cataria</u>	5		FACU	Definitions of Vegeta	tion Strata:	
7. Symphyotrichum novae-angliae	1		FACW			re in diameter at breast heigh
8				(DBH), regardless of h	eight	
9						a 3 in. DBH and greater than
10				or equal to 3.28 ft (1M)	tall.	
11						ts, regardless of size, and
12				woody plants less than	1 3.28 ft tall.	
	96	Total Cover		Woody Vines - All woo	odv vines greater	than 3.28 ft in height.
Woody Vine Stratum_ Plot size:						
1				ļ		
2				ļ		
3				Hydrophytic Vegetaic	on Present?	
4				ļ		
	0	Total Cover		Yes	NoX	
Remarks: Data were collected along the Driftme	ver Ditch ripariar	corridor and re	present a typical no	n-disturbed reference co	ondition.	

L							Sampling Point:	DP-13
le Description:	(Describe to d	lepth needed	I to document the i	ndicator or	r confirm a	bsence of indica	tors.)	Ъ
Depth	Mat	trix	Redox Features	3	T			-
(inches)	Color	%	Color %	5 Type*	Loc**	Texture	Remarks	
None							No soil pit excavated.	
pe: C=Concentra	tion, D=Depletion	on, RM=Redu	uced Matrix, CS=Coa	ated Sand g	grains **Lo	cation: PL=Pore L	ining, M=Matrix	
ric Soil Indicator	's:						Indicators for Proble	matic Soils
Histosol (A1)			Strip	ped Matrix	(S6)		2 cm Muck (A10) (LRR K, L,	MLRA 149B)
Histic Epipedon	(A2)		Darl	surface (S	67)(LRR R,I	MLRA 149B)	Coast Prairie Redox (A16)	
Black Histic (A3)	)		Po	Polyvalve Below Surface (S8) (LRR R,			5 cm Mucky Peat (S3) (LRR K, L, R)	
Hydrogen Sulfid	e (A4)			N	/ILRA 1498	)	Dark Surface (S7) (LRR K, L	, M)
Stratified Layers	s (A5)		Thir	Dark Surfa	ace (S9)		Polyvalve Below Surface (S8	3) (LRR K, L)
Depleted Below	Dark Surface (A	A11)	Loa	my Mucky N	Mineral (F1)		Thin Dark Surface (S9) (LRR	: K, L)
Thick Dark Surfa	ace (A12)		Loa	my Gleyed	Matrix (F2)		Iron-Manganese Masses (F1	2) (LRR K, L, R)
Sandy Mucky M	ineral (S1)		Dep	leted Matrix	(F3)		Mesic Spodic (TA6) (MLRA 1	44A, 145, 149B)
Sandy Gleyed M	latrix (S4)		Red	ox Dark Su	rface (F6)		Red Parent Material (F21)	
Sandy Redox (S	5)		Dep	leted Dark	Surface (F7	)	Very Shallow Dark Surface (TF12)	
			Red	ox Depress	ions (F8)		Other (Explain in Remarks)	
trictive Layer (if	observed)							
Туре:								
epth (inches):					Hydric	Soil Present? Ye	es <u>No</u>	_
arks:	No soil pit exca	vated.						



## Appendix D

HHEI Scoring Sheets

**ChieEPA** Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION Stream - 1 Driftmeyer Ditch	
SITE NUMBER RIVER BASIN Lake Erie DRAINAGE	
LENGTH OF STREAM REACH (ft) 300 LAT. 41.66695 LONG83.44780 RIVER CODE	
DATE 10/11/12 SCORER V. Tremants COMMENTS	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Stream	ams" for Instructions
STREAM CHANNEL INONE / NATURAL CHANNEL RECOVERED RECOVERING RECEIND	NT OR NO RECOVERY
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate	
(Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes TYPE PERCENT TYPE PE	RCENT Metr
BLDR SLABS [16 pts] 0% SILT [3 pt]	90% Poin
BOULDER (>256 mm) [16 pts]         0%         LEAF PACK/WOODY DEBRIS [3 pts]           BEDROCK [16 pt]         0%         FINE DETRITUS [3 pts]	1% 3% Substra
COBBLE (65-256 mm) [12 pts] 0% CLAY or HARDPAN [0 pt]	0% Max =
GRAVEL (2-64 mm) [9 pts] 0%	5% 7
SAND (<2 mm) [6 pts] 2% ARTIFICIAL [3 pts]	0%
Total of Percentages of 0.00% (A) Substrate Percentage 65%	(B) A + B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TY	PES: 4
. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):	he time of Pool De Max = 3
> 30 centimeters [20 pts]	wax = .
> 22.5 - 30 cm [30 pts] < 5 cm [5 pts]	45
> 10 - 22.5 cm [25 pts]     NO WATER OR MOIST CHANNEL [0 pts]	15
COMMENTS 3", 3.5", 3.5", 3"; flat silted channel; MAXIMUM POOL DEPTH (centimed	ters): 15
BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):	Bankfu
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] ≤ 1.0 m (<=3' 3") [5 pts]	Width Max=3
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pis]	Wax-5
COMMENTS 9', 10', 9', 9'; avg - 9'3" AVERAGE BANKFULL WIDTH (me	ters): 2.82 20
This information must also be completed           RIPARIAN ZONE AND FLOODPLAIN QUALITY         ☆NOTE: River Left (L) and Right (R) as looking do	westroom
RIPARIAN WIDTH FLOODPLAIN QUALITY	WHOLEGHT A
L R (Per Bank) L R (Most Predominant per Bank) L R	
	vation Tillage
	or Industrial
Narrow <5m Residential, Park, New Field	asture, Row Crop
	or Construction
COMMENTS Active agriculture and resdiential surrounding uses	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):	alla Condition
<ul> <li>Stream Flowing</li> <li>Subsurface flow with isolated pools (Interstitial)</li> <li>Moist Channel, isolated pools, no flow</li> <li>Dry channel, no water (Ephemeral)</li> </ul>	
COMMENTS_Slow to stagnant flow	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ON/ V one box)	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0	
✓ None 1.0 2.0 3.0	

DOWNSTREAM DESIGNATED	No QHEI Score(		
WWH Name:	052(5)	Distance from Evaluated Stream	
CWH Name:		_ Distance from Evaluated Stream _	
EWH Name:		Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF	MAPS, INCLUDING THE ENTIRE W	ATERSHED AREA. CLEARLY MARK THE SITE LOCAT	TION
USGS Quadrangle Name: Oregon	NRCS	Soil Map Page: NRCS Soil Map Stream Ord	er_
County: Lucas	Township / Cit	/: Oregon	
MISCELLANEOUS			
Base Flow Conditions? (Y/N):_Y Da	ate of last precipitation: 10/10	/12 Quantity: 0.05	
Photograph Information: Yes			
Elevated Turbidity? (Y/N):	Canopy (% open):40%		
Were samples collected for water chemistr	ry? (Y/N): (Note lab sample	no. or id. and attach results) Lab Number:	
		H (S.U.) Conductivity (µmhos/cm)	
Is the sampling reach representative of the	stream (Y/N) If not, please e	explain:	
		1 SI	
Additional comments/description of pollutio	on impacts:		
RR tracks and agriculture are both adjac			
ID number.	Include appropriate field data sheets t	ns optional. NOTE: all voucher samples must be labeled rom the Primary Headwater Habitat Assessment Manual) ? (Y/N) N Voucher? (Y/N) N	
Performed? (Y/N): (If Yes, Rec	Include appropriate field data sheets to Y/N) N Salamanders Observed	rom the Primary Headwater Habitat Assessment Manual) P (Y/N) N Voucher? (Y/N) N	
Performed? (Y/N): N (If Yes, Rec ID number. Fish Observed? (Y/N) N Voucher? ( Frogs or Tadpoles Observed? (Y/N) N Comments Regarding Biology: DRAWING AND NARRA	Include appropriate field data sheets f Y/N) N Salamanders Observed' Voucher? (Y/N) N Aquatic Macro ATIVE DESCRIPTION OF ST	rom the Primary Headwater Habitat Assessment Manual) P (Y/N) N Voucher? (Y/N) N	) N :
Performed? (Y/N): N (If Yes, Rec ID number. Fish Observed? (Y/N) N Voucher? ( Frogs or Tadpoles Observed? (Y/N) N Comments Regarding Biology: DRAWING AND NARRA	Include appropriate field data sheets f Y/N) N Salamanders Observed' Voucher? (Y/N) N Aquatic Macro ATIVE DESCRIPTION OF ST	rom the Primary Headwater Habitat Assessment Manual) P (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) invertebrates Observed? (Y/N) N Voucher? (Y/N) REAM REACH (This <u>must</u> be completed)	) N :
Performed? (Y/N): N (If Yes, Rec ID number. Fish Observed? (Y/N) N Voucher? ( Frogs or Tadpoles Observed? (Y/N) N Comments Regarding Biology: DRAWING AND NARRA Include important landmarks and o	Include appropriate field data sheets f Y/N) N Salamanders Observed' Voucher? (Y/N) N Aquatic Macro ATIVE DESCRIPTION OF ST	rom the Primary Headwater Habitat Assessment Manual) P (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) invertebrates Observed? (Y/N) N Voucher? (Y/N) REAM REACH (This <u>must</u> be completed) luation and a narrative description of the stream's I	) N :

**ChieEPA** Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

ITE NAME/LOCATION Stream - 2 Johlin Ditch		
	R BASIN Lake Erie DRAINAGE ARE	
	LONG83.43990 RIVER CODE RIVE	
ATE 10/12/12 SCORER V.Tremante COMMENTS		
NOTE: Complete All Items On This Form - Refer to "Field I	Evaluation Manual for Ohio's PHWH Streams"	for Instructions
MODIFICATIONS:		R NO RECOVERY
SUBSTRATE (Estimate percent of every type of substrate )		
(Max of 32). Add total number of significant substrate types for TYPE PERCENT TYPE		NT Metr
BLDR SLABS [16 pts]	SILT [3 pt] 0%	Poin
BOULDER (>256 mm) [16 pts] <u>0%</u>	LEAF PACK/WOODY DEBRIS [3 pts] 2% FINE DETRITUS [3 pts] 0%	Substra
COBBLE (65-256 mm) [12 pts] 0%	CLAY or HARDPAN [0 pt] 98%	Max =
GRAVEL (2-64 mm) [9 pts]	MUCK [0 pts]	5
SAND (<2 mm) [6 pts] 0%	ARTIFICIAL [3 pts]	- 1
Total of Percentages of 0.00% (A) Bldr Slabs, Boulder, Cobble, Bedrock	Substrate Porcentage 100% (B)	A + B
CORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3	TOTAL NUMBER OF SUBSTRATE TYPES:	2
Maximum Pool Depth (Measure the maximum pool depth v		e of Pool De
evaluation. Avoid plunge pools from road culverts or storm wat	er pipes) (Check ONLY one box):	Max =
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts]	> 5 cm - 10 cm [15 pts] < 5 cm [5 pts]	
	NO WATER OR MOIST CHANNEL [0 pts]	0
COMMENTS No water	MAXIMUM POOL DEPTH (centimeters):	0
BANK FULL WIDTH (Measured as the average of 3-4 meas	urements) (Check ONLY one box):	Bankfu
> 4.0 meters (> 13') [30 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	≤ 1.0 m (<=3' 3") [5 pis]	Max=3
COMMENTS 8', 7'-2", 10'6", 8'; avg=8'4"	AVEDAGE BANKEUU L WIDTH (motors)	2.54 20
COMMENTS 8', 7'-2", 10'6", 8'; avg=8'4"	AVERAGE BANKFULL WIDTH (meters):	2.54 20
This informa	ation <u>must</u> also be completed	
This informa	ation <u>must</u> also be completed ≿NOTE: River Left (L) and Right (R) as looking downst	
This information         RIPARIAN ZONE AND FLOODPLAIN QUALITY         RIPARIAN WIDTH         FLOODPLAIN QUALITY         L         R         (Per Bank)         L         R	ation <u>must</u> also be completed KNOTE: River Left (L) and Right (R) as looking downstr ALITY edominant per Bank)	ream 🕸
This information of the second secon	ation <u>must</u> also be completed ANOTE: River Left (L) and Right (R) as looking downstr ALITY edominant per Bank) L R orest, Wetland Conservation	ream☆ Tillage
This informa         RIPARIAN ZONE AND FLOODPLAIN QUALITY         RIPARIAN WIDTH       FLOODPLAIN QUALITY         L       R       (Per Bank)       L       R       (Most Pre         L       R       (Per Bank)       L       R       (Most Pre         L       Wide >10m       Image: Mature Filler       Mature Filler	ation <u>must</u> also be completed ANOTE: River Left (L) and Right (R) as looking downstreed ALITY edominant per Bank) L R orest, Wetland Conservation a Forest, Shrub or Old Urban or Indu	ream☆ Tillage ustrial
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This informa         RIPARIAN ZONE AND FLOODPLAIN QUALITY         RIPARIAN WIDTH       FLOODPLAIN QUALITY         L       R       (Per Bank)       L       R       (Most Pre         Wide >10m       Immature       Mature F         Moderate 5-10m       Immature       Field         Moderate 5-10m       Immature       Field         Mone       Field       Field         None       Fenced F       COMMENTS         FLOW REGIME (At Time of Evaluation) (Check ONL)         Stream Flowing       Subsurface flow with isolated pools (Interstitial)	ation must also be completed         KNOTE: River Left (L) and Right (R) as looking downstread         ALITY         edominant per Bank)       L R         orest, Wetland       Conservation         a Forest, Shrub or Old       Urban or Indu         ial, Park, New Field       I Open Pasture         Pasture       Mining or Conservation	ream☆ Tillage ustrial e, Row Crop nstruction
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QUELT EN ONNED: -	Yes 🗸 No QHEI Score (If Yes, Attach Completed QHEI Form)
WWH Name:	_ Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COP	PIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Oregon	
County: Lucas	_ Township / City:Oregon, OH
MISCELLANEOUS	
Base Flow Conditions? (Y/N):_Y	_ Date of last precipitation:10/10/12 Quantity:0.05
Photograph Information: Yes	
Elevated Turbidity? (Y/N):	Canopy (% open): 0%
	hemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
	Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative	e of the stream (Y/N) Y If not, please explain:
Additional comments/description of	pollution impacts:
	es, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with th umber. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
ID nu Fish Observed? (Y/N) N Voud Frogs or Tadpoles Observed? (Y/N)	
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in

Case No(s). 12-2959-EL-BGN

Summary: Application Appendix D: Wetland and Surface Water Report electronically filed by Teresa Orahood on behalf of Oregon Clean Energy, LLC