APPENDIX E WETLAND DELINEATIONS (2012 AND 2013)





2012 / 2013 WETLAND FIELD SURVEY, DELINEATION AND FUNCTIONAL ASSESSMENT REPORT

GOLDBORO LNG PROJECT

NATURAL GAS LIQUEFACTION PLANT AND MARINE TERMINAL

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1.0 INTRODUCTION

Pieridae Energy (Canada) Ltd. proposes to construct a liquefied natural gas (LNG) liquefaction plant and marine terminal in Goldboro, Guysborough County, Nova Scotia, referred to as the Goldboro LNG Project. The Project proposal also includes the development of a 180 MW onsite gas-fired power generation plant. The Goldboro LNG facility will have a capacity of 10 million tonnes per annum (Mtpa) (~1575 million cubic feet per day (Mcf/d)) and a gross LNG storage capacity of about 690,000 m3 in three 230,000 m3 tanks.

Pieridae Energy (Canada) Ltd. (Pieridae) is a Canadian energy infrastructure development company focused on LNG opportunities. The company's management team has extensive LNG experience and deep connections to the LNG industry worldwide. Pieridae operates as the project lead in the initial phases of development of a project.

1.1 Project Area

The Goldboro LNG Project (the Project) is located at the Atlantic Ocean coast, approximately 2 km from the communities of Goldboro in the west, and Drum Head in the east. The Project is situated on the same site as the LNG component of the formerly assessed Keltic Petrochemicals and LNG Facility Project (Keltic Project). The Keltic Project obtained provincial and federal EA approvals in 2007 and 2008, respectively. The Project, however, was never implemented and all approvals obtained to date have expired.

1.2 Scope of Work

In preparation for construction activities planned within the Goldboro LNG Project boundary, wetlands located within the Project area must be identified, delineated and assessed in terms of ecological functions they provide in order to conduct an accurate assessment of potential impacts the Project may have on wetland habitat. This data will also be used to prepare future wetland alteration applications to NSE. The following activities were conducted to identify and delineate wetland habitat present:

- Review aerial photographs and existing maps to identify location of wetlands;
- Determine wetlands in the field using three parameter approach (soil, vegetation, and hydrology);
- Mark wetland boundaries with physical markers and GPS;
- Conduct wetland habitat and functional assessments; and
- Reporting including photographs and field data sheets.



2.0 WETLANDS REGULATORY REQUIREMENT AND DEFINITIONS

Several definitions of "wetland" exist in literature:

- Lands that are seasonally or permanently covered by shallow water, including lands
 where the water table is at or close to the surface. The presence of abundant water
 causes the formation of hydric soils and favours the dominance of either hydrophytic or
 water-tolerant plants. The five major types of wetlands are: marshes, swamps, bogs,
 fens and shallow open waters (Environment Canada, 2013);
- A wetland is land "where the water table is at, near, or above the surface or which is saturated for a long enough period to promote such features as wet-altered soils and water tolerant vegetation" (Environment Canada, 1996);
- A wetland is land that is "saturated with water long enough to promote wetland or aquatic processes as indicated by poorly drained soils, hydrophytic (i.e., water-loving) vegetation and various kinds of biological activity which are adapted to a wet environment" (Government of Canada, 1991); and
- Wetlands are areas of "marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters" (UNESCO, 1987).

Although each definition is slightly different, the relevant common aspects adopted for the purpose of this report that define a wetland are:

- Land that is saturated or covered by water for some time during the growing season:
- Poorly drained soils; and
- Predominantly, hydrophytic vegetation.

From these features that define a wetland, it is clear that preserving wetland habitat is dependent on maintaining existing soil, vegetation, and hydrologic conditions at a site.

Wetlands are environmentally significant for several reasons, including: water filtration; water storage (water recharge); flood reduction and control; carbon absorption; erosion control; and wildlife habitat (Nova Scotia Museum, 1996). Loss of wetlands has resulted, to some degree, in increased flooding, decreased water quality, desertification, and declines of fish and wildlife (Lynch-Stewart, 1992).

2.1 Federal Policy on Wetland Conservation

The Federal Policy on Wetland Conservation (Government of Canada, 1991) directs all federal government departments to conserve or sustain wetland functions during delivery of their programs. One of the main considerations in developing the Policy was Canada's membership in the Ramsar Convention on Wetlands (Revised 1987), signed by Canada in 1981. The Ramsar Convention is a global conservation treaty specifically dealing with wetland loss and sustainable use.



Another consideration in developing the Policy was Canada's commitments under the North American Waterfowl Management Plan and the potentially beneficial influences of land use decisions by federal departments and agencies (Lynch-Stewart *et al.*, 1999).

The two key commitments in the federal wetland policy include:

- No net loss of wetland functions on federal lands through mitigation; and
- Enhancement and rehabilitation of wetlands where in areas wetland loss has reached critical levels.

Implementation of strategies contained in the Federal Policy on Wetland Conservation is outlined in the *Implementation Guide for Federal Land Managers* (Lynch-Stewart *et al.*, 1996). The Guide also outlines the hierarchy for mitigation alternatives for meeting the goal of no net loss of wetland function:

- First Avoid impacts;
- Second Minimize unavoidable impacts; and
- Third, and last Compensate for residual impacts that cannot be minimized.

In addition, the Guide provides advice on integrating wetlands into the project planning process, and details on the related process under the *Canadian Environmental Assessment Act 1992*.

2.2 Nova Scotia Wetland Policy

The Nova Scotia Wetland Conservation Policy (NSE, 2011) provides direction with respect to conservation, alteration or infilling of wetlands in Nova Scotia. The guiding principle is to achieve no loss in Wetlands of Special Significance and prevent net loss of wetland function in other wetlands. The Department designates infilling or alteration of wetlands as an "activity" under the NS *Environment Act* (Government of Nova Scotia, 1995) and requires approval of such activities prior to the occurrence.

This Policy recognizes that freshwater wetlands and salt marshes are critical ecosystems that provide a suite of environmental and societal services including:

- Maintaining watershed health;
- Maintaining and improving water quality and quantity (surface and ground);
- Reducing impacts and damage due to flooding and storm surges;
- Providing habitat for wildlife and other wetland dependent species; and
- Providing opportunities for recreation and education.

Nova Scotia Environment (NSE) recognizes that wetlands are a particularly sensitive habitat and that alteration of wetlands can cause significant adverse environmental effects. The policy guides departmental decision making with respect to wetlands.



3.0 METHODOLOGY

3.1 Desktop Review

All wetlands noted to occur within the Project footprint form previous reports and databases, were mapped, and information on the location, size and type of these wetlands were extracted. This information has been augmented by information obtained from review of:

- NS Wetlands Atlas
- Aerial photos;
- Topographical maps;
- NSDNR Wet Areas Mapping (WAM); and
- Information collected during field work.

All known wetland locations as well as high potential areas identified during the desk top review were visited in the field to confirm the presence of wetland habitat within the Project area.

3.2 Wetland Delineation

Wetland delineations were conducted according to standard methodologies approved by NSE (NSE, 2013). The determination of wetland habitat in the field was based largely on the Corps of Engineers Wetland Delineation Manual (the Manual) (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual (USACE, 2012). Wetland areas within the Project area were identified and mapped using wetland indicators and definitions from the delineation approach approved by NSE (NSE, 2013). This consisted of using representative "paired data points" (i.e., one sample point in the wetland habitat and one sample point in the adjacent upland habitat) as described in the US Army Corps of Engineers Manual.

Wetland data were recorded on Wetland Delineation Data Sheets developed by the Maritimes College of Forestry Technology for the province of Nova Scotia (Appendix A). *Munsell Soil Color Charts* (Gretagmacbeth, 2000) were used to aid in identifying hydric soils in the field. The *Canadian System of Soil Classification* (SCWG, 1998) was used to aid in description of soil characteristics. The *Roland's Flora of Nova Scotia* (Zinc, 1998) and *Flora of New Brunswick* (Hinds, 2000) aided with plant nomenclature and identification. The location of data points and selected wetland boundary points were recorded by Global Positioning System (GPS) using a TRIMBLE Geo-XH GPS receiver capable of sub-metre accuracy. Accuracy of all saved data points were estimated by the receiver to be <1m.

At each sample site, two sample points were chosen; which represent wetland and upland habitat at the wetland boundary. The location of each sample point was recorded with the GPS and marked using pink flagging tape with a unique GPS waypoint name. The identified vegetation communities were then used to delineate the wetland boundary. Selected evenly spaced boundary flags were GPS'd, as indicated in the figures located at the end of this report. All recorded GPS points are presented in Appendix B. Representative site photos of wetland areas, adjacent upland areas, and soil pit exposures were also collected (Appendix C).



3.3 Wetland Determination

To be determined a wetland; the following three criteria should be met:

- Majority of dominant vegetation species are wetland associated species;
- Hydrologic conditions exist that result in periods of flooding, ponding, or saturation during the growing season; and
- Hydric soils are present.

3.3.1 Vegetation

Hydrophytic vegetation is defined as the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanent or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present (Environmental Laboratory 1987). The definition of wetlands includes the phrase "sustains aquatic processes as indicated by the presence of hydric soils, hydrophytic vegetation and biological activities adapted to wet conditions." Hydrophytic vegetation should be the dominant plant type and is characterized by the dominant plant species comprising the plant community (Environmental Laboratory 1987).

Dominant plant species observed at each data point were classified according to their Indicator Status Group (probability of occurrence in wetlands) (Table 3.1), in accordance with the Nova Scotia Wetland Indicator Plant List developed by Sean Blaney at the Atlantic Canada Conservation Data Center (ACCDC, 2011). This classification of plants follows methods developed by the US fish and Wildlife Service (Reed 1988). Further relevant information was reviewed in Roland's *Flora of Nova Scotia* 3rd Ed. (Zinc, 1998) and *Flora of New Brunswick* 2nd Ed. (Hinds, 2000).

Table 3.1: Classification of Wetland-Associated Plant Species

Plant Species Classification	Abbreviation	Probability of Occurring in Wetland
Obligate	OBL	>99%
Facultative Wetland	FACW	66-99%
Facultative	FAC	33-66%
Facultative Upland	FACU	1-33%
Upland	UPL	<1%
No indicator status	NI	Insufficient information to determine status
Plants That Are Not Listed	NL	Does not occur in wetlands in any region.
(assumed upland species)		

Source: USFWS 1988.

The Prevalence Index (PI) was the main indicator used to assess the dominance of hydrophytic vegetation at each data point location. The PI method assigns weighted values to each dominant species according to their Indicator Status Group. The total cover (% area) of species



in each group is then multiplied by the weighted values and product is divided by the sum of the unweighted total cover, yielding a value between 1 and 5. If the majority of the dominant vegetation on a site are classified as obligate (OBL), facultative wetland (FACW), or facultative (FAC) then the PI will be equal to or less than 3, and the site is considered to be dominated by hydrophytic vegetation.

3.3.2 Soils

A hydric soil is defined as a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA-NRCS, 2007). Indicators of hydric soil include; soil color (gleyed soils and soils with bright mottles and/or low matrix chroma), aquic or preaquic moisture regime, reducing soil conditions, sulfidic material (odour), soils listed on hydric soils list, iron and manganese concretions, organic soils (Histosols), histic epipedon, high organic content in surface layer in sandy soils, and organic streaking in sandy soils.

A soil pit was excavated to a minimum depth of 40 centimetres or refusal at each data point. The soil was then examined for hydric soil indicators. The matrix color and mottle color (if present) of the soil was determined using the Munsell Soil Color Charts.

3.3.3 Hydrology

Wetlands, by definition, either periodically or permanently have a water table at, near or above the land's surface or are saturated with water. To be classified as a wetland, a site should have at least one primary indicator or two secondary indicators of wetland hydrology. Primary indicators of wetland hydrology may include, but are not limited to: water marks, drift lines, sediment deposition, drainage patterns, visual observation of saturated soils, and visual observation of inundation. In addition to the primary indicators, there is a variety of secondary wetland hydrology indicators. Secondary indicators include, but are not limited to: oxidized root channels in the upper 12 inches (30.5 centimetres), stunted vegetation, and local soil survey data. When no primary indicators of wetland hydrology are observed at a data point, two or more secondary indicators are required to confirm wetland hydrology.

3.3.4 Regional Supplement

There are a number of uncommon situations, often regional in nature that may cause difficulty in interpreting wetland indicators at a site. Some examples include recent disturbance (e.g. vegetation clearing, infilling), past land use (e.g. agricultural tillage or ditch drainage), recent extreme flooding (e.g. sediment deposits, hanging debris), and problematic soils (e.g. fluvial deposits, red parent material). The Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual (USACE, 2012) contains specific guidance for use in these situations. Although there was some minor disturbance noted in many of the wetlands assessed within the Project area, known were considered to be problematic in terms of interpreting wetland indicators.



3.4 Functional Assessment Method

Environment Canada and the US Army Corps of Engineers both describe wetland ecological functions as the natural processes (physical, chemical, biological) that a wetland provides that is independent from the benefits these processes provide to humans (Hanson et al., 2008; USACE, 1999). This is differentiated from wetland values which reflect the ecosystem services wetlands provide to humans and the associated societal value. These "values" are a product of the ecological function a wetland may provide, but may change depending on individual or community preference (Hanson et al., 2008).

NSE has developed the Nova Scotia Wetland Evaluation Technique (NovaWET) which is designed to assess the condition and functions of wetlands specifically in Nova Scotia (NSE 2013). This technique has been adapted using aspects of various methods successfully employed in other regions, in particular the US. This method uses a combination of landscape level information and site-specific characteristics of the wetland to determine the most significant wetland functions.

NovaWET consists of 11 major sections associated with key wetland functions. Each section contains a number of questions that pertain to that function which provide details that enable the assessor to determine to what degree the wetland provides significant functions (SF). This method identifies a total of 29 significant functions a wetland may provide depending on the specific characteristics of the wetland and surrounding landscape. The 11 major sections and associated 29 significant functions are as follows:

- Section 1 Watershed Characteristics
 - SF1 Watershed condition
 - SF2 Proportion of wetland area in watershed & opportunity for floodwater detention
- Section 2 Wetland Characteristics
 - SF3 General wetland condition/integrity
- Section 3 Adjacent Land Condition and Integrity
 - SF4 Overall condition and integrity of adjacent land to wetland
- Section 4 Documented Important Features
 - SF5 Wetland a WSS
 - SF6 Wetland support commercial/recreational fish/shellfish
 - o SF7 Species of concern
 - SF8 Wetland has conservation/compensation agreement/activity
 - SF9 Wetland is calcareous fen, black ash or cedar swamp
 - SF10 Within Drinking Water Protected Area (designated watershed/wellfield)



- SF11 Wetland within a floodplain and upstream or within a populated area
- SF12 Fed/Prov/Municipal area of interest
- Section 5 Hydrologic Condition and Integrity
 - SF13 Wetland hydrologic condition
 - SF14 Importance of maintaining stream flow
 - SF15 Ability to detain surface water
- Section 6 Water Quality
 - SF16 Improves water quality
 - SF17 Evidence of excess nutrient loading/contamination
 - SF18 Contributes to water quality in downstream resources
- Section 7 Groundwater Interactions
 - o SF19 Recharge site
 - o SF20 Discharge site
- Section 8 Shoreline Stabilization and Integrity
 - SF21 Ability to stabilize shoreline
- Section 9 Plant Community
 - o SF22 Plant community unique or rare regionally or provincially
 - SF23 Contain a diversity of plant communities
 - SF24 Overall integrity of the plant community
 - SF25 Presence of rare or endangered plant species
- Section 10 Fish and Wildlife Habitat and Integrity
 - SF26 Support fish/fish habitat
 - SF27 Presence of rare or endangered fish/wildlife
 - SF28 Overall fish and wildlife habitat quality
- Section 11 Community Use/Value
 - SF29 Wetland's community use/value

NovaWET goes further to identify critical wetland functions (SF rating highlighted in red on the data sheets) that are often unique or rare or associated with high risk to the watershed if lost and as such minimizing or compensating for this loss may be difficult. In many cases the rating of significant functions determines whether the wetland provides a critical function or if this function is just merely present. For example a wetland is considered to provide a critical function in terms of fish and wildlife habitat if that significant function is assessed to be of high quality. Alternatively, if habitat quality is determined to be low or moderate, the wetland is still



considered to offer that function, however it is not considered critical. Other significant functions only need to be present in order to be considered critical for example the presence of a rare or endangered species constitutes a critical function for that wetland. NSE should be consulted should a wetland be determined to provide a critical wetland function.

Functional Assessments of all wetlands encountered within the Project area were conducted using the NovaWET method. Appendix D provides the completed NovaWET evaluation forms for the eight wetlands assessed within the Project area as well as the two wetlands located outside of the Project boundary but hydrologically connected downstream from the site.

4.0 RESULTS

The field surveys were conducted between September 25th to the 28th, 2012 by AMEC Wetland Biologists, Scott Burley (M.Sc.) and Marion Sensen (Ph.D.). The weather was somewhat variable: The majority of the time, days consisted of sun mixed with clouds however the morning of September 27th received rain. Heavy rains were also received in the area on September 24th prior to the survey.

A second round of field surveys was also conducted by Scott Burley and AMEC Environmental Technician Leah Darche (EPT) between June 18th and 21st, 2013. The weather during this round of surveys was a mix of sun and cloud with rain on the 19th.

A total of 13 wetlands were identified within the LNG Facility Footprint and/or determined to be hydrologically connected downstream. The majority of wetland habitat identified consists of small riparian fens none of which were found to be larger than 1 ha in size and most covered less than 0.5 ha. Other wetland types identified include swamp, bog, marsh and coastal saline pond as well as complexes including a combination of a number of these wetland types. The total area of wetland habitat identified within the LNG Facility is approximately 3.3 ha.

Wetland habitat was also identified along the proposed alignment for the Water Supply Pipeline during the June 2013 surveys. The final alignment of the water supply pipeline is not yet finalized and as such it is unclear which wetlands, if any, will be impacted as a result of the Water Supply Pipeline construction. Once the alignment is finalized, complete wetland surveys, including full delineations and functional assessments, will be conducted within the identified wetland habitat potentially impacted by the Project components.

The number of wetlands detected within the Project area in 2013 represents a significant increase in wetland habitat than what previous surveys of the area identified for the Keltic EA (AMEC, 2006). Two of the wetlands identified during the Keltic EA were re-surveyed during this recent field program. The wetland numbers assigned to wetlands during the 2013 survey are compared to the previous wetland numbering system for the Keltic EA in Table 4.1 below.



Table 4.1: Wetland Locations and Classification

Wetland # for Current Survey (AMEC 2013)	Wetland # for Keltic EA			
WL1 – WL8 and WL11 – WL13	Not identified during previous			
	survey			
WL9	WL12			
WL10 - Does not occur within the	WL13			
Project boundary but is hydrologically				
connected downstream				
Determined to be a pond (not wetland)	WL1			
(Dung Pond)				
These wetlands do not occur within the	WL2 – WL11 and WL14			
current Project area				

Eleven (11) of the 13 wetlands surveyed were found to occur within the Project area, and complete delineations were conducted in addition to habitat and functional assessments (WL1 – WL8 and WL11-WL13 inclusive in Table 4.2). After the completion of the field surveys, the property boundary was changed and as such WL7 is no longer within the LNG Facility footprint, however given the proximity to the Project area and hydrological connectivity, this wetland is still included in the assessment as it may be impacted by Project activities.

WL9 constitutes the coastal saline ponds located at the southern end of the Study area. This wetland was identified in previous reports and as such field delineations were not conducted as this information already exists. One wetland was also located outside of the Project area but was found to be hydrologically connected downstream from the site via the unnamed stream located along the western end of the Project area (WL10). Functional assessments were completed for both WL9 and WL10.

Table 4.2 provides a summary of all wetlands assessed along with their general characteristics and corresponding coordinates (UTM Zone 20, NAD 83).

Table 4.2: Wetland Locations and Characterization

Wetland	Coordinates		Typo	Size	Landscape	Water Flow	Landform
#	Easting	Northing	Туре	(Ha)	Position	Path	
WL1	607441	5002595	Bog/Fen/Swamp/Marsh	0.17	Lotic Stream	Throughflow	Basin
WL2	607504	5002543	Herb Fen	0.20	Terrene	Outflow	Basin
WL3	607627	5002408	Fen/Bog/Marsh	0.19	Terrene	Outflow	Basin
			<u> </u>		Pond		
WL4	607114	5002089	Fen	0.15	Lotic Stream	Throughflow	Slope
\\/\ =	007400	E004000	Гон	0.22	Lotic	Throughflow	Slope
WL5	607422	5001908	Fen	0.32	Stream	_	Basin Basin Slope Slope Basin
WL6	608135	5002011	Shrub/Treed Fen	0.10	Terrene	Isolated	Basin
WL7	608389	5002048	Shrub Bog	0.10	Lotic	Throughflow	Basin
	000309	3002040	Silido Bog	0.10	Stream		



WL8	607318	5001668	Shrub Swamp/Fen	0.62	Lotic	Throughflow	Slope
			•		Stream		Rasin
WL9	606913	5001574	Coastal Saline Pond	0.61	Terrene	Isolated	Basin
WL10	607037	5001949	Shrub Swamp	0.05	Lotic Pond	Throughflow	Slope
WL11	608129	5001772	Treed Bog	0.44	Terrene	Isolated	Basin
WL12	608268	5002104	Treed Swamp	0.17	Lotic	Throughflow	roughflow Basin
VVLIZ	000200	3002104	rreed Swamp	0.17	Stream	Throughflow Slope Isolated Basin Throughflow Basin	
WL13	607390	5002423	Trood Pog	0.19	Lotic	Throughflow	Basin
VVLIS	007390	3002423	Treed Bog	0.19	Stream		

4.1 Wetland Delineation

The following descriptions of sample test points are summarized from field data sheets presented in Appendix A. Site photos are included in Appendix C. The following description refers to GPS points in Appendix B and figures located at the end of this report.

4.1.1 Wetland 1 (WL1)

WL1 (Figure 3) is a fen/bog/swamp/marsh wetland complex approximately 0.17 ha in total area located adjacent to sable road (Figure 2). One paired sampling site was recorded. The wetland was determined to contain normal site conditions however the western boundary may be slightly influenced by Sable Road. The upland area around the northern, southern and eastern borders of the wetland is composed of a mixed forest.

The dominant vegetation at Data Point "WL1-WP1" in the overstory is Black Spruce (*Picea mariana*) with Speckled Alder (*Alnus incana*) dominating the shrub layer. The understory is dominated by a thick layer of sphagnum moss with Soft rush (*Juncus effuses*) as the dominant understory (Photo 1; Appendix C). The PI was observed to be 1.9. The soil was determined to be a histosol (A1) as there was more than 40 cm of organic matter accumulated (Photo 2; Appendix C). Surface water, soil saturation and the water table was to the surface (A1, A2 and A3).

The dominant vegetation at Data Point "WL1-UP1' in the overstory and sub canopy is Balsam Fir (*Abies balsamea*). Mountain Holy (*Nemopantus mucronatus*) was also found to be dominant in the understorey while Bunchberry (*Cornus canadensis*) and Twin Flower (*Linnea borealis*) dominated the understory (Photo 3; Appendix C). The PI was observed to be 3.0 although all species were found to have an indicator status of FAC or FACU. The substrate was found to consist of a 15 cm duff layer over rock (Photo 4, Appendix C). The soil appeared to be well drained with no presence of saturation. Although the sample point has hydrophytic vegetation, the lack of hydric soil and wetland hydrology identifies this site as upland.

The presence of Sable Road, topographic relief and vegetation were the main criteria utilized in delineating the wetland boundary. WL1 is a shrub/open wetland and is bordered along its western boundary by Sable Road. Along the northern, eastern and southern boundaries of the wetland there is a noticeable transition in elevation (2-7% slope) and vegetation.



4.1.2 Wetland 2 (WL2)

WL2 (Figure 4) is an herb fen wetland approximately 0.20 ha in total area located in the northwest end of the Project area (Figure 2). One paired sampling site was recorded. The wetland was determined to contain normal site conditions however an accumulation of mine tailings was noted in the south end of the wetland. The upland area surrounding the entire wetland is composed of a mixed forest.

The dominant vegetation at Data Point "WL2-WP1" in the overstory and subcanopy is Black Spruce along with alder dominating the shrub layer. The understory is dominated by a thick layer of sphagnum moss with Labrador Tea (*Rhododendron groenlandicum*) and Lambkill (*Kalmia angustifolia*) as the dominant understory (Photo 5; Appendix C). The PI was observed to be 2.4. The soil was determined to be a histosol (A1) as there was more than 40 cm of organic matter accumulated (Photo 6; Appendix C). Although surface water was not present at the sample point, soil saturation was at surface (A3) and the water table was to 10 cm from surface (A2).

Balsam fir and White Spruce (*Picea glauca*) is the dominant vegetation at Data Point "WL2-UP1', in the overstory while Balsam Fir is also dominant in the subcanopy. Bunchberry was found to dominate the understory (Photo 7; Appendix C). The PI was observed to be 3.0 although all species were found to have an indicator status of FAC. The substrate was found to consist of a 30 cm duff layer over rock (Photo 8, Appendix C). The soil appeared to be well drained with no presence of saturation. Although the sample point has hydrophytic vegetation, the lack of hydric soil and wetland hydrology identifies this site as upland.

Delineation of WL2 relied primarily on an abrupt change in elevation and shift in vegetation composition. The wetland is located in a basin where the land slopes inward essentially on all sides. A small stream provides an outlet to the wetland on the west end which abruptly becomes a confined channel that flows through the bordering mixed wood forest.

4.1.3 Wetland 3 (WL3)

WL3 (Figure 5) is a fen/bog wetland complex approximately 0.19 ha in total area located in the northwest end of the Project area (Figure 2). One paired sampling site was recorded. The wetland was determined to contain normal site conditions however an accumulation of mine tailings was noted in the western side of the wetland. The upland area surrounding the entire wetland is composed of a mixed forest.

The dominant vegetation at Data Point "WL3-WP1" in the overstory is Black Spruce and Balsam Fir. Speckled Alder was found to dominate the subcanopy. The ground layer is dominated by a thick layer of sphagnum moss with Labrador Tea as the dominant species (Photo 9; Appendix C). The PI was observed to be 2.3. The soil was determined to be a histosol (A1) as there was more than 40 cm of organic matter accumulated (Photo 10; Appendix C). Although surface water was not present at the sample point, soil saturation was at surface (A3) and the water table was to 12 cm from surface (A2).



Balsam Fir and Red Spruce (*Picea rubra*) are the dominant vegetation at Data Point "WL3-UP1', in the overstory while Mountain Holy and Lambkill dominate the understorey. Bunchberry and Velvetleaf Blueberry (*Vaccinium myrtilloides*) was found to dominate the understory (Photo 11; Appendix C). The PI was observed to be 3.0. The substrate was found to consist of a 5 cm duff layer over rock (Photo 12, Appendix C). The soil appeared to be well drained with no presence of saturation. Although the sample point has hydrophytic vegetation, the lack of hydric soil and wetland hydrology identifies this site as upland.

WL3 is located at the bottom of a steep sided valley where boundary delineation was determined primarily by the abrupt change in elevation and associated shift in plant species composition.

4.1.4 Wetland 4 (WL4)

WL4 (Figure 6) is a fen wetland approximately 0.15 ha in total area located in the southwest end of the Project area (Figure 2). Highway 316 runs along the south end of this wetland. One paired sampling site was recorded. The wetland was determined to contain normal site conditions however Highway 316 may be an influence on hydrology along the south side. The upland area along the west side is composed of a mixed forest while forestry activities along the north and east sides have resulted in the development of early successional forest communities in this area.

The dominant vegetation at Data Point "WL4-WP1" is Speckled Alder and Flat-topped White Aster (*Doellingeria umbellata*) in the subcanopy while Soft Rush, Swamp Dewberry (*Rubus hispidus*) and Three-seeded Sedge (*Carex trisperma*) are the dominant species in the understory (Photo 13; Appendix C). The PI was observed to be 2.3. The soil was determined to be a histosol (A1) as there was more than 40 cm of organic matter accumulated (Photo 14; Appendix C). Surface water was found to be present at the sample point (A1), soil saturation was at surface (A3) and the water table was to 5 cm from surface (A2).

Balsam Fir and Red Spruce are the dominant species at Data Point "WL4-UP1', in the overstory while Blueberry (*Vaccinium angustifolium*) was found to dominate the understory (Photo 15; Appendix C). The PI was observed to be 2.8. The substrate was found to consist of a 5 cm duff layer over a 15cm silt-loam Ap layer (7.5YR 4/2) on top of a sand-loam Ae layer (7.5YR 6/3), overtop a sandy-loam B horizon (7.5YR 4/4) (Photo 16, Appendix C). The soil appeared to be well drained with no presence of saturation. Although the sample point has hydrophytic vegetation, the lack of hydric soil and wetland hydrology identifies this site as upland.

WL4 is located along the north side of Highway 316 and as such the southern boundary of this wetland follows the highway. Wetland boundaries along the east and west sides were determined by an abrupt change in elevation. The boundary along the northern end of this wetland consists of a more gradual change in elevation which creates a wider transition from wetland to upland in this area. Forestry activities in this area have also altered the vegetation community where tall shrub species such as alder and American Ash (*Sorbus americana*) have replaced the previous forest community. Wetland boundary in this area was determined by a shift in dominance of sphagnum moss in the wetland to feather moss in the upland.



4.1.5 Wetland 5 (WL5)

WL5 (Figure 7) is a fen/bog wetland complex approximately 0.32 ha in total area located in the southern end of the Project area, north of Highway 316 (Figure 2). Highway 316 runs along the south end of this wetland. One paired sampling site was recorded. The wetland was determined to contain normal site conditions however Highway 316 may have an influence on hydrology along the south side. The upland area along the north and east boundaries is composed of a mixed forest while forestry activities along the west side have resulted in the development of an early successional forest community in this area.

The dominant vegetation at Data Point "WL5-WP1" is Black Spruce in the canopy while Three-seeded Sedge is the dominant species in the understory (Photo 17; Appendix C). The PI was observed to be 1.7. The soil was determined to be a histosol (A1) as there was more than 40 cm of organic matter accumulated (Photo 18; Appendix C). Surface water was found to be present at the sample point (A1), soil saturation was at surface (A3) and the water table was to 5 cm from surface (A2).

Balsam Fir is the dominant species at Data Point "WL5-UP1', in the canopy while Bunchberry was found to dominate the understory (Photo 19; Appendix C). The PI was observed to be 3.0. The substrate was found to consist of a 5 cm duff layer over a 3cm loam-sand Ae layer (5YR 5/1), overtop a coarse sand B horizon (5YR 4/4) (Photo 20, Appendix C). The soil appeared to be well drained with no presence of saturation. Although the sample point has hydrophytic vegetation, the lack of hydric soil and wetland hydrology identifies this site as upland.

WL5 is located along the north side of Highway 316 and as such the southern boundary of this wetland follows the highway. Wetland boundaries along the north and west sides were determined by an abrupt change in elevation. The boundary along the eastern end of this wetland consists of a more gradual change in elevation which creates a wider transition from wetland to upland in this area. Wetland boundary in this area was determined by a shift in dominance of sphagnum moss in the wetland to feather moss in the upland.

4.1.6 Wetland 6 (WL6)

WL6 (Figure 8) is a fen/bog wetland complex approximately 0.10 ha in total area located in the northeast end of the Project area (Figure 2). An old skidder trail is evident within the wetland. One paired sampling site was recorded. The wetland was determined to contain normal site conditions although forestry operations adjacent to and within the wetland may have altered the vegetation structure. The upland area along the south boundary is composed of a mixed forest while forestry activities along the remaining three sides have resulted in the development of an early successional forest community.

The dominant vegetation at Data Point "WL6-WP1" is Black Spruce in the canopy while Swamp Dewberry is the dominant species in the understory (Photo 17; Appendix C). The PI was observed to be 2.4. The soil was determined to be a histosol (A1) as there was 30 cm of organic matter overtop of bedrock (Photo 18; Appendix C). Although no surface water was found at the sample point, soil saturation was at surface (A3) and the water table was to 3 cm from surface (A2).



Balsam Fir is the dominant species at Data Point "WL6-UP1', in the canopy while Wild Raisin (*Vibirnum nudum*) was the dominant species in the subcanopy and Bunchberry dominated the understory (Photo 19; Appendix C). The PI was observed to be 2.9. The substrate was found to consist of a 16 cm duff layer over bedrock (Photo 20, Appendix C). The soil appeared to be well drained with no presence of saturation. Although the sample point has hydrophytic vegetation, the lack of hydric soil and wetland hydrology identifies this site as upland.

Wetland boundaries along the north, south and west sides of WL6 were determined by an abrupt change in elevation. The boundary along the eastern end of this wetland consists of a more gradual change in elevation which creates a wider transition from wetland to upland in this area. Forestry activities have also created an early successional forest community in this area. Wetland boundary in this area was determined by a shift in dominance of sphagnum moss in the wetland to feather moss in the upland.

4.1.7 Wetland 7 (WL7)

WL7 (Figure 9) is a bog wetland approximately 0.10 ha in total area located outside of the Project area along the northeast boundary (Figure 2). A natural gas pipeline right of way is located along the eastern side of the wetland. One paired sampling site was recorded. The wetland was determined to contain normal site conditions although tree harvesting adjacent to and within the wetland may have altered the vegetation structure in the buffer zone. The upland area along the western boundary is composed of a mixed forest while forestry activities along the north and south sides have resulted in the development of an early successional forest community.

The dominant vegetation at Data Point "WL7-WP1" is Black Spruce, Mountain Holy and Speckled Alder in the subcanopy while Sweet Gale (*Myrica gale*) is the dominant species in the understory (Photo 21; Appendix C). The PI was observed to be 1.6. The soil was determined to be a histosol (A1) as there was more than 40 cm of accumulated organic matter (Photo 22; Appendix C). Surface water was found to be present (A1) and soil saturation was at surface (A3).

Balsam Fir and Red Spruce are the dominant species at Data Point "WL7-UP1', in the canopy while Lambkill and Mountain Holy was the dominant species in the subcanopy. Lambkill and Bunchberry dominated the understory (Photo 23; Appendix C). The PI was observed to be 3.0. The substrate was found to consist of a 8 cm duff layer over an 11 cm sandy-loam Ae layer (5YR 7/1), overtop of a silty-clay B horizon (10YR 4/3) (Photo 24, Appendix C). The soil appeared to be well drained with no presence of saturation. Although the sample point has hydrophytic vegetation, the lack of hydric soil and wetland hydrology identifies this site as upland.

Wetland boundaries along the south, east and west sides of WL7 were determined by an abrupt change in elevation. The boundary along the northern end of this wetland consists of a more gradual change in elevation which creates a wider transition from wetland to upland in this area.



Wetland boundary in this area was determined by a shift in dominance of sphagnum moss in the wetland to feather moss in the upland.

4.1.8 Wetland 8 (WL8)

WL8 (Figure 10) is a shrub swamp/sloped fen wetland complex approximately 0.62 ha in total area located in the southern end of the Project area (Figure 2). One paired sampling site was recorded. The wetland was determined to contain normal site conditions although tree harvesting adjacent to and within the wetland has altered the vegetation structure. Forestry activities surrounding the wetland have resulted in the development of an early successional forest community in the upland area while a barrier beach borders a portion of the south side of the wetland.

The dominant vegetation at Data Point "WL8-WP1" is Speckled Alder in the subcanopy while Three-seeded Sedge is the dominant species in the understory (Photo 25; Appendix C). The PI was observed to be 1.6. The soil was determined to be a sandy mucky mineral (S1) as there was 35 cm of black fine sand/organic soil present over rock (Photo 26; Appendix C). Although Surface water was not found at the sample point, the water table and soil saturation was at surface (A2 and A3).

White Spruce is the dominant species at Data Point "WL8-UP1', in the canopy Bunchberry and Wild-lily-of-the-valley (*Mainanthemum canadensis*) dominates the understory (Photo 27; Appendix C). The PI was observed to be 3.0. The substrate was found to consist of a 10 cm duff layer over 5 cm sandy-loam Ae layer (7.5YR 7/1), overtop of a silty-clay-loam B horizon (5YR 5/4) (Photo 28, Appendix C). The soil appeared to be well drained with no presence of saturation. Although the sample point has hydrophytic vegetation, the lack of hydric soil and wetland hydrology identifies this site as upland.

Wetland boundaries along the shrub swamp portion of WL8 were determined by an abrupt change in elevation and associated shift in dominant plant species. The boundaries of the sloped fen portion of this wetland located in the southwest end consists of a more gradual shift in elevation and dominant plant species. Wetland boundary in this area was determined by a shift in dominance of sphagnum moss in the wetland to feather moss in the upland.

4.1.9 Wetland 9 (WL9)

WL9 (Figure 11) consists of two coastal saline ponds connected by a temporarily flooded channel. This wetland is located at the southeast end of the peninsula and is bordered by a barrier beach on three sides. The northwest side is bordered by a coastal forest consisting of compact shrubs and stunted spruce trees. Delineation data sheets were not completed for this wetland since this area has been previously identified in the Keltic EA (AMEC, 2006).

4.1.10 Wetland 10 (WL10)

WL10 (Figure 12) is a riparian shrub swamp located along an unnamed stream at the point where it flows into the northwest corner of Dung Pond. The wetland is bordered on three sides by a mixed forest while Dung Pond borders the southern boundary. This wetland was identified in the Keltic EA (AMEC, 2006) and is located outside of the Project boundary and as such



delineation data sheets were not completed however the wetland boundary was geo-referenced using a GPS in order to depict the approximate location relative to proposed Project activities.

4.1.11 Wetland 11 (WL11)

WL11 (Figure 13) is a treed/shrub bog wetland approximately 0.44 ha in total area located at the LNG Facility boundary on northeast side (Figure 2). Forestry activity is evident within and adjacent to the wetland. One paired sampling site was recorded. The wetland was determined to contain normal site conditions although tree harvesting adjacent to and within the wetland has altered the vegetation structure. The upland area along the eastern boundary has cleared of trees while older forestry activities along the north, west and south sides have resulted in the development of an early successional forest community dominated primarily with Balsam Fir.

The dominant vegetation at Data Point "WL11-WP1" is Black Spruce in the canopy, Lambkill in the subcanopy and Three-seeded Sedge in the understory (Photo 29; Appendix C). The PI was observed to be 1.9. The soil was determined to be a histosol (A1) as there was more than 40 cm of accumulated organic matter (Photo 30; Appendix C). A high water table was found to be present (A2) and soil saturation was at surface (A3).

Balsam Fir was the dominant species at Data Point "WL11-UP1', in the subcanopy while Bunchberry dominated the understory (Photo 32; Appendix C). The PI was observed to be 2.9. The substrate was found to consist of a 15 cm duff layer over rock (Photo 33, Appendix C). The area appeared to be well drained with no presence of saturation. Although the sample point has hydrophytic vegetation, the lack of hydric soil and wetland hydrology identifies this site as upland.

Wetland boundaries along the south, and north sides of WL11 were determined by an abrupt change in elevation. The boundary along the eastern and western ends of this wetland consists of a more gradual change in elevation however a distinct change in dominant vegetation and soil characteristics determined the boundary.

4.1.12 Wetland 12 (WL12)

WL12 (Figure 14) is a treed swamp/fen wetland approximately 0.17 ha in total area located in the northeast corner of the LNG Facility Footprint (Figure 2). Forestry activity is evident within and adjacent to the wetland. One paired sampling site was recorded. The wetland was determined to contain normal site conditions although tree harvesting adjacent to and within the wetland has altered the vegetation structure. Forestry activities surrounding this wetland have resulted in the development of an early successional forest community.

The dominant vegetation at Data Point "WL12-WP1" is Red Maple and Black Spruce in the canopy, Black Spruce, Mountain Holy and Labrador Tea in the subcanopy and Three-seeded Sedge in the understory (Photo 34; Appendix C). The PI was observed to be 2.0. The soil was determined to be a histosol (A1) as there was more than 40 cm of accumulated organic matter



(Photo 35; Appendix C). Surface water was found to be present (A1) and soil saturation was at 10cm (A3).

Black Spruce was the dominant species at Data Point "WL12-UP1', in the canopy while Balsam Fir, Lambkill and Black Spruce dominated the subcanopy. Bunchberry dominated the understory (Photo 36; Appendix C). The PI was observed to be 2.8. The substrate was found to consist of a 15 cm duff layer over a 10 cm silt loam Ae layer (7.5YR 6/2) (Photo 37, Appendix C). Rock was encountered at 25 cm where water was detected however the area appeared to be well drained with no presence of saturation. Although the sample point has hydrophytic vegetation, the lack of hydric soil and wetland hydrology identifies this site as upland.

Wetland boundaries along the south, and north sides of WL13 were determined by an abrupt change in elevation. The boundary along the eastern and western ends of this wetland consisted of a more gradual change in elevation however a distinct change in dominant vegetation and soil characteristics determined the boundary.

4.1.13 Wetland 13 (WL13)

WL13 (Figure 15) is a treed/shrub bog wetland approximately 0.19 ha in total area located along the unnamed stream that flows along the western boundary of the LNG Facility Footprint (Figure 2). Forestry activity is evident on the eastern end adjacent to the wetland. One paired sampling site was recorded. The wetland was determined to contain normal site conditions.

The dominant vegetation at Data Point "WL13-WP1" is Black Spruce in the canopy and Speckled Alder in the subcanopy (Photo 38; Appendix C). The PI was observed to be 2.2. The soil was determined to be a histic epipedon (A2) as there was 30 cm of accumulated organic matter over a silt loam layer with a colour of 7.5YR 4/2 (Photo 39; Appendix C). A high water table was found to be present (A2) and soil saturation was at surface (A3).

Black Spruce and Balsam Fir was the dominant species at Data Point "WL13-UP1' in the canopy while Balsam Fir, Mountain Holy and Black Spruce dominated the subcanopy. Velvet-leaf Blueberry dominated the understory (Photo 40; Appendix C). The PI was observed to be 2.6. The substrate was found to consist of a 20 cm duff layer over a 5 cm silt loam Ae layer (7.5YR 6/1) which overlaid a silt loam B layer (10YR 4/3) (Photo 41, Appendix C). The area appeared to be well drained with no presence of saturation. Although the sample point has hydrophytic vegetation, the lack of hydric soil and wetland hydrology identifies this site as upland.

Wetland boundaries along the south, and north sides of WL12 were determined by an abrupt change in elevation. The boundary along the eastern and western ends of this wetland consists of a more gradual change in elevation however a distinct change in dominant vegetation and soil characteristics determined the boundary.



4.2 Functional Assessments

The resulting description of wetland functions will provide the baseline for further assessment and monitoring of project impacts. The description of wetland functions is intended to be conservative. Completed assessment forms are located in Appendix D.

4.2.1 Ecological Characterization

The Project area occurs along a tertiary watershed divide where both 1EP-SD and 1EQ-SD cover portions of the Project area. The tertiary watershed (1EP-SD) within which the western portion of the Project area is located is relatively large covering approximately 220 km² and encompasses both sides of Isaac's Harbour and Country Harbour in Guysborough County, NS. Land cover (based on the Nova Scotia Forest inventory Database: NSDNR, 2012) within the majority of this watershed is forested and open natural areas (e.g. barrens) comprising approximately 70% of the tertiary watershed. Wetlands also constitute a relatively moderate component of this wetland covering approximately 14% of the total area. Anthropogenic development in this area is relatively low with residential, gravel pits, roads and landfills combining for a total coverage of approximately 7% of the tertiary land cover.

The tertiary watershed (1EQ-SD) within which the eastern portion of the Project area is located is the larger of the two watersheds covering approximately 518 km² and encompasses the land east of the Project site to the eastern end of Guysborough County. Land cover within the majority of this watershed is also forested and open natural areas (e.g. barrens) with a combined coverage of approximately 86% of tertiary watershed 1EQ-SD. Wetlands also constitute a relatively moderate component of this wetland covering approximately 11% of the total area. Anthropogenic development in this area is relatively low with residential, gravel pits, roads and landfills combining for a total coverage of approximately 7% of the tertiary land cover.

Forestry is the greatest stress within both tertiary watersheds where large clear cut and partial cut blocks are noted to occur throughout the area. The overall watershed condition is relatively unaltered with a low percentage of impervious surfaces. The reliance on individual wetlands to contribute to flood water detention is moderate given the proportion of total wetland area in both watersheds.

Land cover in the Project area consists primarily of coniferous / mixed forest in various successional stages intermixed with open shrub dominated areas and clear cuts. This habitat distribution is primarily a result of forestry activity as well as historic mining that has occurred within the site. A number of small streams are located within the Project area the largest occurring along the western side which originates at WL2 and WL3 and flows south before discharging into Dung Pond. Fish surveys conducted in this stream found Brook trout (Salvinelis fontinalis) (in the lower reaches) and American Eel (Anguilla rostrata).

Vegetation surveys conducted during previous years and supplemented during the 2012 / 2013 field surveys indicated that no plant species at risk listed under the federal Species at Risk Act (SARA0 or Nova Scotia Endangered Species Act (NSESA) were recorded in the Project area.



One plant species of conservation concern, Variegated Horsetail (*Equisetum variegatum* – ACCDC rank; S3) was recorded in wetland 2 and 3 (WL2 and WL3).

Surface hydrology in the area flows in two major directions eventually reaching the coast to the south of the property. The western portion of the site drains in a southwest direction, while the eastern section of the site flows in a southeast direction towards Betty's Brook and eventually reaching the coast.

Groundwater flow is inferred to follow similar directional flow as surface drainage patterns. Based on various characteristics such as wetland soils, land use in the subwatershed upstream, topographic relief surrounding wetlands and hydroperiod of wetland, 12 of the 13 wetlands assessed are likely groundwater discharge sites. Wetland 11 (WL11) was found to potentially serve as a groundwater recharge site. A total of 13 wells are recorded in the NS well log database, however given the relative small size of wetland 12 and since the remaining wetlands in the Project area are likely discharge wetlands, it is unlikely that the Project impacts on wetlands will have any significant impact on the ground water flow regime and potable water wells of the area.

4.2.2 Significant Wetland Functions

4.2.2.1 Wetland 1 (WL1)

WL1 is characterized as a wetland complex comprised of a mix of bog, fen, swamp, and marsh types. The integrity of this wetland and surrounding buffer is considered to be high where impacts to this wetland are minimal and the adjacent buffer area is considered to be in a natural state and fully vegetated (SF3 and SF4). The buffer zone surrounding the wetland provides high quality wildlife habitat and water quality function.

The hydrologic condition of this wetland is considered natural despite the presence of Sable Road along the western side as this was determined to have little to no impact on wetland hydrology. The wetland was also determined to improve water quality (SF16) with little evidence of excess nutrient loading or contamination (SF17).

The plant community in this wetland was determined to be relatively intact with high species diversity and little to no influence of invasive/non-native species. This complex consists of a number of different wetland types and as such it is considered to have a high diversity of high quality vegetation communities (SF23 and SF24).

American Eel (COSEWIC – Threatened) was recorded within the unnamed stream that flows from this wetland (SF7, SF26 and SF27) and as such this wetland may provide moderate nursery habitat for this species (SF28). The wetland may provide moderate habitat to amphibians, reptiles, fish and mammals. This wetland may provide open aesthetic functions as well as berry picking and plant gathering opportunities as it is accessible to the public via Sable Road (SF29).



Red rated functions provided by this wetland include supporting commercial/recreation fish species (SF6) as well as the presence of species of concern (American Eel) (SF7).

4.2.2.2 Wetland 2 (WL2)

WL2 is characterized as a terrene outflow fen. The integrity of this wetland and surrounding buffer is considered to be high where impacts to this wetland are minimal and the adjacent buffer area is considered to be in a natural state and fully vegetated (SF3 and SF4). The buffer zone surrounding the wetland provides high quality wildlife habitat and water quality function.

This wetland is important in maintaining stream flow of the unnamed stream that flows along the west side of the Project area (SF14). The hydrologic condition of this wetland is considered natural despite the presence of historic mine tailings within the southeastern end as this was determined to have little to no impact on wetland hydrology. The wetland was also determined to improve water quality (SF16) with little evidence of excess nutrient loading or contamination (SF17).

The plant community in this wetland was determined to be relatively intact with high species diversity and little to no influence of invasive/non-native species. One plant species of conservation concern, Variegated Horsetail (*Equisetum variegatum* – ACCDC rank; S3) was recorded in WL2. Although this wetland is comprised of only one wetland type it is considered to have a moderate diversity of high quality vegetation communities.

American Eel (COSEWIC – Threatened) was recorded within the unnamed stream that flows from this wetland (SF7, SF26 and SF27) and this wetland may provide moderate nursery habitat for this species (SF28). The wetland may provide moderate habitat to amphibians, reptiles, fish and mammals. This wetland may provide open aesthetic functions as well as berry picking and plant gathering opportunities however since this wetland is not readily accessible by the public, community use functions are assessed as low (SF29).

Red rated functions provided by this wetland include maintaining stream flow (SF14), supporting commercial/recreation fish species (SF6) as well as the presence of species of concern (American Eel and Variegated Horsetail) (SF7).

4.2.2.3 Wetland 3 (WL3)

WL3 is characterized as a wetland complex comprised of a mix of bog, fen and swamp types. The integrity of this wetland and surrounding buffer is considered to be high where impacts to this wetland are minimal and the adjacent buffer area is considered to be in a natural state and fully vegetated (SF3 and SF4). The buffer zone surrounding the wetland provides high quality wildlife habitat and water quality functions.

This wetland is important in maintaining stream flow of the unnamed stream that flows along the west side of the Project area (SF14). The hydrologic condition of this wetland is considered natural despite the presence of historic mine tailings within the southeastern end as this was



determined to have little to no impact on wetland hydrology. The wetland also showed little evidence of excess nutrient loading or contamination (SF17).

The plant community in this wetland was determined to be relatively intact with high species diversity and little to no influence of invasive/non-native species. One plant species of conservation concern, Variegated Horsetail (*Equisetum variegatum* – ACCDC rank; S3) was recorded in WL3. This complex consists of a number of different wetland types and as such it is considered to have a high diversity of high quality vegetation communities (SF23 and SF24).

American Eel (COSEWIC – Threatened) was recorded within the unnamed stream that flows from this wetland (SF7, SF26 and SF27) and this wetland may provide moderate nursery habitat for this species (SF28). The wetland may provide moderate habitat to amphibians, reptiles, fish and mammals. This wetland may provide open aesthetic functions as well as berry picking and plant gathering opportunities however since this wetland is not readily accessible by the public, community use functions are assessed as low (SF29).

Red rated functions provided by this wetland include maintaining stream flow (SF14), supporting commercial/recreation fish species (SF6) as well as the presence of species of concern (American Eel and Variegated Horsetail) (SF7).

4.2.2.4 Wetland 4 (WL4)

WL4 is characterized as a sloped throughflow fen wetland. Highway 316 borders the south side of this wetland and forestry activity has occurred in the buffer surrounding the wetland and as such the integrity of this wetland and surrounding buffer is considered to be moderate (SF3 and SF4). Despite these stressors, impacts to this wetland appear to be relatively minimal and the adjacent buffer area is fully vegetated (although altered from the natural forested community). The buffer zone surrounding the wetland supports wildlife habitat and water quality.

The hydrologic condition of this wetland may be slightly modified by the presence of Highway 316 along the southern side which may have aided in wetland development in this area. The wetland was also determined to improve water quality (SF16) with little evidence of excess nutrient loading or contamination (SF17).

The plant community in this wetland was determined to be relatively intact with moderate species diversity and little to no influence of invasive/non-native species. This wetland is considered to have a moderate diversity of moderate quality vegetation communities (SF23 and SF24).

American Eel (COSEWIC – Threatened) was recorded within the unnamed stream that flows through this wetland (SF7, SF26 and SF27) and this wetland may provide moderate nursery habitat for this species (SF28). The wetland may provide moderate habitat to amphibians, reptiles, fish and mammals. This wetland may also provide open aesthetic functions as well as berry picking and plant gathering opportunities as it is accessible to the public via Highway 316 (SF29).



Red rated functions provided by this wetland include supporting commercial/recreation fish species (SF6) as well as the presence of species of concern (American Eel) (SF7).

4.2.2.5 Wetland 5 (WL5)

WL5 is characterized as a sloped throughflow fen wetland. Highway 316 borders the south side of this wetland and forestry activity has occurred within the buffer surrounding the wetland and as such the integrity of this wetland and surrounding buffer is considered to be moderate (SF3 and SF4). Despite these stressors, impacts to this wetland appear to be relatively minimal and the adjacent buffer area is fully vegetated (although altered from the natural forested community). The buffer zone surrounding the wetland supports wildlife habitat and water quality.

The hydrologic condition of this wetland may be slightly modified by the presence of Highway 316 along the southern side which may have aided in wetland development in this area. The wetland was also determined to improve water quality (SF16) with little evidence of excess nutrient loading or contamination (SF17).

The plant community in this wetland was determined to be relatively intact with moderate species diversity and little to no influence of invasive/non-native species. This wetland is considered to have a moderate diversity of moderate quality vegetation communities (SF23 and SF24).

The wetland may provide moderate habitat to amphibians, reptiles, and mammals. This wetland may also provide open aesthetic functions as well as berry picking and plant gathering opportunities as it is accessible to the public via Highway 316 (SF29).

No red rated functions were assessed for this wetland.

4.2.2.6 Wetland 6 (WL6)

WL6 is characterized as an isolated tree/shrub fen wetland. Forestry activity has occurred in the buffer surrounding the wetland and as such the integrity of this wetland and surrounding buffer is considered to be moderate (SF3 and SF4). Despite these stressors, impacts to this wetland appear to be relatively minimal and the adjacent buffer area is fully vegetated (although altered from the natural forested community). The buffer zone surrounding the wetland supports wildlife habitat and water quality.

The hydrologic condition of this wetland is considered natural (SF13) with little evidence of excess nutrient loading or contamination (SF17).

The plant community in this wetland was determined to be relatively intact with moderate species diversity and little to no influence of invasive/non-native species. This wetland is



considered to have a moderate diversity of moderate quality vegetation communities (SF23 and SF24).

The wetland may provide moderate habitat to amphibians, reptiles and mammals (SF28). This wetland may provide plant gathering opportunities but is not readily available to the public and thus the community use function is assessed as low (SF29).

No red rated functions were assessed for this wetland.

4.2.2.7 Wetland 7 (WL7)

WL7 is characterized as a throughflow bog fen wetland. Forestry activity has occurred in the buffer surrounding the wetland and as such the integrity of this wetland and surrounding buffer is considered to be moderate (SF3 and SF4). Despite these stressors, impacts to this wetland appear to be relatively minimal and the adjacent buffer area is fully vegetated (although altered from the natural forested community). The buffer zone surrounding the wetland supports wildlife habitat and water quality.

The hydrologic condition of this wetland is considered natural (SF13) with little evidence of excess nutrient loading or contamination (SF17). The wetland was also determined to improve water quality (SF16).

The plant community in this wetland was determined to be relatively intact with moderate species diversity and little to no influence of invasive/non-native species. This wetland is considered to have a moderate diversity of moderate quality vegetation communities (SF23 and SF24).

The wetland may provide moderate habitat to amphibians, reptiles and mammals (SF28). This wetland may provide plant gathering and berry picking opportunities but is not readily accessible to the public and thus the community use function is assessed as low (SF29).

No red rated functions were assessed for this wetland.

4.2.2.8 Wetland 8 (WL8)

WL8 is characterized as a sloped throughflow fen/swamp complex. Forestry activity has occurred in the buffer surrounding the wetland and as such the integrity of this wetland and surrounding buffer is considered to be moderate (SF3 and SF4). Despite these stressors, impacts to this wetland appear to be relatively minimal and the adjacent buffer area is fully vegetated (although altered from the natural forested community). The buffer zone surrounding the wetland supports wildlife habitat and water quality.

The hydrologic condition of this wetland is considered natural and with little evidence of excess nutrient loading or contamination (SF17). The wetland was also determined to improve water quality (SF16) and have a moderate ability to stabilize shorelines (SF21).



The plant community in this wetland was determined to be relatively intact with moderate species diversity and little to no influence of invasive/non-native species. This wetland is considered to have a moderate diversity of moderate quality vegetation communities (SF23 and SF24).

The wetland may provide moderate habitat to amphibians, reptiles, fish and mammals (SF28). This wetland may also provide berry picking and plant gathering opportunities but is not readily accessible to the public and thus the community use function is assessed as low (SF29).

No red rated functions were assessed for this wetland.

4.2.2.9 Wetland 9 (WL9)

WL9 is characterized as a coastal saline pond wetland type. The integrity of this wetland is considered to be high where impacts to this wetland are minimal and the adjacent buffer area is considered to be in a natural state (SF3 and SF4). The majority of buffer around this wetland consists of a boulder/cobble barrier beach with little to no vegetation however the northwest side consists of fully vegetated coastal shrub community with stunted spruce trees. The buffer zone surrounding the wetland provides wildlife habitat and water quality function.

The hydrologic condition of this wetland is considered natural (SF13) with little evidence of excess nutrient loading or contamination (SF17).

The plant community in this wetland was determined to be relatively have little to no influence of invasive/non-native species although species diversity is low (majority of wetland is unvegetated).

This wetland does support fish habitat (SF27) as well as moderate habitat for waterfowl and waterbirds (SF28). This wetland may provide open aesthetic functions but is not readily accessible to the public and thus the community use function is assessed as low (SF29)

No red rated functions were assessed for this wetland.

4.2.2.10 Wetland 10 (WL10)

WL10 is located outside of the Project area but is hydrologically connected via the unnamed stream that flows along the west side of the property and is characterized as a riparian shrub swamp. The integrity of this wetland and surrounding buffer (SF3 and SF4) is considered to be high where impacts to this wetland are minimal and the adjacent buffer area is considered to be in a natural state and fully vegetated. The buffer zone surrounding the wetland provides wildlife habitat and water quality function.



The hydrologic condition of this wetland is considered natural (SF13). The wetland was also determined to improve water quality (SF16) with little evidence of excess nutrient loading or contamination (SF17).

The plant community in this wetland was determined to be relatively intact with moderate species diversity and little to no influence of invasive/non-native species. This wetland is considered to have a low diversity of moderate quality vegetation communities (SF25).

American Eel (COSEWIC – Threatened) was recorded within the unnamed stream that flows from this wetland (SF7, SF26 and SF27) and this wetland may provide moderate nursery habitat for this species (SF28). The wetland may provide moderate habitat to amphibians, reptiles, fish and mammals. Community use function of this wetland is low (SF29).

Red rated functions provided by this wetland include supporting commercial/recreation fish species (SF6) as well as the presence of species of concern (American Eel) (SF7).

4.2.2.11 Wetland 11 (WL11)

WL11 is characterized as an isolated bog wetland. Forestry activity has occurred in the buffer surrounding the wetland as well as within the wetland and as such the integrity of this wetland and surrounding buffer is considered to be moderate (SF3 and SF4). Despite these stressors, impacts to this wetland appear to be relatively minimal and the adjacent buffer area is fully vegetated (although altered from the natural forested community). The buffer zone surrounding the wetland supports wildlife habitat and water quality.

The hydrologic condition of this wetland is considered natural (SF13) with little evidence of excess nutrient loading or contamination (SF17). The wetland may also serve as a groundwater recharge source since there was no outflow evident and given the type and position of the wetland (SF19).

The plant community in this wetland was determined to be relatively intact with moderate species diversity and little to no influence of invasive/non-native species. This wetland is considered to have a moderate diversity of moderate quality vegetation communities (SF23 and SF24).

The wetland may provide moderate habitat to reptiles and mammals (SF28). This wetland may provide plant gathering and berry picking opportunities but is not readily accessible to the public and thus the community use function is assessed as low (SF29).

Rated functions for this wetland include potentially a ground water recharge source (SF19).

4.2.2.12 Wetland 12 (WL12)

WL12 is characterized as a throughflow swamp / fen wetland. Forestry activity has occurred in the buffer surrounding the wetland as well as within the wetland and as such the integrity of this



wetland and surrounding buffer is considered to be moderate (SF3 and SF4). Despite these stressors, impacts to this wetland appear to be relatively minimal and the adjacent buffer area is fully vegetated (although altered from the natural forested community). The buffer zone surrounding the wetland supports wildlife habitat and water quality.

The hydrologic condition of this wetland is considered natural (SF13) with little evidence of excess nutrient loading or contamination (SF17). The wetland was also determined to have a moderate ability to detain surface water (SF16).

The plant community in this wetland was determined to be relatively intact with low species diversity but little to no influence of invasive/non-native species. This wetland is considered to have a low diversity of moderate quality vegetation communities (SF23 and SF24).

The wetland may provide moderate habitat to reptiles and mammals (SF28) and given the location of this wetland community use function is assessed as low (SF29).

No red rated functions were assessed for this wetland.

4.2.2.13 Wetland 13 (WL13)

WL13 is characterized as a throughflow bog. The integrity of this wetland and surrounding buffer is considered to be high where impacts to this wetland are minimal and the adjacent buffer area is considered to be in a natural state and fully vegetated (SF3 and SF4). The buffer zone surrounding the wetland provides high quality wildlife habitat and water quality function.

This wetland is important in maintaining stream flow of the unnamed stream that flows along the west side of the Project area (SF14). The hydrologic condition of this wetland is considered natural despite the presence of historic mine activities in the area as this was determined to have little to no impact on wetland hydrology. The wetland showed little evidence of excess nutrient loading or contamination (SF17).

The plant community in this wetland was determined to be relatively intact with moderate species diversity and little to no influence of invasive/non-native species. Although this wetland is comprised of only one wetland type it is considered to have a moderate diversity of high quality vegetation communities.

American Eel (COSEWIC – Threatened) was recorded within the unnamed stream that flows through this wetland (SF7, SF26 and SF27) and this wetland may provide moderate nursery habitat for this species (SF28). The wetland may provide moderate habitat to amphibians, reptiles, fish and mammals. Since this wetland is not readily accessible by the public, community use functions are assessed as low (SF29).

Red rated functions provided by this wetland include maintaining stream flow (SF14), supporting commercial/recreation fish species (SF6) as well as the presence of species of concern (American Eel) (SF7).



5.0 CONCLUSION

A total of 11 wetlands were encountered within the Project area and two wetlands outside the Project boundary but determined to be hydrologically connected downstream. Habitat and functional assessments were conducted for all wetlands and field delineations were conducted for the 11 wetlands encountered within the Project boundary (WL9 and WL10 was not delineated in the field since they were previously mapped for the Keltic EA).

The functional assessment indicate that seven of the 13 wetlands perform red rated functions which elevate the relative importance of these wetlands in terms of the functions they provide to the surrounding watershed. All but one of the wetlands assessed with red rated functions occur along the unnamed stream that flows along the west end of the property and are associated with providing habitat for American Eel as well as maintaining stream flow. The one wetland (WL11) not associated with the unnamed stream may be a source of ground water recharge.



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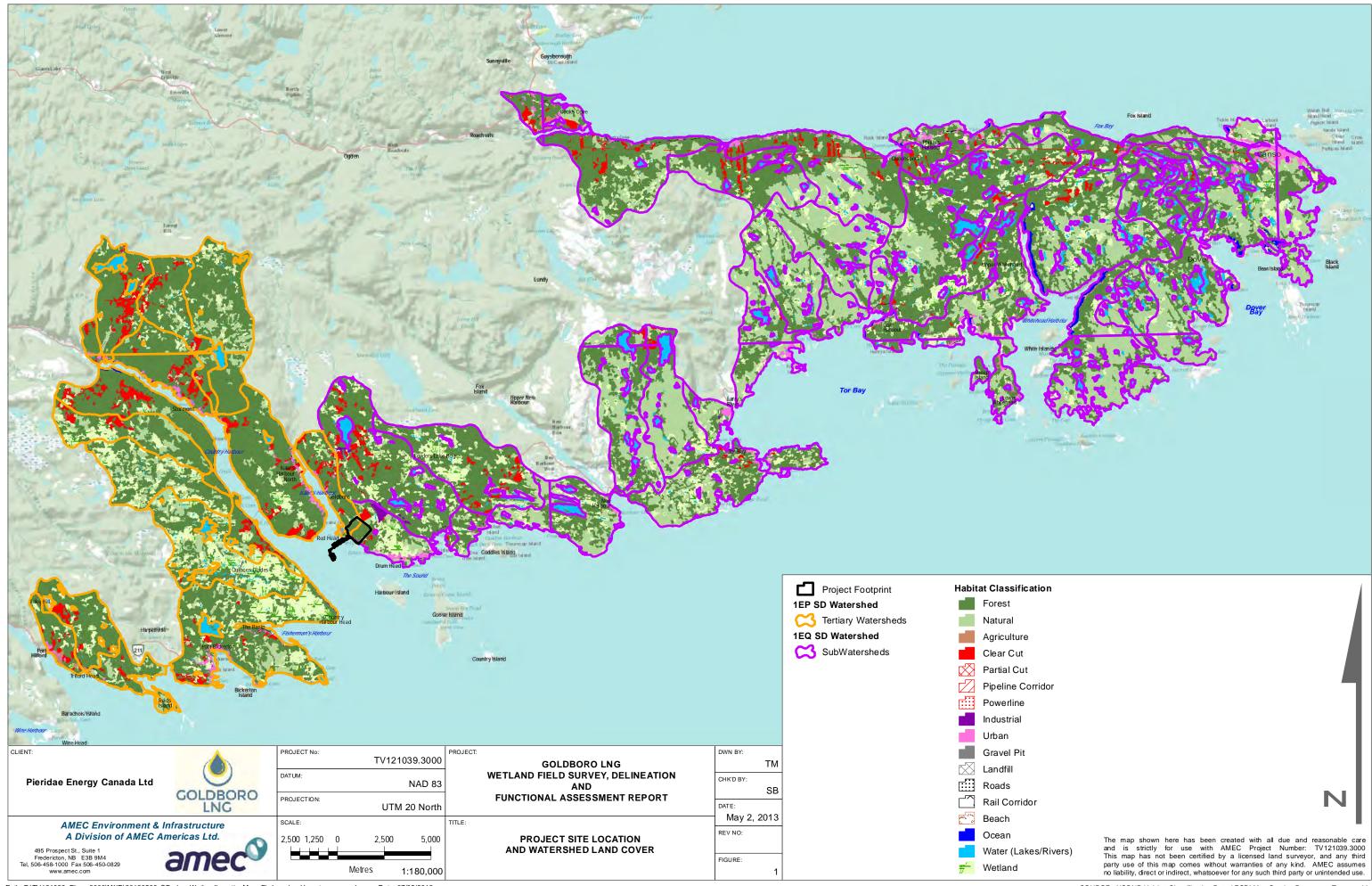
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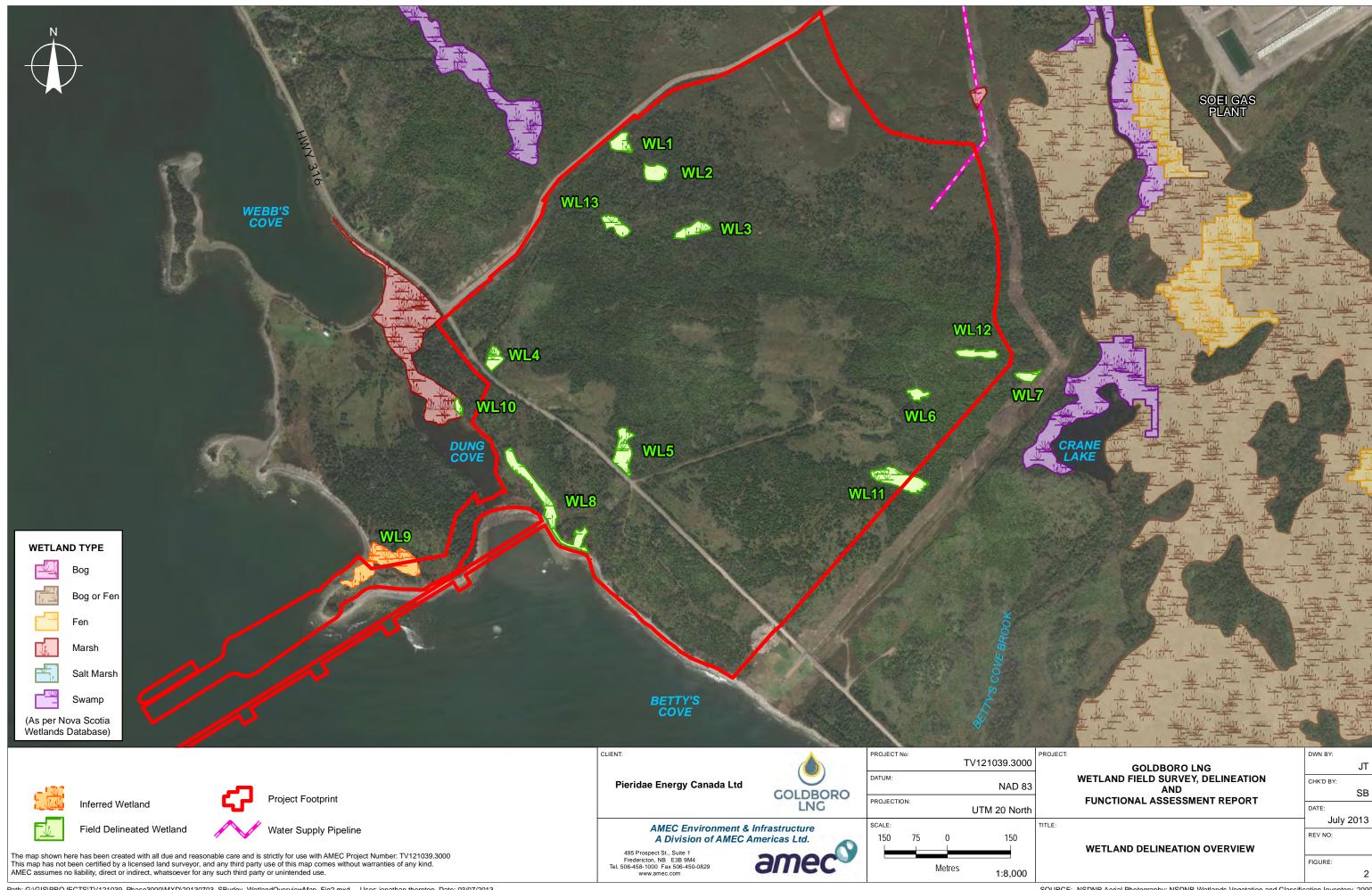


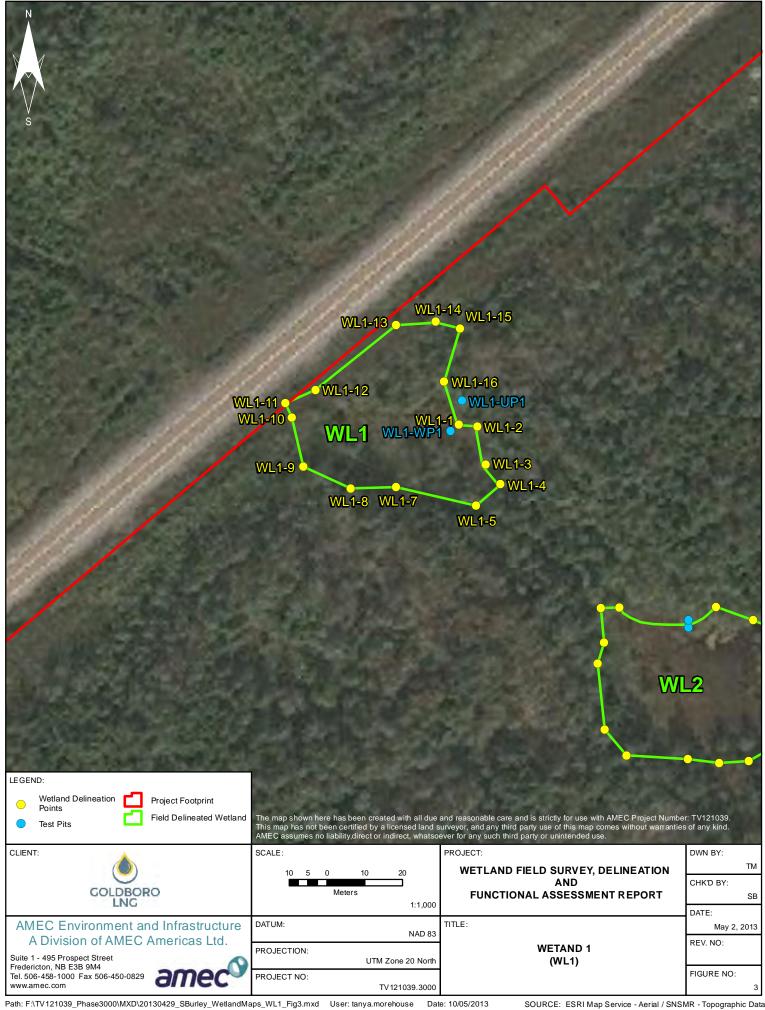
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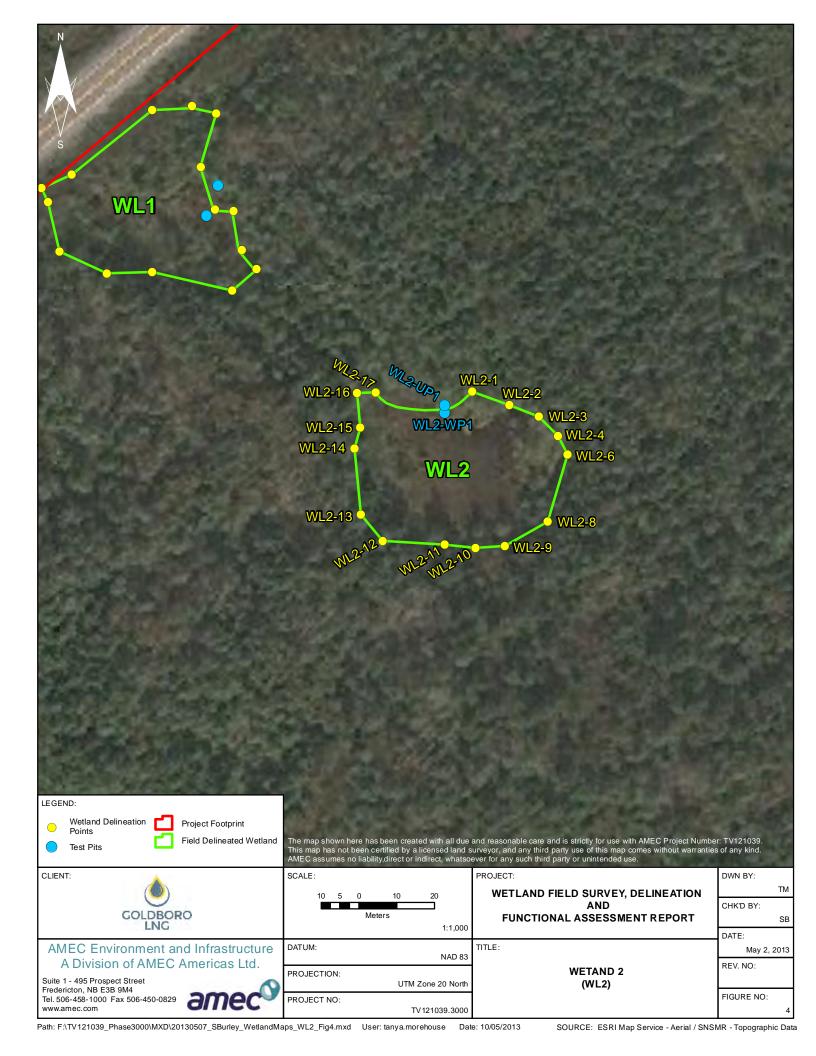


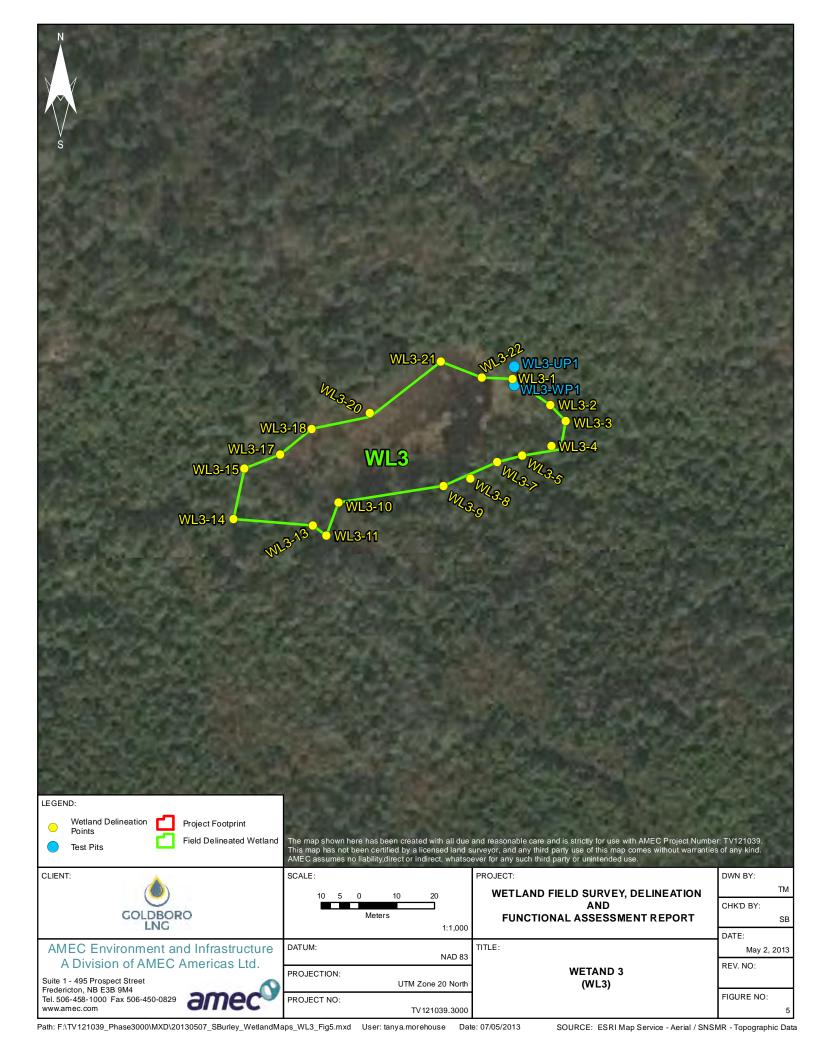
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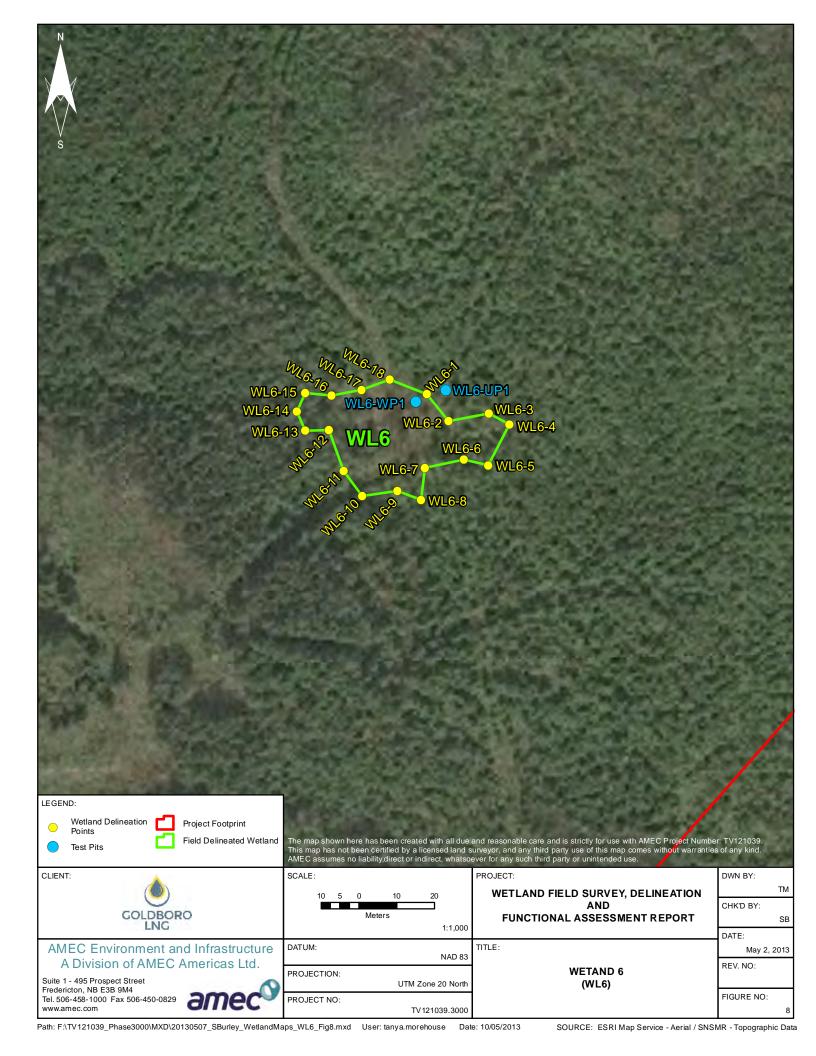


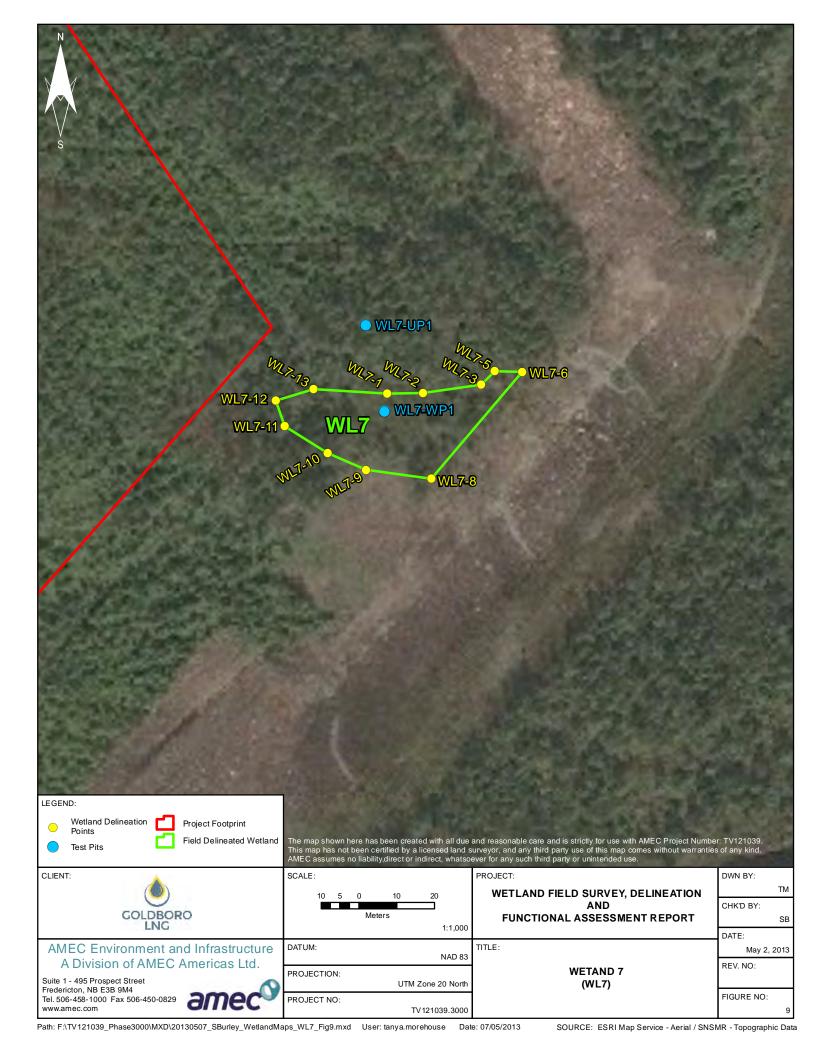


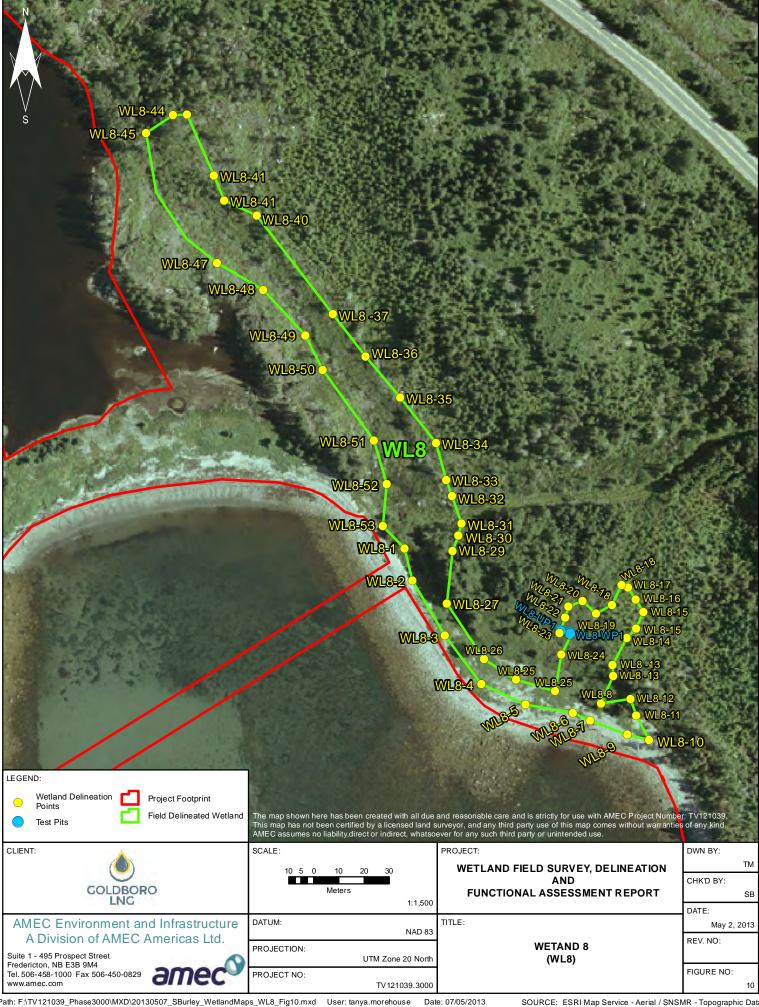


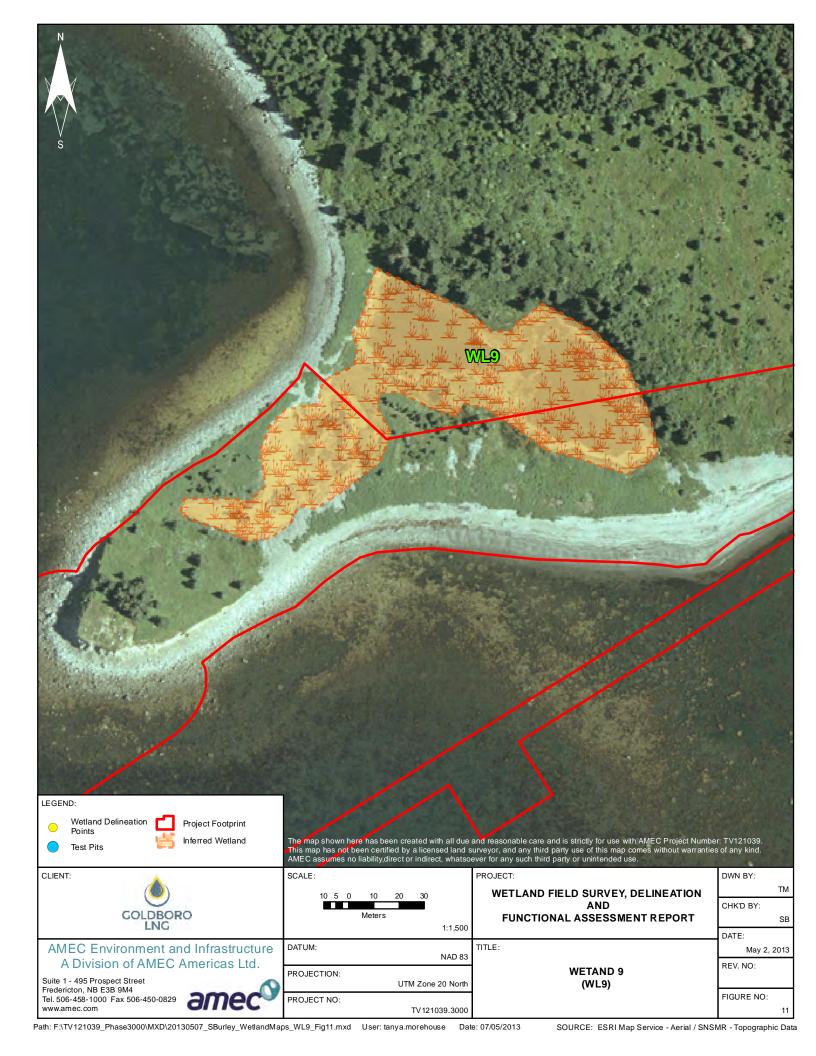


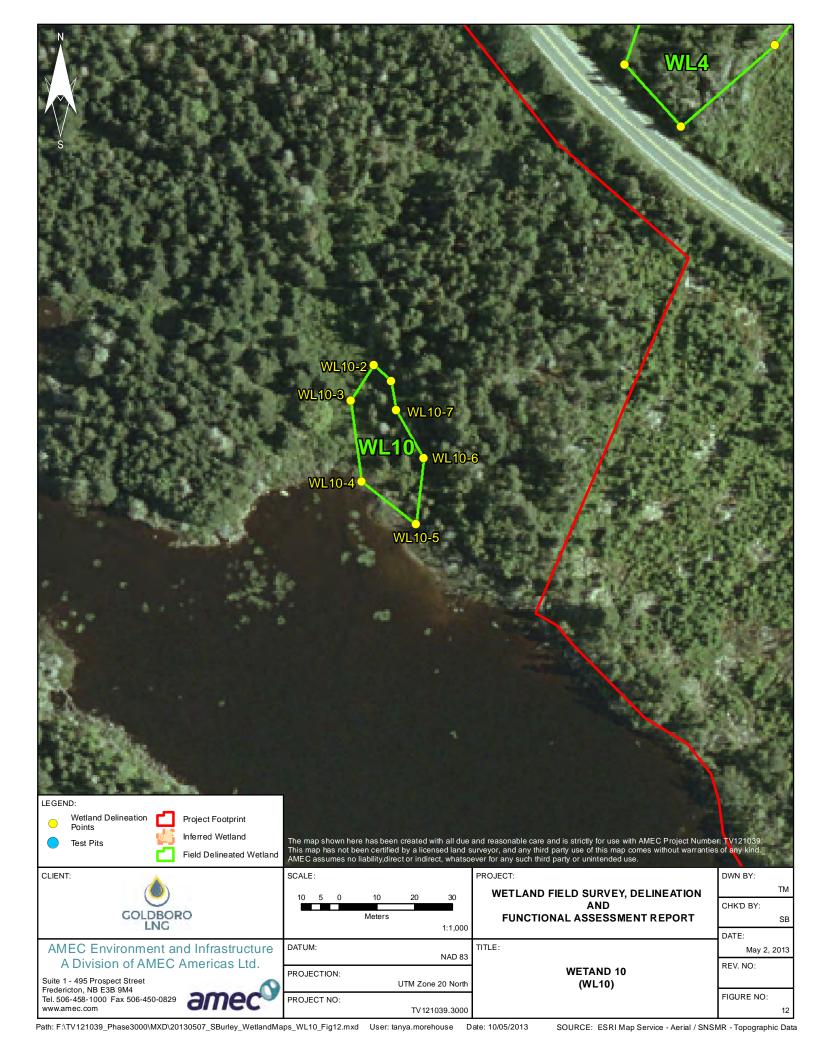


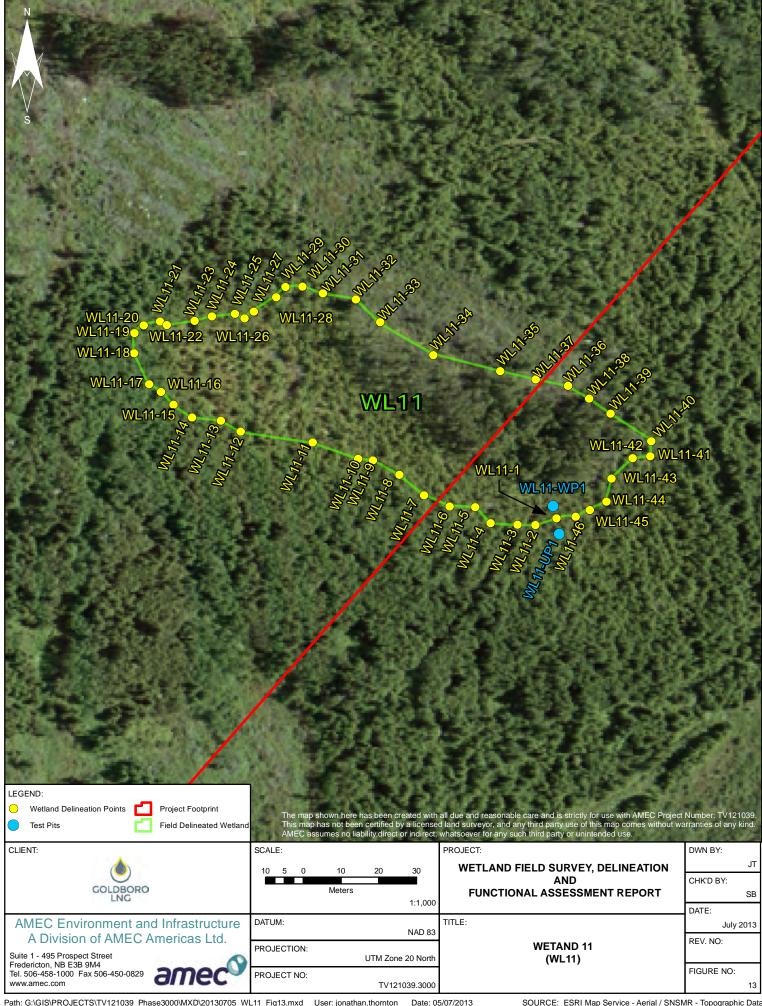


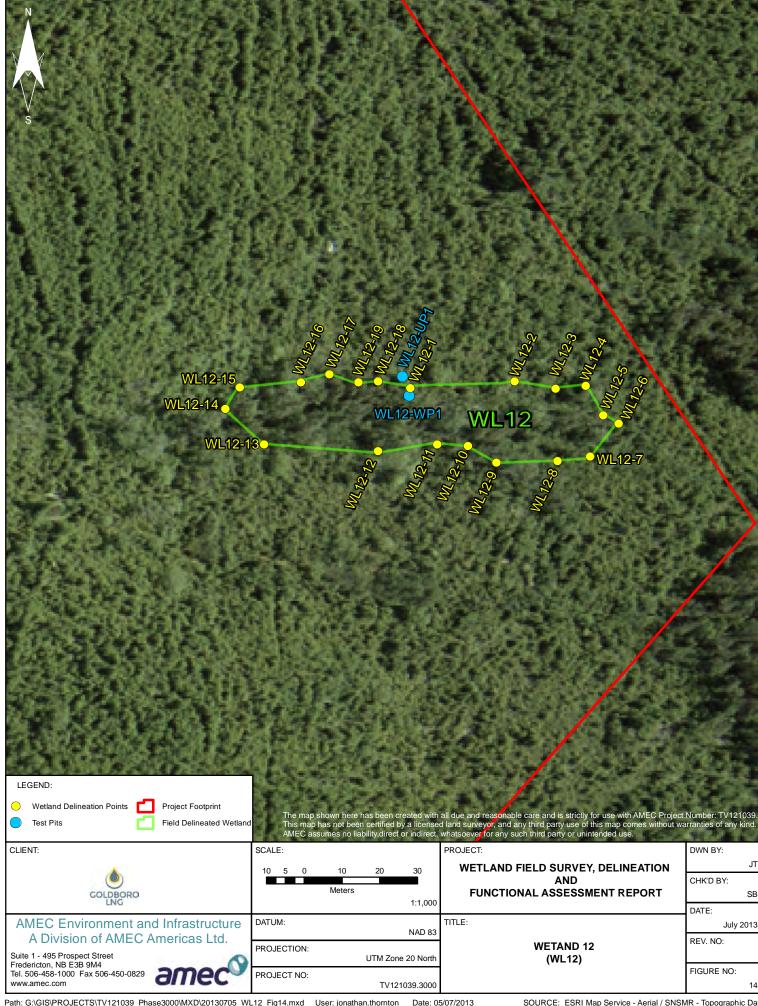


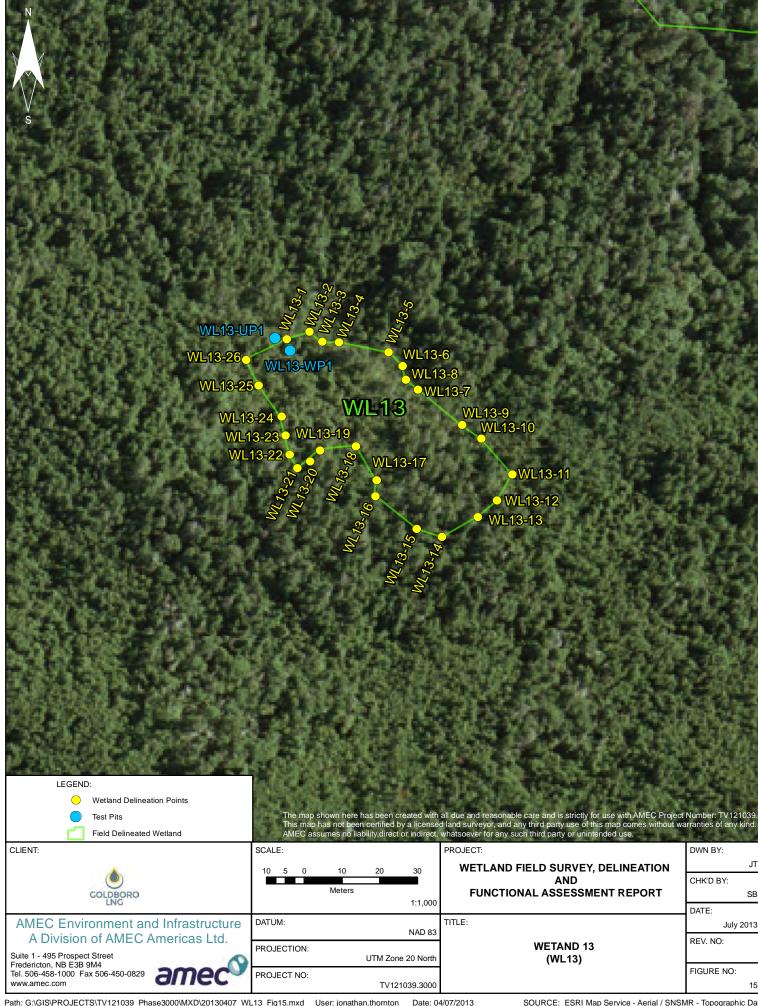














APPENDIX A
Wetland Delineation Data Sheets and Habitat Assessment Forms

Project/Site: Goldbaro LNG	Municipality	/County: (7444	bosough sampling Date: Sept 26
Applicant/Owner: Pieridue Energy				Sampling Point: 4/1-UP
Investigator(s): S. Ruskey / M. Siensen	Δ	Affiliation:	AME	
Landform (hillslope, terrace, etc.): h.1/4/rpe	·			concave, convex, none): Hommacky
Slope (%): +% Lat. GC7444		Mg. 50		
Soil Map Unit Name/Type: ASpotonen (A-4	4/\			land Type: Vp/lwc/
Are climatic / hydrologic conditions on the site typical for the	- time of voc	-2 Vac	and the same of th	•
				Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrologys				
Are Vegetation, Soil, or Hydrology r			•	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS Attach site map s	showing s	sampling	point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes N	lo	- 1	e Sampled	
Hydric Soil Present? Yes N	10	_ withi	n a Wetlan	d? Yes No
	lo <u></u>		, optional V	Vetland Site ID:
Remarks: (Explain alternative procedures here or in a ser	parate report	.)		
VEGETATION – Use scientific names of plants				
Total Charles (Dietains)	Absolute % Cover	Dominant	Indicator Status	Dominance Test worksheet:
Tree Stratum (Plot size: (C) v)	102	Species:	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:
2. At CV Charles	2_		FAC	110.770
3. Refula cerrelifedia	2_		FACU	Total Number of Dominant Species Across All Strata: (B)
4. Piles Glaves	2		FAC	
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	16	= Total Cov	er	
Sapling/Shrub Stratum (Plot size:)			-40	Prevalence Index worksheet:
1. Alics La Be Mee	- 75	-	FAC	Total % Cover of: Multiply by: OBL species C x 1 = C
2. Kulmia angustifolia			FAC	OBL species
4. Nemeson His ductionetus			FAC	FAC species $\frac{\cancel{6}\cancel{9}\cancel{9}}{\cancel{8}\cancel{9}}$ $\times 3 = \frac{\cancel{2}\cancel{6}\cancel{7}}{\cancel{2}\cancel{6}\cancel{7}}$
4. Went per 123 HOCHAROS	>		**(**	FACU species
5	23		er	UPL species
Herb Stratum (Plot size:)		, O.L 00.		Column Totals: 91 (A) 275 (B)
1. Carrus Cinucliansis	<u>30</u>		MAC	Prevalence Index = B/A = 3.0
2 doction predicadis			FAC	
3. Liven horalis	102		FAC	Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
4. Contis trifelia			J-AC	Dominance Test is >50%
5. 11. tratalis bertalis			FAC	Prevalence Index is ≤3.0¹
6				Morphological Adaptations¹ (Provide supporting
7				data in Remarks or on a separate sheet)
9.				Problematic Hydrophytic Vegetation¹ (Explain)
10.				
	52	= Total Cov		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)				
1				Hydrophytic
2				Vegetation Present? Yes No
		= Total Cov	/er 	
Remarks: (Include photo numbers here or on a separate				
All species we Fate or Fi	400			

/in a basa)	depth needed to docume	Foother Hulcato	r or confir	m the absence	of indicators.)
(moist) Color (moist) %	Color (moist)	Features % Type ¹			
0-15			LOC_	Texture	Remarks
				DUTT	- Muss out our
					
·					
			·		
					
Type: C=Concentration D=Depletion					
Type: C=Concentration, D=Depletion, I Hydric Soil Indicators:	RM=Reduced Matrix, CS=C	overed or Coate	ed Sand Gr	ains. ² Loca	tion: PL=Pore Lining, M=Matrix.
Histosol (A1)	Sandy Redox (S	E\		marcators to	or Problematic Hydric Soils ³ :
Histic Epipedon (A2)	Polyvalue Below	Surface (CO)		Coast P	rairie Redox (A16)
Black Histic (A3)	Thin Dark Surfac	e (SQ)		5 cm Mu	cky Peat or Peat (S3)
Hydrogen Sulfide (A4)	Loamy Gleyed M	latrix (F2)		Iron-Mar	ganese Masses (F12)
_ Stratified Layers (A5)	Depleted Matrix	(F3)		Piedmon	t Floodplain Soils (F19)
Depleted Below Dark Surface (A11)Thick Dark Surface (A12)	Redox Dark Surfa	ace (F6)		Red Pare	ent Material (TF2)
Sandy Mucky Mineral (S1)	Depleted Dark St	urface (F7)		Other (E:	kplain in Remarks)
_ Sandy Gleyed Matrix (S4)	Redox Depressio	ns (F8)			
dicators of hydrophytic vagatation and					
dicators of hydrophytic vegetation and vestrictive Layer (if observed):	wetland hydrology must be	present, unless	disturbed o	r problematic.	
Type: Perch					
Depth (inches): _65c /~			- 1		
· · · · · · · · · · · · · · · · · · ·					
marks:				Hydric Soil Pre	esent? Yes No
marks:				Hydric Soil Pre	esent? Yes No
PROLOGY Iland Hydrology Indicators:				Hydric Soil Pro	esent? Yes No
PROLOGY tland Hydrology Indicators:					
DROLOGY Illand Hydrology Indicators: nary Indicators (minimum of one is requi	ired; check all that apply)			Secondary In	ndicators (minimum of two require
PROLOGY Iland Hydrology Indicators: nary Indicators (minimum of one is requi	ired: check all that apply) Water-Stained Le	eaves (B9)		Secondary in	ndicators (minimum of two require Soil Cracks (B6)
DROLOGY Iland Hydrology Indicators: nary Indicators (minimum of one is requi Surface Water (A1) High Water Table (A2)	ired: check all that apply) — Water-Stained Le — Aquatic Fauna (E	313)		Secondary Ir	ndicators (minimum of two require Soil Cracks (B6) Patterns (B10)
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ired: check all that apply) Water-Stained Le Aquatic Fauna (B	313) 15)		Secondary Ir Surface Drainage Moss Tri	ndicators (minimum of two require Soil Cracks (B6) e Patterns (B10) m Lines (B16)
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is requi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ired: check all that apply) — Water-Stained Le — Aquatic Fauna (B — Marl Deposits (B:	313) 15) Odor (C1)		Secondary Ir Surface Drainage Moss Tri Dry-Seas	ndicators (minimum of two require Soil Cracks (B6) Patterns (B10) m Lines (B16) son Water Table (C2)
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PROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is requivable) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5) nundation Visible on Aerial Imagery (B7) Eparsely Vegetated Concave Surface (B8)	ired: check all that apply) — Water-Stained Le — Aquatic Fauna (B — Marl Deposits (B) — Hydrogen Sulfide — Oxidized Rhizosp — Presence of Redu — Recent Iron Redu — Thin Muck Surfac	313) 15) Odor (C1) Theres on Living Jiced Iron (C4) Ction in Tilled Sc e (C7)	Roots (C3)	Secondary Ir Surface Drainage Moss Tri Dry-Seas Saturatio Stunted of Geomorp Shallow A	ndicators (minimum of two require Soil Cracks (B6) Patterns (B10) m Lines (B16) son Water Table (C2) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) Aquitard (D3)
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PROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is requivable) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) nundation Visible on Aerial Imagery (B7) Exparsely Vegetated Concave Surface (B1) Observations: Ce Water Present? Yes N	ired: check all that apply) Water-Stained Le Aquatic Fauna (E Marl Deposits (B Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Thin Muck Surfac Other (Explain in 18)	313) 15) Odor (C1) Theres on Living Iced Iron (C4) Iction in Tilled Sc e (C7) Remarks)	Roots (C3)	Secondary Ir Surface Drainage Moss Tri Dry-Seas Saturatio Stunted of Geomorp Shallow A	ndicators (minimum of two require Soil Cracks (B6) Patterns (B10) m Lines (B16) son Water Table (C2) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) Aquitard (D3)
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is requised) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5) nundation Visible on Aerial Imagery (B7 Sparsely Vegetated Concave Surface (B Observations: Ce Water Present? Yes N	ired: check all that apply) Water-Stained Le Aquatic Fauna (E Mari Deposits (B Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Thin Muck Surfac Other (Explain in 18) Depth (inches):	313) 15) Odor (C1) Theres on Living Liced Iron (C4) Cition in Tilled Sc e (C7) Remarks)	Roots (C3)	Secondary in Surface Surface Moss Tri Dry-Seas Saturatio Stunted of Geomorp Shallow A Microtopo	ndicators (minimum of two requires Soil Cracks (B6) Patterns (B10) m Lines (B16) son Water Table (C2) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whice Position (D2) Aquitard (D3) orgraphic Relief (D4) tral Test (D5)
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is requised) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) nundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Observations: Ce Water Present? Table Present? Yes Notes the present of the prese	ired: check all that apply) Water-Stained Le Aquatic Fauna (E Marl Deposits (B) Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Thin Muck Surfac Other (Explain in 18) Depth (inches): Depth (inches):	313) 15) Odor (C1) Theres on Living Iced Iron (C4) Ction in Tilled Sc e (C7) Remarks)	Roots (C3)	Secondary Ir Surface Drainage Moss Tri Dry-Seas Saturatio Stunted of Geomorp Shallow A FAC-Neu	ndicators (minimum of two requires Soil Cracks (B6) Patterns (B10) m Lines (B16) son Water Table (C2) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whice Position (D2) Aquitard (D3) orgraphic Relief (D4) tral Test (D5)
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is requised) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) nundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B7) Observations: Ce Water Present? Table Present? Yes Notes the present of the prese	ired: check all that apply) Water-Stained Le Aquatic Fauna (E Marl Deposits (B) Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Thin Muck Surfac Other (Explain in 18) Depth (inches): Depth (inches):	313) 15) Odor (C1) Theres on Living Iced Iron (C4) Ction in Tilled Sc e (C7) Remarks)	Roots (C3)	Secondary Ir Surface Drainage Moss Tri Dry-Seas Saturatio Stunted of Geomorp Shallow A FAC-Neu	ndicators (minimum of two require Soil Cracks (B6) e Patterns (B10) m Lines (B16) son Water Table (C2) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) hic Position (D2) Aquitard (D3) ographic Relief (D4) tral Test (D5)
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is requised.) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5) nundation Visible on Aerial Imagery (B7 Sparsely Vegetated Concave Surface (B7 Observations: Ce Water Present? Yes North of the Concave	ired: check all that apply) Water-Stained Le Aquatic Fauna (E Marl Deposits (B) Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Thin Muck Surfac Other (Explain in 18) Depth (inches): Depth (inches):	313) 15) Odor (C1) Theres on Living Iced Iron (C4) Ction in Tilled Sc e (C7) Remarks)	Roots (C3)	Secondary Ir Surface Drainage Moss Tri Dry-Seas Saturatio Stunted of Geomorp Shallow A FAC-Neu	ndicators (minimum of two requires Soil Cracks (B6) Patterns (B10) m Lines (B16) son Water Table (C2) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whice Position (D2) Aquitard (D3) orgraphic Relief (D4) tral Test (D5)
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is requised) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) nundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B1) Observations: Ce Water Present? Yes N	ired: check all that apply) Water-Stained Le Aquatic Fauna (E Marl Deposits (B) Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Thin Muck Surfac Other (Explain in 18) Depth (inches): Depth (inches):	313) 15) Odor (C1) Theres on Living Iced Iron (C4) Ction in Tilled Sc e (C7) Remarks)	Roots (C3)	Secondary Ir Surface Drainage Moss Tri Dry-Seas Saturatio Stunted of Geomorp Shallow A FAC-Neu	ndicators (minimum of two requires Soil Cracks (B6) Patterns (B10) m Lines (B16) son Water Table (C2) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whice Position (D2) Aquitard (D3) orgraphic Relief (D4) tral Test (D5)
PROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is requised and Hydrology Indicators: nary Indicators (minimum of one is requised and Indicators (Minimum of one is requised an	ired: check all that apply) Water-Stained Le Aquatic Fauna (E Marl Deposits (B) Hydrogen Sulfide Oxidized Rhizosp Presence of Redu Recent Iron Redu Thin Muck Surfac Other (Explain in 18) Depth (inches): Depth (inches):	313) 15) Odor (C1) Theres on Living Iced Iron (C4) Ction in Tilled Sc e (C7) Remarks)	Roots (C3)	Secondary Ir Surface Drainage Moss Tri Dry-Seas Saturatio Stunted of Geomorp Shallow A FAC-Neu	ndicators (minimum of two requires Soil Cracks (B6) Patterns (B10) m Lines (B16) son Water Table (C2) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) whice Position (D2) Aquitard (D3) orgraphic Relief (D4) tral Test (D5)

Project/Site: Goldbarn LNG	Municipality	County: Guy	Skorugh Sampling Date: Sept.26/
Applicant/Owner: Pieridue Entry	1 CCorner	la Ltel.	Sampling Point: LL1-UP1
Investigator(s): S. Ruckey / M. Senso	2 O A	Affiliation: AM	C C
Landform (hillslope, terrace, etc.):			
Slope (%): _ / tate = GO7441	,,,	one 1 (500)	2595 Datum: MAD % 2
- · · · · · · · · · · · · · · · · ·			Vetland Type: Res / Merch / Busing
Soil Map Unit Name/Type: ASputugum			<i>'</i> '
Are climatic / hydrologic conditions on the site typical fo			
Are Vegetation, Soil, or Hydrology			e "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology	naturally prob	elematic? (If	needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site ma	ap showing s	ampling point	locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No	Is the Sample	
	No	within a Wetl	and? Yes No
•	No	If ves. optiona	al Wetland Site ID: LLL
Remarks: (Explain alternative procedures here or in a			
, ,			
VEGETATION - Use scientific names of pla	nts.		
	Absolute	Dominant Indicator	·
Tree Stratum (Plot size: 10)		Species? Status	I transport of positional operation
1. dicen Mariona			
2 Levi & Laricina		FAC	Total rediffer of Politiment 73
3			Species Across All Strata: (B)
4			Percent of Dominant Species
5		= Total Cover	That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: 5 m		- Total Cover	Prevalence Index worksheet:
1. Alaus iscana	15	V FACE	F-1 1
2			_ OBL species x1 =
3			_ FACW species x2 =(CC)
4			FAC species x 3 =
5			FACU species x 4 =
Hade Odrestone (Diet einer / De	15	= Total Cover	UPL species x5 =
Herb Stratum (Plot size:) 1. Perform (\chi_1 + \chi_2)		081	Column Totals: (A) (B)
2. TURUS LAUSUS	30	FACE	- 1 / / 2 1
3. Comox 50	20	Called	Hydrophytic Vegetation Indicators:
4. Telaster's Pulestris		081	Rapid Test for Hydrophytic Vegetation
73			Dominance Test is >50%
6			Prevalence Index is ≤3.0¹
7			Morphological Adaptations¹ (Provide supporting
8			data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
9			Problematic Hydrophytic Vegetation (Explain)
10			Indicators of hydric soil and wetland hydrology must
	57	= Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)			
1			_ Hydrophytic Vegetation
2		= Total Cover	Present? Yes No
Provide Control Control		- Total Cover	
Remarks: (Include photo numbers here or on a sepa	rate sneet.)		15 8X 3
- F	7 7 6	. = 500	M. 295
Carex sp removed from 5	cevelen	ex Jernine	we test us species usknown
			Clikky BLOFF

Adapted from U.S. Army Corps of Engineers form for Northeast-North Central Supplement for use in Nova Scotia (2011)

rofile Descr	iption: (Describe to	the dent	needed to de	Sampling Point; UL
epth	Matrix	- me copt	n needed to document the indicator or confi	rm the absence of indicators.)
inches)	Color (moist)	%	Color (moiet)	_
40				Kemarks
				Cigmic Pert
 -				
pe: C=Conc	entration, D=Depleti	on, RM≃R	educed Matrix, CS=Covered or Coated Sand G	
aric Soil Ind	icators:		Gated Sand G	rains. ² Location: PL=Pore Lining, M=Matrix.
Histosol (A1			Sandy Redox (S5)	indicators for Problematic Hydric Soils ³ :
Histic Epipe	edon (A2)		Polyvalue Below Surface (S8)	Coast Prairie Redox (A16)
Black Histic	(A3)		Thin Dark Surface (S9)	5 cm Mucky Peat or Peat (S3)
Hydrogen S	ultide (A4)		Loamy Gleyed Matrix (F2)	Iron-Manganese Masses (F12)
Stratified La	yers (A5)		Depleted Matrix (F3)	Piedmont Floodplain Soils (F19)
Thick Dark 9	elow Dark Surface (A Surface (A12)	.11) _	Redox Dark Surface (F6)	Red Parent Material (TF2)
Sandy Muck	y Mineral (S1)	_	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Sandy Gleve	ed Matrix (S4)	-	Redox Depressions (F8)	
catom of his	manufact			
Carolis of nyd	rophytic vegetation a	and wetland	hydrology must be present uplose disturbed	
			d hydrology must be present, unless disturbed	or problematic.
/pe:			d hydrology must be present, unless disturbed	or problematic.
/pe: epth (inches)			d hydrology must be present, unless disturbed	
/pe:			d hydrology must be present, unless disturbed	or problematic. Hydric Soil Present? Yes No
/pe: epth (inches)			d hydrology must be present, unless disturbed	
/pe: epth (inches)			d hydrology must be present, unless disturbed	
/pe:epth (inches) arks:			d hydrology must be present, unless disturbed	
ype:epth (inches) arks:			d hydrology must be present, unless disturbed	
ype:epth (inches) arks: COLOGY nd Hydrolog	y indicators:			Hydric Soil Present? Yes No
ype:epth (inches) arks: ROLOGY nd Hydrolog ry Indicators	y Indicators: (minimum of one is r			Hydric Soil Present? Yes No Secondary Indicators (minimum of two required
pe:epth (inches) arks: ROLOGY nd Hydrolog y Indicators urface Water	gy Indicators: (minimum of one is r		neck all that apply)	Hydric Soil Present? Yes No Secondary Indicators (minimum of two required Surface Soil Cracks (B6)
pe:epth (inches) arks: COLOGY Ind Hydrolog Indicators Jurface Water Jurface Water Jurface Water Tal	gy Indicators: (minimum of one is r (A1) ble (A2)		neck all that apply) Water-Stained Leaves (B9)	Hydric Soil Present? Yes No Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10)
Pee:	is indicators: (minimum of one is reported (A1) (M2)		neck all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13)	Hydric Soil Present? Yes No No
Per	gy indicators: (minimum of one is r (A1) ble (A2))		neck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15)	Hydric Soil Present? Yes No No Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
peth (inches) arks: COLOGY Ind Hydrology Indicators Inface Water Igh Water Tal Ituration (A3) Index Marks (E) Idiment Depo	gy Indicators: (minimum of one is r (A1) ble (A2)) 31) osits (B2)		neck all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
per	gy Indicators: (minimum of one is r (A1) ble (A2)) 31) osits (B2) B3)		neck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3	Hydric Soil Present? Yes No No No Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
per	indicators: (minimum of one is representation (A1)) ble (A2) ble (A2) bits (B2) B3) ust (B4)		neck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Per	y indicators: (minimum of one is r (A1) ble (A2)) 31) osits (B2) B3) ust (B4)	required; cl	neck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3)
Pepth (inches) Pology Indicators Inface Water Tall Inturation (A3) Independent Deposits (Bill Indicator Crun Deposits (Bill Indicator Visib	gy Indicators: (minimum of one is r (A1) ble (A2)) 31) psits (B2) B3) pust (B4) 35)	required; cl	neck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
per	gy Indicators: (minimum of one is r (A1) ble (A2)) sits (B2) B3) ust (B4) 35) ble on Aerial Imagery ated Concave Surface	required; cl	neck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
pe:	Jy Indicators: (minimum of one is r (A1) ble (A2)) 31) osits (B2) B3) ust (B4) 35) ble on Aerial Imagery ated Concave Surface:	required; cl	neck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
ppe:epth (inches) arks: COLOGY INCOME TO INCOME TO INCOME TO INCIDENT	is:	required; cl	neck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
per	is:	required; cl	neck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)

(inches) Color (moist) %		Loc² Toxture
040		Loc ² Texture Remarks
		Organic Plant
		
¹ Type: C=Concentration D=D=1/1		
Hydric Soil Indicators:	M=Reduced Matrix, CS=Covered or Coated	Sand Grains. 2 ocation: Bl =Dove 151
Histosol (A1)		Sand Grains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16)
Black Histic (A3)	Polyvalue Below Surface (S8)	5 cm Mucky Peat or Peat (S3)
Hydrogen Sulfide (A4)	Thin Dark Surface (S9)	Iron-Manganese Masses (F12)
Stratified Layers (A5)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	Red Parent Material (TF2)
Thick Dark Surface (A12)	Redox Dark Surface (F6)	Other (Explain in Remarks)
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	(p (Collidina)
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	
Indicators of husers and		
estrictive Layer (If observed):	etland hydrology must be present, unless dis	turbed or problematic
		turbed of problematic.
Type:		
Depth (inches):		
emarks:		Hydric Soil Present? Yes No
emarks:		Hydric Soil Present? Yes No No
		Hydric Soil Present? Yes No No
DROLOGY etland Hydrology Indicators:		Hydric Soil Present? Yes No No
DROLOGY etland Hydrology Indicators:		
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one is require	d; check all that apply)	Secondary Indicators (minimum of two require
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one is require Surface Water (A1)	d; check all that apply) Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6)
DROLOGY etland Hydrology Indicators: mary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2)	ed; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10)
DROLOGY etland Hydrology Indicators: mary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3)	od; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16)
DROLOGY etland Hydrology Indicators: imary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	d; check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
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Project/Site: Goldbarn LNG	Municipality/	County: Gruys	bosough Sampling Date: Sept. 26/12
Applicant/Owner: Piericlae Energy			Sampling Point: W2-471
Investigator(s): S. Ruster/M. Sensen	Α	Affiliation: AME	
		Local relief (concave, convex, none): Hummeeley
Slope (%): 7% Let: (01750H)	1	ona: A/ 5 (2()	2545 Datum: NAD 83
Π	- 1		Hand Type: pland
Soil Map Unit Name/Type: # Cottog (1+6	٠)		· · · · · · · · · · · · · · · · · · ·
Are climatic / hydrologic conditions on the site typical for this			
Are Vegetation, Soil, or Hydrology s			Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology n	aturally prob	ematic? (If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS Attach site map s	howing s	sampling point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	o	Is the Sampled	
Hydric Soil Present? Yes No	0	within a Wetlan	d? Yes No
Wetland Hydrology Present? Yes No	o_ <u></u> _	If yes, optional V	Vetland Site ID:
Remarks: (Explain alternative procedures here or in a sep	arate report	.)	
VEGETATION – Use scientific names of plants.			
		Dominant Indicator	Dominance Test worksheet:
1. Acc helpane		Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. Pit ca allelea		FAC	matale obt, Facw, of Fac.
ار — "			Total Number of Dominant Species Across All Strata: (B)
3			Species Across All Strata: (B)
5.			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
5	40	= Total Cover	That Are OBL, FACW, OF FAC
Sapling/Shrub Stratum (Plot size: 500)		70.0.00.00	Prevalence Index worksheet:
1. Vil: Trum redun	2_	<u>-4C</u>	Total % Cover of: Multiply by:
2. Abir & hal shower	5	FAC	OBL species x1=
3. Memorin Hes Mucronata		Etc_	FACW species $O \times 2 = O$
4			FAC species $\frac{90}{4}$ x3 = $\frac{90}{4}$
5	<u> </u>		FACU species X4
Herb Stratum (Plot size:)	_4	= Total Cover	UPL species $x5 = 2$ Column Totals: $y6$ (A) $z8$ (B)
1. Ceraus conceptonsis	24	/ FAC	
2. Kalnic angestitestic	2	FAC	Prevalence Index = B/A = 3.0
3. Live horentis	7	FAC	Hydrophytic Vegetation Indicators:
4. Vice in im ingestitation	5	FAC	Rapid Test for Hydrophytic Vegetation
l _			Dominance Test is >50%
6			Prevalence Index is ≤3.0¹
7			Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8			Problematic Hydrophytic Vegetation¹ (Explain)
9			Froblematic Hydrophytic Vegetation (Explain)
10			¹Indicators of hydric soil and wetland hydrology must
	47	= Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)			
1			Hydrophytic Vegetation
2		= Total Cover	Present? Yes No
Description (Include abote members because the		- Total Cover	
Remarks: (Include photo numbers here or on a separate	sneet.)		
All FAC species			

Surface Water (A1) High Water Table (A2) Saturation (A3) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Water Marks (B1) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)	Describe	to the depth needed to document the indicator of	Sampling Point: Lul
Color (moist) Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. The state of the st	Depth Matrix		confirm the absence of indicators.)
CTIMALS AND MILESTORY Mydric Soil Indicators: Histosol (A1) Histo Epipedon (A2) Black Histor (A2) Black Histor (A2) Stardified Layers (A5) Stardified Layers (A5) Depleted Matrix (F2) Depleted Matrix (F3) Depleted Delaw Cytrace (F8) Thick Dark Surface (A11) Redox Dark Surface (F7) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Type: Red Layer (F) Pepth (inches): Type: Red Layer (F) Sandy Mucky Indicators: Matrix (S4) Depth (inches): Apalas of Carcia (B6) Drainage Patterns (B10) Surface Soil Cracks	(IIIOI3L)	76 Colon (Loc2 Touture
"Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. "Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: Histosol (A1)	<u> </u>	· ——— ———	Remarks
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Thin Dark Surface (S8) Black Histic (A3) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Redox Dark Surface (A12) Sandy Redox (A16) Depleted Below Dark Surface (A11) Redox Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Dark Surface (A12) Sandy McWy Mineral (S1) Water Table (A2) Sandy McWy Mineral (S1) Salva McWy Mineral (S1) Water Marks (B1) Water Marks (B1) Water Marks (B1) Mari Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Salvaration (S2) Mineral Mine			- ergonic my Dett lun
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Histic Epipedon (A2) Black Histic (A3) Thin Dark Surface (S8) Black Histic (A3) Hydrogen Sulfide (A4) Hydrogen Sulfide (A1) Hydrogen Sulfide (A4) Hydrogen Sulfide (A1)			
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Histic Epipedon (A2) Black Histic (A3) Thin Dark Surface (S8) Black Histic (A3) Hydrogen Sulfide (A4) Hydrogen Sulfide (A1) Hydrogen Sulfide (A4) Hydrogen Sulfide (A1)			
Histic Epipedon (A2) — Sandy Redox (S5) — Coast Prairie Redox (A16) — Sandy Redox (S5) — Coast Prairie Redox (A16) — Surface (S8) — Coast Prairie Redox (A16) — Surface (S8) — Som Mucky Peat or Peat (S3) — Follyvalue Below Surface (S8) — Som Mucky Peat or Peat (S3) — Follyvalue Below Surface (S8) — Som Mucky Peat or Peat (S3) — Follyvalue Below Surface (S8) — Som Mucky Peat or Peat (S3) — Follyvalue Below Surface (S8) — Follow Matrix (F2) — Depleted Below Dark Surface (A11) — Redox Dark Surface (F6) — Red Parent Material (TF2) — Other (Explain in Remarks) — Sandy Mucky Mineral (S1) — Redox Depressions (F8) — Red Parent Material (TF2) — Other (Explain in Remarks) — Sandy Mucky Mineral (S1) — Redox Depressions (F8) — R			
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Histic Epipedon (A2) Black Histic (A3) Thin Dark Surface (S8) Black Histic (A3) Hydrogen Sulfide (A4) Hydrogen Sulfide (A1) Hydrogen Sulfide (A4) Hydrogen Sulfide (A1)			
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Thin Dark Surface (S8) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Surface (S9) Depleted Below Dark Surface (A11) Redox Dark Surface (A12) Depleted Below Dark Surface (A11) Redox Dark Surface (A12) Sandy Redox (A16) Depleted Below Dark Surface (A11) Redox Dark Surface (A12) Depleted Below Dark Surface (A12) Depleted Dark Surface (A12) Sandy McKy Mineral (S1) Water McKy Mineral (S1) Water Table (A2) Sandy McKy Marks (B1) Water Table (A2) Saturation (A3) Mari Deposits (B15) Water Marks (B1) Presence of Reduced fron (C4) Secondary Indicators (Innimum of two required): Water Albie (R2) Saturation (N3) Mari Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C8) Diff Deposits (B3) Thin Muck Surface (C7) Other (Explain in Remarks) Metiant New Year Present? Yes No Depth (inches): Table Present? Yes No Depth (inches): Wetland Hydrole Value of the New Yes Wetland Hydrole Wetland	¹ Type: C=Concentration, D=Deple Hydric Soil Indicators:	etion, RM=Reduced Matrix, CS=Covered or Coated 5	Sand Grains 21 and 12
Histic Epipedon (A2)			
Black Histic (A3) — Polyvatue Belox Surface (S8) — 5 cm Mucky Peat or Peat (S3) — Hydrogen Sulfide (A4) — Loamy Gleyed Matrix (F2) — Iron-Manganese Masses (F12) — Piedomot Floodplain Solis (F19) — Piedomot Floodplain Solis (F10) — Piedomot Floodplain Solis (F19) — Piedomot Floo		Sandy Redox (S5)	Coast Dealer De la constitución
Hydrogen Sulfide (A4)	Black Histic (A3)	Polyvalue Below Surface (S8)	5 cm Mucky Post of Post (20)
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Algal Mat or Crust (B4)	DROLOGY tland Hydrology Indicators: mary Indicators (minimum of one is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	s required; check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1)	Secondary Indicators (minimum of two requir Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
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Remarks:

Project/Site: Goldbaro LNG	<i>f</i> unicinality	//County: {	TUYS	LOSUICA Sampling Date: Sept. 26
Applicant/Owner: Projection Energy C	Carris	2/2. /-9	4/	Sampling Point: LLZ-LPI
Investigator(s): S. Rusky M. Siensen	- Con para	Affiliation:	ANGE	C
Landform (hillslope, terrace, etc.): Deptision	·········· ′		ocal relief (conceive convex none). He willief
				SHS Datum: NAD 83
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Soil Map Unit Name/Type: ASOCIALISM CA-				lland Type: Item her
Are climatic / hydrologic conditions on the site typical for this				
Are Vegetation, Soil, or Hydrology sign				Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology na	iturally pro	blematic?	(If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map si	howing	sampling	point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	ı	Is th	e Sampled	Area
Hydric Soil Present? YesNo		with	in a Wetlan	d? Yes No
Wetland Hydrology Present? Yes No		If yes	s, optional V	Vetland Site ID: <u>Wh 2</u>
Remarks: (Explain alternative procedures here or in a sepa	rate repor			
VEGETATION – Use scientific names of plants.				
	Absolute	Dominant		Dominance Test worksheet:
,	% Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
1. Pile mariana 2. Ahirs La/Sumra	2		FAC	That Are OBL, FACW, or FAC: (A)
3. dere represen		**	FAC	Total Number of Dominant Species Across All Strata:
4				Species Across Air Strata.
5				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
0	9	= Total Cov	/er	
Sapling/Shrub Stratum (Plot size: 500)			FIRM	Prevalence Index worksheet:
1. Alays income			CALC	Total % Cover of: OBI species Autiply by: X1 = X
2. Vistitava Avdva			1-4 c	
3. Viera pletine		_/_	FACIL	
4				FAC species x3 = FACU species x4 =
5	11	= Total Cov		UPL species x5 =
Herb Stratum (Plot size:)		- Total Co	/GI	Column Totals: <u>56</u> (A) <u>/38</u> (B)
1. Reductination governientian	20		+ HCh	
2. Maly 745 is Paloxtris	<u>Z</u>		OBL	Prevalence Index = B/A = 2-34
3. Rings flugelleris	کِ		FAC	Hydrophytic Vegetation Indicators:
4. Krisa N. F. Ola	-1		CBL	Rapid Test for Hydrophytic Vegetation Dominance Test is >50%
5. Carlinia angustitedia	<u>(0)</u>		EAC	Prevalence Index is ≤3.0¹
6				Morphological Adaptations¹ (Provide supporting
7				data in Remarks or on a separate sheet)
8		<u> </u>		Problematic Hydrophytic Vegetation¹ (Explain)
9				
10	'Z &	= Total Co	ver	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		10.0100		bo property united distance of properties.
1				Hydrophytic
2	12470.0000			Vegetation Present? Yes No No
	-	= Total Co	ver	
Remarks: (Include photo numbers here or on a separate s	heet.)			

Profile Description: (Describe to the	depth needed to document the indicate	Sampling Point: WL
Depth Matrix	depth needed to document the indicator or co	onfirm the absence of indicators.)
(Inches) Color (moist) %	Color (moiet)	
0-40		Remarks
		cromic Peat
18		
		E.
Type: C=Concentration, D=Depletion, R	M=Reduced Matrix, CS=Covered or Coated San	
	San Coated San	d Grains. ² Location: PL=Pore Lining, M=Matrix.
Histosol (A1)	Sandy Redox (S5)	moleators for Problematic Hydric Soils ³ :
_ Histic Epipedon (A2)	Polyvalue Below Surface (S8)	Coast Prairie Redox (A16)
Black Histic (A3)	Thin Dark Surface (S9)	5 cm Mucky Peat or Peat (S3)
_ Hydrogen Sulfide (A4) _ Stratified Layers (A5)	Loamy Gleyed Matrix (F2)	Iron-Manganese Masses (F12)
Depleted Below Ded Co. 4	Depleted Matrix (F3)	Piedmont Floodplain Soils (F19)
Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Redox Dark Surface (F6)	Red Parent Material (TF2)
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	
dicators of hydrophytic vegetation and workstrictive Layer (if observed): Type: Depth (inches):	etland hydrology must be present, unless disturb	
	etland hydrology must be present, unless disturb	Hydric Soil Present? Yes No
dicators of hydrophytic vegetation and workstrictive Layer (if observed): Type: Depth (inches):	etland hydrology must be present, unless disturb	Historia College
dicators of hydrophytic vegetation and wonderictive Layer (if observed): Type: Depth (inches): marks:	etland hydrology must be present, unless disturb	Historia College
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): marks:	etland hydrology must be present, unless disturb	Historia College
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): marks:		Hydric Soil Present? Yes No No
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): marks: ROLOGY land Hydrology Indicators: ary Indicators (minimum of one is require	ed; check all that apply)	Hydric Soil Present? Yes No No
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): marks: ROLOGY land Hydrology Indicators: ary Indicators (minimum of one is require Surface Water (A1)	ed; check all that apply) Water-Stained Leaves (B9)	Hydric Soil Present? Yes No No Secondary Indicators (minimum of two requires Surface Soil Cracks (B6)
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): narks: ROLOGY land Hydrology Indicators: ary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2)	ed: check all that apply) —. Water-Stained Leaves (B9) —. Aquatic Fauna (B13)	Hydric Soil Present? Yes No No Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Drainage Patterns (B10)
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): narks: ROLOGY land Hydrology Indicators: ary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3)	ed: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15)	Hydric Soil Present? Yes No No No Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16)
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): marks: PROLOGY Iand Hydrology Indicators: Pary Indicators (minimum of one is required) Surface Water (A1) High Water Table (A2) Saturation (A3) Nater Marks (B1)	ed: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1)	Hydric Soil Present? Yes No
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): marks: PROLOGY land Hydrology Indicators: lary Indicators (minimum of one is require) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ed: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots	Hydric Soil Present? Yes No No No Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): marks: PROLOGY land Hydrology Indicators: pary Indicators (minimum of one is required): Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ed: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots — Presence of Reduced Iron (C4)	Hydric Soil Present? Yes No
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): marks: PROLOGY Iland Hydrology Indicators: Pary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	ed: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots — Presence of Reduced Iron (C4)	Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): marks: PROLOGY Iland Hydrology Indicators: Pary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Fron Deposits (B5)	ed: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C6) — Thin Muck Surface (C7)	Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3)
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): marks: PROLOGY Ident Hydrology Indicators: Pary Indicators (minimum of one is required) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	ed: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C6) — Thin Muck Surface (C7)	Secondary Indicators (minimum of two requires
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type:	ed: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C6) — Thin Muck Surface (C7)	Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3)
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): marks: PROLOGY Indicators (minimum of one is required): Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5) nundation Visible on Aerial Imagery (B7) Expansely Vegetated Concave Surface (B8) Observations:	ed: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C6) — Thin Muck Surface (C7) — Other (Explain in Remarks)	Secondary Indicators (minimum of two requires
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): marks: DROLOGY Iland Hydrology Indicators:	ed: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C6) — Thin Muck Surface (C7) — Other (Explain in Remarks)	Secondary Indicators (minimum of two requires
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type: Depth (inches): marks: DROLOGY Itland Hydrology Indicators: hary Indicators (minimum of one is required) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5) nundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Observations: Ce Water Present? Yes No	ed: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C6) — Thin Muck Surface (C7) — Other (Explain in Remarks)	Secondary Indicators (minimum of two requires
dicators of hydrophytic vegetation and westrictive Layer (if observed): Type:	ed: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C6) — Thin Muck Surface (C7) — Other (Explain in Remarks) Depth (inches):	Secondary Indicators (minimum of two requires

Project/Site: Goldbaro LNG N	lunicinality	dCounty: (AUVS	LOSCULA Sampling Date: SADT-26
Applicant/Owner: Pieridue Energy C	Canad		4/	Sampling Point: 43-41
Investigator(s): S. Burkey M. Sensen	-colver	Affiliation:		
Landform (hillslope, terrace, etc.): Nill Yepe	′		and relief (concave, convex, none): Hummeeley
				Datum: NADES
Slope (%): (0°00) tat = 607627	.1			'
Soil Map Unit Name/Type: A500405 M	/			land Type:
Are climatic / hydrologic conditions on the site typical for this t				
Are Vegetation, Soil, or Hydrology sig	nificantly o	disturbed?		Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology na	turally prob	olematic?	(If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sh	owing s	sampling	point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No			e Sampled	
Hydric Soil Present? Yes No		withi	in a Wetlan	d? Yes No
Wetland Hydrology Present? Yes No			s, optional V	Vetland Site ID:
Remarks: (Explain alternative procedures here or in a sepa	rate report	t.)		
NEGETATION III a seigniffe general of glants				
VEGETATION – Use scientific names of plants.			1 11 - 4 - 11	Danis and Task waste back
Λ -•.	Absolute % Cover	Dominant Species?	Status_	Dominance Test worksheet: Number of Dominant Species / /
1. ASITS SUSEMEC	5	V	FAC	That Are OBL, FACW, or FAC:
	20		FAC	Total Number of Dominant
3. Die to Mutima			FACIL	Species Across All Strata: (B)
4.				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:/C/ (A/B)
Sapling/Shrub Stratum (Plot size:)	27	= Total Cov	er er	Prevalence Index worksheet:
1. Vernom 165 nueverne te	15		FAC	Total % Cover of: Multiply by:
2. Calmie moust. felia	(62		FAC	OBL species x1 =
3. Alies bulkamer.	5		FAL	FACW species x2 =
4. Picca mariana	2		FACE	FAC species $\frac{78}{100}$ x 3 = $\frac{23}{100}$
5				FACU species x 4 =
	32	= Total Cov	/er	UPL species x 5 =
Herb Stratum (Plot size: 1 m) 1. Vacinium on 5-4/oid/s			FAC	Column Totals: (A) (B)
2. Curry considersis			FAC	Prevalence Index = B/A = 3 - 0
3. Min on Hamun considersis	/ \(\)		FAL	Hydrophytic Vegetation Indicators:
4.				Rapid Test for Hydrophytic Vegetation
5				Dominance Test is >50%
6				Prevalence Index is ≤3.0¹
7.				Morphological Adaptations¹ (Provide supporting
8				data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
9				Problematic Hydrophytic Vegetation (Explain)
10				¹ Indicators of hydric soil and wetland hydrology must
	72	= Total Cov	/er	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)				
1				Hydrophytic Vegetation
		= Total Cov	/er	Present? Yes No No
Remarks: (Include photo numbers here or on a separate sh			···	
The state of the s	,			

Trome Description:	(Describe to	the dep	th needed to docum	ent the in	dianten		R)	Sampling Po	ريما : Dint
Profile Description: Depth	<u>Matrix</u>		Redo	Features	dicator (or confirm	n the absence	of indicators.)	
	r (moist)	%	Color (moist)		Type ¹	Loc ²	Total		
0-5cm						LUC	<u>Texture</u>	Remark	ks
							Commit.	Jest	
					_		_ 		
Trans. C. C									
Type: C=Concentration lydric Soil Indicators	on, D=Depleti	on, RM=F	Reduced Matrix, CS=	Covered or	Coated	Sand Con	: 2.		
	i ;				Conted	Sariu Gra	Ins. Local	ion: PL=Pore Lining,	M=Matri
Histosol (A1)			Sandy Redox (S5)			mulcators to	r Problematic Hydri	c Soils³:
Histic Epipedon (A: Black Histic (A3)	2)		Polyvalue Belov	v Surface ((S8)		Coast Pr	airie Redox (A16)	
Hydrogen Sulfide (/			Thin Dark Surfa	ce (S9)	(00)		5 cm Muc	ky Peat or Peat (S3)	
 Stratified Layers (A) 	A4)		Loamy Gleyed (Matrix (F2)			Iron-Man	ganese Masses (F12)
Denleted Relow Do	o) od Ourte (A		Depleted Matrix	(F3)			Pleamon	Floodplain Soils (F1	9)
 Depleted Below Dar Thick Dark Surface 	/K Surrace (A	.11)	Redox Dark Sui	face (F6)			Red Pare	nt Material (TF2)	
Sandy Mucky Miner	(A (2)		Depleted Dark S	Surface (F7	')		Other (Ex	plain in Remarks)	
_ Sandy Gleyed Matri	iv (01)		Redox Depressi	ons (F8)	•				
dicators of hydrophytic estrictive Layer (if observed) Type: Per (inches): 5		and wetlar	nd hydrology must be	present, u	inless dis				
Type:		and wetlar	nd hydrology must be -	present, u	iniess dis		problematic.	sent? Yes	. No <u>v</u>
Type:Cec		and wetlar	nd hydrology must be	present, u	iniess dis			sent? Yes	. No <u>v</u>
Type:Ceck Depth (inches):Sc marks:		and wettar	nd hydrology must be	present, u	uniess dis			sent? Yes	. No <u>v</u>
Type: Ceck Depth (inches): 50 marks: DROLOGY	<u>c</u> m	and wetiar	nd hydrology must be	present, u	inless dis			sent? Yes	. No <u>v</u>
Type:	cators:			present, u	uniess dis		łydric Soil Pre		
Depth (inches): 50 Marks: DROLOGY Itland Hydrology Indicators (minimum)	cators:			present, u	uniess dis		lydric Soil Pre	dicators (minimum of	
Type:	cators:		check all that apply)				dydric Soil Pre	dicators (minimum of Goil Cracks (B6)	
Depth (inches):	cators:		check all that apply) Water-Stained I	Leaves (B9			Secondary In Surface S Drainage	dicators (minimum of Soil Cracks (B6) Patterns (B10)	
Depth (inches):	cators:		check all that apply) Water-Stained I Aquatic Fauna (_eaves (B9			Secondary In Surface S Drainage Moss Trir	dicators (minimum of Soil Cracks (B6) Patterns (B10) n Lines (B16)	
Depth (inches):	cators: um of one is r		check all that apply) Water-Stained I Aquatic Fauna (.eaves (B9 B13) B15)	 		Secondary in Surface S Drainage Moss Trir Dry-Seas	dicators (minimum of Soil Cracks (B6) Patterns (B10) n Lines (B16) on Water Table (C2)	two requ
Depth (inches):	cators: um of one is r		check all that apply) Water-Stained I Aquatic Fauna (Marl Deposits (I Hydrogen Sulfid	eaves (B9 B13) B15) e Odor (C1))		Secondary In Surface S Drainage Moss Trir Dry-Seas Saturation	dicators (minimum of Soil Cracks (B6) Patterns (B10) In Lines (B16) On Water Table (C2)	two requ
Depth (inches):	cators: um of one is r		check all that apply) Water-Stained I Aquatic Fauna (Marl Deposits (I Hydrogen Sulfid Oxidized Rhizos	eaves (B9 B13) B15) e Odor (C1 pheres on)) Living Ro		Secondary In Surface S Drainage Moss Trir Dry-Seas Saturation	dicators (minimum of Soil Cracks (B6) Patterns (B10) In Lines (B16) On Water Table (C2)	two requ
Depth (inches):	cators: um of one is r		check all that apply) Water-Stained I Aquatic Fauna (Marl Deposits (I Hydrogen Sulfid Oxidized Rhizos Presence of Rec	eaves (B9 B13) B15) e Odor (C1 pheres on)) Living Ro	pots (C3)	Secondary In Surface S Drainage Moss Trir Dry-Seas Saturation Stunted o	dicators (minimum of Soil Cracks (B6) Patterns (B10) In Lines (B16) On Water Table (C2) In Visible on Aerial Ima In Stressed Plants (D1	two requ
Depth (inches):	cators: um of one is r	equired; a	check all that apply) Water-Stained I Aquatic Fauna (Marl Deposits (I Hydrogen Sulfid Oxidized Rhizos Presence of Rec	Leaves (B9 B13) B15) e Odor (C1 pheres on luced fron uction in Ti)) Living Ro	pots (C3)	Secondary In Surface S Drainage Moss Trir Dry-Seas Saturatior Stunted o Geomorph	dicators (minimum of Soil Cracks (B6) Patterns (B10) In Lines (B16) on Water Table (C2) In Visible on Aerial Ima In Stressed Plants (D1	two requ
Depth (inches):	cators: Um of one is r) 2) herial Imagery	equired; o	check all that apply) Water-Stained I Aquatic Fauna (Marl Deposits (I Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Red Thin Muck Surfa	Leaves (B9 B13) B15) e Odor (C1 pheres on luced fron uction in Ti ce (C7)	l) Living Ro (C4) illed Soils	pots (C3)	Secondary in Surface S Drainage Moss Trir Dry-Seas Saturation Stunted o Geomorpi Shallow A	dicators (minimum of Soil Cracks (B6) Patterns (B10) In Lines (B16) On Water Table (C2) In Visible on Aerial Ima In Stressed Plants (D1 Inic Position (D2) Quitard (D3)	two requ
Depth (inches):	cators: Um of one is r) 2) herial Imagery	equired; o	check all that apply) Water-Stained I Aquatic Fauna (Marl Deposits (I Hydrogen Sulfid Oxidized Rhizos Presence of Rec	Leaves (B9 B13) B15) e Odor (C1 pheres on luced fron uction in Ti ce (C7)	l) Living Ro (C4) illed Soils	pots (C3)	Secondary in Surface S Drainage Moss Trir Dry-Seas Saturatior Stunted o Geomorpi Shallow A Microtopo	dicators (minimum of Soil Cracks (B6) Patterns (B10) In Lines (B16) On Water Table (C2) In Visible on Aerial Ima In Stressed Plants (D1 Inic Position (D2) Quitard (D3)	two requ
Depth (inches):	cators: Um of one is r) 2) herial Imagery	equired; o	check all that apply) Water-Stained I Aquatic Fauna (Marl Deposits (I Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Red Thin Muck Surfa	Leaves (B9 B13) B15) e Odor (C1 pheres on luced fron uction in Ti ce (C7)	l) Living Ro (C4) illed Soils	pots (C3)	Secondary in Surface S Drainage Moss Trir Dry-Seas Saturation Stunted o Geomorpi Shallow A	dicators (minimum of Soil Cracks (B6) Patterns (B10) In Lines (B16) On Water Table (C2) In Visible on Aerial Ima In Stressed Plants (D1 Inic Position (D2) Quitard (D3)	two requ
Depth (inches):	cators: um of one is r) 2) herial Imagery	required; of	check all that apply) Water-Stained I Aquatic Fauna (Marl Deposits (I Hydrogen Sulfid Oxidized Rhizos Presence of Red Recent Iron Red Thin Muck Surfa	Leaves (B9 B13) B15) e Odor (C1 pheres on luced fron uction in Ti ce (C7) Remarks)	l) Living Ro (C4) illed Soils	pots (C3)	Secondary in Surface S Drainage Moss Trir Dry-Seas Saturatior Stunted o Geomorpi Shallow A Microtopo	dicators (minimum of Soil Cracks (B6) Patterns (B10) In Lines (B16) On Water Table (C2) In Visible on Aerial Ima In Stressed Plants (D1 Inic Position (D2) Quitard (D3)	two requ
Depth (inches):	cators: um of one is r) 2) kerial Imagery ncave Surfac	required; (B7)	check all that apply) Water-Stained I Aquatic Fauna (Marl Deposits (I Hydrogen Sulfid Oxidized Rhizos Presence of Red Recent Iron Red Thin Muck Surfa Other (Explain in	Leaves (B9 B13) B15) e Odor (C1 pheres on luced fron uction in Ti ce (C7) Remarks)	l) Living Ro (C4) illed Soils	pots (C3)	Secondary in Surface S Drainage Moss Trir Dry-Seas Saturatior Stunted o Geomorpi Shallow A Microtopo	dicators (minimum of Soil Cracks (B6) Patterns (B10) In Lines (B16) On Water Table (C2) In Visible on Aerial Ima In Stressed Plants (D1 Inic Position (D2) Quitard (D3)	two requ
Depth (inches):	cators: um of one is r) cerial Imagery ncave Surface Yes Yes	equired; (B7)	check all that apply) Water-Stained II Aquatic Fauna (Marl Deposits (I Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Red Thin Muck Surfa Other (Explain in	Leaves (89 813) 815) e Odor (C1 pheres on luced fron uction in Ti ce (C7) Remarks)	Living Ro (C4)	pots (C3)	Secondary in Surface S Drainage Moss Trir Dry-Seas Saturatior Stunted o Geomorpi Shallow A Microtopo	dicators (minimum of Soil Cracks (B6) Patterns (B10) In Lines (B16) On Water Table (C2) In Visible on Aerial Ima In Stressed Plants (D1 Inic Position (D2) Quitard (D3)	two requ
Type:	cators: um of one is r) cerial Imagery oncave Surface Yes Yes Yes	(B7)	check all that apply) Water-Stained I Aquatic Fauna (Marl Deposits (I Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Red Thin Muck Surfa Other (Explain in	Leaves (B9 (B13) (B15) (B15) (B15) (B15) (C15) (C17) (C17) (C17) (C17) (C17) (C17) (C17) (C17) (C17)	Living Ro (C4)	pots (C3)	Secondary In Surface S Drainage Moss Trir Dry-Seas Saturatior Stunted o Geomorph Shallow A Microtopo	dicators (minimum of Soil Cracks (B6) Patterns (B10) In Lines (B16) On Water Table (C2) In Visible on Aerial Ima In Stressed Plants (D1 Inic Position (D2) Quitard (D3) Graphic Relief (D4) Iral Test (D5)	agery (CS
Depth (inches):	cators: um of one is r) cerial Imagery oncave Surface Yes Yes Yes	(B7)	check all that apply) Water-Stained I Aquatic Fauna (Marl Deposits (I Hydrogen Sulfid Oxidized Rhizos Presence of Rec Recent Iron Red Thin Muck Surfa Other (Explain in	Leaves (B9 (B13) (B15) (B15) (B15) (B15) (C15) (C17) (C17) (C17) (C17) (C17) (C17) (C17) (C17) (C17)	Living Ro (C4)	pots (C3)	Secondary In Surface S Drainage Moss Trir Dry-Seas Saturatior Stunted o Geomorph Shallow A Microtopo	dicators (minimum of Soil Cracks (B6) Patterns (B10) In Lines (B16) On Water Table (C2) In Visible on Aerial Ima In Stressed Plants (D1 Inic Position (D2) Quitard (D3) Graphic Relief (D4) Iral Test (D5)	two requ

Project/Site: 50/01/5000 LNG	Municipality/0	County: Gr	145 605016 Sampling Date: SAL 26/
Applicant/Owner: Pieridue Energy			Sampling Point: LL 3-WP
nvestigator(s): S. Burky/M. Sensen	Af	filiation: A	
		Loca	il relief (concave, convex, none):
andform (hillslope, terrace, etc.): Valley			CC2408 Datum: VAD 83
Slope (%): 1 20 Lett E COCF Co Z 7			
Soil Map Unit Name/Type: However and A			Wetland Type: Fen / Rog
re climatic / hydrologic conditions on the site typical for this	s time of year	? Yes	
re Vegetation, Soil, or Hydrologys	ignificantly di	sturbed?	Are "Normal Circumstances" present? Yes No
re Vegetation, Soil, or Hydrology r	naturally probl	ematic?	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	showing s	ampling po	pint locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes , N	lo	Is the Sa	ampled Area
	lo	I .	Wetland? Yes No
	lo	If yes, or	otional Wetland Site ID: <u>LL3</u>
Remarks: (Explain alternative procedures here or in a ser			
ZEGETATION – Use scientific names of plants.			
		Dominant Ind	icator Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover		Number of Dominant Species
1. Picta purima	70)		That Are OBL, FACW, or FAC: (A)
2. Aliea Lelsoner	- 5	L E	Total Number of Dominant
3			Species Across All Strata: (B)
4			Percent of Dominant Species
5			That Are OBL, FACW, or FAC: (A/B)
0 1 10 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	25 =	Total Cover	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 500)			Total % Cover of:Multiply by:
1. Hors income	_ <u>/3</u>	<u> </u>	ACU OBL species 22.7 x1= 27
2. Setula Cood testin	- — -		AC FACW species 850 x2= 1700
3. With rown professor for	5		$\frac{7}{4}$ C FAC species $\frac{7}{2}$ $\frac{7}{4}$ \times 3 = $\frac{6}{4}$
70 1 1			#C FACU species 2 x4= &
5. Culm'in engest, testin	- '\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Total Cover	UPL species x5=
Herb Stratum (Plot size: //m)	<u></u> -	/ Total Cover	Column Totals: 86 (A) 65 196 (B)
1. Pherbolistan greenlendieux	1 15.	<u> </u>	
2. Ceraus convertinsis	S		Prevalence Index = B/A = Z-3
3. Circy 41:3 Decores	_ <u> </u>		
4. Mainun Hemun tv. folia			Rapid Test for Hydrophytic Vegetation
5. Chrandle Cinnamonda	<u> </u>		Dominance Test is >50%
6			Prevalence Index is ≤3.0¹
7			Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
8			Problematic Hydrophytic Vegetation¹ (Explain)
9			
10	29	Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)			
1			Hydrophytic
			Vegetation
2	:		Present? Yes No No No

(inches) Color (moist)	the depth needed to document the indicator or	
C-HC+	Color (moist) % Type ¹	Loc ² Texture Remarks
		argonic Part
		The state of the s
Type: C=Concentration 5		
Hydric Soil Indicators:	on, RM=Reduced Matrix, CS=Covered or Coated S	and Grains. 2 ocation: DI - Day 1111
/ Histosol (A1)		and Grains. ² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16)
Black Histic (A3)	Polyvalue Below Surface (S8)	5 cm Mucky Peat or Peat (S3)
Hydrogen Sulfide (A4)	Thin Dark Surface (S9)	Iron-Manganese Masses (F12)
Stratified Layers (A5)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)
 Depleted Below Dark Surface (A1 	Depleted Matrix (F3) Redox Dark Surface (F6)	Red Parent Material (TF2)
_ Thick Dark Surface (A12)	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	····,
_ Sandy Gleyed Matrix (S4)	— Copiossions (F6)	
ndicators of hydrophytic vegetation as	nd wetland hydrology	
estrictive Layer (if observed):	nd wetland hydrology must be present, unless distr	urbed or problematic.
Туре:		
Туре:		
Type: Depth (inches): emarks:		Hydric Soil Present? Yes No
Type:		Hydric Soil Present? Yes No
Type: Depth (inches): marks: DROLOGY tland Hydrology Indicators:		
Type: Depth (inches): marks: DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is re		Secondary Indicators (minimum of two required)
Type: Depth (inches): marks: DROLOGY tland Hydrology indicators: nary Indicators (minimum of one is re	equired; check all that apply)	
Type:	equired; check all that apply) Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10)
Type: Depth (inches): marks: DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3)	equired; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16)
Type: Depth (inches): marks: DROLOGY tland Hydrology indicators: nary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	equired; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
Type: Depth (inches): marks: DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	equired; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Type: Depth (inches): marks: DROLOGY tland Hydrology indicators: nary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	equired; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1)
Type:	equired; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc — Presence of Reduced Iron (C4)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
Type:	equired; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
Type:	equired; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (— Thin Muck Surface (C7)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3) Microtopographic Relief (D4)
Type:	equired; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (— Thin Muck Surface (C7)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Type:	equired; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (— Thin Muck Surface (C7)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3) Microtopographic Relief (D4)
Type:	equired; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (— Thin Muck Surface (C7) (B7) — Other (Explain in Remarks) (B8)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3) Microtopographic Relief (D4)
Type:	equired; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (— Thin Muck Surface (C7) (B7) — Other (Explain in Remarks) (B8)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3) Microtopographic Relief (D4)
Type:	equired; check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Thin Muck Surface (C7) (B7) Other (Explain in Remarks) (B8) No Depth (inches):	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
Type:	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (B7) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches): No Depth (inches): Wester Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C7) Other (Explain in Remarks)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
Type:	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (B7) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches): No Depth (inches): Wester Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C7) Other (Explain in Remarks)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
Type:	equired; check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Thin Muck Surface (C7) (B7) Other (Explain in Remarks) (B8) No Depth (inches):	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
Type:	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (B7) Thin Muck Surface (C7) Other (Explain in Remarks) No Depth (inches): No Depth (inches): Wester Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roc Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C7) Other (Explain in Remarks)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)

Project/Site: Scholbar LIVO	_ Municipality	County: Guys	Scorugh Sampling Date: Sept. 27,
Applicant/Owner: Piericlae Energy			Sampling Point: 44-0Pl
nvestigator(s): 5. Ruskey/M. Sense	^ A	Affiliation: AME	
			(concave, convex, none): Himmerky
slope (%):			-CES Datum: NAD 83
	-4)		etland Type: Riperion Fem Will
On this point than 17 por			,
re climatic / hydrologic conditions on the site typical for t			
re Vegetation, Soil, or Hydrology			"Normal Circumstances" present? Yes No
re Vegetation, Soil, or Hydrology	_ naturally prob	olematic? (If no	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing s	ampling point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	No	Is the Sampled	d Area
Hydric Soil Present? Yes		within a Wetla	nd? Yes No
Wetland Hydrology Present? Yes		If yes, optional	Wetland Site ID:
Remarks: (Explain alternative procedures here or in a s	separate report		
EGETATION – Use scientific names of plan	ts.		
	Absolute		Dominance Test worksheet:
Tree Stratum (Plot size: 10:00) 1. Balson Miles ha Sumea	% Cover	Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
7		V FAC	That Ale OBL, PACW, of FAC.
2. Vience abone			Total Number of Dominant Species Across All Strata: (B)
4.			
5.			Percent of Dominant Species That Are OBL, FACW, or FAC:(A/B)
·	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5 00)		~.	Prevalence Index worksheet:
1. Serbus americana			
2. Alous viridis		- rAci	OBL speciesSx1=S
3. Prunus serationes			FACW species
4			FAC species 41 x3 = 123 FACU species 2 x4 = 8
5.		= Total Cover	UPL species x5 = 0
Herb Stratum (Plot size:(n/\)		- Total Cover	Column Totals: 48 (A) /36 (B)
1. Vaccinium one ust telium	<u>_/U</u>	FAC	
meinon Hemun conedensis		<u> </u>	Prevalence Index = B/A = 2 - 8
Coulf 41:500ma	5	UBL	Hydrophytic Vegetation Indicators:
Kalmie migestitulium		Ftc	Rapid Test for Hydrophytic Vegetation
j,			Dominance Test is >50%
•			Prevalence Index is ≤3.0¹ Morphological Adaptations¹ (Provide supporting
			- I widthunding adhragions (Liovide adhround
7			data in Remarks or on a separate sheet)
7			Problematic Hydrophytic Vegetation ¹ (Explain)
7 8 9			Problematic Hydrophytic Vegetation¹ (Explain)
7			
7	22		Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6	22	= Total Cover	Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation
7	22	= Total Cover	Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic

Sampling Point: W4-Uf	/
e of Indicators.)	
S	I
Remarks	ı
	I
300	l
va na	l
end lean	
Potion: DI -D	
cation: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :	
Prairie Redox (A16)	
flucky Peat or Peat (S3)	
anganese Masses (F12)	
ont Floodplain Soils (F19)	
rent Material (TF2)	
Explain in Remarks)	
resent? Yes No	
Indicators (minimum of two required)	
e Soil Cracks (B6)	
ge Patterns (B10)	
rim Lines (B16)	
ason Water Table (C2)	
ion Visible on Aerial Imagery (C9)	
or Stressed Plants (D1)	
rphic Position (D2)	
Aquitard (D3)	
pographic Relief (D4)	
utral Test (D5)	

Depth Matrix (inches) Color (moist)	epth needed to document the indicator o	confirm the absence of Indicators.)
(inches) Color (moist) %	Color (moist) % Type1	Loc ² Texture Remarks
1 		Kemarks
5-20 75 YR4/2		
60-30 +54RL13		Silt Lower Smallean
1 > 2 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		5 / /-
	·	Silt sind lean
¹ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators:	=Poduced Marking of	
Hydric Soil Indicators:	- Neduced Matrix, CS=Covered or Coated :	Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Histosol (A1)	Sandy Redox (S5)	Indicators for Problematic Hydric Soils ³ :
Histic Epipedon (A2)	Polyvalue Below Surface (S8)	Coast Prairie Redox (A16)
Black Histic (A3)	Thin Dark Surface (S8)	5 cm Mucky Peat or Peat (S3)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Iron-Manganese Masses (F12)
Stratified Layers (A5)	Depleted Matrix (F3)	Piedmont Floodplain Soils (F19)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	Red Parent Material (TF2)
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	
Sandy Gleyed Matrix (S4)	— Programme (F8)	
3		
³ Indicators of hydrophytic vegetation and wet Restrictive Layer (if observed):	land hydrology must be present, unless dis	turbed or problematic
1 2 1 12		
Type:		
Depth (inches):Remarks:		Hydric Soil Present? Yes No
Peptin (inches): Remarks: YDROLOGY		Hydric Soil Present? Yes No
Peptin (inches): Remarks: YDROLOGY Vetland Hydrology Indicators:		110
Peptin (inches):		Secondary Indicators (minimum of two required
Peptin (inches):	d: check all that apply)	110
Peptin (inches):	d: check all that apply) Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6)
Peptin (inches):	d: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10)
Peptin (inches):	d: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16)
Peptin (inches):	d: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Mart Deposits (B15) — Hydrogen Sulfide Odor (C1)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
Peptin (inches):	d: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Ro	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
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Peptin (inches): YDROLOGY Vetland Hydrology Indicators: Inimary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	d: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roman Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils — Thin Muck Surface (C7)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3) Microtopographic Relief (D4)
Peptin (inches): YDROLOGY Vetland Hydrology Indicators: Vrimary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	d: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roman Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils — Thin Muck Surface (C7)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3)
Peptin (inches): Proposition (B4) In Deposits (B4) Iron Deposits (B5) In Deposits (B5) In Deposits (B6) In Deposits (B6) In Deposits (B7) In Deposits (B8) In Deposits (B8)	d: check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Other (Explain in Remarks)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3) Microtopographic Relief (D4)
Peptin (inches): Proposition (Ba) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Plocation (B1) Inches (B2) Inches (B2) Inches (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	d: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roman Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils — Thin Muck Surface (C7) — Other (Explain in Remarks)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3) Microtopographic Relief (D4)
Peptin (inches): YDROLOGY Vetland Hydrology Indicators: Irimary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Pid Observations: Ifface Water Present? Yes No Inter Table Present? Yes No	d: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roman Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils — Thin Muck Surface (C7) — Other (Explain in Remarks)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3) Microtopographic Relief (D4)
Peptin (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Pld Observations: rface Water Present? Yes No	d: check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
Peptin (inches): Remarks: YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Pld Observations: rface Water Present? Yes No	d: check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Ro Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) (C6) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
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Project/Site: 50/0/best LNG	Municipality	/County: _{	JUYS	Sampling Date: 6pt. 27
Applicant/Owner: Pieridue Energy (Carro	ela Lt	el.	Sampling Point: <u>UHH</u> -WP/
Investigator(s): S. Bunkey M. Sensen	4	Affiliation:		
Landform (hillslope, terrace, etc.): Drowt 53 in		1	ocal relief (concave, convex, none); CM (X
Slope (%): / Let: 5 GG 7/14/			5000	2099 Datum: NA1 83
				land Type: Riperim Fen
Soil Map Unit Name/Type: Hal. Fax (C-4)				•
Are climatic / hydrologic conditions on the site typical for this				
Are Vegetation, Soil, or Hydrology si				Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology no	aturally prol	olematic?	(If nee	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	howing	sampling	point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No		Is the	e Sampled	Area
Hydric Soil Present? Yes No		withi	n a Wetlan	d? Yes No
Wetland Hydrology Present? Yes No		If ves	s, optional V	Vetland Site ID:
Remarks: (Explain alternative procedures here or in a sep	arate report		· ·	
VEGETATION – Use scientific names of plants.				
		Dominant	Indicator	Dominance Test worksheet:
		Species?	Status	Number of Dominant Species
1. Picea glaven	2		<u>rac</u>	That Are OBL, FACW, or FAC: (A)
2. Alas incore				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: _/ C/C/ (A/B)
Sapling/Shrub Stratum (Plot size: 5 00)		= Total Cov	HACW	Prevalence index worksheet:
1. Alous income	201/0		1286	Total % Cover of: Multiply by:
2 Doctingerie vonellate	1590		FAC	OBL species <u>(2</u> x1 = <u>(2</u>
3	. 			FACW species 45 x2= 90
4.	-			FAC species x3 =
5.				FACU species x 4 =
1	35		/er	UPL species x5 =
Herb Stratum (Plot size:)	_		2011	Column Totals: 54 (A)
1. Typhe latitodic			CORL	Prevalence Index = B/A =
2 Times Houses	10	·/	FACU	Hydrophytic Vegetation Indicators:
3. Purs Hagether Hispidus	1590		CBL	Rapid Test for Hydrophytic Vegetation
4. Carrix trispring			THE	Cominance Test is >50%
5. Solidage rigosa				✓ Prevalence Index is ≤3.0¹
6				Morphological Adaptations ¹ (Provide supporting
7				data in Remarks or on a separate sheet)
8. 9.				Problematic Hydrophytic Vegetation¹ (Explain)
10				
10.	77	= Total Cov		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	_ 		•	we presently arrived around a present and
1				Hydrophytic
2				Vegetation Present? Yes No
		= Total Cov	ver	
Remarks: (Include photo numbers here or on a separate	sheet.)			

Profile Description	n: (Describe to	o the depth	needed to doorses and the					Sampling F	Point: WL
Depth	Matrix		needed to document the	ne indicator or	confirm	the absence	of indic	ators.)	
(inches) Co	lor (moist)	%		res Type ¹					
C-40+			· · · · · · · · · · · · · · · · · · ·			<u>Texture</u>		Rema	irks
					<u> </u>	uzm.c	120		
Type: C≃Concentra	tion. D=Depleti	ion PM-Da							
lydric Soil Indicato	rs:	ion, Kwi–Ke	duced Matrix, CS=Cover	ed or Coated S	and Grain	s. ² Loca	ation: PL	=Pore Lining	g, M=Matrix.
Histosol (A1)						Indicators f	or Proble	ematic Hyd	ric Soils ³ .
_ Histic Epipedon (A2)	-	Sandy Redox (S5)			Coast P	rairie Red	dox (A16)	
_ Black Histic (A3)	•	-	Polyvalue Below Surf	ace (S8)		5 cm Mt	ucky Pear	or Peat (S3	3)
_ Hydrogen Sulfide	(A4)	-	Thin Dark Surface (St	9)		Iron-Mai	nganese	Masses (F1	2) 2)
Stratified Layers ((A5)	-	Loamy Gleyed Matrix Depleted Matrix (F3)	(F2)		Piedmoi	nt Floodpl	ain Soils (F	-) 19)
_ Depleted Below [ark Surface (A	(11)	Redox Dark Surface (E0)		Red Par	ent Mater	rial (TF2)	.0)
Thick Dark Surface	e (A12)	´ -	Depleted Dark Surface (F6)		Other (E	xplain in	Remarks)	
Sandy Mucky Min	eral (S1)	_	Redox Depressions (F	B (F/)				,	
Sandy Gleyed Ma	trix (S4)	_	C Trouble Copressions (F	0)					
dicators of hydrophy strictive Layer (if o	tic vegetation a		hydrology must be prese	ent, unless distr	urbed or p	roblematic.			
	tic vegetation a		hydrology must be prese	ent, unless disti		roblematic. odric Soil Pr	esent?	Yes	No
dicators of hydrophy strictive Layer (if o Type: Depth (inches):	tic vegetation a		l hydrology must be prese	ent, unless distu			esent?	Yes	
dicators of hydrophy strictive Layer (if o Type: Depth (inches): marks:	tic vegetation a		I hydrology must be prese	ent, unless distr			esent?	Yes	
dicators of hydrophy strictive Layer (if o Type: Depth (inches): marks:	tic vegetation a			ent, unless distr	Ну	dric Soil Pr			
dicators of hydrophy strictive Layer (if o Type: Depth (inches): marks: PROLOGY land Hydrology Inches	tic vegetation a			ent, unless distu	Ну	rdric Soil Pr	ndicators	(minimum c	No
dicators of hydrophy strictive Layer (if o Type: Depth (inches): marks: PROLOGY land Hydrology Inches Surface Water (A1)	tic vegetation abserved):		eck all that apply)		Ну	rdric Soil Pr Secondary I Surface	ndicators Soil Crad	(minimum o	
dicators of hydrophy strictive Layer (if o Type: Depth (inches): marks: PROLOGY land Hydrology Inches Surface Water (A1) High Water Table (A	tic vegetation abserved):		eck all that apply) _ Water-Stained Leaves		Ну	Secondary I Surface Drainag	ndicators Soil Crade Pattern	(minimum o cks (B6) s (B10)	
dicators of hydrophy strictive Layer (if o Type: Depth (inches): marks: PROLOGY land Hydrology Inches surface Water (A1) High Water Table (A	tic vegetation abserved):		eck all that apply) Water-Stained Leaves Aquatic Fauna (B13)		Ну	Secondary I Surface Drainag Moss Tr	ndicators Soil Crad e Pattern im Lines	(minimum o cks (B6) s (B10) (B16)	of two require
dicators of hydrophy strictive Layer (if o Type: Depth (inches): marks: PROLOGY land Hydrology Included in the second	tic vegetation abserved): licators: mum of one is a		eck all that apply) Water-Stained Leaves Aquatic Fauna (B13) Marl Deposits (B15)	s (B9)	Ну	Secondary I Surface Drainag Moss Tr Dry-Sea	ndicators Soil Crade Pattern im Lines ason Wate	(minimum o cks (B6) s (B10) (B16) er Table (C2	of two require
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dicators of hydrophy strictive Layer (if o Type: Depth (inches): marks: PROLOGY land Hydrology Inches surface Water (A1) High Water Table (A Saturation (A3) Water Marks (B1) Sediment Deposits (B3)	licators: mum of one is (eck all that apply) Water-Stained Leaves Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odo Oxidized Rhizosphere	s (B9) or (C1) s on Living Roc	Hy	Secondary I Surface Drainag Moss Tr Dry-Sea Saturatic	ndicators Soil Crade e Pattern im Lines ison Wate on Visible	(minimum ocks (B6) ss (B10) (B16) er Table (C2 on Aerial In	of two require
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dicators of hydrophy strictive Layer (if o Type: Depth (inches): marks: PROLOGY Iand Hydrology Inc. Surface Water (A1) High Water Table (A Saturation (A3) Water Marks (B1) Sediment Deposits (C) Drift Deposits (B3) Algal Mat or Crust (B5) For Deposits (B5)	licators: mum of one is i	required; ch	eck all that apply) Water-Stained Leaves Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Thin Muck Surface (C7	s (B9) or (C1) s on Living Roo lron (C4) in Tilled Soils (Hy obts (C3)	Secondary I Surface Drainag Moss Tr Dry-Sea Saturatio Stunted Geomory Shallow	ndicators Soil Crade Pattern Im Lines Ison Wate On Visible Or Stress Iphic Posit	(minimum of the control of the contr	of two require
dicators of hydrophy strictive Layer (if o Type:	licators: num of one is: 2) Aerial Imagen	required; ch	eck all that apply) Water-Stained Leaves Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction	s (B9) or (C1) s on Living Roo lron (C4) in Tilled Soils (Hy obts (C3)	Secondary I Surface Drainag Moss Tr Dry-Sea Saturatic Stunted Geomory Shallow Microtope	ndicators Soil Crace Pattern im Lines ason Wate or Stress phic Posit Aquitard ographic	(minimum of cks (B6) s (B10) (B16) er Table (C2 on Aerial In ed Plants (Dion (D2) (D3) Relief (D4)	of two require
dicators of hydrophy strictive Layer (if o Type: Depth (inches): marks: PROLOGY Iland Hydrology Inches Surface Water (A1) High Water Table (A Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B ron Deposits (B5) nundation Visible on Sparsely Vegetated (C	licators: num of one is: 2) Aerial Imagen	required; ch	eck all that apply) Water-Stained Leaves Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Thin Muck Surface (C7	s (B9) or (C1) s on Living Roo lron (C4) in Tilled Soils (Hy obts (C3)	Secondary I Surface Drainag Moss Tr Dry-Sea Saturatio Stunted Geomory Shallow	ndicators Soil Crace Pattern im Lines ason Wate or Stress phic Posit Aquitard ographic	(minimum of cks (B6) s (B10) (B16) er Table (C2 on Aerial In ed Plants (Dion (D2) (D3) Relief (D4)	of two require
dicators of hydrophy strictive Layer (if o Type: Depth (inches): marks: PROLOGY land Hydrology Inches lary Indicators (mining Surface Water (A1) High Water Table (A Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Incomplete on Deposits (B5) Incomplet	licators: mum of one is: 2) Aerial Imagery Concave Surface	required; ch	eck all that apply) Water-Stained Leaves Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Thin Muck Surface (C7) Other (Explain in Rema	s (B9) s on Living Roo Iron (C4) in Tilled Soils (Hy obts (C3)	Secondary I Surface Drainag Moss Tr Dry-Sea Saturatic Stunted Geomory Shallow Microtope	ndicators Soil Crace Pattern im Lines ason Wate or Stress phic Posit Aquitard ographic	(minimum of cks (B6) s (B10) (B16) er Table (C2 on Aerial In ed Plants (Dion (D2) (D3) Relief (D4)	of two require
dicators of hydrophy strictive Layer (if o Type: Depth (inches): marks: DROLOGY Iland Hydrology Inches Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B3) Inundation Visible on Eparsely Vegetated (Cobservations: Ce Water Present?	licators: mum of one is a Aerial Imagery Concave Surface Yes	required; ch	eck all that apply) Water-Stained Leaves Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Thin Muck Surface (C7 Other (Explain in Rema	s (B9) or (C1) s on Living Roo lron (C4) in Tilled Soils (7) arks)	Hy obts (C3)	Secondary I Surface Drainag Moss Tr Dry-Sea Saturatic Stunted Geomory Shallow Microtope	ndicators Soil Crace Pattern im Lines ason Wate or Stress phic Posit Aquitard ographic	(minimum of cks (B6) s (B10) (B16) er Table (C2 on Aerial In ed Plants (Dion (D2) (D3) Relief (D4)	of two require
dicators of hydrophy strictive Layer (if o Type:	licators: mum of one is of the served state of	required; ch	eck all that apply) Water-Stained Leaves Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Thin Muck Surface (C7 Other (Explain in Remains)	s (B9) or (C1) s on Living Roo lron (C4) in Tilled Soils (7) orks)	Hy obts (C3)	Secondary I Surface Drainag Moss Tr Dry-Sea Saturatic Stunted Geomory Shallow Microtope	ndicators Soil Crace Pattern im Lines ason Wate or Stress phic Posit Aquitard ographic	(minimum of cks (B6) s (B10) (B16) er Table (C2 on Aerial In ed Plants (Dion (D2) (D3) Relief (D4)	of two require
dicators of hydrophy strictive Layer (if o Type: Depth (inches): marks: PROLOGY Idand Hydrology Inches Depth (inches): Mary Indicators (mining Surface Water (A1) High Water Table (A Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Fron Deposits (B5) Fron Deposits (B5	licators: num of one is in the concave Surface Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	required: ch	eck all that apply) Water-Stained Leaves Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odo Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction Thin Muck Surface (C7 Other (Explain in Rema	s (B9) or (C1) s on Living Roo liron (C4) in Tilled Soils (7) orks)	ots (C3)	Secondary I Surface Drainag Moss Tr Dry-Sea Saturatio Stunted Geomory Shallow Microtope FAC-Neu	ndicators Soil Crace Pattern im Lines ason Wate or Stress phic Posit Aquitard ographic stral Test	(minimum of cks (B6) s (B10) (B16) er Table (C2 on Aerial In ed Plants (Dion (D2) (D3) Relief (D4)	of two require

WETLAND DEL	INEATIO	N DATA	FORM -	NOVA SCOTIA
Project/Site: Scilchoo LNG	Municipality/	County:	nuys	Scorugh Sampling Date:
Applicant/Owner: Pieridue Energy (Canac	las Lt	0000	Sampling Point: 123-47
Investigator(s): S. Burkey / M. Sensen	A	ffiliation:	HIVIE!	
Landform (hillslope, terrace, etc.): #:// \$/cpc				concave, convex, none): the mmore by
Slope (%): 5 Lat E G074/5	Lo	ong: <u>V</u>	5001	9/3 Datum: NA) 93
Soil Map Unit Name/Type: Hul. Fex (C-4)			Wet	land Type:
Are climatic / hydrologic conditions on the site typical for this				
Are Vegetation, Soil, or Hydrologys	ignificantly di	isturbed?	Are "N	Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrologyn			•	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	howing s	ampling	point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: (Explain alternative procedures here or in a sep		within		Area d? Yes No Vetland Site ID:
VEGETATION – Use scientific names of plants.				
(4)		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 10 M)	% Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
1. Alirs balsama	<u>60</u>			
2. filler MOTENCE	. —— .	1	- new	Total Number of Dominant Species Across All Strata: (B)
3				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
<u></u>	15=	Total Cov	er	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size:)	>		FAC	Total % Cover of: Multiply by:
1. Vistinum avolum				₩MINDY 57:
2. HAUS SPACING	· <u> </u>		<u>Griji</u>	FACW species
3				FAC species 86 x3 = 258
5				FACU species x 4 = 20
J		Total Cov	er	UPL species x 5 =
Herb Stratum (Plot size:)			-0.	Column Totals: <u>98</u> (A) <u>Z92</u> (B)
1. Carous Compationsis	ces.		-HC	Prevalence Index = B/A = 30
2. Pteridium apriliaum			FACU	Hydrophytic Vegetation Indicators:
3. Manantimum condensis			FAC	Rapid Test for Hydrophytic Vegetation
4. Vucinium myrfelleiches			FVC	Dominance Test is >50%
5				Prevalence Index is ≤3.0¹
6				Morphological Adaptations ¹ (Provide supporting
8.				data in Remarks or on a separate sheet)
9.	_			Problematic Hydrophytic Vegetation ¹ (Explain)
10				¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	<u> 29 </u> :	= Total Cov	ег	be present, unless disturbed or problematic.
1	. ——			Hydrophytic
2				Vegetation Present? Yes No
		= Total Cov	er	
Remarks: (Include photo numbers here or on a separate	sheet.)			

SOIL Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Sampling Point: W15- 47 Redox Features Color (moist) % Color (moist) % Type¹ Loc² <u>Texture</u> Loverse Some ¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. **Hydric Soil Indicators:** ²Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils³: ___ Histosol (A1) Sandy Redox (S5) __ Histic Epipedon (A2) __ Coast Prairie Redox (A16) Polyvalue Below Surface (S8) Black Histic (A3) ___ 5 cm Mucky Peat or Peat (S3) ___ Thin Dark Surface (S9) _ Hydrogen Sulfide (A4) _ Iron-Manganese Masses (F12) __ Loamy Gleyed Matrix (F2) Stratified Layers (A5) Piedmont Floodplain Soils (F19) __ Depleted Matrix (F3) Depleted Below Dark Surface (A11) Red Parent Material (TF2) Redox Dark Surface (F6) Thick Dark Surface (A12) ___ Other (Explain in Remarks) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) __ Redox Depressions (F8) Sandy Gleyed Matrix (S4) ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type: Depth (inches): Remarks: Hydric Soil Present? Yes No __ HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) Secondary Indicators (minimum of two required) Surface Water (A1) __ Surface Soil Cracks (B6) ___ Water-Stained Leaves (B9) __ High Water Table (A2) ___ Drainage Patterns (B10) __ Aquatic Fauna (B13) _ Saturation (A3) _ Moss Trim Lines (B16) __ Marl Deposits (B15) ___ Water Marks (B1) __ Dry-Season Water Table (C2) ___ Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Saturation Visible on Aerial Imagery (C9) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Stunted or Stressed Plants (D1) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Geomorphic Position (D2) Recent Iron Reduction in Tilled Soils (C6) Iron Deposits (B5) Shallow Aquitard (D3) ___ Thin Muck Surface (C7) Inundation Visible on Aerial Imagery (B7) Microtopographic Relief (D4) Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) ___ FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes ____ No ___ Depth (inches): _ Water Table Present? Yes _____ No _____ Depth (inches): _____ Saturation Present? Yes _____ No ____ Depth (inches): ______ Wetland Hydrology Present? Yes ___ (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: No L

Remarks:

Project/Site: Goldbox LNG	Municinality	/County: (AUYK	628006/2 Sampling Date: SPP + 27
Applicant/Owner: Pitridue Entry	Carro	1.	6/1	Sampling Point: US-UP)
Investigator(s): 5. Bushey M. Sensen		Affiliation:		The state of the s
Landform (hillslope, terrace, etc.): Hill Slepe	<i>′</i>	auon	and relief	common convey ropes. He son over his
			ocal reliei (1908
Slope (%): Z Lat: E (g07422	[{]	ong:/L/	3001	Uatum:
Soil Map Unit Name/Type: Halife x (C-4)				tland Type: Skeptel Pen / Rey
Are climatic / hydrologic conditions on the site typical for this	time of yea	ır? Yes <u> </u>		
Are Vegetation, Soil, or Hydrology si	gnificantly o	disturbed?	Are "	Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology na	aturally prob	olematic?	(If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	howing s	sampling	point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	·	is the	e Sampled	
	>	withi	n a Wetlan	d? Yes No
1		If yes	, optional V	Vetland Site ID: LLS
Remarks: (Explain alternative procedures here or in a sep-	arate report	i.)		
VEGETATION – Use scientific names of plants.				
(62-4	Absolute	Dominant		Dominance Test worksheet:
	-	Species?	FACL	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
1. Picla Marina	_		FAC	That Are Obl., FACW, OF FAC.
			1.40	Total Number of Dominant Species Across All Strata: (B)
3				Species Across All Strata: (B)
4 5.				Percent of Dominant Species That Are OBL, FACW, or FAC:(A/B)
	17	= Total Cov	er	
Sapling/Shrub Stratum (Plot size: 5)				Prevalence Index worksheet:
1. Alays incene			-Alle	Total % Cover of: Multiply by:
2. Oltela Corchitestia	2_		FACU	OBL species 40 $\times 1 = 40$ $\times 2 = 48$
3. Vitiraum prelum	_2_		FAC	
4				FAC species x3 = FACU species x4 =
5				UPL species x5=
Herb Stratum (Plot size:/\)	<u>_@</u>	= Total Cov	/er	Column Totals: $\frac{77}{}$ (A) $\frac{129}{}$ (B)
1. Oncolea Sins. Lilis	5		FACW	
2. Corex trispermen	40		ORL	Prevalence Index = B/A =
3. Solidugo rease	2_		FAC	Hydrophytic Vegetation Indicators:
4. Pelus hispides			FACL	Rapid Test for Hydrophytic Vegetation
5. Comunda Cinnamonea	<u>z</u>		FAC	Dominance Test is >50%
6				Prevalence Index is ≤3.0¹
7				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8	·			Problematic Hydrophytic Vegetation ¹ (Explain)
9				
10	<u></u>			¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	37	= Total Cov	/er	be present, unless disturbed or problematic.
1				Hydrophytic
2.				Vegetation
		= Total Cov	/er	Present? Yes No
Remarks: (Include photo numbers here or on a separate s	sheet.)			
•				

	^		
3	u	ш	

(inches) Color (moist) e/	oth needed to document the indicator or co	
CI-UCIT	Color (moist) % Type¹ Lo	
<u> </u>		
		_ Organic Plant
Trans. 0: 0		
Type: C=Concentration, D=Depletion, RM= Tydric Soil Indicators:	Reduced Matrix, CS=Covered or Coated San	d Graina 2t
Histosol (A1)		d Grains. ² Location: PL=Pore Lining, M=Matrix.
	Sandy Redox (S5)	marcators for Problematic Hydric Soils ³ :
Histic Epipedon (A2) Black Histic (A3)	Polyvalue Below Surface (S8)	Coast Prairie Redox (A16)
Hydrogen Cylet (4.4)	Thin Dark Surface (S9)	5 cm Mucky Peat or Peat (S3)
Hydrogen Sulfide (A4) Stratified Layers (A5)	Loamy Gleyed Matrix (F2)	Iron-Manganese Masses (F12)
Denleted Polow Park Co.	Depleted Matrix (F3)	Piedmont Floodplain Soils (F19)
Depleted Below Dark Surface (A11) Thick Dark Surface (A12)	Redox Dark Surface (F6)	Red Parent Material (TF2)
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	
_ Sandy Sleyed Matrix (S4)	, ,	
idicators of hydrophytic vegetation and with		
estrictive Laver (if observed):	ind hydrology must be present, unless disturb	ed or problematic
		Problematic.
Type:	_	
Depth linches).		1
		11.41 0 11-
Depth (inches): marks:	-	Hydric Soil Present? Yes No
		Hydric Soil Present? Yes No
DROLOGY		Hydric Soil Present? Yes No
DROLOGY tland Hydrology Indicators:		
DROLOGY tland Hydrology Indicators:		
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is required:	check all that apply)	Secondary indicators (minimum of two required
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is required; Surface Water (A1)	check all that apply) Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6)
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is required; Surface Water (A1) High Water Table (A2)	check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10)
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is required: Surface Water (A1) High Water Table (A2) Saturation (A3)	check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16)
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
PROLOGY Itland Hydrology Indicators: Mary Indicators (minimum of one is required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
DROLOGY Itland Hydrology Indicators: Mary Indicators (minimum of one is required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Stunted or Stressed Plants (D1)
DROLOGY Itland Hydrology Indicators: Mary Indicators (minimum of one is required: Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
DROLOGY Itland Hydrology Indicators: Mary Indicators (minimum of one is required: Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5)	check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	Secondary indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3)
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is required: Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5) nundation Visible on Aerial Imagery (B7)	check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C6) — Thin Muck Surface (C7)	Secondary indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5) nundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	Secondary indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3)
DROLOGY Itland Hydrology Indicators: Mary Indicators (minimum of one is required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5) nundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Observations:	check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C6) — Thin Muck Surface (C7)	Secondary indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is required: Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5) nundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Observations:	check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roots — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C6) — Thin Muck Surface (C7) — Other (Explain in Remarks)	Secondary indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
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DROLOGY Itland Hydrology Indicators: Description of the property of the prop	check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches):	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
DROLOGY Itland Hydrology Indicators: Description of the property of the prop	check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches):	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
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PROLOGY Idand Hydrology Indicators: harv Indicators (minimum of one is required; Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Fron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Observations: De Water Present? Table Present? Yes No ation Present? Yes No des capillary fringe) The Recorded Data (stream gauge, monitoring)	check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches):	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)

WETLAND DELINEATION DATA FORM - NOVA SCOTIA Municipality/County: Gruys bosough Sampling Date: Stat-27//7 Energy (Canada Ltd. Sampling Point: LLG-UP) M. Sensen Affiliation: AMEC Investigator(s): 5. Kurkey Landform (hillslope, terrace, etc.): 608143 Long: N 5002014 __ Wetland Type: __ Soil Map Unit Name/Type: HSDratch Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ____ (If no, explain in Remarks.) Are "Normal Circumstances" present? Yes _____ No ___ Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc. Is the Sampled Area Hydrophytic Vegetation Present? within a Wetland? Yes _____ No ____ Yes No 🗸 Hydric Soil Present? Wetland Hydrology Present? If yes, optional Wetland Site ID: ____ Remarks: (Explain alternative procedures here or in a separate report.) **VEGETATION** - Use scientific names of plants. Absolute Dominant Indicator **Dominance Test worksheet:** Tree Stratum (Plot size: __/(), () % Cover Species? Status **Number of Dominant Species** ___ (A) That Are OBL, FACW, or FAC: 2. Picler marriana 10 Total Number of Dominant (B) Species Across All Strata: Percent of Dominant Species <u>′ (2で)</u> (A/B) That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: OBL species FACW species FAC species FACU species = Total Cover UPL species Column Totals: 6 Herb Stratum (Plot size: ___/ ^ Prevalence Index = B/A = ______ Hydrophytic Vegetation Indicators: Tributalis! Rapid Test for Hydrophytic Vegetation Dominance Test is >50% Prevalence Index is ≤3.01 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Woody Vine Stratum (Plot size: _____) Hydrophytic Vegetation Present? ____ = Total Cover Remarks: (Include photo numbers here or on a separate sheet.) Mujority of Spraies are

	Otion: (Describe		40.		Sampling Point: 🕰
Depth	winted.	to the dep	th needed to document the indi	cator or confi	rm the absence of indicators)
(inches)	Color (moist)	%			
0-16			Color (moist) % To	/pe¹ Loc²	Remarks
 -					cramic buff
	<u></u>				
l	— —				
Type: C=Conce Hydric Soil India	entration, D≃Deple	tion, RM=F	Reduced Matrix, CS=Covered or C		
				Oated Sand G	rains. ² Location: PL=Pore Lining, M=Matr
Histosol (A1)			Sandy Redox (S5)		mulcators for Problematic Hydric Soils ³
Histic Epiped Black Histic (Polyvalue Below Surface (St	3)	Coast Prairie Redox (A16)
Hydrogen Su	(A3)		Thin Dark Surface (S9)	-,	5 cm Mucky Peat or Peat (S3)
Stratified Lay	inue (A4)		Loamy Gleyed Matrix (F2)		Iron-Manganese Masses (F12)
Depleted Bel	ow Dark Surface ((844)	Depleted Matrix (F3)		Piedmont Floodplain Soils (F19) Red Parent Material (TF2)
Thick Dark St	urface (A12)	ATI)	Redox Dark Surface (F6)		Other (Explain in Remarks)
Sandy Mucky	/ Mineral (S1)		Depleted Dark Surface (F7)		outer (Explain III Remarks)
Sandy Gleyed	d Matrix (S4)		Redox Depressions (F8)		
	• •				
	- (6 cm		- -		Hydric Soil Present? Yes No.
Depth (inches):					Hydric Soil Present? Yes No 2
Remarks:					~~ ~~ ~~ ~~~
Remarks: Sclstra/		:445 e	of dry moss de	A ci	rer Rock.
Remarks: SSSFRA / OROLOGY	le consi	:445 e	of dry moss de	A ci	rer Rock.
Semarks: SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS	e Cens.			A vi	rer Rock.
Remarks: Sold Sold Color DROLOGY Tetland Hydrology Timary Indicators (i	y Indicators:		theck all that apply)	H ci	Secondary Indicators (minimum of two req
PROLOGY Toronto Indicators (In Surface Water (y Indicators: minimum of one is (A1)		check all that apply)	H or	Secondary Indicators (minimum of two requestions Surface Soil Cracks (B6)
PROLOGY Tetland Hydrology Timary Indicators (in a Surface Water (High Water Tab	y Indicators: minimum of one is (A1) ble (A2)		check all that apply) Water-Stained Leaves (B9)	Hou	Secondary Indicators (minimum of two requestrong Surface Soil Cracks (B6) Drainage Patterns (B10)
PROLOGY Petland Hydrology Imary Indicators (I Surface Water (High Water Tab Saturation (A3)	y Indicators: minimum of one is (A1) ble (A2)		check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13)	H ci	Secondary Indicators (minimum of two required Sourface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16)
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PROLOGY Portland Hydrology Timary Indicators (i) Surface Water (High Water Tab Saturation (A3) Water Marks (B: Sediment Depos	y Indicators: minimum of one is (A1) ole (A2) 1) sits (B2)		check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1)		Secondary Indicators (minimum of two requestry Sourface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2)
PROLOGY Petland Hydrology Timary Indicators (I) Surface Water (A) Saturation (A3) Water Marks (B) Sediment Deposits (B)	y Indicators: minimum of one is (A1) ble (A2) 1) sits (B2) 33)		check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Liv	ving Roots (C3	Secondary Indicators (minimum of two requestriance Soil Cracks (B6) — Surface Soil Cracks (B6) — Drainage Patterns (B10) — Moss Trim Lines (B16) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (C3) — Stunted or Stressed Plants (D1)
PROLOGY Petland Hydrology Imary Indicators (II Surface Water (III) High Water Tab Saturation (A3) Water Marks (B1) Sediment Deposits (B1) Algal Mat or Crus	y Indicators: minimum of one is (A1) ble (A2) 1) sits (B2) 33) st (B4)		check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Line Presence of Reduced Iron (C	ving Roots (C3	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) — Drainage Patterns (B10) — Moss Trim Lines (B16) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (C3) — Stunted or Stressed Plants (D1) — Geomorphic Position (D2)
PROLOGY Petland Hydrology Imary Indicators (I) Surface Water (A) High Water Tab Saturation (A3) Water Marks (B) Sediment Depositions (B) Algal Mat or Crue Iron Deposits (B)	y Indicators: minimum of one is (A1) ble (A2) 1) sits (B2) 33) ist (B4) 5)	s required; o	check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Lin Presence of Reduced Iron (C Recent Iron Reduction in Tille Thin Muck Surface (C7)	ving Roots (C3	Secondary Indicators (minimum of two required Sourface Soil Cracks (B6) — Drainage Patterns (B10) — Moss Trim Lines (B16) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (C3) — Stunted or Stressed Plants (D1) — Geomorphic Position (D2) — Shallow Aquitard (D3)
PROLOGY Portional Hydrology Timary Indicators (I) Surface Water (I) High Water Tab Saturation (A3) Water Marks (B) Sediment Deposits (B) Algal Mat or Cruster (B) Iron Deposits (B) Inundation Visibili	y Indicators: minimum of one is (A1) ble (A2) 1) sits (B2) 33) st (B4) 5) le on Aerial Image	s required; (check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Lin Presence of Reduced Iron (C Recent Iron Reduction in Tille Thin Muck Surface (C7)	ving Roots (C3	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
Processing of the control of the con	y Indicators: minimum of one is (A1) ble (A2) 1) sits (B2) 33) st (B4) 5) le on Aerial Imagel ted Concave Surfa	s required; (check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Liven Presence of Reduced Iron (C) Recent Iron Reduction in Tille	ving Roots (C3	Secondary Indicators (minimum of two required Sourface Soil Cracks (B6) — Drainage Patterns (B10) — Moss Trim Lines (B16) — Dry-Season Water Table (C2) — Saturation Visible on Aerial Imagery (C3) — Stunted or Stressed Plants (D1) — Geomorphic Position (D2) — Shallow Aquitard (D3)
PROLOGY Petland Hydrology Tetland Hydrology Tetl	y Indicators: iminimum of one is (A1) ole (A2) 1) sits (B2) 33) ist (B4) 5) le on Aerial Imagel ted Concave Surfa	required; of	check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Lin Presence of Reduced Iron (C Recent Iron Reduction in Tille Thin Muck Surface (C7) Other (Explain in Remarks)	ving Roots (C3 4) d Soils (C6)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
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PROLOGY Petland Hydrology Inmary Indicators (I) Surface Water (I) High Water Tab Saturation (A3) Water Marks (B) Sediment Deposits (B) Algal Mat or Cruster (I) Iron Deposits (B) Inundation Visible (B) Sparsely Vegetal (I) Ind Observations: If the Communication of the C	y Indicators: minimum of one is (A1) ble (A2) 1) sits (B2) 33) let (B4) 5) le on Aerial Image ted Concave Surfa	ery (B7)	check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Lin Presence of Reduced Iron (C Recent Iron Reduction in Tille Thin Muck Surface (C7) Other (Explain in Remarks)	ving Roots (C3 4) d Soils (C6)	Secondary Indicators (minimum of two regions) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
Processing the second of the s	y Indicators: minimum of one is (A1) ole (A2) 1) sits (B2) 33) st (B4) 5) le on Aerial Image ted Concave Surfa	ry (B7) ace (B8)	check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Lin Presence of Reduced Iron (C Recent Iron Reduction in Tille Thin Muck Surface (C7) Other (Explain in Remarks)	ving Roots (C3 4) d Soils (C6)	Secondary Indicators (minimum of two regions) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C2) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)

Remarks:

Project/Site: Goldbaro LNG	Municinalit	v/County:	Guya	6250126/2 Sampling Date: Sept 27/
Applicant/Owner: Pieridue Energy C	Cons	ala L	hel !	Sampling Point: W.G. WPI
Investigator(s): 5. Ruster/M. Senser	- Corpora	Affiliation:	AME	C
Landform (hillslope, terrace, etc.): Switch Class				
Slope (%): 0 Lat: E (008/35		Longe A	57x)	Datum: NADES
	1			
Soil Map Unit Name/Type: ASpr) togga CA-	•			tland Type: CDPn / To-Pec/ F-Cn
Are climatic / hydrologic conditions on the site typical for this				(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology si				Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology na	aturally pro	blematic?	(If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	howing	sampling	point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes _ i No)	is th	e Sampled	Area
Hydric Soil Present? Yes No		with	in a Wetlan	nd? Yes No
Wetland Hydrology Present? Yes No		If ye	s, optional V	Vetland Site ID: Lub Co
Remarks: (Explain alternative procedures here or in a sep-	arate repor			
VEGETATION – Use scientific names of plants.				
To State (Districts (Assoc)	Absolute		Indicator	Dominance Test worksheet:
		Species?	FACE	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
1. Pieden mariema 2. Alies ha/samen			FAC	
3.			111	Total Number of Dominant Species Across Ali Strata: (B)
4.				
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	7	= Total Co	ver	
Sapling/Shrub Stratum (Plot size:)	2		FAC	Prevalence Index worksheet: Total % Cover of: Multiply by:
1. Vilinum rudum	<u> </u>			
3. Refere conditation			FALL	FACW species 12 x2 = 24
3. WATTIE CONTY. POLICE			<u>[-776-97</u>	FAC species $\frac{2}{2}$ $\times 3 = \frac{24}{2}$
5				FACU species 2 x4 = 8
J	6	= Total Co	ver	UPL species x5 =
Herb Stratum (Plot size: ////)			· •	Column Totals: <u>24</u> (A) <u>58</u> (B)
1. Rylvs Lispidus	-3-	/_	FACIL	Prevalence Index = B/A = 2.4
2. Kalnia enjustitulia	· <u>- </u>		FAC	Hydrophytic Vegetation Indicators:
3. Carris concellensis	- 2	-	FAC	Rapid Test for Hydrophytic Vegetation
4. Octemena nemaralis			<u> </u>	Dominance Test is >50%
5				Frevalence Index is ≤3.0¹
7				Morphological Adaptations¹ (Provide supporting
8				data in Remarks or on a separate sheet)
9.				Problematic Hydrophytic Vegetation ¹ (Explain)
10.		<u> </u>		¹ Indicators of hydric soil and wetland hydrology must
	_((= Total Co	ver	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)				
1.		-	· ——	Hydrophytic Vegetation
2		= Total Co	ver	Present? Yes No
Remarks: (Include photo numbers here or on a separate s		TOTAL CO	·46I	
remains. (include prioro numbers nere or on a separate s	3.16 0 1.)			
1				

e		á	
J	v	ı	_

Depth Matrix	epth needed to document the indicat	or or confirm t	ne absence d	of indicators.)
Color (moist) %	- Nedox Features			•
<u>c-30</u>	<u></u>	Loc²	Texture	Remarks
	·	0	zanic.	
			1/01/1C	- / CC-V
			 -	
	·			
				
Type: C=Concentration, D=Depletion, RM lydric Soil Indicators:	=Peduced Marking on a			
lydric Soil Indicators:	-Reduced Matrix, CS=Covered or Coal	ted Sand Grains	² Locat	on: PL=Pore Lining, M=Matrix
Histosol (A1)		1	ndicators fo	r Problematic Hydric Soils ³ :
_ Histic Epipedon (A2)	Sandy Redox (S5)		Coost P-	Troblemade Hydric Solls":
Black Histic (A3)	Polyvalue Below Surface (S8)	-	Coast Pra	nirie Redox (A16)
	Thin Dark Surface (S9)	-	5 cm Mud	ky Peat or Peat (S3)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	~	fron-Man	Janese Masses (F12)
_ Stratified Layers (A5)	Depleted Matrix (F3)	_	Piedmont	Floodplain Soils (F19)
Depleted Below Dark Surface (A11)	Redox Dork Suction (=3)	_	Red Pare	nt Material (TF2)
_ Thick Dark Surface (A12)	Redox Dark Surface (F6)	_	_ Other (Ex	plain in Remarks)
_ Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)		, ,	·······································
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)			
, , , , , , , , , , , , , , , , , , ,				
dicators of hydrophytic vegetation and wet estrictive Layer (if observed):				
strictive Layer (if observed):	land hydrology must be present, unless	disturbed or pr	oblomati.	
			objemanc.	
Type: _ Acc.C				
		1		
Depth (inches):SCIC.iv	-		102	
Depth (inches): SCC un		Hyd	i dric Soil Pre	sent? Voc. I / v
Depth (inches): SCC unmarks:	 	Нус	dric Soil Pre	sent? Yes / No _
	 	Нус	dric Soil Pre	sent? Yes No_
		Нус	dric Soil Pre	sent? Yes No_
		Нус	dric Soil Pre	sent? Yes No_
	_	Нус	dric Soli Pre	sent? Yes No_
marks:		Нус	dric Soil Pre	sent? Yes No_
PROLOGY		Нус	dric Soli Pre	sent? Yes No_
PROLOGY Iland Hydrology Indicators:		Нус	dric Soli Pre	sent? Yes No_
PROLOGY Iland Hydrology Indicators:				
PROLOGY Stand Hydrology Indicators: Pary Indicators (minimum of one is required	l; check all that apply)		Secondary Inc	dicators (minimum of two requi
PROLOGY Itland Hydrology Indicators: hary Indicators (minimum of one is required Surface Water (A1)			Secondary Ind	dicators (minimum of two requi
Marks: DROLOGY Iland Hydrology Indicators: Mary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9)		Secondary Inc Surface S Drainage	dicators (minimum of two requi oil Cracks (B6) Patterns (B10)
PROLOGY Idand Hydrology Indicators: nary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) Aquatic Fauna (B13)		Secondary Inc Surface S Drainage	dicators (minimum of two requi oil Cracks (B6) Patterns (B10)
PROLOGY Idand Hydrology Indicators: nary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15)		Secondary Inc Surface S Drainage Moss Trin	dicators (minimum of two requi soil Cracks (B6) Patterns (B10) n Lines (B16)
PROLOGY Idand Hydrology Indicators: harv Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1)		Secondary Inc Surface S Drainage Moss Trin Dry-Sease	dicators (minimum of two requi foil Cracks (86) Patterns (810) n Lines (816) on Water Table (C2)
PROLOGY Idand Hydrology Indicators: Parv Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1)	-	Secondary Inc Surface S Drainage Moss Trin Dry-Sease Saturation	dicators (minimum of two requisoil Cracks (B6) Patterns (B10) n Lines (B16) On Water Table (C2) Visible on Aerial Imagery (C9
PROLOGY Idand Hydrology Indicators: Mary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living	-	Secondary Inc Surface S Drainage Moss Trin Dry-Sease Saturation Stunted of	dicators (minimum of two requisoil Cracks (B6) Patterns (B10) In Lines (B16) On Water Table (C2) Visible on Aerial Imagery (C9
PROLOGY Idand Hydrology Indicators: Mary Indicators (minimum of one is required Surface Water (A1) Fligh Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Presence of Reduced Iron (C4)	Roots (C3)	Secondary Inc Surface S Drainage Moss Trin Dry-Sease Saturation Stunted of	dicators (minimum of two requisoil Cracks (B6) Patterns (B10) In Lines (B16) On Water Table (C2) Visible on Aerial Imagery (C9
PROLOGY Idand Hydrology Indicators: Mary Indicators (minimum of one is required Surface Water (A1) Fligh Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S	Roots (C3)	Secondary Inc Surface S Drainage Moss Trin Dry-Sease Saturatior Stunted of	dicators (minimum of two requi coil Cracks (B6) Patterns (B10) In Lines (B16) On Water Table (C2) I Visible on Aerial Imagery (C9 Stressed Plants (D1) Inic Position (D2)
DROLOGY Itland Hydrology Indicators: Mary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S	Roots (C3)	Secondary Inc Surface S Drainage Moss Trin Dry-Sease Saturatior Stunted of Geomorph	dicators (minimum of two requisoil Cracks (B6) Patterns (B10) Lines (B16) On Water Table (C2) Visible on Aerial Imagery (C9 Stressed Plants (D1) Lic Position (D2)
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5) nundation Visible on Aerial Imagery (B7)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S	Roots (C3)	Secondary Inc Surface S Drainage Moss Trin Dry-Sease Saturatior Stunted of Geomorph Shallow Ad	dicators (minimum of two requisoil Cracks (86) Patterns (810) In Lines (816) On Water Table (C2) Visible on Aerial Imagery (C9) Stressed Plants (D1) Inic Position (D2) Guitard (D3) Graphic Relief (D4)
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DROLOGY Itland Hydrology Indicators: mary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5) nundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Observations: Ce Water Present? Table Present? Yes No ation Present? Yes No Yes No Yes No Algain Present? Yes No Yes No Yes No Algain Present?	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S Thin Muck Surface (C7) Other (Explain in Remarks)	Roots (C3)	Secondary Inc. Surface S Drainage Moss Trin Dry-Sease Saturatior Stunted of Geomorph Shallow Ad Microtopog FAC-Neutr	dicators (minimum of two requisoil Cracks (B6) Patterns (B10) In Lines (B16) In Water Table (C2) It Visible on Aerial Imagery (C9) Stressed Plants (D1) Inic Position (D2) Guitard (D3) Graphic Relief (D4) Inic Test (D5)
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DROLOGY Itland Hydrology Indicators: Party Indicators (minimum of one is required Surface Water (A1) Fligh Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5) nundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Observations: Ce Water Present? Yes No_ Table Present? Yes No_	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S Thin Muck Surface (C7) Other (Explain in Remarks)	Roots (C3)	Secondary Inc. Surface S Drainage Moss Trin Dry-Sease Saturatior Stunted of Geomorph Shallow Ad Microtopog FAC-Neutr	dicators (minimum of two requisoil Cracks (B6) Patterns (B10) In Lines (B16) In Water Table (C2) It Visible on Aerial Imagery (C9) Stressed Plants (D1) Inic Position (D2) Guitard (D3) Graphic Relief (D4) Inic Test (D5)
DROLOGY Itland Hydrology Indicators: mary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5) nundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Observations: Ce Water Present? Table Present? Yes No ation Present? Yes No Yes No Yes No Algain Present? Yes No Yes No Yes No Algain Present?	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S Thin Muck Surface (C7) Other (Explain in Remarks)	Roots (C3)	Secondary Inc. Surface S Drainage Moss Trin Dry-Sease Saturatior Stunted of Geomorph Shallow Ad Microtopog FAC-Neutr	dicators (minimum of two requisoil Cracks (B6) Patterns (B10) In Lines (B16) In Water Table (C2) Visible on Aerial Imagery (C9) Stressed Plants (D1) Inic Position (D2) Guitard (D3) Graphic Relief (D4) Inic Test (D5)
PROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is required Surface Water (A1) Fligh Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) ron Deposits (B5) nundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Observations: Ce Water Present? Yes No Table Present? Yes No ation Present? Yes No des capillary fringe) iibe Recorded Data (stream gauge, monitor)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S Thin Muck Surface (C7) Other (Explain in Remarks)	Roots (C3)	Secondary Inc. Surface S Drainage Moss Trin Dry-Sease Saturatior Stunted of Geomorph Shallow Ad Microtopog FAC-Neutr	dicators (minimum of two requisoil Cracks (B6) Patterns (B10) In Lines (B16) In Water Table (C2) Visible on Aerial Imagery (C9) Stressed Plants (D1) Inic Position (D2) Guitard (D3) Graphic Relief (D4) Inic Test (D5)
PROLOGY Itland Hydrology Indicators: Parv Indicators (minimum of one is required Surface Water (A1) Fligh Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Fron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Observations: Ce Water Present? Yes No Table Present? Yes No Set capillary fringe) The Recorded Data (stream gauge, monitor)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled S Thin Muck Surface (C7) Other (Explain in Remarks)	Roots (C3)	Secondary Inc. Surface S Drainage Moss Trin Dry-Sease Saturatior Stunted of Geomorph Shallow Ad Microtopog FAC-Neutr	dicators (minimum of two requisoil Cracks (B6) Patterns (B10) In Lines (B16) In Water Table (C2) Visible on Aerial Imagery (C9) Stressed Plants (D1) Inic Position (D2) Guitard (D3) Graphic Relief (D4) Inic Test (D5)

WETLAND DELINEATION DATA FORM - NOVA SCOTIA 15 605019h_____ Sampling Date: Sept. 26/12 Municipality/County: _(カい (Carracla) Investigator(s): 5. 61, 167/M. Sensen Affiliation: AMEC Local relief (concave, convex, none): Humanak Landform (hillslope, terrace, etc.): Hillslope _____ Datum: <u>ル</u>4ンをこ Slope (%): 590 Lat. E 608784 Soil Map Unit Name/Type: A SOC fee Ma ___ (If no, explain in Remarks.) Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ Are "Normal Circumstances" present? Yes _____ No___ Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? (If needed, explain any answers in Remarks.) Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Is the Sampled Area Hydrophytic Vegetation Present? within a Wetland? Hydric Soil Present? If yes, optional Wetland Site ID: ___ Wetland Hydrology Present? Remarks: (Explain alternative procedures here or in a separate report.) **VEGETATION** – Use scientific names of plants. **Dominance Test worksheet:** Absolute Dominant Indicator Tree Stratum (Plot size: ________) % Cover Species? Status Number of Dominant Species ich balkomen That Are OBL, FACW, or FAC: Total Number of Dominant (B) Species Across All Strata: Percent of Dominant Species 100 That Are OBL, FACW, or FAC: (A/B) = Total Cover Prevalence Index worksheet: Sapling/Shrub Stratum (Plot size: Total % Cover of: OBL species FACW species FAC species FACU species ≥ H = Total Cover UPL species Herb Stratum (Plot size: _ Column Totals: S 8 Prevalence Index = B/A = **Hydrophytic Vegetation Indicators:** Rapid Test for Hydrophytic Vegetation Dominance Test is >50% Prevalence Index is ≤3.01 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. = Total Cover Woody Vine Stratum (Plot size:

Hydrophytic Vegetation Present?

Remarks: (Include photo numbers here or on a separate sheet.)

Mujerity of spenies are FAC or FACU

Profile Descrip	ption: (Describe	to the depth	needed to decrease till		Sampling Point: LL
Depth	Matrix	and mapped	needed to document the indicator	r or confirm	the absence of indicators.)
<u>(inches)</u>	Color (moist)	%	Redox Features Color (moist) % Type		
0-8		<u>_</u>			Texture Remarks
19-20 E	54R 711				agonie but
20+ 1	MIN AIR				Sindy B. H
	V/~-1/2				Cincille: Helen
					2011/2/11/2/
					
					
					
¹ Type: C=Conce	entration, D=Deple	tion. RM=Re	duced Matrix, CS=Covered or Coate		
			duced Matrix, CS=Covered or Coate	d Sand Grain	ns. ² Location: PL=Pore Lining, M=Matrix
Histosol (A1)			Sandy Redox (S5)		indicators for Problematic Hydric Soils ³ :
Histic Epipeo	ion (A2)	_	Polyvalue Below Surface (S8)		Coast Prairie Redox (A16)
Black Histic ((A3)	-	Thin Dark Surface (S9)		5 cm Mucky Peat or Peat (S3)
Hydrogen Su	lfide (A4)	_	Loamy Gleyed Matrix (F2)		Iron-Manganese Masses (F12)
Stratified Lay	ers (A5)	_	Depleted Matrix (F3)		Piedmont Floodplain Soils (F19)
Thick Dark S	ow Dark Surface (/	A11) ~	Redox Dark Surface (F6)		Red Parent Material (TF2)
Thick Dark St	urface (A12)	_	_ Depleted Dark Surface (F7)	•	Other (Explain in Remarks)
Sandy Mucky Sandy Gleyed	Mineral (S1)	_	_ Redox Depressions (F8)		
	I Many (04)				
Туре:		and wetland	hydrology must be present, unless of	disturbed or p	problematic.
Indicators of hydro Restrictive Layer Type: Depth (inches): Remarks:		and wetland	hydrology must be present, unless of		oroblematic. ydric Soil Present? Yes No
Type: Depth (inches): Remarks:		and wetland	hydrology must be present, unless o		udata O III O
Type:		and wetland	hydrology must be present, unless o		udata O III O
Type:	y Indicators:				ydric Soil Present? Yes No
Type:	y Indicators: minimum of one is		eck all that apply)		ydric Soll Present? Yes No
Type:	y Indicators: minimum of one is (A1)		eck all that apply) Water-Stained Leaves (B9)		ydric Soil Present? Yes No _t_ Secondary Indicators (minimum of two requi
Type:	y Indicators: minimum of one is (A1)		eck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13)		ydric Soil Present? Yes No Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10)
Type:	y Indicators: minimum of one is (A1) de (A2)		eck all that apply) _ Water-Stained Leaves (B9) _ Aquatic Fauna (B13) _ Marl Deposits (B15)		Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16)
Type:	y Indicators: minimum of one is (A1) le (A2)		eck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1)	Hy	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
Type:	y Indicators: minimum of one is (A1) le (A2) 1) sits (B2)		eck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1)	Hy	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Type:	y Indicators: minimum of one is (A1) le (A2) 1) sits (B2)		eck all that apply) Water-Stained Leaves (B9) _ Aquatic Fauna (B13) _ Marl Deposits (B15) _ Hydrogen Sulfide Odor (C1) _ Oxidized Rhizospheres on Living I _ Presence of Reduced Iron (C4)	Roots (C3)	Secondary Indicators (minimum of two required Source Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
Type:	y Indicators: minimum of one is (A1) le (A2) 1) sits (B2) (3) st (B4)		eck all that apply) Water-Stained Leaves (B9) _ Aquatic Fauna (B13) _ Marl Deposits (B15) _ Hydrogen Sulfide Odor (C1) _ Oxidized Rhizospheres on Living I _ Presence of Reduced Iron (C4)	Roots (C3)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
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Type:	y Indicators: minimum of one is (A1) le (A2) 1) sits (B2) (3) st (B4) 5) e on Aerial Imager	required; ch	eck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living I Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled So Thin Muck Surface (C7)	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
Type:	y Indicators: minimum of one is (A1) le (A2) 1) sits (B2) 3) st (B4) 5) e on Aerial Imager	required; ch	eck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living I Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled So	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3)
Type:	y Indicators: minimum of one is (A1) le (A2) 1) sits (B2) (3) st (B4) 5) e on Aerial Imager ted Concave Surfa	required; ch	eck all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living I Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled So Thin Muck Surface (C7) Other (Explain in Remarks)	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
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Remarks:

Project/Site: Goldbaro LNG	Municipality/	County: Guya	bosugh Sampling Date: Sept. 26,
Applicant/Owner: Pieridue Energy			Sampling Point: (47-49)
Investigator(s): 5. Busky M. Senser	\ A	filiation: AND E	
Landform (hillslope, terrace, etc.): 1777155.		Local relief	(concave, convex, none): Hummus ky
Slope (%): 1970 Lat E 606389		ong: N 5002	
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	• •		
Soil Map Unit Name/Type: HSpcstrgm	A-4)_		
Are climatic / hydrologic conditions on the site typical for the			(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology			"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology	naturally prob	lematic? (If n	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing s	ampling point le	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes N	No	Is the Sample	d Area
1 1 2 1 1 1 1	Vo	within a Wetla	nd? Yes No
	No	If yes, optional	Wetland Site ID: 4-18
Remarks: (Explain alternative procedures here or in a se	parate report.		
VEGETATION - Use scientific names of plants	i .		
/ ha		Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: (U))	% Cover	Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. Cetyle Covel telia		FALL	That Are OBL, FACW, or FAC: (A)
3. ALICA SALGEMAN	_ <u>_</u>	GAC	Total Number of Dominant Species Across All Strata: (B)
3. M3. 14 SA/36 MARC			Species Across All Strata:/ (B)
5			Percent of Dominant Species That Are OBL, FACW, or FAC:
	(0 =	Total Cover	That Are OBC, FACW, OT AC
Sapling/Shrub Stratum (Plot size: 5 m)		\sim	Prevalence Index worksheet:
1. Vikiroum ovdum		the	Total % Cover of: Multiply by:
2. Alars ingina		Costr	653 x1 = 653
3. Wordsuntes mussoneta	_ <u>(e)</u>	- FAC	FACW species $\frac{7.7}{4}$ x2 = $\frac{5.4}{4}$
4. Vildu marima	/		FAC species
5		Total Cover	UPL species ×5 = O
Herb Stratum (Plot size: /w)	<u> </u>	- Total Cover	Column Totals: 96 (A) 137 (B)
1. Myrica gate	40	<u> </u>	
2 Circ x tris perma		cbl	Prevalence Index = B/A =6
3. Perus historidas		<u> </u>	Hydrophytic Vegetation Indicators:
4. Typhen hertifalica		<u>USL</u>	Rapid Test for Hydrophytic Vegetation
5. Swacine Perperter		UBL	Dominance Test is >50% Prevalence Index is ≤3.0¹
6			Prevalence index is \$3.0 Morphological Adaptations¹ (Provide supporting)
7			data in Remarks or on a separate sheet)
8			Problematic Hydrophytic Vegetation ¹ (Explain)
9			
10	- 	= Total Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	-C	10tar 00101	be present, unless disturbed of problematio.
1			Hydrophytic
2			Vegetation Present? Yes No
		= Total Cover	Treatmit res U No
Remarks: (Include photo numbers here or on a separate	sheet.)		

Sampling Point: 47-4P/

(inches) Color (moist)	to the depth needed to document the indicator or Redox Features	committee absence of indicators.)
C - (1 - L	Color (moist) % Type ¹	Loc ² Texture Remarks
<u> </u>		
		Crymic Pert
		
	=	
True of the second		
Type: C=Concentration, D=Deple Hydric Soil Indicators:	tion, RM=Reduced Matrix, CS=Covered or Coated S	and Crains 2
Histosol (A1)		and Grains. ² Location: PL=Pore Lining, M=Matrix.
Histic Epipedon (A2)	Sandy Redox (S5)	Indicators for Problematic Hydric Solls ³ :
Black Histic (A3)	Polyvalue Below Surface (S8)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	Thin Dark Surface (S9)	5 cm Mucky Peat or Peat (S3) Iron-Manganese Masses (F12)
Stratified Layers (A5)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)
_ Depleted Below Dark Surface (Depleted Matrix (F3)	Red Parent Material (TF2)
Thick Dark Surface (A12)	A11) Redox Dark Surface (F6) Depleted Dark Surface (F7)	Other (Explain in Remarks)
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	,
_ Sandy Gleyed Matrix (S4)	— Spreadions (Fo)	
Туре:	and wetland hydrology must be present, unless disti	
5 4 5	 _	
Depth (inches):		
Depth (inches): marks:		Hydric Soil Present? Yes No
DROLOGY	οχ. 	Hydric Soll Present? Yes No
DROLOGY fland Hydrology Indicators:	οχ.	
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is	οχ.	Secondary Indicators (minimum of two require
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is Surface Water (A1)	required; check all that apply)	Secondary Indicators (minimum of two require Surface Soil Cracks (B6)
DROLOGY Itland Hydrology Indicators: mary Indicators (minimum of one is Surface Water (A1) High-Water Table (A2)	required; check all that apply) — Water-Stained Leaves (B9)	Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Drainage Patterns (B10)
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is Surface Water (A1) High Water Table (A2) Saturation (A3)	required; check all that apply)	Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16)
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	required; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1)	Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is Surface Water (A1) High-Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	required; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc	Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	required; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc — Presence of Reduced Iron (C4)	Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Ots (C3) Stunted or Stressed Plants (D1)
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	required; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
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DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) nundation Visible on Aerial Imager Sparsely Vegetated Concave Surface Observations: ce Water Present? Table Present? Yes Tation Present? Yes Teles capillary fringe	required; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (— Thin Muck Surface (C7) y (B7) — Other (Explain in Remarks) Ince (B8) No — Depth (inches): VC — No — Depth (inches): VC —	Secondary Indicators (minimum of two require) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) nundation Visible on Aerial Imager Sparsely Vegetated Concave Surface Observations: ce Water Present? Table Present? Yes Introduction Present? Yes In	required; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (— Thin Muck Surface (C7) Ty (B7) — Other (Explain in Remarks) No — Depth (inches): **Z Cara	Secondary Indicators (minimum of two require) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
DROLOGY tland Hydrology Indicators: nary Indicators (minimum of one is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) nundation Visible on Aerial Imager Sparsely Vegetated Concave Surface Observations: ce Water Present? Table Present? Yes Tation Present? Yes Teles capillary fringe	required; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (— Thin Muck Surface (C7) y (B7) — Other (Explain in Remarks) Ince (B8) No — Depth (inches): VC — No — Depth (inches): VC —	Secondary Indicators (minimum of two require) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
DROLOGY Itland Hydrology Indicators: nary Indicators (minimum of one is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) nundation Visible on Aerial Imager Sparsely Vegetated Concave Surface Observations: ce Water Present? Table Present? Yes Introduction Present? Yes In	required; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Roc — Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (— Thin Muck Surface (C7) y (B7) — Other (Explain in Remarks) Ince (B8) No — Depth (inches): VC — No — Depth (inches): VC —	Secondary Indicators (minimum of two require) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) ots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)

Project/Site: Goldbaro LNG	Municipality	/County: (JUYS	605016 Sampling Date: Sept. 25
Applicant/Owner: Pieridue Energy C	Canada	la Lt	less.	Sampling Point: 418-001
Investigator(s): S. Burky / M. Sensen	/	Affiliation:		
Landform (hillslope, terrace, etc.): 5/cpe		1	ocal relief (concave, convex, none): Hummaky
Slope (%): 590 5 (273/4				Datum: NA) 23
				tland Type: W/cand
	}			(,
Are climatic / hydrologic conditions on the site typical for this				
Are Vegetation, Soil, or Hydrology si				Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology na	aturally prob	olematic?	(If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	howing s	sampling	point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	,	I	e Sampled	
Hydric Soil Present? Yes No	~ ~	withi	in a Wetlan	d? Yes No
Wetland Hydrology Present? Yes No			s, optional V	Vetland Site ID:
Remarks: (Explain alternative procedures here or in a september of plants). VEGETATION — Use scientific names of plants.				
	Absolute	Dominant	Indicator	Dominance Test worksheet:
1 		Species?	_	Number of Dominant Species
1. Piecea glyvers	60		FAC	That Are OBL, FACW, or FAC:(A)
2. Abies bulsance	10_		1-176	Total Number of Dominant
3	. ——			Species Across All Strata: (B)
5.				Percent of Dominant Species That Are OBL, FACW, or FAC:
-	70	= Total Cov	/ег	
Sapling/Shrub Stratum (Plot size: 5 m)	9		FACU	Prevalence Index worksheet: Total % Cover of: Multiply by:
1. Retula Corditalia	2		FAC	Total % Cover of: Multiply by: OBL species x 1 =
2. Hunus Service	_2_		FAC	FACW species x 2 =
3		-		FAC species $\sqrt{3}$ x3 = 39 6
4				FACU species
3	4	= Total Cov		UPL species x 5 =
Herb Stratum (Plot size:)			_	Column Totals: 136 (A) 409 (B)
1. Corrus Comandasis	. <u>40</u>		FAC	Prevalence Index = B/A = 3.0
2. Mr. nothern Congadensis	. <u>75 </u>	<u>-/_</u>	-HC	Hydrophytic Vegetation Indicators:
3. Trientel's bowealis	. 		FAC	Rapid Test for Hydrophytic Vegetation
5. Asker acuminate	·		FACU	Dominance Test is >50%
1			TALL	Prevalence Index is ≤3.0¹
6	. —			Morphological Adaptations¹ (Provide supporting
7				data in Remarks or on a separate sheet)
9.				Problematic Hydrophytic Vegetation ¹ (Explain)
10				¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	62	= Total Cov	ver	be present, unless disturbed or problematic.
1				Hydrophytic
2				Vegetation
		= Total Co	ver	Present? Yes No
Remarks: (Include photo numbers here or on a separate s	sheet.)	~ .		
All but one species ove Fr	tc w	+AC-(ソ -	

Depth Cinches Matrix Color (moist) %	lepth needed to document the indicator Redox Features	o. com,,,,,	if the absence of indicators.)
C-10	Color (moist) % Type¹	_Loc ²	Texture Remarks
10 10 11 10 11			
10-15 7.5 /R 7/1 100			Sure Cill
16-50 51R 514 100			SM175 FF
			Sirchy Sitt Sit Clay lown
			/
¹ Type: C=Concentration D=Doplotics Da			
Hydric Soil Indicators:	M=Reduced Matrix, CS=Covered or Coated	Sand Gra	ins. ² Location: PL=Pore Lining, M=Matrix.
Histosol (A1)	Sandy Barter, (as)		Indicators for Problematic Hydric Soils ³ :
Histic Epipedon (A2)	Sandy Redox (S5) Polyvalue Below Surface (S8)		Coast Prairie Redox (A16)
Black Histic (A3)	Thin Dark Surface (S9)		5 cm Mucky Peat or Peat (S3)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)		Iron-Manganese Masses (F12)
Stratified Layers (A5)	Depleted Matrix (F3)		— Piedmont Floodplain Soils (F19)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)		Red Parent Material (TF2)
Thick Dark Surface (A12)	Depleted Dark Surface (F7)		Other (Explain in Remarks)
Sandy Mucky Mineral (S1)	Redox Depressions (F8)		······································
Sandy Gleyed Matrix (S4)	Nodox Depressions (F8)		
Indicators of hydrophytic vegetation and use	Alamat to the		
Indicators of hydrophytic vegetation and we Restrictive Layer (if observed):	mand hydrology must be present, unless d	isturbed or	problematic.
Туре:			
Depth (inches):			
Depth (inches):Remarks:			Hydric Soil Present? Yes No
Depth (inches):Remarks:			Hydric Soil Present? Yes No
Depth (inches): Remarks: /DROLOGY /etland Hydrology Indicators:			
Depth (inches): Commarks:			Secondary Indicators (minimum of two required)
Depth (inches): Pemarks: /DROLOGY /etland Hydrology Indicators: rimary Indicators (minimum of one is require _ Surface Water (A1)	ed; check all that apply)		Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)
Depth (inches): CPROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2)	ed; check all that apply) Water-Stained Leaves (B9)		Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10)
Depth (inches): CPROLOGY Setland Hydrology Indicators: rimary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3)	ed; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13)		Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10)
Depth (inches): CPROLOGY Setland Hydrology Indicators: rimary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ed; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15)		Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16)
Depth (inches): CPROLOGY Setland Hydrology Indicators: rimary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ed; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1)		Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
Depth (inches): Permarks: Permarks: Petland Hydrology Indicators: rimary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ed; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living F		Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Depth (inches): PROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ed; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4)	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
Depth (inches): Remarks: PROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	ed; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Foresence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soi	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Depth (inches): Remarks: POROLOGY tetland Hydrology Indicators: rimary Indicators (minimum of one is require) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	ed; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Foresence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soi	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3)
Depth (inches): Remarks: POROLOGY Vetland Hydrology Indicators: rimary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	ed; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Foresence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soi — Thin Muck Surface (C7)	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
Depth (inches): Remarks: Por Company Indicators: Commany Indicators (minimum of one is required): Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	ed; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Foresence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soi — Thin Muck Surface (C7)	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3)
Depth (inches): Remarks: POROLOGY tetland Hydrology Indicators: rimary Indicators (minimum of one is require) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Id Observations:	ed; check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — Marl Deposits (B15) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living Foresence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soi — Thin Muck Surface (C7) — Other (Explain in Remarks)	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
Depth (inches): Remarks: Por Control of the contr	ed; check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living F Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks)	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
Depth (inches): Remarks: Por Control of Port of the Inches of the Inch	ed; check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Fauna (B13) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches):	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
Depth (inches): Remarks: PROLOGY tetland Hydrology Indicators: rimary Indicators (minimum of one is required) Surface Water (A1)	ed; check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
Depth (inches): Remarks: PROLOGY tetland Hydrology Indicators: rimary Indicators (minimum of one is required) Surface Water (A1)	ed; check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
Per Table Present? Yes No uration Present (stream gauge, monite right (stream gauge, monite right (stream gauge, monite right).	ed; check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
Depth (inches): Remarks: PROLOGY tetland Hydrology Indicators: rimary Indicators (minimum of one is required) Surface Water (A1)	ed; check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
Per Table Present? Yes No uration Present (stream gauge, monite right (stream gauge, monite right (stream gauge, monite right).	ed; check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Feresence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soi Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Roots (C3)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)

Project/Site: Goldbar LNG N	/lunicipality	/County: _(7445	bosugh Sampling Date: Sept 25
Applicant/Owner: Pieridue Energy (Sampling Point: WE - UPI
Investigator(s): 5. Ruskey / M. Sensen	•	Affiliation:	AME	<u>C</u>
Landform (hillslope, terrace, etc.): 5/1207				concave, convex, none):
Slope (%): 5 +5 607318				68 Datum: <u>A/A/) 83</u>
Soil Map Unit Name/Type: Halifux CC-	41			land Type: Shirth Sive MP/ Fen
Are climatic / hydrologic conditions on the site typical for this	time of year	ir? Yes 1/		(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology sig				Normal Circumstances" present? YesNo
				eded, explain any answers in Remarks.)
Are Vegetation, Soil, or Hydrology na			`	
SUMMARY OF FINDINGS – Attach site map si	nowing s	sampling	point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No			e Sampled	
Hydric Soil Present? Yes No		- 1	n a Wetlan	
Wetland Hydrology Present? Yes No			s, optional V	Vetland Site ID: LLB
Remarks: (Explain alternative procedures here or in a sepa	rate report	i.)		
VEGETATION – Use scientific names of plants.				
	Absolute	Dominant Species?		Dominance Test worksheet:
1. Ahira L. Bunte	'Z_	Species:	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2. Pietes alevers	<u>-</u>		FAC	
3. Betele Cood : felin	41		FACU	Total Number of Dominant Species Across All Strata: (B)
4.				
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
	4 5	= Total Cov	er	
Sapling/Shrub Stratum (Plot size: 5,7)	2	_/	A.	Prevalence Index worksheet: Total % Cover of: Multiply by:
1. Alava neme	<u>=5</u>		17D1	
2. Kosa nitide	7		-AC	FACW species 33 x2= 66
3. Ribers Plageller:5			tric.	FAC species $\frac{12}{2}$ x3 = $\frac{36}{3}$
5				FACU species x4 =
5	29		/er	UPL species x5 =
Herb Stratum (Plot size: / ///)		, , , , ,	_	Column Totals: <u>98</u> (A) <u>158</u> (B)
1. Exsimachin terrestris			TACL	Prevalence Index = B/A =
2. Cilumagnatis comentensis	5		PACY	
3. Rebus Hagellaris	5_		FAC	Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation
4. Alous income			<u>FACI</u> USL	Dominance Test is >50%
5. Comorum pulistre	50		CBL	Prevalence Index is ≤3.0¹
7. Aster peris selgii	2		(VI) 6	Morphological Adaptations ¹ (Provide supporting
8. Kils bulkbonie			FAC	data in Remarks or on a separate sheet)
9		-		Problematic Hydrophytic Vegetation ¹ (Explain)
10				¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	_55_	= Total Cov	/er	be present, unless disturbed or problematic.
1				Hydrophytic
2				Vegetation Present? Yes No
	<u> </u>	= Total Co	/er	Trosent: Tes O NO
Remarks: (Include photo numbers here or on a separate s	heet.)			

-	_	
6	n	m
-	•	

Depth Matrix (inches Color (moist) %	lepth needed to document the indicator or co	
7,- 3/1/	Color (moist) % Type¹ Loc	C ² Texture Remarks
35 Black		
		- Frederick Black cogmis
¹ Type: C=Concentration, D=Depletion, RM Hydric Soil Indicators:	M=Reduced Matrix, CS=Covered or Coated Sand	1 Graine 21
Histosol (A1)		
Histic Epipedon (A2)	Sandy Redox (S5)	Indicators for Problematic Hydric Soils ³ :
Black Histic (A3)	Polyvalue Below Surface (S8)	Coast Prairie Redox (A16)
Hydrogen Sulfide (A4)	Thin Dark Surface (S9)	5 cm Mucky Peat or Peat (S3)
Stratified Layers (A5)	Loamy Gleyed Matrix (F2)	Iron-Manganese Masses (F12)
Depleted Roley Date 0	Depleted Matrix (F3)	— Piedmont Floodplain Soils (F19)
Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	Red Parent Material (TF2)
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	
Sandy Gleyed Matrix (S4)	, , , , , , , , , , , , , , , , , , , ,	
ndicators of budge-budge-		
estrictive Layer (if observed):	etland hydrology must be present, unless disturbe	ed or problematic
		od or problematic.
Type: Rock		
		1
Depth (inches): 35cm		
emarks:		Hydric Soil Present? Yes NoNo
DROLOGY		Hydric Soil Present? Yes No
PROLOGY Ptland Hydrology Indicators:		
DROLOGY etland Hydrology Indicators: mary Indicators (minimum of one is require	ed; check all that apply)	Secondary Indicators (minimum of two required)
PROLOGY Ptland Hydrology Indicators: many Indicators (minimum of one is require Surface Water (A1)		Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)
PROLOGY Partland Hydrology Indicators: Mary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10)
PROLOGY Partland Hydrology Indicators: Mary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Leaves (B9) Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)
PROLOGY Petland Hydrology Indicators: mary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16)
PROLOGY Petland Hydrology Indicators: mary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
PROLOGY Ptland Hydrology Indicators: mary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (Secondary Indicators (minimum of two required) Surface Soil Cracks (86) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
PROLOGY Partland Hydrology Indicators: Mary Indicators (minimum of one is require) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	 Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (Presence of Reduced Iron (C4) 	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
DROLOGY Interpretation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
emarks: DROLOGY Indicators: Mary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	 Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) 	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3)
emarks: DROLOGY Indicators: Mary Indicators (minimum of one is require) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
PROLOGY Ptland Hydrology Indicators: mary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3)
PROLOGY Parland Hydrology Indicators: Mary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) It Observations:	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
PROLOGY Petland Hydrology Indicators: mary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) I Observations: ace Water Present? Yes No	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks)	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
PROLOGY Petland Hydrology Indicators: mary Indicators (minimum of one is required Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) I Observations: ace Water Present? Yes No Present? Yes No Present? Yes No Present?	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches):	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4)
PROLOGY Petland Hydrology Indicators: mary Indicators (minimum of one is require) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) H Observations: ace Water Present? Yes No ration Present? Yes No ration Present? Yes No ration Present? Yes No ration Present? Yes No	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
PROLOGY Petland Hydrology Indicators: mary Indicators (minimum of one is require) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) H Observations: ace Water Present? Yes No ration Present? Yes No ration Present? Yes No ration Present? Yes No ration Present? Yes No	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
PROLOGY Petland Hydrology Indicators: mary Indicators (minimum of one is require) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) H Observations: ace Water Present? Yes No ration Present? Yes No ration Present? Yes No ration Present? Yes No ration Present? Yes No	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)
PROLOGY Ptland Hydrology Indicators: mary Indicators (minimum of one is require Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) I Observations: ace Water Present? Present. Present	Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks) Depth (inches): Depth (inches):	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5)

Project/Site: Goldboro LNG	Municipality/(Çounty: <u>(</u>	Suys b	orough Sampling Date: July 19/
Applicant/Owner: Pieridae Energy (
Investigator(s): Scatt Burley				
Landform (hillslope, terrace, etc.): Business			.ocal relief (concave, convex, none): Hummaky
Slope (%): 190 Eat (000129	ted	16. 5	0017	72Datum: <u>NAD & 3</u>
0 -	15 A-41	1		lland Type: Treed Bog
Are climatic / hydrologic conditions on the site typical for this	time of year	? Yes		(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology si		~		Normal Circumstances" present? Yes _ No
Are Vegetation, Soil, or Hydrology na				eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s			point lo	cations, transects, important features, etc.
Literatura Venetaria Perenta		Is th	e Sampled	Area
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No			n a Wetlan	
	·	If ves	: ontional V	Vetland Site ID: いん(/
Remarks: (Explain alternative procedures here or in a sepa		111 900	, optional v	veirano One ID.
a lot of lin in last south			Tecle	~
VEGETATION – Use scientific names of plants.	,			
	Absolute I	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: /C/\(\sigma\))	% Cover			Number of Dominant Species , ,
1. fille Mariana	<u>590</u>	FACIA)	Anne	That Are OBL, FACW, or FAC: (A)
3.	ZAZVIAV _		FAC	Total Number of Dominant Species Across All Strata:(B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Garling JOhn In Charles (Clark Street	<u>6/0 = </u>	Total Cov	er	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 5 M)	1530	./	FACW	Total % Cover of: Multiply by:
2. NEMB Pen 1/15 Merrona ka	875	_1/	FAC	OBL species 60% x1 = 60%
3. Kelyda Centil fedica	0100		FACU	FACW species <u>70</u> x 2 = <u>140</u>
4. Kalonia conglisti felica	750	/	FAC	FAC species 40 x3 = 120
5.			اپدنسسند	FACU species x 4 = 1 2
,	97 =	Total Cov	er	UPL species x 5 =
Herb Stratum (Plot size:)	,		,	Column Totals: 173 (A) 332 (B)
1. Cosnus Concelentis			_FAC_	Prevalence Index = B/A =
2. Alcin con Hemun Cemail-Masis	2		FAC_	Hydrophytic Vegetation Indicators:
3. Carl & trisperma	290		OBL FAC	Rapid Test for Hydrophytic Vegetation
4 tractioner ingust felian	790		FACU	Dominance Test is >50%
6. Brul Hetia h: 50 idula	700		FAC	Prevalence Index is ≤3.0¹
7.	. <u>~ ~</u> -		<u> 1 nc</u>	Morphological Adaptations¹ (Provide supporting
8.				data in Remarks or on a separate sheet)
9.				Problematic Hydrophytic Vegetation¹ (Explain)
10				¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	<u> 1670</u> =	Total Cov	er	be present, unless disturbed or problematic.
1	=			Hydrophytic
2				Vegetation
	=	Total Cov	er/er	Present? Yes // No
Remarks: (Include photo numbers here or on a separate s	sheet.)			

S	O	۱	L

Depth	Matrix		Redo	ox Features				
(inches)	Color (moist)	% (<u>%</u> Ty	/pe ¹ Loc ²	Texture	Remark	s
40cm						2.12 100 it	Clast	
						90111	7	
					· · · · · · · · · · · · · · · · · · ·			
17 0. 0-		K DM.D.				21	ation: PL=Pore Lining	. M.M. 4-4-5.
Type: C=Col Hydric Soil In	ncentration, D=Deple	tion, Rivi=Rec	ouced Matrix, C	S-Covered or i	Coaled Sand G		for Problematic Hydr	
							-	ic dons .
Histosol (Sandy Redo		201		Prairie Redox (A16)	
	pedon (A2)	_	•	elow Surface (S	58)		lucky Peat or Peat (\$3	
Black His			Thin Dark S				anganese Masses (F1	
	Sulfide (A4)	_	Loamy Gley				ont Floodplain Soils (F	19)
	Layers (A5)	_	Depleted M	• •			arent Material (TF2)	
	Below Dark Surface	(A11) _	Redox Dark			Other (Explain in Remarks)	
	k Surface (A12)	_		ark Surface (F7)			
	icky Mineral (S1)	_	Redox Depr	essions (F8)				
Sandy Gl	eyed Matrix (S4)							
³ Indicators of I	hydrophytic vegetation	on and wetlan	d hydrology mu	ıst be present, ı	unless disturbe	d or problematio	,	
نِـا Restrictive	ayer (if observed):							
- 77	. 10							
Type: K	UC.10							
Type: K	100 1C					Hydric Soil	Pracant? Vac .	No
Type: <u>K</u> Depth (incl Remarks:	oc (C nes): <u>40 cm</u>	-	<u>-</u>			Hydric Soil	Present? Yes	No
Depth (incl Remarks:	nes): <u>40 cm</u>	>	-			Hydric Soil	Present? Yes	No
Depth (incl Remarks:	es): <u>40 en</u>	-	-					
Depth (incl Remarks: IYDROLOG Wetland Hyd	nes): <u>UO Evy</u>		-			Seconda	ry Indicators (minimun	
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica	GY rology Indicators: ators (minimum of or		check all that a	upply)		Seconda		
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica	SY rology Indicators: ators (minimum of or			upply) ained Leaves (I	B9)	Seconda Surf	ry Indicators (minimun	
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica	GY rology Indicators: ators (minimum of or		Water-St		B9)	Seconda Surf Drai	ny Indicators (minimun ace Soil Cracks (B6)	
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Wetland Hyd Primary Indica Wetland Hyd	rology Indicators: ators (minimum of or Vater (A1) er Table (A2)		Water-St Aquatic F	ained Leaves (I Fauna (B13)	B9)	Seconda Surf Drai Mos	ny Indicators (minimun ace Soil Cracks (B6) nage Patterns (B10)	n of two requ
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Surface V High Wat Saturation	FY rology Indicators: ators (minimum of or Vater (A1) er Table (A2) n (A3)		Water-St Aquatic F Marl Dep	ained Leaves (I Fauna (B13) osits (B15)	,	Seconda Surf Drai Mos Dry-	ny Indicators (minimun ace Soil Cracks (B6) nage Patterns (B10) s Trim Lines (B16) Season Water Table (n of two requ
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) n (A3) urks (B1)		Water-St Aquatic F Marl Dep Hydroger	ained Leaves (I Fauna (B13) Josits (B15) In Sulfide Odor ((C1)	Seconda Surf Drai Mos Dry-	ny Indicators (minimun ace Soil Cracks (B6) nage Patterns (B10) s Trim Lines (B16) Season Water Table (iration Visible on Aeria	n of two requ C2)
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma Sediment	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) in (A3) irks (B1) Deposits (B2)		Water-St Aquatic F Marl Dep Hydroger Oxidized	ained Leaves (I Fauna (B13) osits (B15) n Sulfide Odor (Rhizospheres ((C1) on Living Roots	Seconda Surf Drai Dry- Satu s (C3) Stur	ny Indicators (minimun ace Soil Cracks (B6) nage Patterns (B10) s Trim Lines (B16) Season Water Table (uration Visible on Aeria ated or Stressed Plants	n of two requ C2) Il Imagery (C s (D1)
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Water Water Water Ma Sediment Drift Depo	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) n (A3) nrks (B1) Deposits (B2) posits (B3)		Water-St Aquatic F Marl Dep Hydroger Oxidized Presence	ained Leaves (I Fauna (B13) posits (B15) n Sulfide Odor (Rhizospheres o e of Reduced Iro	(C1) on Living Roots on (C4)	Seconda Surf Drai Mos Dry- Satu Stur Geo	ary Indicators (minimunace Soil Cracks (B6) nage Patterns (B10) s Trim Lines (B16) Season Water Table (aration Visible on Aeria ated or Stressed Plants morphic Position (D2)	n of two requ C2) Il Imagery (C s (D1)
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Watface V High Wat Saturation Water Ma Sediment Drift Depo	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) n (A3) arks (B1) Deposits (B2) posits (B3) or Crust (B4)		Water-St Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir	ained Leaves (I Fauna (B13) osits (B15) n Sulfide Odor (Rhizospheres o e of Reduced In ron Reduction ir	(C1) on Living Roots on (C4) n Tilled Soils (C	Seconda Surf Drai Mos Dry- Satu Geo C3) Stur Geo	ny Indicators (minimun ace Soil Cracks (B6) nage Patterns (B10) s Trim Lines (B16) Season Water Table (aration Visible on Aeria atted or Stressed Plants morphic Position (D2)	n of two requ C2) al Imagery (C s (D1)
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica High Wat Saturation Water Ma Sediment Drift Depo	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) n (A3) nrks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5)	e is required;	Water-St Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir	ained Leaves (I Fauna (B13) osits (B15) n Sulfide Odor (Rhizospheres e of Reduced Ird on Reduction ir ok Surface (C7)	(C1) on Living Roots on (C4) n Tilled Soils (C	Seconda Surf Drai Mos Dry- Satu Geo Geo Sha Micr	ary Indicators (minimum ace Soil Cracks (B6) nage Patterns (B10) s Trim Lines (B16) Season Water Table (aration Visible on Aeria atted or Stressed Plants amorphic Position (D2) Illow Aquitard (D3) otopographic Relief (D	n of two requ C2) al Imagery (C s (D1)
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Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Water Ma Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Field Observ Surface Water	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) in (A3) inks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) in Visible on Aerial In Vegetated Concave ations: r Present? Yee	nagery (B7) Surface (B8) s No	Water-St Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc Other (E:	ained Leaves (I Fauna (B13) osits (B15) n Sulfide Odor (Rhizospheres of Reduced Iro on Reduction in Reduction in Remark suplain in Remark nches):	(C1) on Living Roots on (C4) n Tilled Soils (C	Seconda Surf Drai Mos Dry- Satu Geo Sha Micr FAC	ary Indicators (minimum ace Soil Cracks (B6) nage Patterns (B10) s Trim Lines (B16) Season Water Table (aration Visible on Aeria ated or Stressed Plants morphic Position (D2) llow Aquitard (D3) otopographic Relief (D -Neutral Test (D5)	n of two requ C2) al Imagery (C s (D1)
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Water Ma Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Field Observ Surface Water Water Table F Saturation Pro	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) in (A3) in (A3) in (A3) in (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) in Visible on Aerial In Vegetated Concave ations: in Present? Yeresent? Yeresent? Yeresent?	nagery (B7) Surface (B8) s No	Water-St Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc Other (E:	ained Leaves (I Fauna (B13) nosits (B15) n Sulfide Odor (Rhizospheres de of Reduced Ire on Reducetion ir ck Surface (C7) xplain in Reman	(C1) on Living Roots on (C4) n Tilled Soils (C	Seconda Surf Drai Mos Dry- Satu Geo Sha Micr FAC	ary Indicators (minimum ace Soil Cracks (B6) nage Patterns (B10) s Trim Lines (B16) Season Water Table (aration Visible on Aeria atted or Stressed Plants amorphic Position (D2) Illow Aquitard (D3) otopographic Relief (D	n of two requ C2) al Imagery (C
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Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Field Observ Surface Water Water Table F Saturation Pro (includes capi	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) in (A3) in (A3) in (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) in Visible on Aerial In Vegetated Concave ations: in Present? Yesent? Yesent?	nagery (B7) Surface (B8) s No	Water-St Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc Other (E: Depth (i	ained Leaves (I Fauna (B13) osits (B15) n Sulfide Odor (Rhizospheres of Reduced Iro on Reduction in Reduction in Remark polain in Remark nches):	(C1) on Living Roots on (C4) n Tilled Soils (C tks) Wet	Seconda Surf Drai Mos Dry- Satu G(C3) Stur Geo G(A) Horolog	ary Indicators (minimum ace Soil Cracks (B6) nage Patterns (B10) s Trim Lines (B16) Season Water Table (aration Visible on Aeria ated or Stressed Plants morphic Position (D2) llow Aquitard (D3) otopographic Relief (D -Neutral Test (D5)	n of two requ C2) al Imagery (C s (D1)
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Surface W High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Field Observ Surface Water Water Table F Saturation Pro (includes capi Describe Rec	res): <u>UCCAN</u> rology Indicators: ators (minimum of or Vater (A1) er Table (A2) in (A3) in (A3) in (B1) in Deposits (B2) in Sists (B3) in Crust (B4) in Vegetated Concave ations: in Present? in Present? in Yesent?	nagery (B7) Surface (B8) s No	Water-St Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc Other (E: Depth (i	ained Leaves (I Fauna (B13) osits (B15) n Sulfide Odor (Rhizospheres of Reduced Iro on Reduction in Reduction in Remark polain in Remark nches):	(C1) on Living Roots on (C4) n Tilled Soils (C tks) Wet	Seconda Surf Drai Mos Dry- Satu G(C3) Stur Geo G(A) Horolog	ary Indicators (minimum ace Soil Cracks (B6) nage Patterns (B10) s Trim Lines (B16) Season Water Table (aration Visible on Aeria ated or Stressed Plants morphic Position (D2) llow Aquitard (D3) otopographic Relief (D -Neutral Test (D5)	n of two requ C2) al Imagery (C
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Project/Site: Goldboro LNG	Municipality	/County:	boldboro 6	uuskowuch County Sampling Date: June 19
Applicant/Owner: Pieridae Energy (Cr	meda)	الملا		Sampling Point: WEII - UPI
Investigator(s): Scott Burley				
Landform (hillslope, terrace, etc.): #illslope				(concave, convex, none): Acmmaly
Stope (%): 30 Let: 608/3/		N	57001	7-65 Datum: WAD 633
Soil Map Unit Name/Type: ASPE) TEXA COM	CA	5- 00	10/0	tland Type: (plmc)
• •				
Are climatic / hydrologic conditions on the site typical for this			_	
Are Vegetation, Soil, or Hydrologys				Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology r	naturally prol	olematic?	(If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	samplir	ng point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yesi N	lo		the Sampled	
Hydric Soil Present? Yes N		, wit	thin a Wetlar	nd? Yes No
Wetland Hydrology Present? Yes N		lf y	es, optional \	Wetland Site ID:
Remarks: (Explain alternative procedures here or in a sep	parate repor	t.)		
Previously legged				
VEGETATION – Use scientific names of plants				
100	Absolute	Dominar	nt Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: /U)	% Cover	Species	? Status	Number of Dominant Species
1. fiela musima				That Are OBL, FACW, or FAC: < (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
5.				Percent of Dominant Species
	22	= Total C	over	That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: 5 0)	**			Prevalence Index worksheet:
1. Bulgan fil	_ <u>3030</u>		_ FAC_	Total % Cover of: Multiply by:
	<u> 590</u>			OBL species x1 =
3. Between over fulia			<u> Facu</u>	FACW species $\frac{7}{39}$ x 2 = $\frac{14}{117}$
4		***************************************		FACU species 2 x4 = 8
5	371	= Total C	Over	UPL species x5 =
Herb Stratum, (Plot size: / //)		- rotar o	5701	Column Totals: 48 (A) 139 (B)
1. Beforte Condifeto				
2. Centras Chradusis	_550_		<u>FAC</u>	Prevalence Index = B/A =
3. Vice in ivan congustifelium	- <u>Zne</u>		FAC	Hydrophytic Vegetation Indicators:
4. Muintforca constansis	_ <u>(5)0</u>		<u>Fnc</u>	Rapid Test for Hydrophytic Vegetation
5				Dominance Test is >50% Prevalence Index is ≤3.0¹
6				Morphological Adaptations¹ (Provide supporting
7				data in Remarks or on a separate sheet)
8 9				Problematic Hydrophytic Vegetation ¹ (Explain)
10.				
	^	= Total C	Cover	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)				
1.				Hydrophytic Vegetation
2		= Total C		Present? Yes No No
Remarks: (Include photo numbers here or on a separate	***************************************	- rotal C	00461	
Temano. (moidde photo numbers field of on a separate	chook, j			

SOIL

Sampling Point: WII-W)

(inches)	Color (moist)	%	Calor (moist)	ox Feature:	_Type¹	_Loc ²	Texture	Remarks
2-15							Usanic	
							-1701110	
					· 			
♠ the office is,								•
					***************************************	/····		
Гуре: C=C	oncentration, D=Dept	letion, RM=R	Reduced Matrix, C	S=Covered	d or Coate	d Sand G		cation: PL=Pore Lining, M=Matrix.
lydric Soil	Indicators:						Indicators	for Problematic Hydric Soils ³ :
Histosol	, ,		Sandy Redo					Prairie Redox (A16)
	oipedon (A2)		Polyvalue B					Mucky Peat or Peat (S3)
	stic (A3)		Thin Dark S		-			Manganese Masses (F12)
	en Sulfide (A4)		Loamy Gley		(F2)			nont Floodplain Soils (F19)
•	d Layers (A5)	~ (A44)	Depleted Ma		te)			Parent Material (TF2)
	d Below Dark Surface	e (ATT)	Redox Dark Depleted Da	•	•		Other	(Explain in Remarks)
	ark Surface (A12) Nucky Mineral (S1)		Redox Depr					
	Bleyed Matrix (S4)		regov pebi	COSONS (F	~;			
	, ,							
	f hydrophytic vegetat		and hydrology mu	st be pres	ent, unles:	s disturbe	d or problemati	C.
	Layer (if observed):							
	Kack							
Depth (in	ches):/ 5	<u>~</u>					Hydric Soil	I Present? Yes No
Remarks:								
YDROLO	GY				 		WENT TO THE TOTAL THE TOTAL TO THE TOTAL TOT	
	GY drology Indicators:						Second	ary Indicators (minimum of two requir
Vetland Hy			d; check all that a	pply)				lary Indicators (minimum of two requir rface Soil Cracks (B6)
Vetland Hy Primary Indi	drology Indicators:			pply) ained Leav	res (B9)		Sur	
Vetland Hy Primary Indi Surface	drology Indicators: cators (minimum of o		Water-Sta				Sur Dra	face Soil Cracks (B6)
Wetland Hy Primary Indi Surface	drology Indicators: cators (minimum of o Water (A1) ater Table (A2)		Water-Sta	ained Leav	3)		Sur Dra Mo:	rface Soil Cracks (B6) ainage Patterns (B10)
Wetland Hy Primary Indi Surface High Wa	drology Indicators: cators (minimum of o Water (A1) ater Table (A2)		Water-Sta Aquatic F Marl Dep	ained Leav auna (B13	3))		Sur Dra Mo: Dry	rface Soil Cracks (B6) ainage Patterns (B10) ss Trim Lines (B16) /-Season Water Table (C2)
Wetland Hy Primary Indi Surface High Wa Saturati Water M	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3)		Water-St: Aquatic F Mart Dep Hydroger	ained Leav auna (B13 osits (B15)	3)) idor (C1)	ving Roots	Sur Dra Mo: Dry Sat	rface Soil Cracks (B6) ainage Patterns (B10) ss Trim Lines (B16) /-Season Water Table (C2)
Netland Hy Primary Indi Surface High Wa Saturati Water M	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1)		Water-Sta Aquatic F Marl Dep Hydroger Oxidized	ained Leav auna (B13 osits (B15) Sulfide O	3)) idor (C1) eres on Liv	_	Sur Dra Dry Sat s (C3) Stu	rface Soil Cracks (B6) ainage Patterns (B10) ss Trim Lines (B16) /-Season Water Table (C2) turation Visible on Aerial Imagery (C9)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3)		Water-Sta Aquatic F Marl Dep Hydroger Oxidized Presence	ained Leav auna (B13 osits (B15) Sulfide O Rhizosphe of Reduce	3) dor (C1) eres on Liv ed Iron (C4	4)	Sur Dra Dry Sat s (C3) Stu Geo	rface Soil Cracks (B6) ainage Patterns (B10) ss Trim Lines (B16) r-Season Water Table (C2) turation Visible on Aerial Imagery (C9 unted or Stressed Plants (D1)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal M	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		Water-Sta Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir	ained Leav auna (B13 osits (B15) n Sulfide O Rhizosphe	3) dor (C1) eres on Liv ed Iron (C4 ion in Tille	4)	Sur Dra Mo: Sat Stu Ge: Ge:	rface Soil Cracks (B6) ainage Patterns (B10) ss Trim Lines (B16) /-Season Water Table (C2) turation Visible on Aerial Imagery (C9 inted or Stressed Plants (D1) omorphic Position (D2) allow Aquitard (D3)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal Ma	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	ne is require	Water-Sta Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir	ained Leav auna (B13 osits (B15) n Sulfide O Rhizosphe of Reduct on Reduct k Surface	3) Idor (C1) Pres on Lived Iron (C4) Idon in Tille (C7)	4)	Sur Dra Dry Sat Geo Sha Mic	rface Soil Cracks (B6) ainage Patterns (B10) ss Trim Lines (B16) /-Season Water Table (C2) turation Visible on Aerial Imagery (C9 unted or Stressed Plants (D1) omorphic Position (D2) allow Aquitard (D3) crotopographic Relief (D4)
Vetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal M Iron De	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) farks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	ne is require	Water-Sta Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc	ained Leav fauna (B13) osits (B15) n Sulfide O Rhizosphe of Reducti on Reducti	3) Idor (C1) Pres on Lived Iron (C4) Idon in Tille (C7)	4)	Sur Dra Dry Sat Geo Sha Mic	rface Soil Cracks (B6) ainage Patterns (B10) ss Trim Lines (B16) /-Season Water Table (C2) turation Visible on Aerial Imagery (C9) inted or Stressed Plants (D1) omorphic Position (D2) allow Aquitard (D3)
Vetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial I y Vegetated Concave	ne is require	Water-Sta Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc	ained Leav auna (B13 osits (B15) n Sulfide O Rhizosphe of Reduct on Reduct k Surface	3) Idor (C1) Pres on Lived Iron (C4) Idon in Tille (C7)	4)	Sur Dra Dry Sat Geo Sha Mic	ainage Patterns (B10) ss Trim Lines (B16) v-Season Water Table (C2) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2) allow Aquitard (D3) crotopographic Relief (D4)
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Vetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel Field Obser Surface Wal Water Table Saturation Fincludes ca	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) ion Visible on Aerial I y Vegetated Concave vations: er Present? Y	magery (B7) e Surface (Bi es N es N es N	Water-Sta Aquatic F Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc Other (Ex 8) Depth (ii Depth (iii	ained Leav fauna (B13 osits (B15) o Sulfide O Rhizosphe of Reduct on Reduct k Surface colain in Re nches): nches): nches):	3)) Idor (C1) eres on Liv ed Iron (C- ion in Tille (C7) emarks)	4) ed Soils (C	Sur Dra Dry Satu Geo Sha Mic FAr	rface Soil Cracks (B6) ainage Patterns (B10) ss Trim Lines (B16) /-Season Water Table (C2) turation Visible on Aerial Imagery (C9 unted or Stressed Plants (D1) omorphic Position (D2) allow Aquitard (D3) crotopographic Relief (D4) C-Neutral Test (D5)
Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel Field Obser Surface Water Table Saturation P (includes ca	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) ion Visible on Aerial I y Vegetated Concave vations: ter Present? Present? Y Present? Y Present? Y Present? Y Present? Y	magery (B7) e Surface (Bi es N es N es N	Water-Sta Aquatic F Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc Other (Ex 8) Depth (ii Depth (iii	ained Leav fauna (B13 osits (B15) o Sulfide O Rhizosphe of Reduct on Reduct k Surface colain in Re nches): nches): nches):	3)) Idor (C1) eres on Liv ed Iron (C- ion in Tille (C7) emarks)	4) ed Soils (C	Sur Dra Dry Satu Geo Sha Mic FAr	rface Soil Cracks (B6) ainage Patterns (B10) ss Trim Lines (B16) /-Season Water Table (C2) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2) allow Aquitard (D3) crotopographic Relief (D4) C-Neutral Test (D5)
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Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedime Drift De Algal M Iron De Inundat Sparsel Field Obser Surface Water Table Saturation F (includes ca	drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) darks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) cosits (B5) ion Visible on Aerial I y Vegetated Concave vations: ter Present? Present? Y Present? Y Present? Y Present? Y Present? Y	magery (B7) e Surface (Bi es N es N es N	Water-Sta Aquatic F Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc Other (Ex 8) Depth (ii Depth (iii	ained Leav fauna (B13 osits (B15) o Sulfide O Rhizosphe of Reduct on Reduct k Surface colain in Re nches): nches): nches):	3)) Idor (C1) eres on Liv ed Iron (C- ion in Tille (C7) emarks)	4) ed Soils (C	Sur Dra Dry Satu Geo Sha Mic FAr	rface Soil Cracks (B6) ainage Patterns (B10) ss Trim Lines (B16) /-Season Water Table (C2) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) omorphic Position (D2) allow Aquitard (D3) crotopographic Relief (D4) C-Neutral Test (D5)

Project/Site: Goldboro UNG	/Junicipality	//County: _	Guys	borough Sampling Date: June 19/1
Applicant/Owner: Pieridae Energy (Comma	da) L	td.	9	Sampling Point: WUZ-WP1
Investigator(s): Scott Burley	/	Affiliation:	Ame	C
Landform (hillslope, terrace, etc.): Basin (treed)	Swam	p) 1	ocal relief	(concave, convex, none): hummock
Slope (%): 190 - Est. 608268		Long: 5	0021	104 Datum: <u>VAS 83</u>
Soil Map Unit Name/Type: Aspotogon	CAS	A-4	We	tland Type: Treed Swamp
Are climatic / hydrologic conditions on the site typical for this	time of yea			
Are Vegetation, Soil, or Hydrology signature.	gnificantly	disturbed?	Are "	Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology na	aturally pro	blematic?	(If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sl	howing	sampling	point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Yes No No No No	WE	with	e Sampled in a Wetlar	nd? Yes No
Wetland Hydrology Present? Yes No			s, optional \	Wetland Site ID: WLIZ
Remarks: (Explain alternative procedures here or in a separation of plants). VEGETATION – Use scientific names of plants.	irate repor	,		
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 10 m) 1. Red maple	% Cover	Species?	Status FAC	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2. Black Spuce (Picen MANANA) 3.	5		FACW	Total Number of Dominant
4.				Species Across All Strata: (B)
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
£	10	= Total Cov	er	
Sapling/Shrub Stratum (Plot size: 5 m) 1. Nemopanthus	1	/	Tho	Prevalence Index worksheet:
2. Black Source	-5		FACW	OBL species 20 x1 = 20
3. LAB. TEP	-10		FACU	FACW species x 2 = 40
4. F			THU	FAC species 19 x3 = 57
5.				FACU species x 4 =
	15	= Total Cov	/or	UPL species x 5 =
Herb Stratum (Plot size: /m)		Total Co.		Column Totals: <u>59</u> (A) <u>117</u> (B)
1. Carex trisperma	80	_/	OBL	
2. Bunchberry	5		FAC	Prevalence Index = B/A =
3. KAlmiA	70		FAC	Hydrophytic Vegetation Indicators:
4. Mountain Cranberry	701		FAC	Rapid Test for Hydrophytic Vegetation
5. Creeping snowberry (Gauthena hispidula)	72		FAC	Dominance Test is >50%
6. Twin Flaver	20		PAC	Prevalence Index is ≤3.0 ¹
7				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8				Problematic Hydrophytic Vegetation¹ (Explain)
9				Problematic Hydrophytic Vegetation (Explain)
10	Ma	0		¹ Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	200	Total Cov	/er	be present, unless disturbed or problematic.
1.				Hydrophytic
2				Vegetation
		= Total Cov	/er	Present? Yes No No
Remarks: (Include photo numbers here or on a separate s	heet.)			

Depth Matri	(Redo	x Features	s			
(inches) Color (moist)		olor (moist)	%		Loc ²	Texture	Remarks
)-30cm						Organic	Pent
0-90cm 7.54R4/2						silt loam	
		-		123		- 0.05	
				_			
					-	-	
			_		-	-	
						21	Di Portirio Mandrio
Type: C=Concentration, D=I	Depletion, RM=Redi	uced Matrix, Ca	S=Covered	d or Coate	d Sand G	Indicator	s for Problematic Hydric Soils ³ :
Histosol (A1)		_ Sandy Redo	v (S5)				t Prairie Redox (A16)
Histic Epipedon (A2)	_	_ Polyvalue Be		ice (S8)			Mucky Peat or Peat (S3)
Black Histic (A3)		_ Thin Dark Su					Manganese Masses (F12)
Hydrogen Sulfide (A4)		_ Loamy Gleye					mont Floodplain Soils (F19)
Stratified Layers (A5)		_ Depleted Ma				Red I	Parent Material (TF2)
Depleted Below Dark Su	face (A11)	_ Redox Dark	Surface (F	- 6)		Other	r (Explain in Remarks)
Thick Dark Surface (A12		_ Depleted Da					
Sandy Mucky Mineral (S		_ Redox Depre	essions (F	(8)			
Sandy Gleyed Matrix (S4))						
Indicators of hydrophytic veg	etation and wetland	hydrology mu	et he nree	ent unles	e disturbe	d or problemat	tic
lestrictive Layer (if observ		Trydrology ma	st be pres	erit, uriles	3 disturbe	u or problema	
Contouve Layer (in obootiv	ou).						
Typo:							
Type:						Hydric So	il Present? Yes / No W
Type: Depth (inches): Remarks:						Hydric So	il Present? Yes No No
Depth (inches):Remarks:							
Depth (inches):							dary Indicators (minimum of two require
Depth (inches):Remarks:	ors:		pply)			Second	
Depth (inches):Remarks: YDROLOGY Wetland Hydrology Indicate	ors:	check all that a	pply) ained Leav	ves (B9)		Second	dary Indicators (minimum of two require
Depth (inches): Remarks: YDROLOGY Wetland Hydrology Indicate Primary Indicators (minimum	ors:	check all that a	ained Leav			<u>Second</u> Su Dr	dary Indicators (minimum of two require
Depth (inches):	ors:	check all that a	ained Leav auna (B13	3)		Second Substitution Substitutio	dary Indicators (minimum of two require urface Soil Cracks (B6) rainage Patterns (B10)
Depth (inches):	ors:	check all that a Water-Sta Aquatic F Marl Depo	ained Leav auna (B13	3))		Second 	dary Indicators (minimum of two require urface Soil Cracks (B6) rainage Patterns (B10) oss Trim Lines (B16)
Depth (inches):	ors:	check all that a Water-Sta Aquatic F Marl Depo	ained Leav auna (B13 osits (B15) Sulfide O	3))	ring Roots	Second 	dary Indicators (minimum of two require urface Soil Cracks (B6) rainage Patterns (B10) oss Trim Lines (B16) ry-Season Water Table (C2)
Depth (inches): Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	ors:	check all that a Water-Sta Aquatic F Marl Depo Hydrogen Oxidized	ained Leav auna (B13 osits (B15) Sulfide O Rhizosphe	3)))dor (C1)		Second 	dary Indicators (minimum of two require urface Soil Cracks (B6) rainage Patterns (B10) coss Trim Lines (B16) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
Depth (inches): Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ors:	check all that a Water-Sta Aquatic F Marl Depo Hydrogen Oxidized Presence	ained Leav auna (B13 osits (B15) Sulfide O Rhizosphe of Reduc	3)) Odor (C1) eres on Liv	4)	Second 	dary Indicators (minimum of two require urface Soil Cracks (B6) rainage Patterns (B10) oss Trim Lines (B16) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)
Depth (inches): Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ors:	check all that a Water-Sta Aquatic F Marl Depo Hydrogen Oxidized Presence	ained Leav auna (B13 osits (B15) a Sulfide O Rhizosphe of Reduct on Reduct	B) Odor (C1) Press on Lived Iron (C4) Stion in Tille	4)	Second St Dr Mo Dr Sa S (C3) St G6	dary Indicators (minimum of two require urface Soil Cracks (B6) rainage Patterns (B10) oss Trim Lines (B16) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) eomorphic Position (D2)
Depth (inches): PREMARKS: YDROLOGY Wetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	ors: of one is required; o	check all that a Water-Sta Aquatic F Marl Depo Hydroger Oxidized Presence Recent Ire	ained Leav auna (B13 osits (B15) a Sulfide O Rhizosphe of Reduct on Reduct k Surface	B) Odor (C1) eres on Lived Iron (C- tion in Tille (C7)	4)	Second Su Dr Mo Dr Sa s (C3) St Ge C6) Sh	dary Indicators (minimum of two require urface Soil Cracks (B6) rainage Patterns (B10) coss Trim Lines (B16) ry-Season Water Table (C2) caturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) ecomorphic Position (D2) nallow Aquitard (D3)
Depth (inches): Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	ors: of one is required; of	check all that a Water-Sta Aquatic F Marl Depo Hydroger Oxidized Presence Recent In	ained Leav auna (B13 osits (B15) a Sulfide O Rhizosphe of Reduct on Reduct k Surface	B) Odor (C1) eres on Lived Iron (C- tion in Tille (C7)	4)	Second Su Dr Mo Dr Sa s (C3) St Ge C6) Sh	dary Indicators (minimum of two require urface Soil Cracks (B6) rainage Patterns (B10) coss Trim Lines (B16) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) ecomorphic Position (D2) nallow Aquitard (D3) icrotopographic Relief (D4)
Depth (inches): Primary Indicators (minimum Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Ae Sparsely Vegetated Con	ors: of one is required; of	check all that a Water-Sta Aquatic F Marl Depo Hydroger Oxidized Presence Recent In	ained Leav auna (B13 osits (B15) a Sulfide O Rhizosphe of Reduct on Reduct k Surface	B) Odor (C1) eres on Lived Iron (C- tion in Tille (C7)	4)	Second Su Dr Mo Dr Sa s (C3) St Ge C6) Sh	dary Indicators (minimum of two require urface Soil Cracks (B6) rainage Patterns (B10) coss Trim Lines (B16) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) ecomorphic Position (D2) nallow Aquitard (D3) icrotopographic Relief (D4)
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Project/Site: Goldoro LNG	Municipality	y/County: Guyst	sampling Date: June 19/13
Applicant/Owner: Pieridae Energy (Cr	mada)	Ltd.	Sampling Point: WL12-UP1
Investigator(s): Scott Burley			tmec
Landform (hillslope, terrace, etc.): hills loge		Local relief	(concave, convex, none): num m ock
Slope (%): 40 5 608267			109 Datum: NAD 83
2	5 A-L	1	etland Type: upland
Are climatic / hydrologic conditions on the site typical for this		1	The second secon
			"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology si			
Are Vegetation, Soil, or Hydrology na	aturally pro	blematic? (If ne	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	howing	sampling point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes No.	7		
Remarks: (Explain alternative procedures here or in a sepa	arate repor	rt.)	
VEGETATION – Use scientific names of plants.			
Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Indicator Species? Status	Dominance Test worksheet:
1. Red maple (Acer nubrum)	2	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. BALSAM fir (Abies balsamen)	2	FAC	Total Number of Deminent
3. BIACK SPRICE (PICEA MAMANA)	10	FACW	Total Number of Dominant Species Across All Strata:
4			Percent of Dominant Species
5			That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: 5 m)	14	= Total Cover	Prevalence Index worksheet:
1. Black Spruce	10	FACW	Total % Cover of: Multiply by:
2. White birth (Betuln papyrifera)	2	FACU	OBL species x1=
3. Bakamfir	10	FAC	FACW species x 2 = 40
4. Namon Anthes	2	PAC	FAC species <u>75</u> x3 = <u>225</u>
5. Kalmia	25	FAC	FACU species x 4 =
Red maple -> 2 - FAC	51	= Total Cover	UPL species x 5 =
1. Burch kerry (Comus CAMAdensis)	-20	1	Column Totals: <u>97</u> (A) <u>273</u> (B)
2. Starflower (Trientalis borealis)	00	FAC	Prevalence Index = B/A =
3. Blue berry	3	- FAC	Hydrophytic Vegetation Indicators:
4. Mtn. Cranberry	>21	FAC	Rapid Test for Hydrophytic Vegetation
5. May lower	>01	PAC	Dominance Test is >50%
6			Prevalence Index is ≤3.0¹
7.			Morphological Adaptations ¹ (Provide supporting
8.			data in Remarks or on a separate sheet)
9			Problematic Hydrophytic Vegetation ¹ (Explain)
10	-		¹ Indicators of hydric soil and wetland hydrology must
Manda Vine Charles (District	32	= Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)			William
1			Hydrophytic Vegetation
2		= Total Cover	Present? Yes No
Remarks: (Include photo numbers here or on a separate s	heet)	. Total Coval	
The state of the s			

Depth	Matrix			x Features	
(inches)	Color (moist)	%	Color (moist)	%Type ¹	Loc ² Texture Remarks
<u>9-15 </u>					Organic
15-25	7.54R6/2	iQ°)			٠.٠٠
· · · · · · · · · · · · · · · · · · ·					
	<u> </u>				
				·	
				· 	
Type: C=Coi	ncentration D=Den	letion RM=5	Paducad Matrix CS	S=Covered or Coated :	Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil In		icdon, ran r	COGGOCG HIGHIA, OC	Obvious of Occious	Indicators for Problematic Hydric Soils ³ :
Histosol (Sandy Redox	c(\$5)	Coast Prairie Redox (A16)
Histic Epi	•			low Surface (S8)	5 cm Mucky Peat or Peat (S3)
Black His			Thin Dark Su		Iron-Manganese Masses (F12)
Hydrogen				ed Matrix (F2)	Piedmont Floodplain Soils (F19)
Stratified	Layers (A5)		Depleted Ma	trix (F3)	Red Parent Material (TF2)
	Below Dark Surface	e (A11)	Redox Dark	Surface (F6)	Other (Explain in Remarks)
	k Surface (A12)		•	rk Surface (F7)	
	ıcky Mineral (S1)		Redox Depre	essions (F8)	
Sandy Gl	eyed Matrix (S4)				
Indicators of	hvdrophytic vegetat	ion and wetl	and hydrology mus	st be oresent, unless d	isturbed or problematic.
	gyer (if observed):				
Type: Z					
		^ ^			Hydric Soil Present? Yes No V
Depth (incl	nes): <u>Z5 (p</u>	γ			Hydric Soil Present? Yes No
		Υ			Hydric Soil Present? Yes No
Depth (incl		Υ			Hydric Soil Present? Yes No
Depth (incl		<u> </u>			Hydric Soil Present? Yes No
Depth (incl		^			Hydric Soil Present? Yes No
Depth (incl Remarks:	nes): <u>Z5(//</u>	^			Hydric Soil Present? Yes No
Depth (incl Remarks:	nes): <u>Z5(//</u>				Hydric Soil Present? Yes No Secondary Indicators (minimum of two requirements)
Depth (incl Remarks: IYDROLOG Wetland Hyd	nes): <u>Z5(#</u>		d; check all that ap	oply)	J
Depth (incl Remarks: IYDROLOC Wetland Hyd Primary Indica	nes): Z 5 (p				Secondary Indicators (minimum of two requirements of two requirements (B6)
Depth (incl Remarks: IYDROLOC Wetland Hyd Primary Indica Surface V	nes): Z 5 (p		Water-Sta	ined Leaves (B9)	Secondary Indicators (minimum of two requirum Surface Soil Cracks (B6) Drainage Patterns (B10)
Depth (incl Remarks: IYDROLOC Wetland Hyd Primary Indica Surface V High Wat	nes): Z 5 (properties): A construction of con		Water-Sta Aquatic Fa	ined Leaves (B9) auna (B13)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16)
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Surface V High Wat Saturation	rology Indicators: ators (minimum of o Vater (A1) er Table (A2)		Water-Sta Aquatic Fa Marl Depo	ined Leaves (B9) auna (B13) sits (B15)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2)
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma	rology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) urks (B1)		Water-Sta Aquatic Fa Marl Depo Hydrogen	ined Leaves (B9) auna (B13) ssits (B15) Sulfide Odor (C1)	Secondary Indicators (minimum of two requirements) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma Sediment	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) in (A3) arks (B1) Deposits (B2)		Water-Sta Aquatic Fa Marl Depo Hydrogen Oxidized F	ined Leaves (B9) auna (B13) sits (B15) Sulfide Odor (C1) Rhizospheres on Living	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Surface Soil Cracks (B6) Moss Trim Lines (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Roots (C3)
Depth (incl Remarks: IYDROLOC Wetland Hyd Primary Indica Surface V High Wat Saturation Water Mater Mater Sediment Drift Depo	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) n (A3) nrks (B1) Deposits (B2) posits (B3)		Water-Sta Aquatic Fa Marl Depo Hydrogen Oxidized F	ined Leaves (B9) auna (B13) sits (B15) Sulfide Odor (C1) Rhizospheres on Living of Reduced Iron (C4)	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Roots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2)
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) in (A3) inks (B1) Deposits (B2) osits (B3) or Crust (B4)		Water-Sta Aquatic Fa Marl Depo Hydrogen Oxidized F Presence Recent Iro	ined Leaves (B9) auna (B13) sits (B15) Sulfide Odor (C1) Rhizospheres on Living of Reduced Iron (C4) on Reduction in Tilled S	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Roots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Soils (C6) Shallow Aquitard (D3)
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Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Field Observ Surface Wate Water Table F Saturation Pro (includes capi	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) in (A3) inks (B1) Deposits (B2) or Crust (B4) osits (B5) in Visible on Aerial I Vegetated Concave ations: r Present? Present? Y Pesent? Y Plary fringe)	magery (B7) e Surface (Br) fes N fes N	Water-Sta Aquatic Fa Marl Depo Hydrogen Oxidized Fa Presence Recent Iro Thin Muck Other (Exp B) Depth (in Depth (in	ined Leaves (B9) auna (B13) sits (B15) Sulfide Odor (C1) Rhizospheres on Living of Reduced Iron (C4) an Reduction in Tilled S a Surface (C7) clain in Remarks) ches):	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Roots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Soils (C6) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Field Observ Surface Wate Water Table F Saturation Pro (includes capi	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) in (A3) inks (B1) Deposits (B2) or Crust (B4) osits (B5) in Visible on Aerial I Vegetated Concave ations: r Present? Present? Y Pesent? Y Plary fringe)	magery (B7) e Surface (Br) fes N fes N	Water-Sta Aquatic Fa Marl Depo Hydrogen Oxidized Fa Presence Recent Iro Thin Muck Other (Exp B) Depth (in Depth (in	ined Leaves (B9) auna (B13) sits (B15) Sulfide Odor (C1) Rhizospheres on Living of Reduced Iron (C4) in Reduction in Tilled S Surface (C7) plain in Remarks) ches):	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Roots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Soils (C6) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Field Observ Surface Water Table F Saturation Pro (includes capi	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) in (A3) inks (B1) Deposits (B2) or Crust (B4) osits (B5) in Visible on Aerial I Vegetated Concave ations: r Present? Present? Y Pesent? Y Plary fringe)	magery (B7) e Surface (Br) fes N fes N	Water-Sta Aquatic Fa Marl Depo Hydrogen Oxidized Fa Presence Recent Iro Thin Muck Other (Exp B) Depth (in Depth (in	ined Leaves (B9) auna (B13) sits (B15) Sulfide Odor (C1) Rhizospheres on Living of Reduced Iron (C4) an Reduction in Tilled S a Surface (C7) clain in Remarks) ches):	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Roots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Soils (C6) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No
Depth (incl Remarks: IYDROLOG Wetland Hyd Primary Indica Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio Sparsely Field Observ Surface Wate Water Table F Saturation Pro (includes capi	rology Indicators: ators (minimum of or Vater (A1) er Table (A2) in (A3) inks (B1) Deposits (B2) or Crust (B4) osits (B5) in Visible on Aerial I Vegetated Concave ations: r Present? Present? Y Pesent? Y Plary fringe)	magery (B7) e Surface (Br) fes N fes N	Water-Sta Aquatic Fa Marl Depo Hydrogen Oxidized Fa Presence Recent Iro Thin Muck Other (Exp B) Depth (in Depth (in	ined Leaves (B9) auna (B13) sits (B15) Sulfide Odor (C1) Rhizospheres on Living of Reduced Iron (C4) an Reduction in Tilled S a Surface (C7) clain in Remarks) ches):	Secondary Indicators (minimum of two required Surface Soil Cracks (B6) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Roots (C3) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Soils (C6) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-Neutral Test (D5) Wetland Hydrology Present? Yes No

Project/Site: Goldboro WG	Municipality	y/County: _	Guys	borough Sampling Date: Vune 20/
Applicant/Owner: Pieridae Energy (Car	nacla)	Ltd.	2	Sampling Point: WL13 - WPI
nvestigator(s): Soft Burley				
andform (hillslope, terrace, etc.): Ripanan bog				(concave, convex, none): hummock
Slope (%): / Lat. 607 390	- TIERU T	W	Za.2 /	(concave, convex, none).
2010200120	1 1	eong:	WEG	123 Datum: Nacl & 3
Soil Map Unit Name/Type: 45pt (F	ts A-4	1	We	etland Type: Treed bog
Are climatic / hydrologic conditions on the site typical for thi	s time of yea	ar? Yes	No_	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology	significantly	disturbed?	Are '	"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology	naturally pro	blematic?	(If ne	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	sampling	point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes N			e Sampled	Area nd? Yes No
Hydric Soil Present? Yes N				
Wetland Hydrology Present? Yes N Remarks: (Explain alternative procedures here or in a se			s, optional \	Wetland Site ID: WLI3
VEGETATION – Use scientific names of plants				
		Dominant	Indicator	Dominance Test worksheet:
	% Cover	Species?	Status	Number of Dominant Species
1. Black Spuce			FACIN	That Are OBL, FACW, or FAC: (A)
2. Babam fir	2		FAC	Total Number of Dominant
3				Species Across All Strata: (B)
4.				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: 5m)	12	= Total Cov	/er	Prevalence Index worksheet:
1. Speckled Alder	~		FACIN	Total % Cover of:Multiply by:
2. Wild Raisin			FAC	OBL species x1 =
3. Nemapanthus	- - a		PAC	FACW species 17 x2 = 34
4. Bulsam-fir	2		FAC	FAC species 8 x3 = 24
5.			1110	FACU species x 4 =
		= Total Cov	/er	UPL species x 5 =
Herb Stratum (Plot size:)				Column Totals: 27 (A) 60 (B)
1. Rubus hispidus			FACW	
2. Golden Red Species				Prevalence Index = B/A = 2 . 22
3. Carex to	2		OBL	Hydrophytic Vegetation Indicators:
4				Rapid Test for Hydrophytic Vegetation
5				Dominance Test is >50%
6				Prevalence Index is ≤3.0¹
7				Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8				Problematic Hydrophytic Vegetation ¹ (Explain)
		-		
9				¹ Indicators of hydric soil and wetland hydrology must
9		12.800		indicators of flydric soil and wetland flydrology must
10		= Total Co	ver	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	_6_		ver	be present, unless disturbed or problematic.
10	_6_			be present, unless disturbed or problematic. Hydrophytic Vegetation
Woody Vine Stratum (Plot size:)	_6_			be present, unless disturbed or problematic.

Sampling Point: W13-W	P)
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DepthMatri			x Features				
nches) Color (moist) %	Color (moist)	%	Type ¹	_Loc ²	Texture	Remarks
10cm						organic	Pent
		T. Marie	V ar 34				
							
				_			-
ype: C=Concentration, D=	Depletion, RM=R	educed Matrix, CS	S=Covered	or Coate	d Sand G		cation: PL=Pore Lining, M=Matrix.
ydric Soil Indicators:			122				for Problematic Hydric Soils ³ :
Histosol (A1)		Sandy Redox		· (CO)			Prairie Redox (A16)
Histic Epipedon (A2)Black Histic (A3)		Polyvalue Be Thin Dark Su		e (58)			Mucky Peat or Peat (S3) Nanganese Masses (F12)
_ Hydrogen Sulfide (A4)		Loamy Gleye	The second second	2)			nont Floodplain Soils (F19)
Stratified Layers (A5)		Depleted Ma		2)			Parent Material (TF2)
Depleted Below Dark Su	rface (A11)	Redox Dark		6)			(Explain in Remarks)
_ Thick Dark Surface (A12		Depleted Da				-	All and the state of the state
Sandy Mucky Mineral (S		Redox Depre					
_ Sandy Gleyed Matrix (S4	4)						
orano respecto de la composición de la	arena a a a com	a badana a sasa			all a formula a s		
ndicators of hydrophytic veg estrictive Layer (if observ		and nydrology mus	st be preser	nt, uniess	disturbed	or problemat	C.
Type:						Undeta Sal	I Dunaanta Van / Na Ma
						Hydric Soi	I Present? Yes No 👑
Type: Depth (inches): Remarks:						Hydric Soi	I Present? Yes No 😼
Type: Depth (inches):							I Present? Yes No We
Type: Depth (inches): Remarks:	ors:		pply)			Second	
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicate Primary Indicators (minimum	ors:	d; check all that a	oply) ined Leave	s (B9)		Second	lary Indicators (minimum of two requir
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicator Primary Indicators (minimum Surface Water (A1)	ors:	d; check all that a	The state of the state of	s (B9)		SecondSuDra	lary Indicators (minimum of two requir
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicate Primary Indicators (minimum	ors:	d; check all that an Water-Sta Aquatic Fa	ined Leave auna (B13)	s (B9)		Second Su Dra Mo	lary Indicators (minimum of two requir rface Soil Cracks (B6) ainage Patterns (B10)
Type:	ors:	d; check all that a Water-Sta Aquatic Fa	nined Leave auna (B13) osits (B15)			SecondSuDraMoDra	lary Indicators (minimum of two requir rface Soil Cracks (B6) ainage Patterns (B10) ess Trim Lines (B16)
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indicate Primary Indicators (minimum Surface Water (A1) High Water Table (A2)	ors:	d; check all that ap — Water-Sta — Aquatic Fa — Marl Depo — Hydrogen	ined Leave auna (B13)	or (C1)	ing Roots	Second Su Dra Mo Dra Sa	lary Indicators (minimum of two requir rface Soil Cracks (B6) ainage Patterns (B10) ess Trim Lines (B16) y-Season Water Table (C2)
Type:	ors:	d; check all that an Water-Sta Aquatic Fa Marl Depo Hydrogen Oxidized I	nined Leave auna (B13) osits (B15) Sulfide Od	or (C1) es on Liv		Second Su Dra Mo Dra Sa (C3) Stu	lary Indicators (minimum of two requir rface Soil Cracks (B6) ainage Patterns (B10) oss Trim Lines (B16) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9
Type:	ors:	d; check all that an — Water-Sta — Aquatic Fa — Marl Depo — Hydrogen — Oxidized I — Presence	nined Leave auna (B13) osits (B15) Sulfide Ode Rhizosphere	or (C1) es on Liv d Iron (C4	1)	Second Su Dra Mo Dry Sa (C3) Stu Ge	lary Indicators (minimum of two requir rface Soil Cracks (B6) ainage Patterns (B10) ass Trim Lines (B16) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9 unted or Stressed Plants (D1)
Type:	ors:	d; check all that an — Water-Sta — Aquatic Fa — Marl Depo — Hydrogen — Oxidized I — Presence	nined Leave auna (B13) osits (B15) Sulfide Ode Rhizosphere of Reduced on Reductio	or (C1) es on Liv d Iron (C4 on in Tille	1)	Second Su Dra Mo Dra Sa (C3) Stu Ge 6) Sh	lary Indicators (minimum of two requir rface Soil Cracks (B6) ainage Patterns (B10) less Trim Lines (B16) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9 anted or Stressed Plants (D1) comorphic Position (D2)
Type:	ors: of one is require	d; check all that and the displayment of the control of the contro	nined Leave auna (B13) osits (B15) Sulfide Ode Rhizosphere of Reduced on Reductio	or (C1) es on Liv d Iron (C4 on in Tilled C7)	1)	Second Su Dra Mo Dry Sa (C3) Stu Ge 6) Sh Mic	lary Indicators (minimum of two requirerface Soil Cracks (B6) ainage Patterns (B10) ass Trim Lines (B16) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) anted or Stressed Plants (D1) comorphic Position (D2) allow Aquitard (D3)
Type:	ors: of one is require	d; check all that and the displayment of the control of the contro	nined Leave auna (B13) osits (B15) Sulfide Ode Rhizosphere of Reduced on Reduction	or (C1) es on Liv d Iron (C4 on in Tilled C7)	1)	Second Su Dra Mo Dry Sa (C3) Stu Ge 6) Sh Mic	lary Indicators (minimum of two requirerface Soil Cracks (B6) ainage Patterns (B10) ass Trim Lines (B16) ay-Season Water Table (C2) attration Visible on Aerial Imagery (C9) anted or Stressed Plants (D1) amorphic Position (D2) allow Aquitard (D3) crotopographic Relief (D4)
Type:	ors: of one is require	d; check all that and the displayment of the control of the contro	nined Leave auna (B13) osits (B15) Sulfide Ode Rhizosphere of Reduced on Reduction	or (C1) es on Liv d Iron (C4 on in Tilled C7)	1)	Second Su Dra Mo Dry Sa (C3) Stu Ge 6) Sh Mic	lary Indicators (minimum of two requirerface Soil Cracks (B6) ainage Patterns (B10) ass Trim Lines (B16) ay-Season Water Table (C2) attration Visible on Aerial Imagery (C9) anted or Stressed Plants (D1) amorphic Position (D2) allow Aquitard (D3) crotopographic Relief (D4)
Type:	ors: of one is require	d; check all that an Water-Sta Aquatic Fa Marl Depo Hydrogen Oxidized Ia Presence Recent Iro Thin Muck Other (Ex	nined Leave auna (B13) osits (B15) Sulfide Ode Rhizosphere of Reduced on Reduction	or (C1) es on Liv d Iron (C4 on in Tille (C7) marks)	1)	Second Su Dra Mo Dry Sa (C3) Stu Ge 6) Sh Mic	lary Indicators (minimum of two requirerface Soil Cracks (B6) ainage Patterns (B10) ass Trim Lines (B16) ay-Season Water Table (C2) attration Visible on Aerial Imagery (C9) anted or Stressed Plants (D1) amorphic Position (D2) allow Aquitard (D3) crotopographic Relief (D4)
Type:	ors: of one is require rial Imagery (B7) cave Surface (B8	d; check all that and the distribution of the control of the contr	ained Leave auna (B13) osits (B15) Sulfide Odi Rhizosphere of Reduced on Reductio & Surface (C plain in Rer	or (C1) es on Liv d Iron (C4 on in Tille C7) marks)	1)	Second Su Dra Mo Dry Sa (C3) Stu Ge 6) Sh Mic	lary Indicators (minimum of two requirerface Soil Cracks (B6) ainage Patterns (B10) ass Trim Lines (B16) ay-Season Water Table (C2) attration Visible on Aerial Imagery (C9) anted or Stressed Plants (D1) amorphic Position (D2) allow Aquitard (D3) crotopographic Relief (D4)
Type:	ors: of one is require rial Imagery (B7) cave Surface (B8	d; check all that and the display water-State — Water-State — Aquatic Fare — Hydrogen — Oxidized I — Presence — Recent Iro — Thin Much — Other (External Depth (in Dep	nined Leave auna (B13) osits (B15) Sulfide Od- Rhizosphere of Reduced on Reduction Surface (Coplain in Ren	or (C1) es on Liv d Iron (C4 on in Tilled C7) marks)	t) d Soils (C	Second Su Dra Mo Dra Sa (C3) Stu Ge 6) Sh Heid FA	lary Indicators (minimum of two requirerface Soil Cracks (B6) ainage Patterns (B10) ass Trim Lines (B16) ay-Season Water Table (C2) attration Visible on Aerial Imagery (C9) anted or Stressed Plants (D1) amorphic Position (D2) allow Aquitard (D3) crotopographic Relief (D4)
Type:	rial Imagery (B7) cave Surface (B8 Yes No	d; check all that and any water-State Aquatic Far Aqua	ained Leave auna (B13) osits (B15) Sulfide Ode Rhizosphere of Reduced on Reduction of Surface (Coplain in Ren anches):	or (C1) es on Liv d Iron (C4 on in Tille C7) marks) TScm Com	d Soils (C	Second	lary Indicators (minimum of two requirerface Soil Cracks (B6) ainage Patterns (B10) ass Trim Lines (B16) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) allow Aquitard (D3) crotopographic Relief (D4) C-Neutral Test (D5)
Type:	rial Imagery (B7) cave Surface (B8 Yes No	d; check all that and any water-State Aquatic Far Aqua	ained Leave auna (B13) osits (B15) Sulfide Ode Rhizosphere of Reduced on Reduction of Surface (Coplain in Ren anches):	or (C1) es on Liv d Iron (C4 on in Tille C7) marks) TScm Com	d Soils (C	Second	lary Indicators (minimum of two requirerface Soil Cracks (B6) ainage Patterns (B10) ass Trim Lines (B16) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) allow Aquitard (D3) crotopographic Relief (D4) C-Neutral Test (D5)
Type:	rial Imagery (B7) cave Surface (B8 Yes No	d; check all that and any water-State Aquatic Far Aqua	ained Leave auna (B13) osits (B15) Sulfide Ode Rhizosphere of Reduced on Reduction of Surface (Coplain in Ren anches):	or (C1) es on Liv d Iron (C4 on in Tille C7) marks) TScm Com	d Soils (C	Second	lary Indicators (minimum of two requirerface Soil Cracks (B6) ainage Patterns (B10) ass Trim Lines (B16) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) allow Aquitard (D3) crotopographic Relief (D4) C-Neutral Test (D5)
Type:	rial Imagery (B7) cave Surface (B8 Yes No	d; check all that and any water-State Aquatic Far Aqua	ained Leave auna (B13) osits (B15) Sulfide Ode Rhizosphere of Reduced on Reduction of Surface (Coplain in Ren anches):	or (C1) es on Liv d Iron (C4 on in Tille C7) marks) TScm Com	d Soils (C	Second	lary Indicators (minimum of two requirerface Soil Cracks (B6) ainage Patterns (B10) ass Trim Lines (B16) y-Season Water Table (C2) turation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) comorphic Position (D2) allow Aquitard (D3) crotopographic Relief (D4) C-Neutral Test (D5)

Project/Site: Goldboro UNG	Municipality	County:	Guys	borough Sampling Date: June 20//
Applicant/Owner: Pieridae Energy (Cim)	AdA) L-1	d.)	Sampling Point: WU3 - UPI
Investigator(s): Scott Burley	Α	ffiliation:	An	1EC
Landform (hillslope, terrace, etc.): hillslope		i	ocal relief	(concave, convex, none): hummacK
Slope (%): 2 5. 607386		ong: 5	0024	126 Datum: NA) 83
Soil Map Unit Name/Type: Agostoson	AS A	.4	We	tland Type: VP (and
Are climatic / hydrologic conditions on the site typical for this				
Are Vegetation, Soil, or Hydrology s				'Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology n				eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map s	howing s	ampling	point lo	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Yes No			e Sampled in a Wetlar	
Wetland Hydrology Present? Yes No	0	If yes	, optional \	Wetland Site ID: *(WL13 border)
Remarks: (Explain alternative procedures here or in a sep VEGETATION – Use scientific names of plants.		.)		
		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 10 m) 1. Balsam fic	% Cover	Species?	Status FAC	Number of Dominant Species
2. Black Souce		V	FACW	That Are OBL, FACW, or FAC: (A)
3			Trew	Total Number of Dominant Species Across All Strata:
4,				Percent of Dominant Species
5	-d	T-t-L C-		That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: 5m)		= Total Cov	er	Prevalence Index worksheet:
1. Namapanthus	5		FAC	Total % Cover of: Multiply by:
2. Black Souce	5		FACW	OBL species x 1 =
3. BAGAM- FIR	55	/	FAC	FACW species
4. CAMBKILL	2		FAC	FAC species x 3 = 4
5				FACU species x 4 =
1	JFF .	= Total Cov	er	UPL species x 5 =
Herb Stratum (Plot size: /m)	. ~ 1		Enc:	Column Totals: 82 (A) 211 (B)
1. Creeping snowberry	10		FAC -	Prevalence Index = B/A = 3.57
2. Sarsapanila	10		FAC	Hydrophytic Vegetation Indicators:
3. Valvet leaf Blueberry	- 51		FAC	Rapid Test for Hydrophytic Vegetation
4. Twin flower 5. Starflower	12 I		FAC FAC	Dominance Test is >50%
			FAC	Prevalence Index is ≤3.0¹
6. Mayflower				Morphological Adaptations¹ (Provide supporting)
7				data in Remarks or on a separate sheet)
8				Problematic Hydrophytic Vegetation ¹ (Explain)
10.				
Woody Vine Stratum (Plot size:)		= Total Cov	er	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1				Hydrophytic /
2.				Vegetation
		= Total Cov	er	Present? Yes No No
Remarks: (Include photo numbers here or on a separate s			X	

SOIL

	atrix		x Feature				2007-4
inches) Color (me	oist) %	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
3-200m	4.1		-			Organic	duff
2008cm 7.5YR (0/1					SiH loam	
astem 10YR4	/3					silt loam	100
	100,000			0.30			final and
ype: C=Concentration,	D=Depletion, RM	=Reduced Matrix, C	S=Covere	d or Coate	 d Sand G		cation: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :
Histosol (A1)		Sandy Redo	x (S5)				Prairie Redox (A16)
Histic Epipedon (A2)		Polyvalue B		ace (S8)			Mucky Peat or Peat (S3)
Black Histic (A3)		Thin Dark S					anganese Masses (F12)
_ Hydrogen Sulfide (A4)	Loamy Gley		(F2)			ont Floodplain Soils (F19)
_ Stratified Layers (A5)		Depleted Ma					arent Material (TF2)
_ Depleted Below Dark		Redox Dark				Other	(Explain in Remarks)
Thick Dark Surface (ASandy Mucky Minera		Depleted Da Redox Depr					
Sandy Gleyed Matrix		Redox Depi	essions (r	0)			
ndicators of hydrophytic	vegetation and we	etland hydrology mu	st be pres	ent, unless	s disturbed	d or problemation	o.
estrictive Layer (if obs	ervea):						
Restrictive Layer (if obs Type:	- 1177						
Type:	- 1177	_				Hydric Soil	Present? Yes No
Type: Depth (inches): Remarks: YDROLOGY Wetland Hydrology Indi	cators:					Seconda	ary Indicators (minimum of two require
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indi Primary Indicators (minim	cators:	ired; check all that a		(00)		Seconda	ary Indicators (minimum of two require face Soil Cracks (B6)
Type: Depth (inches): demarks: YDROLOGY Vetland Hydrology Indictionary Indicators (minimal Surface Water (A1)	cators: um of one is requ	ired; check all that a	ained Leav		Y	Seconda Sur Dra	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10)
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indi Primary Indicators (minim Surface Water (A1) High Water Table (A2)	cators: um of one is requ	ired; check all that a Water-Sta Aquatic F	ained Leav auna (B13	3)	1	Seconda Sur Dra Mos	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) ss Trim Lines (B16)
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indi Primary Indicators (minim Surface Water (A1) High Water Table (A2 Saturation (A3)	cators: um of one is requ	ired; check all that a Water-Sta Aquatic F Marl Dep	ained Leav auna (B13 osits (B15	3))	1	Seconda Sur Dra Mos Dry	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) ss Trim Lines (B16) -Season Water Table (C2)
Type: Depth (inches): Remarks: YDROLOGY Vetland Hydrology Indi Primary Indicators (minim Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1)	cators: um of one is requ	ired; check all that a — Water-St — Aquatic F — Marl Dep — Hydroger	ained Leav auna (B13 osits (B15 n Sulfide C	3)))dor (C1)	ing Roots	Seconda Sur Dra Mos Dry Sati	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) ss Trim Lines (B16) -Season Water Table (C2) uration Visible on Aerial Imagery (C9)
Type:	cators: um of one is requ	ired; check all that a Water-Sta Aquatic F Marl Dep Hydroger Oxidized	ained Leav auna (B13 osits (B15 o Sulfide C Rhizosphe	3)))dor (C1) eres on Liv		Seconda Sur Dra Mos Dry Satt (C3) Stu	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) ss Trim Lines (B16) -Season Water Table (C2) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1)
Type:	cators: um of one is requ	ired; check all that a Water-Sta Aquatic F Marl Dep Hydroger Oxidized Presence	ained Leav auna (B13 osits (B15 a Sulfide C Rhizosphe e of Reduc	3)) Odor (C1) eres on Liv ed Iron (C4	1)	Seconda Sur Dra Mos Dry Satt (C3) Geo	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) as Trim Lines (B16) -Season Water Table (C2) uration Visible on Aerial Imagery (C9) inted or Stressed Plants (D1)
Type:	cators: um of one is requ	ired; check all that a Water-Standard Feel Marl Dep Hydroger Oxidized Presence	ained Leav auna (B13 osits (B15 n Sulfide C Rhizosphe of Reduct on Reduct	B) Odor (C1) eres on Liv ed Iron (C4 tion in Tille	1)	Seconda Sur Dra Mos Dry Satu Geo Geo	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) ss Trim Lines (B16) -Season Water Table (C2) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2)
Type:	cators: um of one is requ	ired; check all that a Water-Sti Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc	ained Leav fauna (B13 osits (B15 n Sulfide C Rhizosphe of Reduct on Reduct k Surface	B) Odor (C1) Peres on Liv ed Iron (C4 tion in Tille (C7)	1)	Seconda Sur Dra Mos Dry Sati (C3) Stur Geo Sha Mic	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) as Trim Lines (B16) -Season Water Table (C2) uration Visible on Aerial Imagery (C9) inted or Stressed Plants (D1)
Type:	cators: um of one is requ 2) 32) 4) Aerial Imagery (E	ired; check all that a Water-Sta Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc	ained Leav fauna (B13 osits (B15 n Sulfide C Rhizosphe of Reduct on Reduct k Surface	B) Odor (C1) Peres on Liv ed Iron (C4 tion in Tille (C7)	1)	Seconda Sur Dra Mos Dry Sati (C3) Stur Geo Sha Mic	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) ss Trim Lines (B16) -Season Water Table (C2) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2) allow Aquitard (D3) rotopographic Relief (D4)
Type:	cators: um of one is requ 2) 32) 4) Aerial Imagery (E	ired; check all that a Water-Sta Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc	ained Leav fauna (B13 osits (B15 n Sulfide C Rhizosphe of Reduct on Reduct k Surface	B) Odor (C1) Peres on Liv ed Iron (C4 tion in Tille (C7)	1)	Seconda Sur Dra Mos Dry Sati (C3) Stur Geo Sha Mic	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) ss Trim Lines (B16) -Season Water Table (C2) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2) allow Aquitard (D3) rotopographic Relief (D4)
Type:	cators: um of one is requ 2) 32) 4) Aerial Imagery (E	ired; check all that a Water-Sta Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc	ained Leav fauna (B13 osits (B15 n Sulfide C Rhizosphe of Reduct on Reduct k Surface kplain in R	B)) Odor (C1) eres on Liv ed Iron (C4 cion in Tille (C7) emarks)	4) d Soils (C	Seconda Sur Dra Mos Dry Sati (C3) Stur Geo Sha Mic	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) ss Trim Lines (B16) -Season Water Table (C2) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2) allow Aquitard (D3) rotopographic Relief (D4)
Type:	cators: um of one is requ 2) 32) 4) Aerial Imagery (E	ired; check all that a Water-Standard Dep Hydroger Oxidized Presence Recent Ir Thin Muc	ained Leav fauna (B13 osits (B15 n Sulfide C Rhizosphe of Reduct on Reduct k Surface kplain in R	B)) odor (C1) eres on Liv ed Iron (C4 tion in Tille (C7) emarks)	4) d Soils (C	Seconda Sur Dra Mos Dry Sati (C3) Stur Geo Sha Mic	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) ss Trim Lines (B16) -Season Water Table (C2) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2) allow Aquitard (D3) rotopographic Relief (D4)
Depth (inches):	cators: um of one is requ 2) 32) 4) Aerial Imagery (Econcave Surface of Yes Yes Yes	ired; check all that a Water-Standard Dep Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc Thin Muc (B8) No Depth (in No Depth (in	ained Leavianne (B13 osits (B15 o	B)) Odor (C1) eres on Liv ed Iron (C4 tion in Tille (C7) emarks)	4) d Soils (C	Seconda Sur Dra Mos Dry Sati Geo Sha Mic FAO	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) ss Trim Lines (B16) -Season Water Table (C2) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1) omorphic Position (D2) allow Aquitard (D3) rotopographic Relief (D4)
Type:	cators: um of one is requ 2) 32) 4) Aerial Imagery (Econcave Surface of Yes Yes Yes	ired; check all that a Water-Standard Dep Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc Thin Muc (B8) No Depth (in No Depth (in	ained Leavianne (B13 osits (B15 o	B)) Odor (C1) eres on Liv ed Iron (C4 tion in Tille (C7) emarks)	4) d Soils (C	Seconda Sur Dra Mos Dry Sati Geo Sha Mic FAO	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) as Trim Lines (B16) -Season Water Table (C2) uration Visible on Aerial Imagery (C9) inted or Stressed Plants (D1) comorphic Position (D2) allow Aquitard (D3) rotopographic Relief (D4) C-Neutral Test (D5)
Type:	cators: um of one is requ 2) 32) 4) Aerial Imagery (Econcave Surface of Yes Yes Yes	ired; check all that a Water-Standard Dep Aquatic F Marl Dep Hydroger Oxidized Presence Recent Ir Thin Muc Thin Muc (B8) No Depth (in No Depth (in	ained Leavianne (B13 osits (B15 o	B)) Odor (C1) eres on Liv ed Iron (C4 tion in Tille (C7) emarks)	4) d Soils (C	Seconda Sur Dra Mos Dry Sati Geo Sha Mic FAO	ary Indicators (minimum of two require face Soil Cracks (B6) inage Patterns (B10) as Trim Lines (B16) -Season Water Table (C2) uration Visible on Aerial Imagery (C9) inted or Stressed Plants (D1) comorphic Position (D2) allow Aquitard (D3) rotopographic Relief (D4) C-Neutral Test (D5)

Freshwater Wetland Data Sheet:

W615

Date:	Wetland Atlas Number: 1/4 GIS Map / Stand No.: 1/4 Wetland Form 1:: School Market Berg/Fen/Sur, Wetland size: 0.17 ha Associated Watercourse: 41 - 11 manes
Wetland Type: 1.Aquatic bed/unconsolidated bottom (AB) 2.Bog(BO) 3.Fen (FE)	4.Emergent wetland (EW) _/ 5.Shrub wetland (SB) _/ 6.Forested wetland (FW)
Wetland Class: 1. Open water 2. Deep marsh 3. Shallow marsh 4. Seasonally flooded flats	5.Meadow 6.Shrub swamp 7.Wooded swamp 8.Bog
Wetland Subclass: 1. Vegetated open water 2. Non-vegetated OW 3. Floating leaved OW 4. Rooted floating leaved OW 5. Dead woody OW 6. Vegetated deep marsh 7. Non-vegetated DM 8. Dead woody DM 9. Sub-shrub DM 10. Floating leaved DM 11. Rooted floating leaved DM 12. Robust DM 13. Narrow-leaved DM 14. Broad-leaved DM 15. Dead woody shallow marsh 16. Robust SM 17. Narrow leaved SM 18. Broad leaved SM	19.Floating leaved SM 20.Rooted floating leaved SM 21.Non-vegetated SM 22.Emergent seasonally flooded flats 23.Shrubby SFF 24.Grazed meadow 25.Ungrazed M 26.Sedge M 27.Sapling shrub swamp 28.Bushy SS 29.Compact SS 30.Low sparse SS 31.Deciduous wooded swamp 32.Evergreen WS 33.Wooded bog 34.Shrubby B 35.Open B
Water Regime Indicator: 1.Permanently flooded 2.Saturated/	3.Seasonally flooded
Water Depth: 1.0-5 cm (5free_m) 2.5-20 cm (5free_m) 3.20-50 cm	4.50-100 cm Stream 5-10 30cm sow often reight

Note: 1. Canadian Wetland Classification System (2nd Edition)

Impounded Wetland Type:

1.Beaver Pond 2.Man-made Impoundment	3.Ducks Unlimited Impoundment 4. None of the above
Percent Vegetation Cover: 1.> 95%	5.26-75% in patches 6. 5-25% in peripheral band 7. 5-25% in patches 8.< 5%
Wetland Site: 1.Lacustrine 2.Riverine 3.Palustrine	4.1solated 5.Deltaic
Vegetation Types (%): 1.Deciduous trees 2.Coniferous trees 3.Dead trees 4.Tall shrubs 5.Low shrubs 6.Dead shrubs 7.Herbs 8.Mosses 9.Narrow-leaved emergents 10.Broad-leaved emergents 11.Robust emergents 12.Free-floating plants 13.Floating plants (rooted) 14.Submerged plants 15. Other	_
Interspersion: 1.Minimal 2.Low 3.Media Conductivity: N/A Alkalinity: N/A	<u>pH</u> : N/A
Hydrological Classification: 1.Surface water depression 2.Ground water depression	3.Surface water slope 4.Ground water slope
Inlets/Outlets/water bodies: Yls: mall 56	Rami intout
Wildlife: (Observation/Signs/Reports) Way on flies bird (sound) *	
Adjacent Wildlife habitat (%):	

Porst (35% conifron) 3 sides; 4 h side near noad.

1.Salt marsh	5.Beach 6.River 7. Other d near Mmide
Description:	
Surrounding Land Use %: 1 Agriculture 2.Forestry Porton 3 Recreation 4.Industrial 5.Urban development 6.Transportation V	7.Residential 8.Waste Disposal 9.Scientific Research 10.Trapping 11.Education 12.Seasonal resident
Description:	
Disturbance: 1.Low 2.Moderate 3.High	
Description:	
Roads and/or tracks: 1.Private road adjacent 2.DOT road adjacent 3.Private road within	4.DOT road within 5.Vehicle tracks 6.Other
Description:	
Existing Uses of Wetlands: 1.Economic use (e.g. farming) 2.Recreational activities 3.Aesthetics	4.Education & public awareness 5. None evident
Potential Threats: development	
Special Features: 1.Rare wetland type 2.Rare animal or plant species 3.Habitat of rare species	4.Nesting site for colonial water birds 5.Migration stop-over site 6. None evident
Description:	
Notes:	

4

12 Saboles Bary Yunus Sheam bog Shoniton -WL15

Freshwater Wetland Data Sheet:

Date: No Sun 26 Investigator(s): Scott Burley/ M Seush Weather: No Sun 20 Topographic Sheet: U.F./4 Aerial Photo Number: 2ccip3/c-14/	Wetland Atlas Number: GIS Map / Stand No.: Wetland Form ¹ :: Wetland Size: Wetland Siz
Wetland Type: 1.Aquatic bed/unconsolidated bottom (AB) 2.Bog(BO) 3.Fen (FE)	4.Emergent wetland (EW) 5.Shrub wetland (SB) 6.Forested wetland (FW)
Wetland Class: 1.Open water 2.Deep marsh 3.Shallow marsh 4.Seasonally flooded flats	5.Meadow
Wetland Subclass: 1.Vegetated open water 2.Non-vegetated OW 3.Floating leaved OW 4.Rooted floating leaved OW 5.Dead woody OW 6.Vegetated deep marsh 7.Non-vegetated DM 8.Dead woody DM 9.Sub-shrub DM 10.Floating leaved DM 11.Rooted floating leaved DM 12.Robust DM 13.Narrow-leaved DM 14.Broad-leaved DM 15.Dead woody shallow marsh 16.Robust SM 17.Narrow leaved SM 18.Broad leaved SM	19.Floating leaved SM 20.Rooted floating leaved SM 21.Non-vegetated SM 22.Emergent seasonally flooded flats 23.Shrubby SFF 24.Grazed meadow 25.Ungrazed M 26.Sedge M 27.Sapling shrub swamp 28.Bushy SS 29.Compact SS 30.Low sparse SS 31.Deciduous wooded swamp 32.Evergreen WS 33.Wooded bog 34.Shrubby B 35.Open B
Water Regime Indicator: 1.Permanently flooded 2.Saturated	3.Seasonally flooded
Water Depth: 1.0-5 cm 2.5-20 cm 3.20-50 cm	4.50-100 cm 5.>100 cm Rands: deeper
Note: 1. Canadian Wetland Classification System (2nd	
Impounded Wetland Type:	I will estimate

1.Beaver Pond	3.Ducks Unlimited Impoundment
2.Man-made Impoundment	4. None of the above
Demont Variatelian Causan	
Percent Vegetation Cover: 1.> 95%	5.06.759/ in notaboo
2.76-95% in peripheral band	5.26-75% in patches 6. 5-25% in peripheral band
3.76-96% in patches	7. 5-25% in patches
4.26-75% in peripheral band	8.< 5%
Wetland Site:	(2.
1.Lacustrine	4.Isolated
2.Riverine	5.Deltaic
3.Palustrine	<u> </u>
Vegetation Types (%):	
1.Deciduous trees	_
2.Coniferous trees	_
3.Dead trees	_
4.Tall_shrubs	_
5.Low shrubs	_
6.Dead shrubs	_
7.Herbs / O	→
8.Mosses 95	_
9.Narrow-leaved emergents 20 -30 Junia	inforeX
10.Broad-leaved emergents //	_''
11.Robust emergents	<u>,</u>
12.Free-floating plants	
13.Floating plants (rooted)	_
14.Submerged plants	_
15. Other	<u>-</u>
Intervenie dati i on one in	
Interspersion: 1.Minimal 2.Low 3.Mediu	ım (<u>/</u> 4.High
Conductivity: N/A	pH: N/A
Alkalinity: N/A	<u> </u>
, wearing.	
Hydrological Classification:	
1.Surface water depression	3.Surface water slope
2.Ground water depression	4.Ground water slope
· - 	•
Inlets/Outlets/water bodies: 46 Out	
Wildlife: (Observation/Signs/Reports)	
chick adoe	
chick adel dragon flies	
-mag-	

Adjacent Wildlife habitat (%):

1.Salt marsh	5.Beach
2.Forest <u>1()</u> 0%	6.River
3.Dykelands	7. Other
4.Mudflats	
Description: Compron forly	(BFB)
Surrounding Land Use %:	
1 Agriculture (not wide)	7.Residential
2. Forestry (not wide)	8.Waste Disposal
3 Recreation	9.Scientific Research
4.Industrial	10.Trapping
5.Urban development	11.Education
6.Transportation	12.Seasonal resident
Description:	
Disturbance: 1.Low 2.Moderate 3.High	
<u>Disturbance:</u> 1.Low <u>1/</u> 2.Moderate 3.High	
Description:	
Roads and/or tracks:	
1.Private road adjacent	4.DOT road within
2.DOT road adjacent	5. Vehicle tracks
3.Private road within	6.Other
	o.Other
Description:	
Existing Uses of Wetlands:	
1.Economic use (e.g. farming)	4 Education 9 multipasses
2.Recreational activities	4.Education & public awareness
3.Aesthetics	5. None evident
J.Aestrietics	
Potential Threats: Levelopment	
Special Features:	
1.Rare wetland type	4 Norting site for colonial control blade
2. Rare animal or plant species <u>nossible</u>	4.Nesting site for colonial water birds
3 Habitat of rare species	5. Migration stop-over site
3. Habitat of rare species	6. None evident
Description:	
Notes:	
abid west to tall a to	boarder mei 2 de
- my wood lable and 10	wan a day ago
· high watertable due to	routhend.
\ \(\)	

Fram brits numerous Cramals and Open Surfaces (unclear forest

Freshwater Wetland Data Sheet: 44

Date: Syd 26 Weds. Investigator(s): Scott Burley/ 17 Lugn. Weather: 20° Topographic Sheet: 11 F/4 Aerial Photo Number: 2005310-141	Wetland Atlas Number: GIS Map / Stand No.: Wetland Form ¹ : Wetland Form ¹ : Wetland size: A / B / B / B / B / B / B / B / B / B /
Wetland Type: 1.Aquatic bed/unconsolidated bottom (AB) 2.Bog(BO) 3.Fen (FE)	4.Emergent wetland (EW) 5.Shrub wetland (SB) 6.Forested wetland (FW)
Wetland Class: 1.Open water 2.Deep marsh 3.Shallow marsh 4.Seasonally flooded flats	5.Meadow 6.Shrub swamp 7.Wooded swamp 8.Bog
Wetland Subclass: 1. Vegetated open water 2. Non-vegetated OW 3. Floating leaved OW 4. Rooted floating leaved OW 5. Dead woody OW 6. Vegetated deep marsh 7. Non-vegetated DM 8. Dead woody DM 9. Sub-shrub DM 10. Floating leaved DM 11. Rooted floating leaved DM 12. Robust DM 13. Narrow-leaved DM 14. Broad-leaved DM 15. Dead woody shallow marsh 16. Robust SM 17. Narrow leaved SM 18. Broad leaved SM	19.Floating leaved SM 20.Rooted floating leaved SM 21.Non-vegetated SM 22.Emergent seasonally flooded flats 23.Shrubby SFF 24.Grazed meadow 25.Ungrazed M 26.Sedge M 27.Sapling shrub swamp 28.Bushy SS 29.Compact SS 30.Low sparse SS 31.Deciduous wooded swamp 32.Evergreen WS 33.Wooded bog 34.Shrubby B 35.Open B
Water Regime Indicator: 1.Permanently flooded 2.Saturated	3.Seasonally flooded
Water Depth: 1.0-5 cm 2.5-20 cm 3.20-50 cm	4.50-100 cm

Note: 1. Canadian Wetland Classification System (2nd Edition)

Impounded Wetland Type:

1.Beaver Pond 2.Man-made impoundment	3.Ducks Unlimited Impoundment 4. None of the above
Percent Vegetation Cover: 1.> 95% 2.76-95% in peripheral band 3.76-96% in patches 4.26-75% in peripheral band	5.26-75% in patches 6. 5-25% in peripheral band 7. 5-25% in patches 8.< 5%
Wetland Site: 1.Lacustrine 2.Riverine 3.Palustrine	4.Isolated 7 5.Deltaic 7
Vegetation Types (%): 1.Deciduous trees 2.Coniferous trees 3.Dead trees 4.Tall shrubs 5.Low shrubs 6.Dead shrubs 7.Herbs 8.Mosses 9.Narrow-leaved emergents 10.Broad-leaved emergents 11.Robust emergents 12.Free-floating plants 13.Floating plants (rooted) 14.Submerged plants 15. Other 2.Low 3.Med	es, Carl
Conductivity: N/A Alkalinity: N/A	pH: N/A
Hydrological Classification: 1.Surface water depression 2.Ground water depression Inlets/Outlets/water bodies:	3.Surface water slope 4.Ground water slope
orotlet likely	
Wildlife: (Observation/Signs/Reports)	
CHACKON XMAN	

Adjacent Wildlife habitat (%):

1.Salt marsh 2.Forest 3.Dykelands 4.Mudflats	5.Beach 6.River 7. Other
Description:	
Surrounding Land Use %: 1 Agriculture 2. Forestry pomble 3 Recreation 4. Industrial 5. Urban development 6. Transportation	7.Residential 8.Waste Disposal 9.Scientific Research 10.Trapping 11.Education 12.Seasonal resident
Description:	
Disturbance: 1.Low 2.Moderate 3.High	
Description:	
Roads and/or tracks: 1.Private road adjacent 2.DOT road adjacent 3.Private road within	4.DOT road within 5.Vehicle tracks 6.Other
Description:	
Existing Uses of Wetlands: 1.Economic use (e.g. farming) 2.Recreational activities 3.Aesthetics	4.Education & public awareness 5. None evident
Potential Threats: development	
Special Features: 1.Rare wetland type 2.Rare animal or plant species 3.Habitat of rare species	4.Nesting site for colonial water birds 5.Migration stop-over site 6. None evident
Description:	
Notes: high water table due to	heavy rain 2+ days ago
-posible Equisetu vanigatu	
I norther leonard frog	
- Iviladel,	
an am homas	

NI trees Samulos Mass. Jen Stram fen Than? Showbopen with islands boy not to Scale WL 17 A

WL49

Freshwater Wetland Data Sheet:

The second of celd	hart LNL
Date:	Wetland Atlas Number: GIS Map / Stand No : Wetland Form 1:: Wetland size: Wet
Wetland Type: 1.Aquatic bed/unconsolidated bottom (AB) 2.Bog(BO) 3.Fen (FE)	4.Emergent wetland (EW) 5.Shrub wetland (SB) 6.Forested wetland (FW)
Wetland Class: 1.Open water 2.Deep marsh 3.Shallow marsh 4.Seasonally flooded flats	5.Meadow 6.Shrub swamp 7.Wooded swamp 8.Bog
Wetland Subclass: 1. Vegetated open water 2. Non-vegetated OW 3. Floating leaved OW 4. Rooted floating leaved OW 5. Dead woody OW 6. Vegetated deep marsh 7. Non-vegetated DM 8. Dead woody DM 9. Sub-shrub DM 10. Floating leaved DM 11. Rooted floating leaved DM 12. Robust DM 13. Narrow-leaved DM 14. Broad-leaved DM 15. Dead woody shallow marsh 16. Robust SM 17. Narrow leaved SM 18. Broad leaved SM	19.Floating leaved SM 20.Rooted floating leaved SM 21.Non-vegetated SM 22.Emergent seasonally flooded flats 23.Shrubby SFF 24.Grazed meadow 25.Ungrazed M 26.Sedge M 27.Sapling shrub swamp 28.Bushy SS 29.Compact SS 30.Low sparse SS 31.Deciduous wooded swamp 32.Evergreen WS 33.Wooded bog 34.Shrubby B
Water Regime Indicator: 1.Permanently flooded 2.Saturated/	3.Seasonally flooded
Water Depth: 1.0-5 cm 2.5-20 cm 3.20-50 cm	4.50-100 cm 5.>100 cm
Note: 1. Canadian Wetland Classification System (2nd	Edition) 2 streams one 40 am toda
Impounded Wetland Type:	ago

1.Beaver Pond 2.Man-made Impoundment	Ducks Unlimited Impoundment None of the above
Percent Vegetation Cover: 1.> 95%	5.26-75% in patches 6. 5-25% in peripheral band 7. 5-25% in patches 8.< 5%
Wetland Site: 1.Lacustrine 2.Riverine 3.Palustrine	4.Isolated 5.Deltaic
Vegetation Types (%): 1. Deciduous trees 2. Coniferous trees 3. Dead trees 4. Tall shrubs 5. Low shrubs 6. Dead shrubs 7. Herbs 8. Mosses 9. Narrow-leaved emergents 10. Broad-leaved emergents 11. Robust emergents 12. Free-floating plants 13. Floating plants (rooted) 14. Submerged plants 15. Other Interspersion: 1. Minimal 2. Low 3. Mediu	
Conductivity: N/A Alkalinity: N/A	<u>pH</u> : N/A
Hydrological Classification: 1.Surface water depression 2.Ground water depression	3.Surface water slope 4.Ground water slope
Inlets/Outlets/water bodies:	. 1
Wildlife: (Observation/Signs/Reports)	prew edges

1.Salt marsh 2.Forest 3.Dykelands 4.Mudflats	5.Beach 6.River 7. Other
Description:	
Surrounding Land Use %: 1 Agriculture 2.Forestry p OGGO do 3 Recreation 4.Industrial 5.Urban development 6.Transportation	7.Residential 8.Waste Disposal 9.Scientific Research 10.Trapping 11.Education 12.Seasonal resident
Description: Road, Hw 316	
Disturbance: 1.Low 2.Moderate 3.High	
Description:	
Roads and/or tracks: 1.Private road adjacent 2.DOT road adjacent 3.Private road within	4.DOT road within 5.Vehicle tracks 6.Other
Description: Hw 316	
Existing Uses of Wetlands: 1. Economic use (e.g. farming) 2. Recreational activities 3. Aesthetics	4.Education & public awareness 5. None evident1/
Potential Threats: development	
Special Features: 1.Rare wetland type 2.Rare animal or plant species 3.Habitat of rare species	4. Nesting site for colonial water birds 5. Migration stop-over site 6. None evident
Description:	
Notes: high wester levels ell 3 days ago, and mit	ce to house rain estri

- reveral addition drung commes (number) at bottom mean realthings

Shrubfin 1 Aream light slone

Freshwater Wetland Data Sheet:

W15

Date: 1/2 28 Sen + 2017 Investigator(s): Scott Burley/ Man. on Sum Weather: 2011-14 Aerial Photo Number: 2cv 8, 3/0-14/	Wetland Atlas Number: GIS Map / Stand No.: Wetland Form ¹ :: Skell For Reg Wetland size: co. 32 ha Associated Watercourse: UNLIMED SHAW
Wetland Type: 1.Aquatic bed/unconsolidated bottom (AB) 2.Bog(BO) 3.Fen (FE)	4.Emergent wetland (EW) 5.Shrub wetland (SB) 6.Forested wetland (FW)
Wetland Class: 1.Open water 2.Deep marsh 3.Shallow marsh 4.Seasonally flooded flats	5.Meadow 6.Shrub swamp 7.Wooded swamp 8.Bog
Wetland Subclass: 1. Vegetated open water 2. Non-vegetated OW 3. Floating leaved OW 4. Rooted floating leaved OW 5. Dead woody OW 6. Vegetated deep marsh 7. Non-vegetated DM 8. Dead woody DM 9. Sub-shrub DM 10. Floating leaved DM 11. Rooted floating leaved DM 12. Robust DM 13. Narrow-leaved DM 14. Broad-leaved DM 15. Dead woody shallow marsh 16. Robust SM 17. Narrow leaved SM 18. Broad leaved SM	19.Floating leaved SM 20.Rooted floating leaved SM 21.Non-vegetated SM 22.Emergent seasonally flooded flats 23.Shrubby SFF 24.Grazed meadow 25.Ungrazed M 26.Sedge M 27.Sapling shrub swamp 28.Bushy SS 29.Compact SS 30.Low sparse SS 31.Deciduous wooded swamp 32.Evergreen WS 33.Wooded bog 34.Shrubby B 35.Open B
Water Regime Indicator: 1.Permanently flooded 2.Saturated	3.Seasonally flooded
Water Depth: 1.0-5 cm 2.5-20 cm 3.20-50 cm Note: 1 Canadian Wetland Classification System (2nd	4.50-100 cm
nure i Canadian Welland Diassification System (2nd	I Hallon)

Impounded Wetl. 1'ype:



Beaver Pond Man-made Impoundment	3.Ducks Unlimited Impoundment 4. None of the above
Percent Vegetation Cover: 1.> 95%	5.26-75% in patches 6. 5-25% in peripheral band 7. 5-25% in patches 8.< 5%
Wetland Site: 1.Lacustrine 2.Riverine 3.Palustrine	4.Isolated 5.Deltaic
Vegetation Types (%): 1.Deciduous trees 2.Coniferous trees 3.Dead trees 4.Tall shrubs 5.Low shrubs 6.Dead shrubs 7.Herbs 8.Mosses 9.Narrow-leaved emergents 10.Broad-leaved emergents 11.Robust emergents 12.Free-floating plants 13.Floating plants (rooted) 14.Submerged plants 15. Other	
Interspersion: 1.Minimal 2.Low 3.Media Conductivity: N/A Alkalinity: N/A	pH: N/A
Hydrological Classification: 1.Surface water depression 2.Ground water depression	3.Surface water slope
	5: www. collects at bottom near road and flowsout Knowed culved
Adjacent Wildlife habitat (%):	

1.Salt marsh 2.Forest 3.Dykelands 4.Mudflats	5.Beach 6.River 7. Other
Description:	
Surrounding Land Use %: 1 Agriculture 2.Forestry	7.Residential 8.Waste Disposal 9.Scientific Research 10.Trapping 11.Education 12.Seasonal resident
Description: DOTROAD HW 3	316 at south side
Disturbance: 1.Low 2.Moderate 3.High	
Roads and/or tracks: 1. Private road adjacent 2. DOT road adjacent 3. Private road within	4.DOT road within
Description: 14w 316	
Existing Uses of Wetlands: 1. Economic use (e.g. farming) 2. Recreational activities 3. Aesthetics	4.Education & public awareness 5. None evident
Potential Threats: development	
Special Features: 1.Rare wetland type 2.Rare animal or plant species 3.Habitat of rare species	4. Nesting site for colonial water birds 5. Migration stop-over site 6. None evident
Description:	
Notes:	

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WL20 milergrown Swittend middles with scattered tres Come Hw316 not to scale Wettend Slope -5 degree

1

Freshwater Wetland Data Sheet:

Wetland Atlas Number: __WA Investigator(s): Scott Burley/_/ GIS Map / Stand No.: Weather: ________ Wetland Form 1:: OPen Treed For Topographic Sheet: // / Wetland size: 0.10 ha Aerial Photo Number: 2008 300 - 141 Associated Watercourse: ncone Wetland Type: 1.Aquatic bed/unconsolidated bottom (AB) 4.Emergent wetland (EW) _____ 2.Bog(BO) 5.Shrub wetland (SB) _ 3.Fen (FE) 1 6.Forested wetland (FW) _____ Wetland Class: 1.Open water Meadow 2.Deep marsh 6.Shrub swamp _ 3.Shallow marsh 7. Wooded swamp 4. Seasonally flooded flats 8.Bog ____ Wetland Subclass: 1.Vegetated open water ____ 19.Floating leaved SM 2.Non-vegetated OW 20.Rooted floating leaved SM 3.Floating leaved OW 21.Non-vegetated SM 4.Rooted floating leaved OW ___ 22.Emergent seasonally flooded flats _____ 5.Dead woody OW ____ 23.Shrubby SFF ____ 6.Vegetated deep marsh _____ 24.Grazed meadow 7.Non-vegetated DM _____ 25.Ungrazed M ____ 8.Dead woody DM _____ 26.Sedge M ___ 9.Sub-shrub DM 27.Sapling shrub swamp ______ 10.Floating leaved DM _ 28.Bushy SS 11.Rooted floating leaved DM ____ 29.Compact SS 12.Robust DM 30.Low sparse SS 13.Narrow-leaved DM _ 31.Deciduous wooded swamp 14.Broad-leaved DM _____ 15.Dead woody shallow marsh ____ 33.Wooded bog _____ 34.Shrubby B _____ 16.Robust SM ____ 17.Narrow leaved SM __ 35.Open B _____ 18.Broad leaved SM ___ Water Regime Indicator: 1.Permanently flooded ____ 3.Seasonally flooded _____ 2.Saturated <u>√/</u> Water Depth: 1.0-5 cm 4.50-100 cm 2.5-20 cm 5.>100 cm ____ 3.20-50 cm ____

Note: 1. Canadian Wetland Classification System (2nd Edition)

Impounded Wetland Type:

1.Beaver Pond 2.Man-made Impoundment	Ducks Unlimited Impoundment None of the above
Percent Vegetation Cover: 1.> 95%	5.26-75% in patches 6. 5-25% in peripheral band 7. 5-25% in patches 8.< 5% 4.Isolated 5.Deltaic
Vegetation Types (%): 1.Deciduous trees 2.Coniferous trees 3.Dead trees 4.Tall shrubs 5.Low shrubs 6.Dead shrubs	-
7.Herbs 2 (~5) 8.Mosses 95 9.Narrow-leaved emergents 10.Broad-leaved emergents 11.Robust emergents 12.Free-floating plants 13.Floating plants (rooted) 14.Submerged plants 15. Other	wens, Carll , green
Interspersion: 1.Minimal 2.Low 3.Mediu	m 4.High
Conductivity: N/A Alkalinity: N/A	pH: N/A
Hydrological Classification: 1.Surface water depression 2.Ground water depression	3.Surface water slope 4.Ground water slope
Inlets/Outlets/water bodies: Wildlife: (Observation/Signs/Reports)	
bird call	

Adjacent Wildlife habitat (%):

1.Salt marsh 2.Forest 100 % 3.Dykelands	5.Beach 6.River 7. Other
4.Mudflats	7. Other
Description:	f _i
Surrounding Land Use %: 1 Agriculture 2. Forestry	7.Residential 8.Waste Disposal 9.Scientific Research 10.Trapping 11.Education 12.Seasonal resident
Description: regneratif clear	uts (several decade)
Disturbance: 1.Low 2.Moderate 1 3.High	
Description:	
Roads and/or tracks: 1.Private road adjacent 2.DOT road adjacent 3.Private road within	4.DOT road within 5.Vehicle tracks 6.Other
Description: Old Shiddertra R	s (2 sets) Her Branglister
Existing Uses of Wetlands: 1.Economic use (e.g. farming) 2.Recreational activities 3.Aesthetics	4.Education & public awareness 5. None evident
Potential Threats: developed	Coostay
Special Features: 1.Rare wetland type 2.Rare animal or plant species 3.Habitat of rare species	4. Nesting site for colonial water birds 5. Migration stop-over site 6. None evident
Description:	
Notes:	

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Freshwater Wetland Data Sheet:

Date: W/ Sept 76, 7017 Investigator(s): Scott Burley/ Weather: Summy Topographic Sheet: 11 F/H Aerial Photo Number: 2008 310-141	Wetland Atlas Number: AA GIS Map / Stand No.: AA Wetland Form ¹ :: Shock Rocy Wetland size: O, / ha Associated Watercourse: MacMod S
Wetland Type: 1.Aquatic bed/unconsolidated bottom (AB) 2.Bog(BO) 3.Fen (FE)	4.Emergent wetland (EW) 5.Shrub wetland (SB) 6.Forested wetland (FW)
Wetland Class: 1.Open water 2.Deep marsh 3.Shallow marsh 4.Seasonally flooded flats	5.Meadow 6.Shrub swamp 7.Wooded swamp 8.Bog
Wetland Subclass: 1.Vegetated open water 2.Non-vegetated OW 3.Floating leaved OW 4.Rooted floating leaved OW 5.Dead woody OW 6.Vegetated deep marsh 7.Non-vegetated DM 8.Dead woody DM 9.Sub-shrub DM 10.Floating leaved DM 11.Rooted floating leaved DM 12.Robust DM 13.Narrow-leaved DM 14.Broad-leaved DM 15.Dead woody shallow marsh 16.Robust SM 17.Narrow leaved SM 18.Broad leaved SM	19.Floating leaved SM 20.Rooted floating leaved SM 21.Non-vegetated SM 22.Emergent seasonally flooded flats 23.Shrubby SFF 24.Grazed meadow 25.Ungrazed M 26.Sedge M 27.Sapling shrub swamp 28.Bushy SS 29.Compact SS 30.Low sparse SS 30.Low sparse SS 31.Deciduous wooded swamp 32.Evergreen WS 33.Wooded bog 34.Shrubby B 35.Open B
Water Regime Indicator: 1.Permanently flooded 2.Saturated	3.Seasonally flooded
Water Depth: 1.0-5 cm 2.5-20 cm 3.20-50 cm	4.50-100 cm 5.>100 cm

Note: 1. Canadian Wetland Classification System (2nd Edition)

Impounded Wetland Type:

1.Beaver Pond 2.Man-made Impoundment	3.Ducks Unlimited Impoundment 4. None of the above
Percent Vegetation Cover: 1.> 95%/_ 2.76-95% in peripheral band 3.76-96% in patches 4.26-75% in peripheral band Wetland Site: 1.Lacustrine 2.Riverine/ 3.Palustrine	5.26-75% in patches 6. 5-25% in peripheral band 7. 5-25% in patches 8.< 5% 4.Isolated 5.Deltaic
Vegetation Types (%): 1.Deciduous trees 2 / 2.Coniferous trees 2 / 3.Dead trees 4.Tall shrubs 4.Tall shrubs 1 / 5.Low shrubs 7 / 6.Dead shrubs 2 / 7.Herbs 5 - 1 / 8.Mosses 9 / 9.Narrow-leaved emergents 1 / 10.Broad-leaved emergents 0 11.Robust emergents 0 12.Free-floating plants 0 13.Floating plants (rooted) 0 14.Submerged plants 0 15. Other	
Interspersion: 1.Minimal 2.Low 3.Medic	um 4.High
Conductivity: N/A Alkalinity: N/A	<u>pH</u> : N/A
Hydrological Classification: 1.Surface water depression 2.Ground water depression Inlets/Outlets/water bodies:	3.Surface water slope 4.Ground water slope
Wildlife: (Observation/Signs/Reports)	

Adjacent Wildlife habitat (%):

1.Salt marsh 2.Forest 1 3.Dykelands 4.Mudflats 1	5.Beach 6.River 7. OtherRow
Description:	
Surrounding Land Use %: 1 Agriculture 2.Forestrypomble 3 Recreation 4.Industrial 5.Urban development 6.Transportation	7.Residential 8.Waste Disposal 9.Scientific Research 10.Trapping 11.Education 12.Seasonal resident
Description: no forty evident i	industrial; pipeline ROW
Disturbance: 1.Low 2.Moderate 3.High	. · · · · · · · · · · · · · · · · · · ·
Description:	
Roads and/or tracks: 1.Private road adjacent 2.DOT road adjacent 3.Private road within	4.DOT road within 5.Vehicle tracks 6.Other
Description:	
Existing Uses of Wetlands: 1. Economic use (e.g. farming) 2. Recreational activities 3. Aesthetics Potential Threats: development	4.Education & public awareness 5. None evident
Special Features: 1.Rare wetland type 2.Rare animal or plant species 3.Habitat of rare species	4. Nesting site for colonial water birds 5. Migration stop-over site 6. None evident
Description:	
Notes: I dragonfly! track of wetland may have been one side)	en submitted to pripeline developmed

817M notto 5 Nivelui Row XX pour nedo no slope Compact shub bog thest shows bog freed 15hmb bog

WE14

Freshwater Wetland Data Sheet: 42 &

Date: Spf. 25//2 Investigator(s): Scott Burley/ M. Stysen Weather: Scott Burley/ M. Stysen Topographic Sheet: 1(F/H Aerial Photo Number: 2003/0-(4/	Wetland Atlas Number: A/A GIS Map / Stand No.: A/A Wetland Form¹:: Show Swamp/Fen Wetland size: O. 67 ha Associated Watercourse: (MALM-EL Styram)
Wetland Type: 1.Aquatic bed/unconsolidated bottom (AB) 2.Bog(BO) 3.Fen (FE)	4.Emergent wetland (EW) 5.Shrub wetland (SB) 6.Forested wetland (FW)
Wetland Class: 1.Open water 2.Deep marsh 3.Shallow marsh 4.Seasonally flooded flats	5.Meadow 6.Shrub swamp 7.Wooded swamp 8.Bog
Wetland Subclass: 1. Vegetated open water 2. Non-vegetated OW 3. Floating leaved OW 4. Rooted floating leaved OW 5. Dead woody OW 6. Vegetated deep marsh 7. Non-vegetated DM 8. Dead woody DM 9. Sub-shrub DM 10. Floating leaved DM 11. Rooted floating leaved DM 12. Robust DM 13. Narrow-leaved DM 14. Broad-leaved DM 15. Dead woody shallow marsh 16. Robust SM 17. Narrow leaved SM 18. Broad leaved SM	19.Floating leaved SM 20.Rooted floating leaved SM 21.Non-vegetated SM 22.Emergent seasonally flooded flats 23.Shrubby SFFX 24.Grazed meadow 25.Ungrazed M 26.Sedge M 27.Sapling shrub swamp 28.Bushy SS 29.Compact SS 30.Low sparse SSX 31.Deciduous wooded swamp 32.Evergreen WS 33.Wooded bog 34.Shrubby B 35.Open B
Water Regime Indicator: 1.Permanently flooded 2.Saturated	3.Seasonally flooded $_\dot{X}$
Water Depth: 1.0-5 cmX_ 2.5-20 cmX_ 3.20-50 cm	4.50-100 cm 5.>100 cm

Note: 1. Canadian Wetland Classification System (2nd Edition)

Impounded Wetland Type:

1.Beaver Pond 2.Man-made Impoundment	3.Ducks Unlimited Impoundment 4. None of the above
Percent Vegetation Cover: 1.> 95%X 2.76-95% in peripheral band 3.76-96% in patches 4.26-75% in peripheral band	5.26-75% in patches 6. 5-25% in peripheral band 7. 5-25% in patches 8.< 5%
Wetland Site: 1.Lacustrine 2.Riverine 3.Palustrine	4.Isolated 5.Deltaic
Vegetation Types (%): 1. Deciduous trees 270 - Roof Mark hist 2. Coniferous trees 550 - Picra glava Abo 3. Dead trees 290 4. Tall shrubs - Alaus income 2000 5. Low shrubs - The Soldage patholilla Rub 6. Dead shrubs 7. Herbs 150 - Soldage patholilla Rub 8. Mosses - Sold - Soldage patholilla Rub 9. Narrow-leaved emergents - (2000 - 50:005) 10. Broad-leaved emergents - 1000 - Tytha The 11. Robust emergents 12. Free-floating plants 13. Floating plants (rooted) 14. Submerged plants 15. Other -	incus, Calamagnestis
Interspersion: 1.Minimal 2.LowX 3.Mediu	um 4.High
Conductivity: N/A Alkalinity: N/A	pH: N/A
Hydrological Classification: 1.Surface water depression 2.Ground water depression	3.Surface water slope
Inlets/Outlets/water bodies: Mony Small Strams Resuin Hting, Wildlife: (Observation/Signs/Reports)	fromtest, luiger Steam Plening Houses 2

1.Salt marsh 2.Forest 400 3.Dykelands 4.Mudflats	5. Beach to head 6. River
Description:	
Surrounding Land Use %: 1 Agriculture 2.Forestry 2090 3 Recreation 4.Industrial 5.Urban development 6.Transportation	7.Residential 8.Waste Disposal 9.Scientific Research 10.Trapping 11.Education 12.Seasonal resident
Description:	
<u>Disturbance:</u> 1.Low <u>X</u> 2.Moderate 3.High	
Description:	
Roads and/or tracks: 1.Private road adjacent 2.DOT road adjacent 3.Private road within	4.DOT road within 5.Vehicle tracks 6.Other
Description:	
Existing Uses of Wetlands: 1.Economic use (e.g. farming) 2.Recreational activities 3.Aesthetics	4.Education & public awareness 5. None evident $\underline{\mathcal{X}}$
Potential Threats:	
Special Features: 1.Rare wetland type 2.Rare animal or plant species 3.Habitat of rare species	4. Nesting site for colonial water birds 5. Migration stop-over site 6. None evident
Description:	

Notes:

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	, mod a flood
Freshwater Wetla	and Data Sheet: 4/4/7 than a
Date: Fy 27- Sept 2017 Investigator(s): Scott Burley/ Warm Suff Weather:	Wetland Atlas Number: ArA Swamp GIS Map / Stand No.: NA Wetland Form :: Parin Sur mp Wetland size: Cros ha Associated Watercourse: Mandal Strain + Sur Mandal Strain +
1.Aquatic bed/unconsolidated bottom (AB) 2.Bog(BO) 3.Fen (FE)	4. Emergent wetland (EW) 5. Shrub wetland (SB) 6. Forested wetland (FW) More a flood flood flood
Wetland Class: 1.Open water 2.Deep marsh 3.Shallow marsh 4.Seasonally flooded flats	5.Meadow
Wetland Subclass: 1. Vegetated open water 2. Non-vegetated OW 3. Floating leaved OW 4. Rooted floating leaved OW 5. Dead woody OW 6. Vegetated deep marsh 7. Non-vegetated DM 8. Dead woody DM 9. Sub-shrub DM 10. Floating leaved DM 11. Rooted floating leaved DM 12. Robust DM 13. Narrow-leaved DM 14. Broad-leaved DM 15. Dead woody shallow marsh 16. Robust SM 17. Narrow leaved SM 18. Broad leaved SM	19.Floating leaved SM
Water Regime Indicator: 1.Permanently flooded 2.Saturated	3.Seasonally flooded _/_
Water Depth: 1.0-5 cm 2.5-20 cm 3.20-50 cm	4.50-100 cm 5.>100 cm
Note: 1. Canadian Wetland Classification System (2nd	Edition)

Impounded Wetland Type:

Beaver Pond Man-made Impoundment	3. Ducks Unlimited Impoundment 4. None of the above 1. The state of the above 1. The state of
Percent Vegetation Cover: 1.> 95% 2.76-95% in peripheral band 3.76-96% in patches 4.26-75% in peripheral band	5.26-75% in patches 6. 5-25% in peripheral band 7. 5-25% in patches 8.< 5%
Wetland Site: 1.Lacustrine 2.Riverine 3.Palustrine	4.Isolated 5.Deltaic
Vegetation Types (%): 1.Deciduous trees 2.Coniferous trees 3.Dead trees 4.Tall shrubs 5.Low shrubs 6.Dead shrubs 7.Herbs 8.Mosses 9.Narrow-leaved emergents 11.Robust emergents 12.Free-floating plants 13.Floating plants 15. Other Interspersion: 1.Minimal 2.Low 3.Media	
Conductivity: N/A Alkalinity: N/A	pH: N/A
Hydrological Classification: 1.Surface water depression 2.Ground water depression	3.Surface water slope
Inlets/Outlets/water bodies: Wildlife: (Observation/Signs/Reports)	5. i to Luke-bidicational

Adjacent Wildlife habitat (%):

1.Salt marsh	5.Beach 6.River 7. Other
Description:	
Surrounding Land Use %: 1 Agriculture 2. Forestry Nom Su not lived & 80% 3 Recreation 4. Industrial 5. Urban development 6. Transportation	7.Residential 8.Waste Disposal 9.Scientific Research 10.Trapping 11.Education 12.Seasonal resident
Description:	
Disturbance: 1.Low 2.Moderate 3.High	
Description:	
Roads and/or tracks: 1.Private road adjacent 2.DOT road adjacent 3.Private road within	4.DOT road within 5.Vehicle tracks 6.Other
Description:	
Existing Uses of Wetlands: 1.Economic use (e.g. farming) 2.Recreational activities 3.Aesthetics	4.Education & public awareness 5. None evident
Potential Threats: Development	
Special Features: 1.Rare wetland type 2.Rare animal or plant species 3.Habitat of rare species	4. Nesting site for colonial water birds 5. Migration stop-over site 6. None evident
Description:	

Notes:

/ Sheam Conifron slope Weffull B A Slope (We on slope)

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Freshwater Wetland Data Sheet: WL//

Date:	Wetland Atlas Number: GIS Map / Stand No.: Wetland Form 1:: Wetland size: O 44 ha Associated Watercourse:
Wetland Type: 1.Aquatic bed/unconsolidated bottom (AB) 2.Bog(BO)X 3.Fen (FE) Wetland Class:	4.Emergent wetland (EW) 5.Shrub wetland (SB) 6.Forested wetland (FW)
1.Open water 2.Deep marsh 3.Shallow marsh 4.Seasonally flooded flats	5.Meadow 6.Shrub swamp 7.Wooded swamp 8.Bog X
Wetland Subclass: 1.Vegetated open water 2.Non-vegetated OW 3.Floating leaved OW 4.Rooted floating leaved OW 5.Dead woody OW 6.Vegetated deep marsh 7.Non-vegetated DM 8.Dead woody DM 9.Sub-shrub DM 10.Floating leaved DM 11.Rooted floating leaved DM 12.Robust DM 13.Narrow-leaved DM 14.Broad-leaved DM 15.Dead woody shallow marsh 16.Robust SM 17.Narrow leaved SM 18.Broad leaved SM	19.Floating leaved SM 20.Rooted floating leaved SM 21.Non-vegetated SM 22.Emergent seasonally flooded flats 23.Shrubby SFF 24.Grazed meadow 25.Ungrazed M 26.Sedge M 27.Sapling shrub swamp 28.Bushy SS 29.Compact SS 30.Low sparse SS 31.Deciduous wooded swamp 32.Evergreen WS 33.Wooded bogX 34.Shrubby BX 35.Open BX
Water Regime Indicator: 1.Permanently flooded 2.Saturated _X	3.Seasonally flooded
Water Depth: 1.0-5 cm 2.5-20 cm 3 20-50 cm	4.50-100 cm 5.>100 cm

Note: 1. Canadian Wetland Classification System (2nd Edition)

Impounded Wetland Type: 1.Beaver Pond	3.Ducks Unlimited Impoundment
2.Man-made Impoundment	4. None of the above 🔀
Percent Vegetation Cover: 1.> 95% 2.76-95% in peripheral band 3.76-96% in patches 4.26-75% in peripheral band	5.26-75% in patches 6. 5-25% in peripheral band 7. 5-25% in patches 8.< 5%
Wetland Site: 1.Lacustrine 2.Riverine 3.Palustrine	4.Isolated 5.Deltaic
Vegetation Types (%): 1.Deciduous trees 550 2.Coniferous trees 3550 3.Dead trees (CAO) 4.Tall shrubs 3050 5.Low shrubs 2050 6.Dead shrubs 7.Herbs 3000 8.Mosses (CO) 9.Narrow-leaved emergents (500) 10.Broad-leaved emergents 11.Robust emergents 12.Free-floating plants 13.Floating plants (rooted) 14.Submerged plants 15. Other	
Interspersion: 1.Minimal 2.LowX 3.Mediu	ım 4.High
Conductivity: N/A Alkalinity: N/A	<u>pH</u> : N/A
Hydrological Classification: 1.Surface water depression 2.Ground water depression	3.Surface water slope 4.Ground water slope
Inlets/Outlets/water bodies:	
Wildlife: (Observation/Signs/Reports)	i
Passerins; deer tracks,	Snake (Galter)

Adjacent Wildlife habitat (%): 1.Salt marsh 2.Forest /C/2 3.Dykelands 4.Mudflats	5.Beach 6.River 7. Other
Description:	
Surrounding Land Use %: 1 Agriculture 2.Forestry 50 3 Recreation 4.Industrial 5.Urban development 6.Transportation Description:	7.Residential 8.Waste Disposal 9.Scientific Research 10.Trapping 11.Education 12.Seasonal resident
Disturbance: 1.Low 2.Moderate 3.High	
	WII + Servereding wetfund
Roads and/or tracks: 1.Private road adjacent 2.DOT road adjacent 3.Private road within	4.DOT road within 5.Vehicle tracks 6.Other
Description: Nowl	
Existing Uses of Wetlands: 1.Economic use (e.g. farming) 2.Recreational activities 3.Aesthetics	4.Education & public awareness 5. None evident_/
Potential Threats: Fredustrial dev	elepnent
Special Features: 1.Rare wetland type 2.Rare animal or plant species 3.Habitat of rare species	4.Nesting site for colonial water birds 5.Migration stop-over site 6. None evident
Description:	
Notes:	

Freshwater Wetland Data Sheet: WL/2

Date: June 19/13 Investigator(s): Scott Burley/ Lead Name Ke Weather: Sch Topographic Sheet: // F/H Aerial Photo Number: 2008 3100 - 14/	Wetland Atlas Number: NA GIS Map / Stand No.: NA Wetland Form ¹ :: Troud Suramp Wetland size: Li7 ha Associated Watercourse: Vanamed Stram
Wetland Type: 1.Aquatic bed/unconsolidated bottom (AB) 2.Bog(BO) 3.Fen (FE)	4.Emergent wetland (EW) 5.Shrub wetland (SB) _X 6.Forested wetland (FW) _X
Wetland Class: 1.Open water 2.Deep marsh 3.Shallow marsh 4.Seasonally flooded flats	5.Meadow 6.Shrub swampX_ 7.Wooded swamp _X_ 8.Bog
Wetland Subclass: 1.Vegetated open water 2.Non-vegetated OW 3.Floating leaved OW 4.Rooted floating leaved OW 5.Dead woody OW 6.Vegetated deep marsh 7.Non-vegetated DM 8.Dead woody DM 9.Sub-shrub DM 10.Floating leaved DM 11.Rooted floating leaved DM 12.Robust DM 13.Narrow-leaved DM 14.Broad-leaved DM 15.Dead woody shallow marsh 16.Robust SM 17.Narrow leaved SM 18.Broad leaved SM	19.Floating leaved SM 20.Rooted floating leaved SM 21.Non-vegetated SM 22.Emergent seasonally flooded flats 23.Shrubby SFF 24.Grazed meadow 25.Ungrazed M 26.Sedge M 27.Sapling shrub swamp 28.Bushy SS 29.Compact SS 30.Low sparse SS 31.Deciduous wooded swamp 32.Evergreen WS 33.Wooded bog 34.Shrubby B 35.Open B
Water Regime Indicator: 1.Permanently flooded 2.Saturated	3.Seasonally flooded
Water Depth: 1.0-5 cm x - in withwell 2.5-20 cm x in Glithm 3.20-50 cm	4.50-100 cm 5.>100 cm

Note: 1. Canadian Wetland Classification System (2nd Edition)

Impounded Wetland Type:

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1.Beaver Pond 2.Man-made Impoundment	3.Ducks Unlimited Impoundment 4. None of the above
2.76-95% in peripheral band 3.76-96% in patches 4.26-75% in peripheral band	5.26-75% in patches 6. 5-25% in peripheral band 7. 5-25% in patches 8.< 5%
Wetland Site: 1.Lacustrine 2.Riverine <u>K</u> 3.Palustrine	4.Isolated 5.Deltaic
Vegetation Types (%): 1. Deciduous trees 2. Coniferous trees 3. Dead trees 4. Tall shrubs 6. Dead shrubs 7. Herbs 7. Herbs 9. Narrow-leaved emergents 10. Broad-leaved emergents 11. Robust emergents 12. Free-floating plants 13. Floating plants 15. Other	- - - - - - - -
Interspersion: 1.Minimal 2.Low 3.Mediu	
Conductivity: N/A Alkalinity: N/A	<u>pH</u> : N/A
Hydrological Classification: 1.Surface water depression 2.Ground water depression	3.Surface water slope 4.Ground water slope
Inlets/Outlets/water bodies: Garlan Placing Ligt > Ear	sit
Wildlife: (Observation/Signs/Reports) Song hise/4 IXLI to well 5	
IXITI OV WENT	

Adjacent Wildlife habitat (%):

1.Salt marsh	5.Beach
2.Forest	6.River
3.Dykelands	7. Other ×
4.Mudflats	***************************************
Description: woter legentsuting	nited Feelst
Surrounding Land Use %: 1 Agriculture 2.Forestry / (OU) 3 Recreation 4.Industrial 5.Urban development 6.Transportation	7.Residential 8.Waste Disposal 9.Scientific Research 10.Trapping 11.Education 12.Seasonal resident
Description:	
<u>Disturbance:</u> 1.Low 2.Moderate χ 3.High	
Description:	
Roads and/or tracks:	
1.Private road adjacent	4.DOT road within
2.DOT road adjacent	5.Vehicle tracks
3.Private road within	6.Other
Description:	
Existing Uses of Wetlands:	
1.Economic use (e.g. farming)	4.Education & public awareness
2.Recreational activities	5. None evident ∠
3.Aesthetics	
Potential Threats:	
Special Features:	
1.Rare wetland type	4.Nesting site for colonial water birds
2.Rare animal or plant species	5.Migration stop-over site
3.Habitat of rare species	6. None evident
Description:	
Notes:	

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Freshwater Wetland Data Sheet: しん/ろ

Date:	Wetland Atlas Number: NA GIS Map / Stand No.: NA Wetland Form ¹ :: Riperium Keeg Wetland size: Color ha Associated Watercourse: Uncerned Sheeg
Wetland Type: 1.Aquatic bed/unconsolidated bottom (AB) 2.Bog(BO) _K_ 3.Fen (FE)	4.Emergent wetland (EW) 5.Shrub wetland (SB) 6.Forested wetland (FW)
Wetland Class: 1.Open water 2.Deep marsh 3.Shallow marsh 4.Seasonally flooded flats	5.Meadow 6.Shrub swamp 7.Wooded swamp 8.Bog _X
Wetland Subclass: 1.Vegetated open water 2.Non-vegetated OW 3.Floating leaved OW 4.Rooted floating leaved OW 5.Dead woody OW 6.Vegetated deep marsh 7.Non-vegetated DM 8.Dead woody DM 9.Sub-shrub DM 10.Floating leaved DM 11.Rooted floating leaved DM 12.Robust DM 13.Narrow-leaved DM 14.Broad-leaved DM 15.Dead woody shallow marsh 16.Robust SM 17.Narrow leaved SM 18.Broad leaved SM	19.Floating leaved SM 20.Rooted floating leaved SM 21.Non-vegetated SM 22.Emergent seasonally flooded flats 23.Shrubby SFF 24.Grazed meadow 25.Ungrazed M 26.Sedge M 27.Sapling shrub swamp 28.Bushy SS 29.Compact SS 30.Low sparse SS 31.Deciduous wooded swamp 32.Evergreen WS 33.Wooded bog 34.Shrubby B 35.Open B
Water Regime Indicator: 1.Permanently flooded 2.SaturatedX'	3.Seasonally flooded
Water Depth: 1.0-5 cm 2 2.5-20 cm 1 5 ke km 3.20-50 cm	4.50-100 cm 5.>100 cm

Note: 1. Canadian Wetland Classification System (2nd Edition)

Impounded Wetland Type:	
1.Beaver Pond	3.Ducks Unlimited Impoundment
2.Man-made Impoundment	4. None of the above 🖳
Percent Vegetation Cover:	
1.> 95%	5.26-75% in patches
2.76-95% in peripheral band	6. 5-25% in peripheral band
3.76-96% in patches	7. 5-25% in patches
4.26-75% in peripheral band	8.< 5%
4.20 70 70 III poliprioral baria	
Wetland Site:	
1.Lacustrine	4.lsolated
2.Riverine	5.Deltaic
3.Palustrine	
5.1 diustinie	
Vegetation Types (%):	
1.Deciduous trees 550	
2.Coniferous trees 3 ぴァロ	
3.Dead trees Z 20	_
4.Tall shrubs ZOSS	_
5.Low shrubs 2590	_
6.Dead shrubs - 7.Herbs ろぴっぴ	-
	_
8.Mosses /UChan	
9.Narrow-leaved emergents 2550	_
10.Broad-leaved emergents	
11.Robust emergents 2070	****
12.Free-floating plants —	
13.Floating plants (rooted)	
14.Submerged plants —	_
15. Other —	_
. ^	
Interspersion: 1.Minimal 2.Low 3.Mediu	ım 4.High
Conductivity: N/A	<u>pH</u> : N/A
Alkalinity: N/A	
Hydrological Classification:	
1.Surface water depression	3.Surface water slope 🔀
2.Ground water depression	4.Ground water slope
Inlets/Outlets/water bodies:	ŕ
sta lla Halla	11 Frest > West
Stream flowing through we	Froma East
Wildlife: (Observation/Signs/Reports)	
Parferires Nousen flies	

Adjacent Wildlife habitat (%): 1.Salt marsh 2.Forest 3.Dykelands 4.Mudflats	5.Beach 6.River 7. Other
Description:	
Surrounding Land Use %: 1 Agriculture 2.Forestry 3 Recreation 4.Industrial 5.Urban development 6.Transportation Description:	7.Residential 8.Waste Disposal 9.Scientific Research 10.Trapping 11.Education 12.Seasonal resident
Disturbance: 1.Low 2.Moderate 3.High	
Description:	
Roads and/or tracks: 1.Private road adjacent 2.DOT road adjacent 3.Private road within	4.DOT road within 5.Vehicle tracks 6.Other
Description:	
Existing Uses of Wetlands: 1.Economic use (e.g. farming) 2.Recreational activities 3.Aesthetics	4.Education & public awareness 5. None evident
Potential Threats:	
Special Features: 1.Rare wetland type 2.Rare animal or plant species 3.Habitat of rare species	4.Nesting site for colonial water birds 5.Migration stop-over site 6. None evident
Description:	

Notes:



APPENDIX B
Wetland Delineation GPS Waypoints

Appendix D - Wetland Delineation GPS Points

Appendix D - Wetland Delineation GPS Points			
Wetland #	Point	Northing	Easting
	WL1-1	5002597	607443
	WL1-2	5002596	607448
	WL1-3	5002586	607450
	WL1-4	5002581	607454
	WL1-5	5002575	607448
	WL1-7	5002580	607427
	WL1-8	5002580	607414
	WL1-9	5002586	607402
WL1	WL1-10	5002599	607399
	WL1-11	5002602	607397
	WL1-12	5002606	607405
	WL1-13	5002623	607427
	WL1-14	5002624	607437
	WL1-15	5002622	607443
	WL1-16	5002608	607439
	WL1-UP1	5002603	607444
	WL1-WP1	5002595	607441
	WL2-1	5002549	607511
	WL2-2	5002545	607521
	WL2-3	5002542	607529
	WL2-4	5002537	607534
	WL2-6 WL2-8	5002532	607536
		5002514	607531
	WL2-9 WL2-10	5002508	607520
WL2	WL2-10	5002507 5002508	607512 607504
VVLZ	WL2-11	5002508	607487
	WL2-12 WL2-13	5002509	607482
	WL2-14	5002510	607480
	WL2-15	5002539	607482
	WL2-16	5002548	607481
	WL2-17	5002548	607486
	WL2-UP1	5002545	607504
	WL2-WP1	5002543	607504
	WL3-1	5002410	607626
	WL3-2	5002403	607637
	WL3-3	5002399	607641
	WL3-4	5002392	607637
	WL3-5	5002390	607629
	WL3-7	5002388	607622
	WL3-8	5002383	607615
	WL3-9	5002381	607608
WL3	WL3-10	5002377	607580
	WL3-11	5002368	607577
	WL3-13	5002371	607574
	WL3-14	5002373	607553
	WL3-15	5002386	607556
	WL3-17	5002390	607565
	WL3-18	5002397	607573
	WL3-20	5002401	607589
	WL3-21	5002414	607608

	Delineation		
Wetland #	Point	Northing	Easting
WL3	WL3-22	5002410	607618
	WL3-UP1	5002413	607627
	WL3-WP1	5002408	607627
	WL4-1	5002056	607118
	WL4-2	5002073	607103
	WL4-3	5002100	607112
	WL4-4	5002116	607119
	WL4-5	5002114	607130
WL4	WL4-6	5002107	607135
VVL-4	WL4-7	5002104	607140
	WL4-8	5002094	607137
	WL4-10	5002087	607149
	WL4-11	5002078	607143
	WL4-UP1	5002085	607099
	WL4-WP1	5002089	607114
	WL5-1	5001913	607418
	WL5-2	5001919	607419
	WL5-3	5001923	607427
	WL5-4	5001920	607440
	WL5-5	5001913	607441
	WL5-6	5001909	607453
	WL5-7	5001904	607458
	WL5-8	5001895	607443
	WL5-9	5001890	607439
	WL5-10	5001883	607443
	WL5-11	5001871	607450
\A/I 5	WL5-12	5001860	607452
WL5	WL5-13	5001860	607452
	WL5-14	5001846	607448
	WL5-15	5001830	607443
	WL5-16	5001812	607449
	WL5-17	5001806	607445
	WL5-18	5001843	607404
	WL5-19	5001859	607412
	WL5-20	5001872	607414
	WL5-21	5001883	607417
	WL5-22	5001897	607421
	WL5-UP1	5001913	607415
	WL5-WP1	5001908	607422
	WL6-1	5002013	608138
	WL6-2	5002006	608144
	WL6-3	5002008	608154
	WL6-4	5002005	608160
	WL6-5	5001994	608154
	WL6-6	5001996	608148
WL6	WL6-7	5001994	608137
	WL6-8	5001985	608136
	WL6-9	5001988	608130
	WL6-10	5001986	608121
	WL6-11	5001993	608116
	WL6-12	5002004	608112
	WL6-13	5002003	608106

Wetland #	Delineation Point	Northing	Easting
	WL6-14	5002009	608103
	WL6-15	5002013	608106
	WL6-16	5002013	608113
WL6	WL6-17	5002014	608121
	WL6-18	5002017	608128
	WL6-UP1	5002014	608143
	WL6-WP1	5002011	608135
	WL7-1	5002053	608390
	WL7-2	5002053	608399
	WL7-3	5002055	608415
	WL7-5	5002059	608418
	WL7-6	5002058	608425
	WL7-8	5002030	608401
WL7	WL7-9	5002033	608384
	WL7-10	5002037	608374
	WL7-11	5002044	608362
	WL7-12	5002051	608360
	WL7-13	5002054	608370
	WL7-UP1	5002071	608384
	WL7-WP1	5002048	608389
	WL8-1	5001702	607252
	WL8-2	5001689	607255
	WL8-3	5001667	607268
	WL8-4	5001648	607283
	WL8-5	5001640	607300
	WL8-6	5001637	607319
	WL8-7	5001634	607326
	WL8-8	5001640	607330
	WL8-9	5001628	607340
	WL8-10	5001626	607349
	WL8-11	5001636	607344
	WL8-12	5001642	607342
	WL8 -13	5001651	607335
	WL8 -13	5001656	607335
	WL8-14	5001666	607340
	WL8-15	5001670	607344
WL8	WL8-15	5001677	607347
	WL8-16	5001681	607344
	WL8-17	5001686	607341
	WL8-18	5001687	607338
	WL8-18	5001680	607335
	WL8-19	5001676	607328
	WL8-20	5001681	607323
	WL8-21	5001679	607317
	WL8-22	5001674	607316
	WL8-23	5001668	607314
	WL8-24	5001660	607314
	WL8-25	5001645	607312
	WL8-25	5001650	607296
	WL8-26	5001658	607284
	WL8-27	5001680	607269
	WL8-29	5001701	607271
	WL8-30	5001707	607273

Wetland #	Delineation Point	Northing	Easting
	WL8-31	5001712	607275
	WL8-32	5001723	607271
	WL8-33	5001729	607269
	WL8-34	5001744	607265
	WL8-35	5001762	607250
	WL8-36	5001778	607237
	WL8 -37	5001795	607224
	WL8-40	5001834	607193
	WL8-41	5001840	607181
	WL8-41	5001850	607176
WL8	WL8-43	5001874	607166
""	WL8-44	5001874	607160
	WL8-45	5001867	607149
	WL8-47	5001815	607178
	WL8-48	5001804	607196
	WL8-49	5001786	607213
	WL8-50	5001773	607220
	WL8-51	5001745	607240
	WL8-52	5001728	607245
	WL8-53	5001711	607243
	WL8-UP1	5001669	607314
	WL8-WP1	5001668	607318
	WL10-1	5001989	607041
	WL10-2	5001993	607036
	WL10-3	5001984	607030
WL10	WL10-4	5001963	607033
	WL10-5	5001951	607048
	WL10-6	5001969	607050
	WL10-7	5001981	607042
	WL11-WP1	5001772	608129
	WL11-UP1	5001765	608131
	WL11-1	5001769	608130
	WL11-2	5001767	608125
	WL11-3	5001768	608120
	WL11-4	5001768	608113
	WL11-5 WL11-6	5001772 5001772	608109 608102
	WL11-7	5001772	
	WL11-8	5001773	608095 608089
	WL11-9	5001781	608082
	WL11-10	5001785	608078
WL11	WL11-11	5001789	608066
	WL11-12	5001703	608047
	WL11-13	5001795	608041
	WL11-14	5001796	608034
	WL11-15	5001799	608029
	WL11-16	5001803	608025
	WL11-17	5001805	608022
	WL11-18	5001813	608018
	WL11-19	5001818	608018
	WL11-20	5001820	608021
	WL11-21	5001821	608025
	WL11-22	5001820	608027

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Wetland #	Delineation Point	Northing	Easting
	WL11-24	5001823	608039
	WL11-25	5001823	608045
	WL11-26	5001822	608048
	WL11-27	5001824	608050
	WL11-28	5001828	608056
	WL11-29	5001830	608058
	WL11-30	5001831	608063
	WL11-31	5001829	608068
	WL11-32	5001827	608077
	WL11-33	5001821	608084
	WL11-34	5001812	608098
WL11	WL11-35	5001808	608115
	WL11-36	5001806	608125
	WL11-37	5001804	608133
	WL11-38	5001801	608139
	WL11-39	5001797	608144
	WL11-40	5001790	608155
	WL11-41	5001786	608155
	WL11-42	5001785	608150
	WL11-43	5001780	608145
	WL11-44	5001774	608143
	WL11-45	5001771	608139
	WL11-46	5001770	608135
	WL12-WP1	5002104	608268
	WL12-UP1	5002109	608266
	WL12-1	5002106	608268
	WL12-2	5002108	608295
	WL12-3	5002106	608306
	WL12-4	5002107	608314
	WL12-5	5002099	608319
	WL12-6	5002097	608323
	WL12-7	5002088	608315
	WL12-8	5002087	608307
WL12	WL12-9	5002086	608291
	WL12-10	5002091	608283
	WL12-11	5002091	608275
	WL12-12	5002089	608259
	WL12-13	5002091	608229
	WL12-14	5002101	608219
	WL12-15	5002106	608223
	WL12-16	5002108	608239
	WL12-17	5002110	608246
	WL12-18	5002108	608254
	WL12-19	5002108	608259
	WL13-WP1	5002423	607390
	WL13-UP1	5002426	607386
	WL13-1	5002426	607389
	WL13-2	5002428	607395
WL13	WL13-3	5002425	607398
	WL13-4	5002425	607403
	WL13-5	5002423	607416
	WL13-6	5002419	607420
	WL13-7	5002415	607421

Wetland #	Delineation Point	Northing	Easting
	WL13-8	5002413	607424
	WL13-9	5002403	607435
	WL13-10	5002400	607441
	WL13-11	5002390	607449
	WL13-12	5002383	607445
	WL13-13	5002379	607440
	WL13-14	5002374	607430
WL13	WL13-15	5002376	607423
	WL13-16	5002384	607413
	WL13-17	5002389	607413
	WL13-18	5002398	607407
	WL13-19	5002397	607398
	WL13-20	5002394	607395
	WL13-21	5002392	607392
	WL13-22	5002395	607390
	WL13-23	5002401	607389
	WL13-24	5002406	607388
	WL13-25	5002414	607382
	WL13-26	5002421	607378