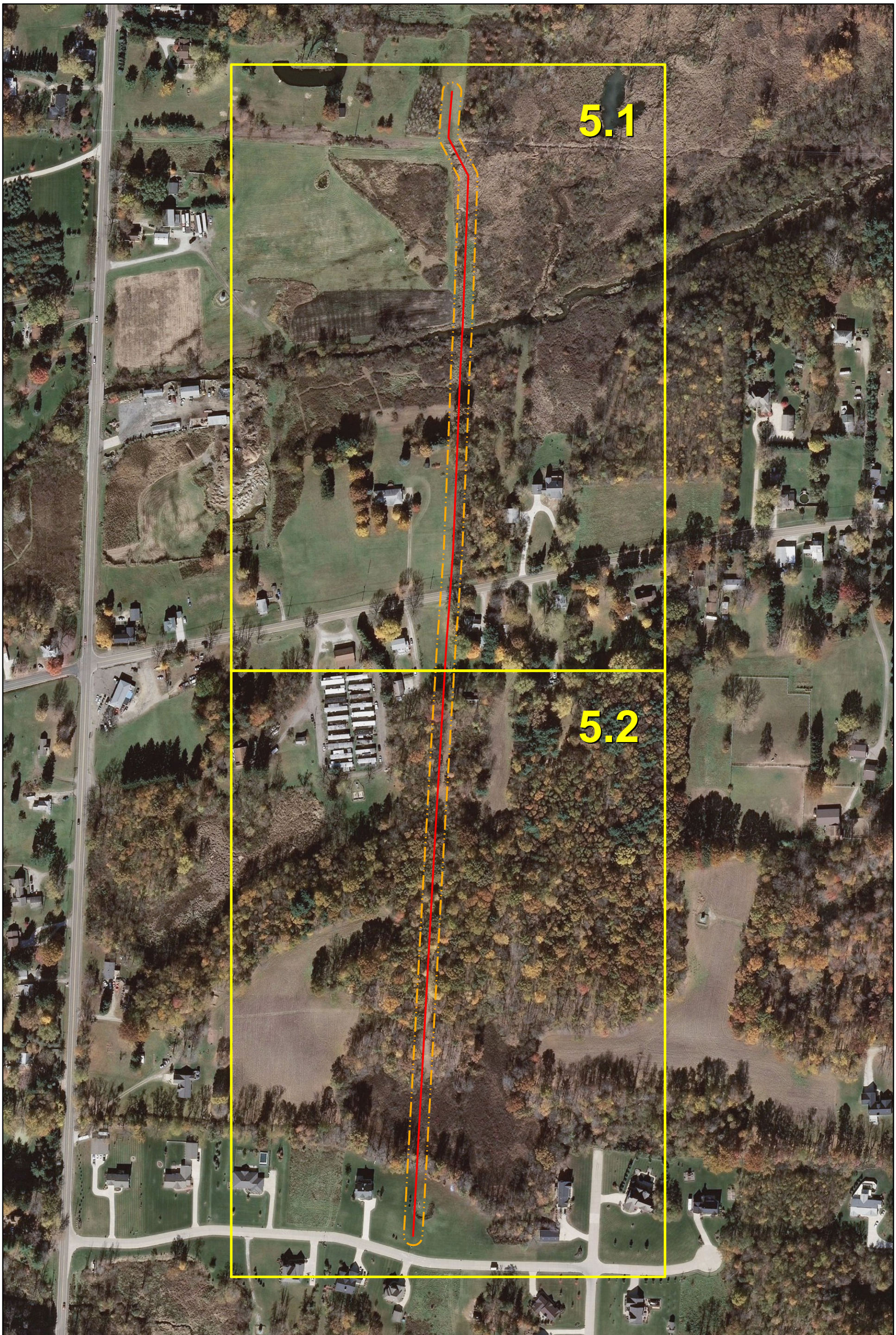

Figure 5. Site Map Overveiw of Wetlands and Other Water Resources. Base Gas Project, Group 5, Line 3301 (From Line 2925).

Pipeline

Study Area

300 150 0 300 Feet

80 40 0 80 Meters

N

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Figure 5.1. Site Map of Wetlands and Other Water Resources.
Base Gas Project, Group 5, Line 3301 (From Line 2925).

PMRT	Stream (Perennial)	Wetland (PEM)	Wetland (Offsite)
PRT	Stream (Offsite)	Wetland (PEMSS)	Study Area
Sample Location	Pipeline	Wetland (PSS)	

100 50 0 100 Feet

30 15 0 30 Meters

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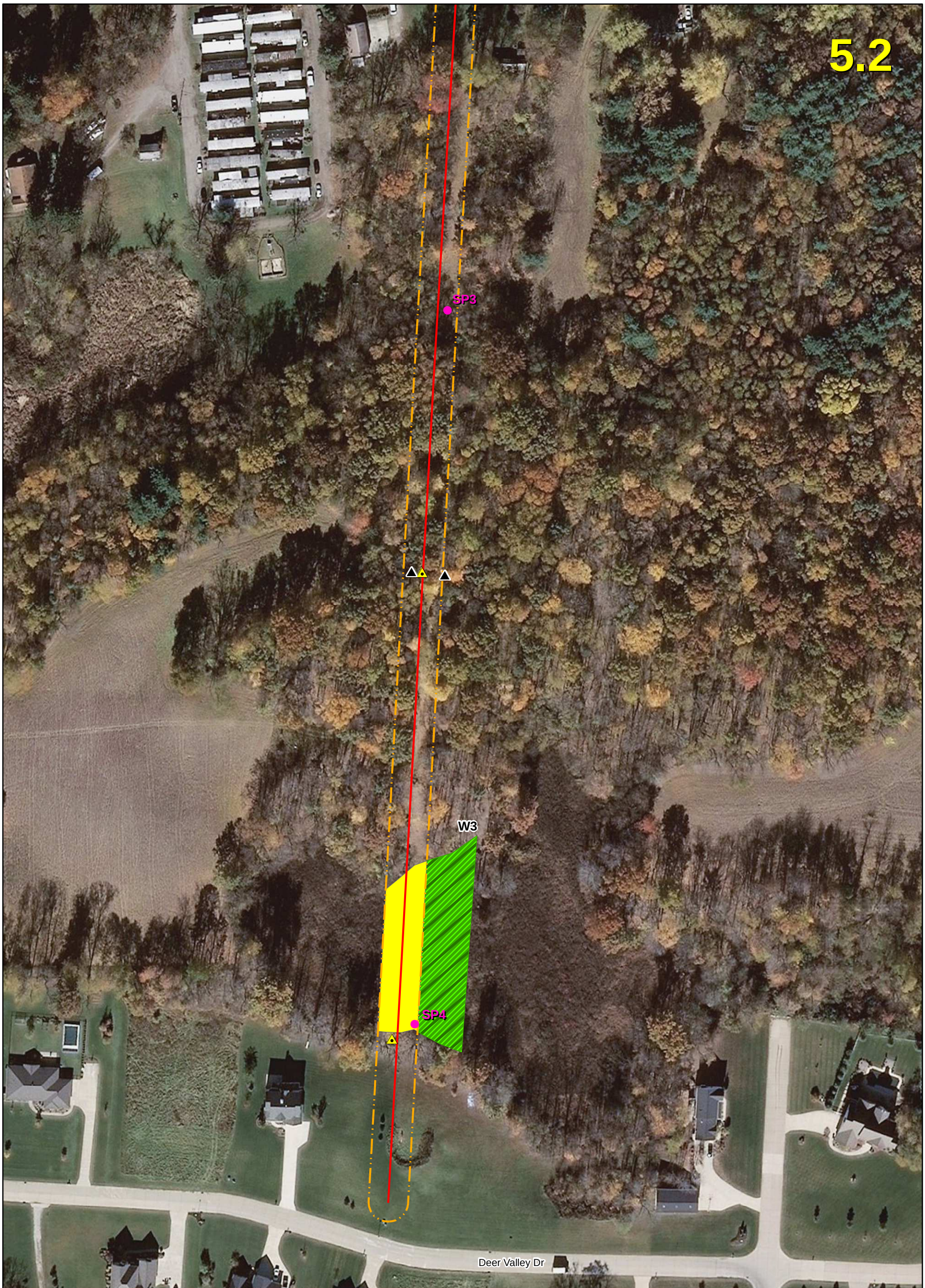

Figure 5.2. Site Map of Wetlands and Other Water Resources.
Base Gas Project, Group 5, Line 3301 (From Line 2925).

PMRT
PRT
Sample Location
Stream (Perennial)
Stream (Offsite)
Pipeline
Wetland (PEM)
Wetland (PEMSS)
Wetland (PSS)
Wetland (Offsite)
Study Area

100 50 0 100 Feet

30 15 0 30 Meters

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Appendix B:

Photographs

Photo 1. Sample Plot 1 within Wetland 1 (PEM).

Photo 2. Sample Plot 2 within Wetland 2 (PEM/PSS).

Photo 3. Sample Plot 3 within forest and right-of-way.

Photo 4. Sample Plot 4 within Wetland 3 (PSS).

Photo 5. Wetland 1.

Photo 6. Wetland 2.

Photo 7. Wetland 3.

Photo 8. Nimisila Creek facing east upstream.

Photo 9. Nimisila Creek facing west downstream.

Photo 10. Nimisila Creek substrate.

Photo 11. Typical potential maternity roost tree.

Photo 12. Typical potential roost tree.

Photo 13. Typical PRT.

Appendix C:

Routine Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Base Gas, Grp 5 Ln 3301 (2529) City/County: Green Summit Sampling Date: 7/24/12

Applicant/Owner: The East Ohio Gas Co. State: OH Sampling Point: 1

Investigator(s): L. Sayre / L. Smith Section, Township, Range: _____

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____

Slope (%): 0 Lat: 40.924132 Long: -81.532002 Datum: WGS 1984

Soil Map Unit Name: Cg NWI classification: PSS1/EM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

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.

Hydrophytic Vegetation Present?	Yes X No _____	Is the Sampled Area within a Wetland? Yes X No _____
Hydric Soil Present?	Yes X No _____	If yes, optional Wetland Site ID: W-1
Wetland Hydrology Present?	Yes X No _____	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X 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 (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)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No _____	Depth (inches): 0-2
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1. Salix interior	20	Y	FACW
2. Cornus racemosa	20	Y	FAC
3.			
4.			
5.			
6.			
7.			
	40 = Total Cover		

Herb Stratum (Plot size: 5)			
1. Acorus calamus	30	Y	OBL
2. Typha angustifolia	25	Y	OBL
3. Leersia virginica	20	Y	OBL
4. Eupatorium perfoliatum	10		FACW
5. Phalaris arundinacea	5		FACW
6. Juncus canadensis	5		FACW
7. Vernonia gigantea	5		FACW
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Rapid Test for Hydrophytic Vegetation

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR2/1	100					sand	
6-12	10YR6/1	80	10YR6/6	20	C	M	Sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (LRR R, MLRA 149B)
___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
___ Loamy Mucky Mineral (F1) (LRR K, L)
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
___ Coast Prairie Redox (A16) (LRR K, L, R)
___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
___ Dark Surface (S7) (LRR K, L)
___ Polyvalue Below Surface (S8) (LRR K, L)
___ Thin Dark Surface (S9) (LRR K, L)
___ Iron-Manganese Masses (F12) (LRR K, L, R)
___ Piedmont Floodplain Soils (F19) (MLRA 149B)
___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Rose Gas, trp. 5, Un3301 (2925) City/County: Green / Summit Sampling Date: 7/24/12

Applicant/Owner: East Ohio Gas Co. State: OH Sampling Point: 2

Investigator(s): Lauren Smith / Lauren Sayre Section, Township, Range: _____

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____

Slope (%): 0 Lat: 40.922805 Long: -81.531892 Datum: WGS 1984

Soil Map Unit Name: Cg NWI classification: PSS1/EM1B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

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.

Hydrophytic Vegetation Present?	Yes X No _____	Is the Sampled Area within a Wetland? Yes X No _____
Hydric Soil Present?	Yes X No _____	If yes, optional Wetland Site ID: W-2
Wetland Hydrology Present?	Yes X No _____	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ___ 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)
- X 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)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Malus sp.	5		—
2.			
3.			
4.			
5.			
6.			
7.			
	5 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1. Viburnum recognitum	10	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	4 = Total Cover		

Herb Stratum (Plot size: 5)			
1. Phalaris arundinacea	5		FACW
2. Impatiens capensis	10		FACW
3. Asclepias incarnata	5		OBL
4. Vernonia gigantea	20	Y	FACW
5. Leersia oryzoides	60	Y	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X Rapid Test for Hydrophytic Vegetation

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					Silt loam	
4-16	10YR 2/1	90	10YR 3/6	10	C	M	Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (LRR R, MLRA 149B)
___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
___ Loamy Mucky Mineral (F1) (LRR K, L)
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
___ Coast Prairie Redox (A16) (LRR K, L, R)
___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
___ Dark Surface (S7) (LRR K, L)
___ Polyvalue Below Surface (S8) (LRR K, L)
___ Thin Dark Surface (S9) (LRR K, L)
___ Iron-Manganese Masses (F12) (LRR K, L, R)
___ Piedmont Floodplain Soils (F19) (MLRA 149B)
___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Base Gas Projects Group 5 LN 3301 (2529) City/County: Green Summit Sampling Date: 7/24/12

Applicant/Owner: The East Ohio Gas Co. State: OH Sampling Point: 3

Investigator(s): L. Sayre / L. Smith Section, Township, Range: _____

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): _____

Slope (%): 5 Lat: 40.919857 Long: -81.532327 Datum: WGS 1984

Soil Map Unit Name: CoC2 NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

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.

Hydrophytic Vegetation Present?	Yes _____ No X	Is the Sampled Area within a Wetland? Yes _____ No X
Hydric Soil Present?	Yes _____ No X	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes _____ No X	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____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 (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)
- ____Crayfish Burrows (C8)
- ____Saturation Visible on Aerial Imagery (C9)
- ____Stunted or Stressed Plants (D1)
- ____Geomorphic Position (D2)
- ____Shallow Aquitard (D3)
- ____Microtopographic Relief (D4)
- ____FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No X	Depth (Inches): _____
Water Table Present?	Yes _____ No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____ No X	Depth (Inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 3

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Prunus serotina	20	Y	FACU
2. Fraxinus americana	10		FACU
3. Sassafras albidum	15	Y	FACU
4.			
5.			
6.			
7.			
	45 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1. Sassafras albidum	20	Y	FACU
2. Rosa multiflora	20	Y	FACU
3. Rhus typhina	15		FACU
4. Rubus allegheniensis	10		FACU
5.			
6.			
7.			
	65 = Total Cover		

Herb Stratum (Plot size: 5)			
1. Parthenocissus quinquefolia	15	Y	FACU
2. Alliaria petiolata	15	Y	FACU
3. Toxicodendron radicans	10		FAC
4. Achillea millefolium	5		FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45 = Total Cover		

Woody Vine Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___Rapid Test for Hydrophytic Vegetation

___Dominance Test is >50%

___Prevalence Index is ≤3.0[1]

___Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

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

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 6/4	90	10YR 4/3	10			Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histosol (A1)
___Histic Epipedon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Sandy Mucky Mineral (S1)
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
___Dark Surface (S7) (LRR R, MLRA 149B)
___Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
___Thin Dark Surface (S9) (LRR R, MLRA 149B)
___Loamy Mucky Mineral (F1) (LRR K, L)
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___2 cm Muck (A10) (LRR K, L, MLRA 149B)
___Coast Prairie Redox (A16) (LRR K, L, R)
___5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
___Dark Surface (S7) (LRR K, L)
___Polyvalue Below Surface (S8) (LRR K, L)
___Thin Dark Surface (S9) (LRR K, L)
___Iron-Manganese Masses (F12) (LRR K, L, R)
___Piedmont Floodplain Soils (F19) (MLRA 149B)
___Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12)
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Base Gas Projects, Group 5 Ln 3301 (2925) City/County: Green/Summit Sampling Date: 7/24/12

Applicant/Owner: The East Ohio Gas Co. State: OH Sampling Point: 4

Investigator(s): L.Sayre / L.Smith Section, Township, Range: _____

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): _____

Slope (%): 0 Lat: 40.917368 Long: -81.532515 Datum: WGS 1984

Soil Map Unit Name: Cg NWI classification: PSS1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

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.

Hydrophytic Vegetation Present?	Yes X No _____	Is the Sampled Area within a Wetland? Yes X No _____
Hydric Soil Present?	Yes X No _____	If yes, optional Wetland Site ID: W-3
Wetland Hydrology Present?	Yes X No _____	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ 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)
- X 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)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: 4

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1. Cephalanthus occidentalis	40	Y	OBL
2. Viburnum recognitum	20	Y	FACW
3. Rosa multiflora	5		FACU
4. Rhamnus frangula	5		FAC
5.			
6.			
7.			
	70 = Total Cover		

Herb Stratum (Plot size: 5)			
1. Leersia oryzoides	45	Y	OBL
2. Impatiens capensis	10		FACW
3. Decodon verticillatus	45	Y	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- ___ Prevalence Index is ≤3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

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

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					Sand	
6-12	2.5Y 5/3	90	10YR 5/8	10	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR R, MLRA 149B)
- ___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ___ Loamy Mucky Mineral (F1) (LRR K, L)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ___ Coast Prairie Redox (A16) (LRR K, L, R)
- ___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ___ Dark Surface (S7) (LRR K, L)
- ___ Polyvalue Below Surface (S8) (LRR K, L)
- ___ Thin Dark Surface (S9) (LRR K, L)
- ___ Iron-Manganese Masses (F12) (LRR K, L, R)
- ___ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

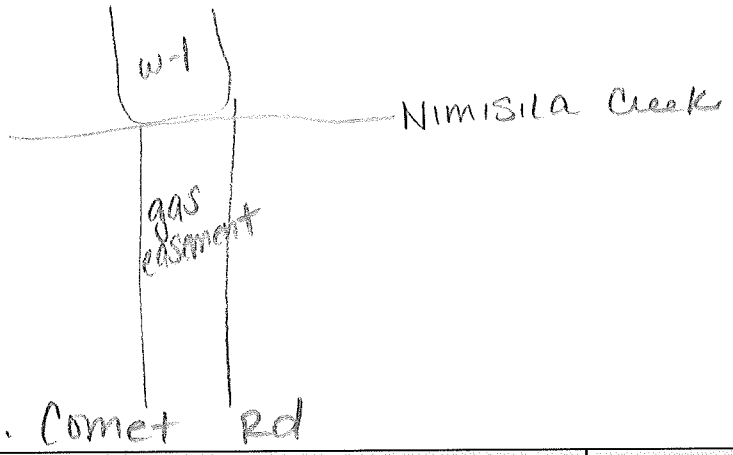
Appendix D:

Ohio Rapid Assessment Method for Wetlands v. 5.0 Rating Forms

Background Information

Name:	Laura Sayre
Date:	July 24, 2012
Affiliation:	EnviroScience, Inc.
Address:	3781 Darrow Rd. Stow OH 44224
Phone Number:	(330) 688-0111
e-mail address:	LSayre@EnviroScienceInc.com
Name of Wetland:	W-1
Vegetation Communit(ies):	PEM
HGM Class(es):	Riverine

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

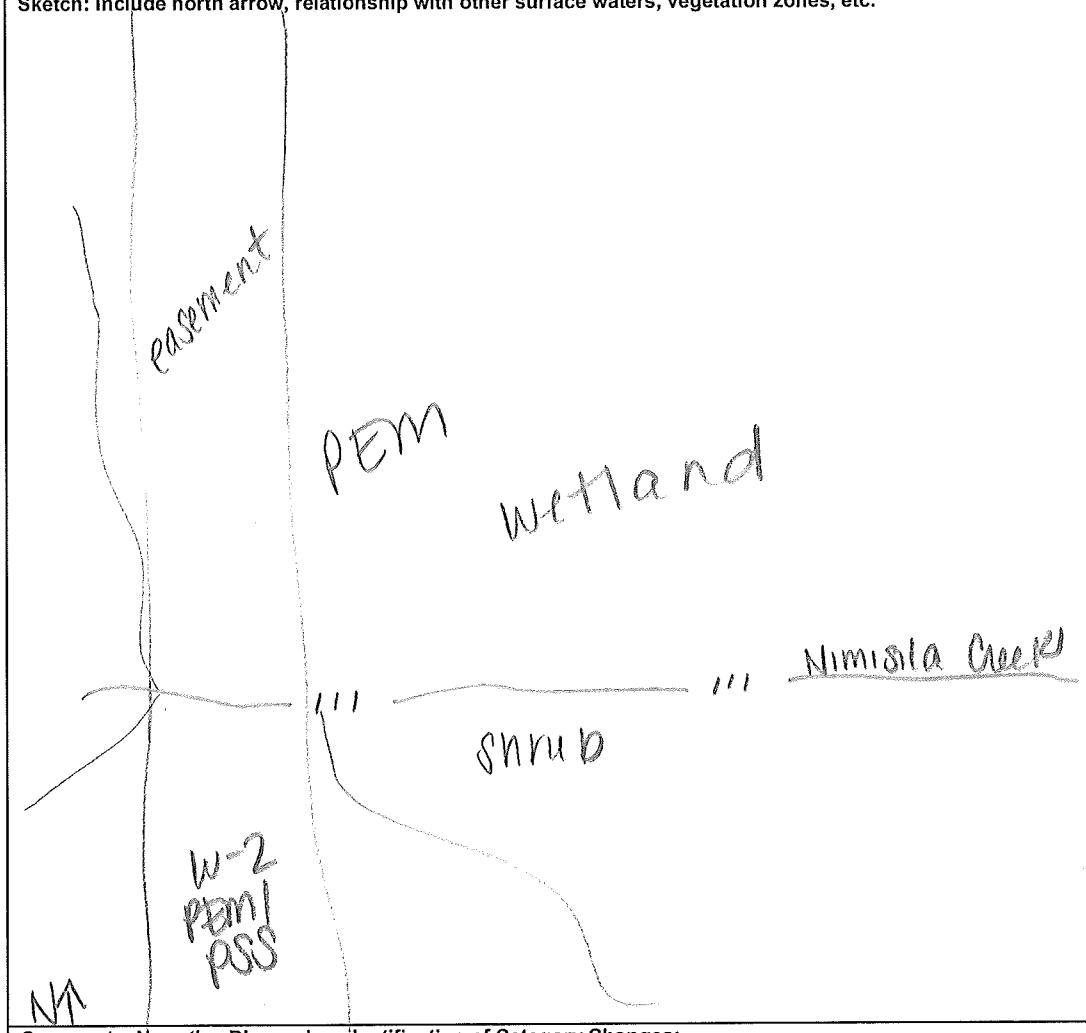


Lat/Long or UTM Coordinate	40.924038	-81.532029
USGS Quad Name		canal Fulton
County		Summit
Township		Green
Section and Subsection		
Hydrologic Unit Code		05040001
Site Visit		7/24/12
National Wetland Inventory Map		see attached
Ohio Wetland Inventory Map		attached
Soil Survey		attached
Delineation report/map		attached

Name of Wetland: W-1

Wetland Size (acres, hectares): 0.107 ac. onsite; Approx 52 Ac. total

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

Final score : 50 **Category:** 2