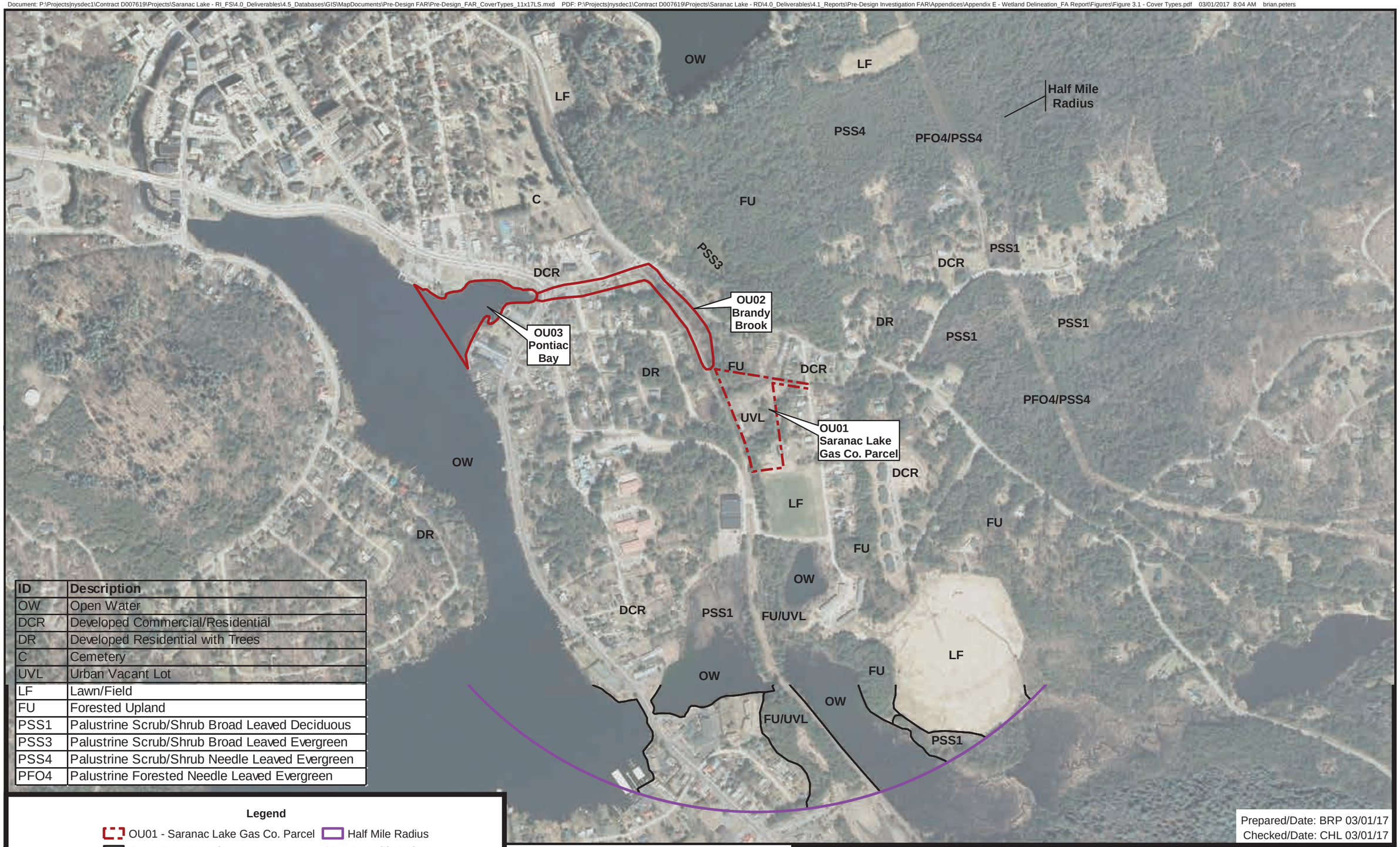
Document: P:\Projects|nysdec1\Contract D007619\Projects\Saranac Lake - RI_FS\4.0_Deliverables\4.5_Databases\GIS\MapDocuments\Pre-Design FAR\Pre-Design_FAR_CoverTypes_11x17LS.mxd PDF: P:\Projects|nysdec1\Contract D007619\Projects\Saranac Lake - RD\4.0_Deliverables\4.1_Reports\Pre-Design Investigation FAR\Appendices\Appendix E - Wetland Delineation_FA Report\Figures\Figure 3.1 - Cover Types.pdf 03/01/2017 8:04 AM brian.peters



ID	Description
OW	Open Water
DCR	Developed Commercial/Residential
DR	Developed Residential with Trees
C	Cemetery
UVL	Urban Vacant Lot
LF	Lawn/Field
FU	Forested Upland
PSS1	Palustrine Scrub/Shrub Broad Leaved Deciduous
PSS3	Palustrine Scrub/Shrub Broad Leaved Evergreen
PSS4	Palustrine Scrub/Shrub Needle Leaved Evergreen
PFO4	Palustrine Forested Needle Leaved Evergreen

Legend

OU01 - Saranac Lake Gas Co. Parcel
Half Mile Radius
Cover Type Boundary
OU - Operable Unit

N

0 300 600 Feet

Essex and Franklin County color digital orthoimagery (2009) obtained from New York State GIS Clearinghouse at: http://www.nysgis.state.ny.us

Prepared/Date: BRP 03/01/17
Checked/Date: CHL 03/01/17

NYSDEC Site # 516008
Saranac Lake Gas Co., Inc.
Saranac Lake, New York

MACTEC

Cover Types

Project 3611161193 Figure 3.1

Document: P:\Projects\nysdec1\Contract D007619\Projects\Saranac Lake - RI_FS\4.0_Deliverables\4.5_Databases\GIS\MapDocuments\Pre-Design FAR\Pre-Design_FAR_NWI_11x17LS.mxd PDF: P:\Projects\nysdec1\Contract D007619\Projects\Saranac Lake - RD\4.0_Deliverables\4.1_Reports\Pre-Design Investigation FAR\Appendices\Appendix E - Wetland Delineation_FA Report\Figures\Figure 3.2 - NWI Wetlands.pdf 03/01/2017 8:05 AM brian.peters

N
0 300 600 Feet

Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

NYSDEC Site # 516008
Saranac Lake Gas Co., Inc.
Saranac Lake, New York

MACTEC

National Wetlands Inventory Wetlands
Project 3611161193
Figure 3.2

Document: P:\Projects|nysdec1\Contract D007619\Projects__Completed WAs\Saranac Lake - RI_FS\4.0_Deliverables\4.5_Databases\GIS\MapDocuments\Pre-Design FAR\Wetland_Plan_11x17LS.mxd PDF: P:\Projects|nysdec1\Contract D007619\Projects\Saranac Lake - RD\4.0_Deliverables\4.1_Reports\Pre-Design Investigation FAR\Appendices\Appendix F - Wetland Delineation_FA Report\Figures\Figure 3.3 - OU1 OU2 Wetlands.pdf 04/25/2017 9:52 AM brian.peters

Box Culvert below Railroad Tracks

Brandy Brook Rd

Wetland A PSS1/PEM1

Brandy Brook R3UB1/2

Pine St

Slater Ave

Wetland A PSS1/PEM1

Pontiac St

Wetland C PSS1

TP-A-WET(PEM)

TP-A-WET(PSS)

TP-A-UPL

Pontiac St

Payeville Ln

TP-C-WET

Wetland A PSS1/PEM1

End Open

Brandy Brook R3UB1/2

TP-A-WET[2]

End Open

End Open

Wetland C PSS1

TP-B-WET

TP-B-UPL

Wetland A PSS1/PEM1

Wetland B PSS1

Legend

- Test Pit
- Wetland
- Surveyed Edge of Water

N

0 50 100 Feet

Notes:
1) Wetlands were delineated in November, 2016 by Charles Lyman (Amec Foster Wheeler).
2) Brandy Brook is classified as riverine, upper perennial, unconsolidated bottom, cobble-gravel/sand wetland.
3) Wetlands on site are classified as palustrine, scrub shrub, broad-leaved deciduous and/or palustrine emergent, persistent wetland.
4) Essex County color digital orthoimagery (2013) obtained from New York State GIS Clearinghouse at: https://gis.ny.gov

Prepared/Date: BRP 04/25/17
Checked/Date: CHL 04/25/17

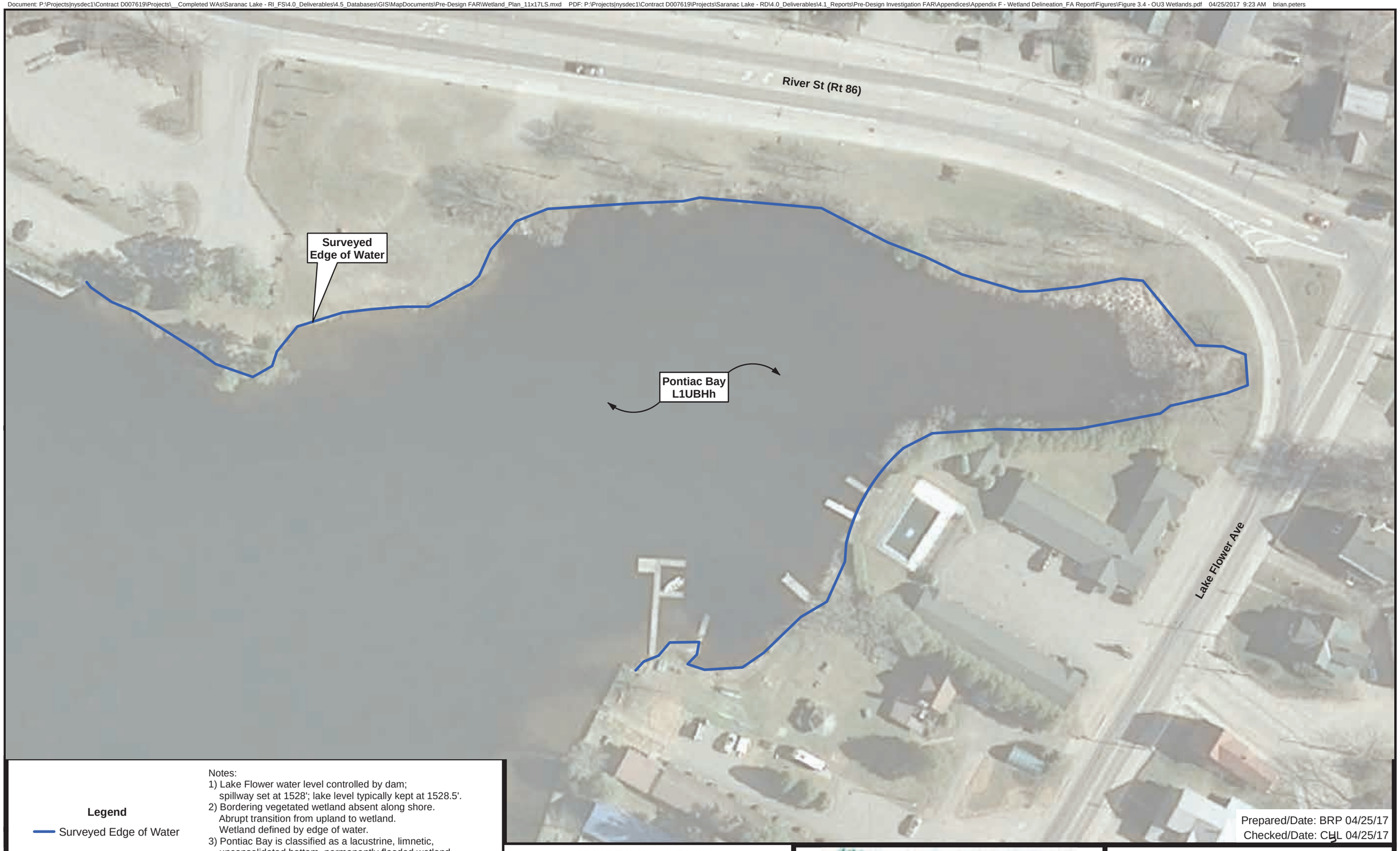
NYSDEC Site # 516008
Saranac Lake Gas Co., Inc.
Saranac Lake, New York

MACTEC

OU1/OU2 Wetland Delineation Plan

Project 3611161193 Figure 3.3

Document: P:\Projects|nysdec1\Contract D007619\Projects__Completed WAs\Saranac Lake - RI_FS\4.0_Deliverables\4.5_Databases\GIS\MapDocuments\Pre-Design FAR\Wetland_Plan_11x17LS.mxd PDF: P:\Projects|nysdec1\Contract D007619\Projects\Saranac Lake - RD\4.0_Deliverables\4.1_Reports\Pre-Design Investigation FAR\Appendices\Appendix F - Wetland Delineation_FA Report\Figures\Figure 3.4 - OU3 Wetlands.pdf 04/25/2017 9:23 AM brian.peters



Legend

Surveyed Edge of Water

N

0 30 60 Feet

Notes:
1) Lake Flower water level controlled by dam; spillway set at 1528'; lake level typically kept at 1528.5'.
2) Bordering vegetated wetland absent along shore. Abrupt transition from upland to wetland. Wetland defined by edge of water.
3) Pontiac Bay is classified as a lacustrine, limnetic, unconsolidated bottom, permanently flooded wetland (special modifier h = impounded added based on dam).
4) Essex County color digital orthoimagery (2013) obtained from New York State GIS Clearinghouse at: https://gis.ny.gov

NYSDEC Site # 516008
Saranac Lake Gas Co., Inc.
Saranac Lake, New York

MACTEC

OU3 Wetland Delineation Plan

Project 3611161193 Figure 3.4

Prepared/Date: BRP 04/25/17
Checked/Date: CHL 04/25/17

APPENDIX A
WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region 11/8/16

Project/Site: SARANAC LAKE GAS COMPANY City/County: SARANAC LAKE/ESSEX Sampling Date: ~~TP-A-UPL~~ 2

Applicant/Owner: NYSDEC State: NY Sampling Point: TP-A-UPL

Investigator(s): C. Lyman Section, Township, Range: —

Landform (hillslope, terrace, etc.): SIDE SLOPE Local relief (concave, convex, none): CONVEX Slope (%): 3-8

Subregion (LRR or MLRA): 144B Lat: — Long: — Datum: —

Soil Map Unit Name: ADAMS (LOAMY SAND) NWI classification: NA

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	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____

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): >5'
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: TP-A-UPL

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Wht. Pine (Pinus strobus)		Y	FACU
2. Cherry (Prunus serotina)		Y	FACU
3. Red Pine (Pinus resinosa)		Y	FACU
4. Poplar (Populus tremula)			facu
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Beech (Fagus grandifolia)		Y	facu
2. Cherry			facu
3. Wht Pine			facu
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. Fern (Polystichum acrostichoides)			facu-
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= 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: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (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:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - 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 or equal to 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: TP-A-UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/2	100	None				Sandy Loam	
6-12"	10YR 4/3	100	None				Loamy Sand	
12-28"	2.5Y 5/6	100	None				fine Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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 (F21)
- ___ 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: None

Depth (inches): —

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SARANAC LAKE GAS COMPANY City/County: SARANAC LAKE / ESSEX Sampling Date: 11/8/16

Applicant/Owner: NYSDEC State: _____ Sampling Point: TP-A-Wet (PSS)

Investigator(s): C. LyMan Section, Township, Range: —

Landform (hillslope, terrace, etc.): 144B floodplain Local relief (concave, convex, none): flood plain Slope (%): 0-3%

Subregion (LRR or MLRA): 144B Lat: — Long: — Datum: —

Soil Map Unit Name: ADAMS (Loamy Sand) NWI classification: PSSIE

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:	
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) Bromley Brook
- X High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- X 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)

- X Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- X 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 X	No ____	Depth (inches): 6"
Water Table Present?	Yes X	No ____	Depth (inches): Surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): Surface

Wetland Hydrology Present? Yes X No ____

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

Remarks:

TP-A-WET (PSS

VEGETATION – Use scientific names of plants.

Sampling Point: TP-A-WET (PSS)

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. NONE			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. ALDER (ALNUS INCANA) rugosa			FACW
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. SPHAGNUM			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= 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: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - 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 or equal to 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.)

Very sparse, under dense Alder thicket.

SOIL

Sampling Point: TP-A-West (PSS)

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	10YR 2/2	100					Mucky Sand	Organic Spodic
24-36"	10YR 6/2	95	10YR 4/4	20	C	M	fine Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- X 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 (F21)
- ___ 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: None

Depth (inches): —

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Saranac Lake Gas Company City/County: Saranac Lake / ESSEX Sampling Date: 11/8/16

Applicant/Owner: State: NY Sampling Point: TP-A-WET (PEM)

Investigator(s): C. Lyman Section, Township, Range: —

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): flat Slope (%): 0-2%

Subregion (LRR or MLRA): 143 Lat: — Long: — Datum: —

Soil Map Unit Name: ADAMS NWI classification: PEMI

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: ____
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)
- X 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)
- 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)
- ___ 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 X	No ____	Depth (inches): 6"
Water Table Present?	Yes X	No ____	Depth (inches): SURFACE
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): SURFACE

Wetland Hydrology Present? Yes X No ____

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

N/A -

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: TP-A-WET (PEM)

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. ALDER (ALNUS INCANA)			FACW
2. MEADOW SWEET (SPIRAEA LATIFOLIA)			FAC
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. SEDGE (CAREX SP)			FACW
2. GRASS (PHALARIS GRUNDINACEA)			FACW
3. GRASS (LEERSIA ORYZOIDES)			OBL
4. GRASS (GLYCERIA CANADENSIS)			OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= 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: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - 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 or equal to 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: TP-A-WET (PEM)

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20"	10YR 3/2	100					Sandy Muck; fibric-hemic; oxidized rhizosphere.	
20"-24"	5YR 4/2	85					Mucky Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X 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 (F21)
- ___ 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: NA

Depth (Inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Saranac Lake Gas Company City/County: Saranac Lake/ESSEX Sampling Date: 11/8/16

Applicant/Owner: State: NY Sampling Point: TP-A-WET (2)

Investigator(s): C. Lyman Section, Township, Range: —

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): flat Level Slope (%): 0

Subregion (LRR or MLRA): 144B Lat: — Long: — Datum: —

Soil Map Unit Name: ADAMS NWI classification: PEM

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 ____		
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID:	

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 X	No ____	Depth (inches): 6"
Water Table Present?	Yes X	No ____	Depth (inches): 4" BGS
Saturation Present? (Includes capillary fringe)	Yes X	No ____	Depth (inches): Surface

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: TP-A-WET (2)

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Spruce (~~Abies~~ Picea rubens) SNAG		N	fac
2. Poplar (Populus tremula) SNAG		N	facu
3. Cherry (Prunus serotina) SNAG		N	facu
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. Alder (Alnus incana)		Y	facw
2. Meadowsweet (Spiraea latifolia)		Y	fac
3. dogwood (Cornus stolonifera)		N	facw
4. Spruce (Picea rubens)		N	facu
5. Wht Pine (Pinus strobus)		N	
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. Sensitive fern (Onoclea sensibilis)		Y	facw
2. Grass (Glyceria canadensis)		Y	OBL
3. Plantain (Plantago sp)		N	NA
4. Sedge (Carex sp)		Y	facw
5. Loosestrife (Lythrum salicaria)		N	facw
6. Equisetum arvense		N	fac
7.			
8.			
9.			
10.			
11.			
12.			
	= 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: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - 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 or equal to 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: TP-A-WET (2)

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20"	10YR 2/2	100%					MUCKY SAND	
20-26"	5YR 6/2	85%					MUCKY SAND	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X 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 (F21)
- ___ 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: -NA-

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SARANAC LAKE GAS COMPANY City/County: SARANAC LAKE, ESSEX Sampling Date: 11/7/16

Applicant/Owner: NYSDEC State: NY Sampling Point: TP-B-UPL

Investigator(s): C. LYMAN Section, Township, Range: —

Landform (hillslope, terrace, etc.): TERRACE Local relief (concave, convex, none): Level Slope (%): 0-8

Subregion (LRR or MLRA): 144B Lat: — Long: — Datum: —

Soil Map Unit Name: ADAMS (LOAMY SAND) NWI classification: -NA-

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	
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID: ____

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:

Note

BORING (GEOPROBE) IN VICINITY OF TP-B-UPL, GW > 5' BGS.

VEGETATION – Use scientific names of plants.

Sampling Point: TP-B-UPL

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Wht. Pine (Pinus strobus)		Y	FACU
2. Wht Birch (Betula popolifolia)		Y	FAC
3. Cherry (Prunus serotina)			FACU
4. Poplar (Populus tremula)			FACU
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15')			
1. White Pine		Y	FACU
2. Beech (Fagus grandifolia)		Y	FACU
3. fir (Abies balsamea)			FAC
4. Rubus sp			NI
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5')			
1. Goldenrod (Solidago canadensis)		Y	FACU
2. Bracken fern (Pteridium aquilinum)		Y	FACU
3. Strawberry (Fragaria virginiana)			FACU
4. grass (unk)			NI
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

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

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - 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 or equal to 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: TP-B-UPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-0.8'	10YR 2/2	100	None		NA	NA	fine Sandy Loam	
0.8-1.8'	10YR 5/3	100	NONE		NA	NA	fine Sand	
1.8'-2.6'	10YR 4/3	95	5YR 5/6	10	C	M	fine Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked 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 (F21)
- ___ 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: NONE

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SARANAC LAKE GAS Company City/County: SARANAC LAKE/ESSEX Sampling Date: 11/7/16

Applicant/Owner: _____ State: NY Sampling Point: TP-B-WET

Investigator(s): C. LYMAN Section, Township, Range: —

Landform (hillslope, terrace, etc.): TERRACE Local relief (concave, convex, none): LEVEL Slope (%): 0-3%

Subregion (LRR or MLRA): 144B Lat: — Long: — Datum: —

Soil Map Unit Name: ADAMS (LOAMY SAND) NWI classification: PSSIE

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:	PSS
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) BIZZARDY BROOK
- ___ High Water Table (A2)
- X Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- X 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)
- X 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)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 6-8"
Water Table Present?	Yes X	No ____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): surface

Wetland Hydrology Present? Yes X No ____

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

None.

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: TP-B-WET

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. (NONE W/IN WETLAND)			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. ALDER (ALNUS [illegible] INCANA)		Y	facw
2. ~~Steeple Bush~~ (Spiraea latifolia)		Y	fac
3. Meadow Sweet			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Sedge (Carex sp)		Y	facw
2. Poison Ivy (Toxicodendron radicans)		Y	fac
3. Rice cut grass (Leersia oryzoides)			obl
4. Mint (Mentha sp)			facw
5. Dewberry ( )			NI
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= 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: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - 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 or equal to 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: TP-B-WET

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-0.5'	BLACK	100	NONE				SANDY MUCK	ORGANIC SAPRIC
0.5-1.3'	DRK BROWN 10YR 2/1	100%	NONE				SANDY MUCK	LOOSE- SATURATED
1.8-2.7'	GRAYISH BROWN	100%	10YR 5/6	20	C	M	FINE SAND	LOOSE-SATURATED

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- X 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 (F21)
- ___ 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: NONE

Depth (inches): —

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: SARANAC LAKE GAS Company City/County: Saranac Lake / ESSEX Sampling Date: 11/8/16

Applicant/Owner: NYSEG State: NY Sampling Point: TP-C-WET

Investigator(s): C. LYMAN Section, Township, Range: —

Landform (hillslope, terrace, etc.): TOE Slope Local relief (concave, convex, none): Concave Slope (%): 0-3%

Subregion (LRR or MLRA): 144B Lat: — Long: — Datum: —

Soil Map Unit Name: ADAMS (Sandy Loamy SAND) NWI classification: PSS1

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 ____		
Wetland Hydrology Present?	Yes X No ____	If yes, optional Wetland Site ID:	

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)
- X 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)
- X 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 X	No ____	Depth (inches): 6"
Water Table Present?	Yes X	No ____	Depth (inches): -4"
Saturation Present? (Includes capillary fringe)	Yes X	No ____	Depth (inches): Surface

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: TP-C-WET

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. Alder (Alnus incana)		Y	facw
2. Willow (Salix sp)		Y	fac
3. Meadow Sweet (Spiraea latifolia)		Y	facw
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5')			
1. Sensitive fern (Onoclea sensibilis)		Y	facw
2. Reed Canary (Phalaris arundinacea)		Y	facw
3. Golden Rod (Solidago canadensis)			
4. Rubus (			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= 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: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - 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 or equal to 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: TP-C-WET

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-28"	10yr 2/2	100	None				SANDY MUCK	
28-36	10yr 4/4	95					Mucky Sand	
36-cut							fine Sand	Gleyed

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X 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 (F21)
- ___ 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: NA

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

SEE BORING SP-307 (SEE Dylan f.)
305

APPENDIX B

WETLAND PHOTOGRAPHS

Wetland Photographic Log

Client: NYSDEC	***Project Number:*** 3611161193.02
Site Name: Saranac Lake Gas Company	***Site Location:*** Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 1 ***Direction:*** West ***Description:*** View looking west at Brandy Brook from Payeville Lane. Note sand and gravel bottom.	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 2 ***Direction:*** Northeast ***Description:*** Brandy Brook north side of OU01, observed timbers along bank, like related to old foot bridge, note timber crossing creek.	

Wetland Photographic Log

Client: NYSDEC	***Project Number:*** 3611161193.02
Site Name: Saranac Lake Gas Company	***Site Location:*** Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 3 ***Direction:*** West ***Description:*** View of Brandy Brook north side of OU01, note bordering Wetland A to south and upland to north.	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 4 ***Direction:*** East ***Description:*** Brandy Brook, note abrupt transition out of wetland based on topography.	

Wetland Photographic Log

Client: NYSDEC	***Project Number:*** 3611161193.02
Site Name: Saranac Lake Gas Company	***Site Location:*** Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 5 ***Direction:*** East ***Description:*** View of Brandy Brook from former rail spur into site; Wetland A.	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 6 ***Direction:*** North ***Description:*** View of Brandy Brook, note alder dominated PSS portion of Wetland A. Brook flows in low area between railroad tracks and upland hill to right of photo.	

Wetland Photographic Log

Client: NYSDEC	***Project Number:*** 3611161193.02
Site Name: Saranac Lake Gas Company	***Site Location:*** Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 7 ***Direction:*** South ***Description:*** Wetland A note PEM portions of wetland in foreground and upland hill in the background.	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 8 ***Direction:*** North ***Description:*** Wetland A note transition from PEM to PSS.	

Wetland Photographic Log

Client: NYSDEC	***Project Number:*** 3611161193.02
Site Name: Saranac Lake Gas Company	***Site Location:*** Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 9 ***Direction:*** Southeast ***Description:*** Wetland A east side of railroad tracks, note deer/game trail.	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 10 ***Direction:*** Southwest ***Description:*** View of Brandy Brook and 24” culvert that connects to Wetland C.	

Wetland Photographic Log

Client: NYSDEC	***Project Number:*** 3611161193.02
Site Name: Saranac Lake Gas Company	***Site Location:*** Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 11 ***Direction:*** West ***Description:*** View of Brandy Brook and box culver under railroad tracks.	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 12 ***Direction:*** Southeast ***Description:*** Brandy Brook looking upstream from box culvert under railroad tracks.	

Wetland Photographic Log

Client: NYSDEC	***Project Number:*** 3611161193.02
Site Name: Saranac Lake Gas Company Site	***Site Location:*** Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 13 ***Direction:*** South ***Description:*** Wetland B isolated wetland between active rail line and former spur to the site.	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 14 ***Direction:*** North ***Description:*** Wetland B, note active rail line (left) and historic spur to sight (right).	

Wetland Photographic Log

Client:	NYSDEC	***Project Number:***	3611161193.02
Site Name:	Saranac Lake Gas Company	***Site Location:***	Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 15 ***Direction:*** East ***Description:*** Brandy Brook below box culvert under railroad tracks to first driveway crossing.	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 16 ***Direction:*** West ***Description:*** Brandy Brook looking from driveway crossing; 30” corrugated metal pipe.	

Wetland Photographic Log

Client: NYSDEC	***Project Number:*** 3611161193.02
Site Name: Saranac Lake Gas Company	***Site Location:*** Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 17 ***Direction:*** East ***Description:*** Brandy Brook between first and second driveway, from second driveway.	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 18 ***Direction:*** North ***Description:*** Brandy Brook between second and third driveway; 2'x2' culvert.	

Wetland Photographic Log

Client: NYSDEC	***Project Number:*** 3611161193.02
Site Name: Saranac Lake Gas Company	***Site Location:*** Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 19 ***Direction:*** East ***Description:*** Brandy Brook view from third driveway looking towards second driveway.	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 20 ***Direction:*** West ***Description:*** Brandy Brook view from third driveway looking towards fourth driveway; (2) 24” corrugated plastic pipes.	

Wetland Photographic Log

Client: NYSDEC ***Project Number:*** 3611161193.02

Site Name: Saranac Lake Gas Company ***Site Location:*** Saranac Lake, New York.

Photographer:
Charles Lyman

Date:
November 7,8,9, 2016

Photograph: 21

Direction:
East

Description:
Brandy Brook below fourth driveway crossing; note stone wall.

Photographer:
Charles Lyman

Date:
November 7,8,9, 2016

Photograph: 22

Direction:
West

Description:
Brandy Brook looking west below fourth driveway crossing.

Wetland Photographic Log

Client: NYSDEC	***Project Number:*** 3611161193.02
Site Name: Saranac Lake Gas Company	***Site Location:*** Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 23 ***Direction:*** East ***Description:*** Brandy Brook above headwall at Slater Ave.	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 24 ***Direction:*** West ***Description:*** Brandy Brook view of headwall and (2) 24" culverts that discharge to Pontiac Bay.	

Wetland Photographic Log

Client: NYSDEC	***Project Number:*** 3611161193.02
Site Name: Saranac Lake Gas Company	***Site Location:*** Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 25 ***Direction:*** Southeast ***Description:*** View looking at headwall where Brandy Brook culverts discharge to Pontiac Bay.	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 26 ***Direction:*** North ***Description:*** View looking at second headwall at head of Pontiac Bay.	

Wetland Photographic Log

Client: NYSDEC	***Project Number:*** 3611161193.02
Site Name: Saranac Lake Gas Company	***Site Location:*** Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 27 ***Direction:*** west ***Description:*** View from head of Pontiac Bay, note park on right.	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 28 ***Direction:*** West ***Description:*** View from top of bank along park, note overgrown rip rap bank.	

Wetland Photographic Log

Client: NYSDEC	***Project Number:*** 3611161193.02
Site Name: Saranac Lake Gas Company	***Site Location:*** Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 29 ***Direction:*** East ***Description:*** View from top of bank, note overgrown rip rap/boulder bank	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 30 ***Direction:*** East ***Description:*** View from top of bank looking back along Pontiac Bay.	

Wetland Photographic Log

Client: NYSDEC	***Project Number:*** 3611161193.02
Site Name: Saranac Lake Gas Company	***Site Location:*** Saranac Lake, New York.

Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 31 ***Direction:*** East ***Description:*** View from boulder in Lake, showing bank along Pontiac Bay	
Photographer: Charles Lyman ***Date:*** November 7,8,9, 2016 ***Photograph:*** 32 ***Direction:*** North ***Description:*** View looking northwest towards Lake Flower dam, park and boat launch parking on the right.	

APPENDIX C

WETLAND FUNCTION-VALUE EVALUATION FORMS

Wetland Function-Value Evaluation Form

Total area of wetland 2300 Lf Human made? NO Is wetland part of a wildlife corridor? YES or a "habitat island"? NO

Adjacent land use undeveloped, Residential, former landfill Distance to nearest roadway or other development 300'±

Dominant wetland systems present PSS/PEM Contiguous undeveloped buffer zone present NO

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? MID

How many tributaries contribute to the wetland? ONE (BRANDY BROOK) Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. OU1/OU2

Latitude see fig 4.1 Longitude see figure 4.1

Prepared by: CHL Date 11/9/16

Wetland Impact:
Type PSS/PEM Area

Evaluation based on:
Office X Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	3, 4, 5, 7, 8, 11, 12		
Floodflow Alteration	Y	2, 5, 6, 8, 10, 14, 18	Y	
Fish and Shellfish Habitat	Y	1, 2, 4, 7, 8, 9, 10, 12, 14, 15, 17	Y	- Brook only
Sediment/Toxicant Retention	Y	2, 4, 6, 8, 9, 10, 12, 14, 16	Y	- Currently has some soil contamination of MGP waste Retained in wetland.
Nutrient Removal	Y	3, 5, 6, 7, 8, 9, 10, 11, 12, 14	Y	
Production Export	Y	1, 2, 4, 5, 6, 7, 10, 11, 12, 13,	Y	
Sediment/Shoreline Stabilization	Y	2, 3, 4, 6, 7, 9, 12, 13, 14, 15	Y	
Wildlife Habitat	Y	2, 4, 5, 6, 7, 8, 9, 11, 13, 15, 16, 17, 18, 19, 20, 21,	Y	observed: Ducks, Birds, Deer, Tracks, Racoon, Deer
Recreation	N			
Educational/Scientific Value	N			
Uniqueness/Heritage	N			
Visual Quality/Aesthetics	N			
ES Endangered Species Habitat	N			
Other				

Notes: OU1/OU2 includes flagged Wetlands A, B, and C. (i.e. Brandy Brook & associated bordering wetlands) as shown

* Refer to backup list of numbered considerations.

Wetland Function-Value Evaluation Form

Total area of wetland 2.4 AC Human made? YES [a] Is wetland part of a wildlife corridor? YES or a "habitat island"? NO

Adjacent land use Town Park, Hotel/Developed Distance to nearest roadway or other development 50' ±

Dominant wetland systems present Lacustrine Contiguous undeveloped buffer zone present NO

Is the wetland a separate hydraulic system? NO If not, where does the wetland lie in the drainage basin? bottom

How many tributaries contribute to the wetland? MANY [b] Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. OU3

Latitude see fig 4.1 Longitude see fig 4.1

Prepared by: CHL Date 11/9/16

Wetland Impact:
Type L1UBH Area

Evaluation based on:
Office X Field X

Corps manual wetland delineation completed? Y X N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
Groundwater Recharge/Discharge	Y	2,3,4,5,7,11,12,	Y	
Floodflow Alteration	N			No storage capacity in Lake Flower.
Fish and Shellfish Habitat	Y	1,2,3,4,5,6,7,9,10,12, 13,14,16,	Y	Lake flower is known for fishing opportunities, freshwater clams/ mussels observed in Pontiac Bay.
Sediment/Toxicant Retention	Y	1,2,3,4,5,6,7,8,9,10,11, 12,13,14.		
Nutrient Removal	N			
Production Export	Y	1,2,3,4,5,6,9,10,11,12,	Y	Fish and shellfish for wildlife & Human consumption.
Sediment/Shoreline Stabilization	Y	3,4,6,9,10,11,14,15		
Wildlife Habitat	Y	2,6,7,8,12,16,17,18, 19,20,21,22,	Y	Inverts, fish, mammal - aquatic (productive) habitat
Recreation	Y	1,2,3,4,5,7,8,9,10,11,12	Y	
Educational/Scientific Value	Y	1,3,5,6,8,9,10,11,12,15	Y	Lake access & neighboring park. (Public)
Uniqueness/Heritage	Y	1,3,6,8,9,11,13,14,15,16, 17,18,19,21,23,24,26,27,30	X	Park has long history in town; Winter Carnival
Visual Quality/Aesthetics	Y	1,2,3,6,7,8,9,11,12		
ES Endangered Species Habitat	N			Transient use by eagles.
Other				

Notes: OU3 includes Pontiac Bay in Lake Flower

[a] Lake Flower Dam backs up Saranac River to create Lake Flower.
[b] Brandy Brook discharges to the Bay.

* Refer to backup list of numbered considerations.

APPENDIX G

GEOTECHNICAL ANALYTICAL DATA

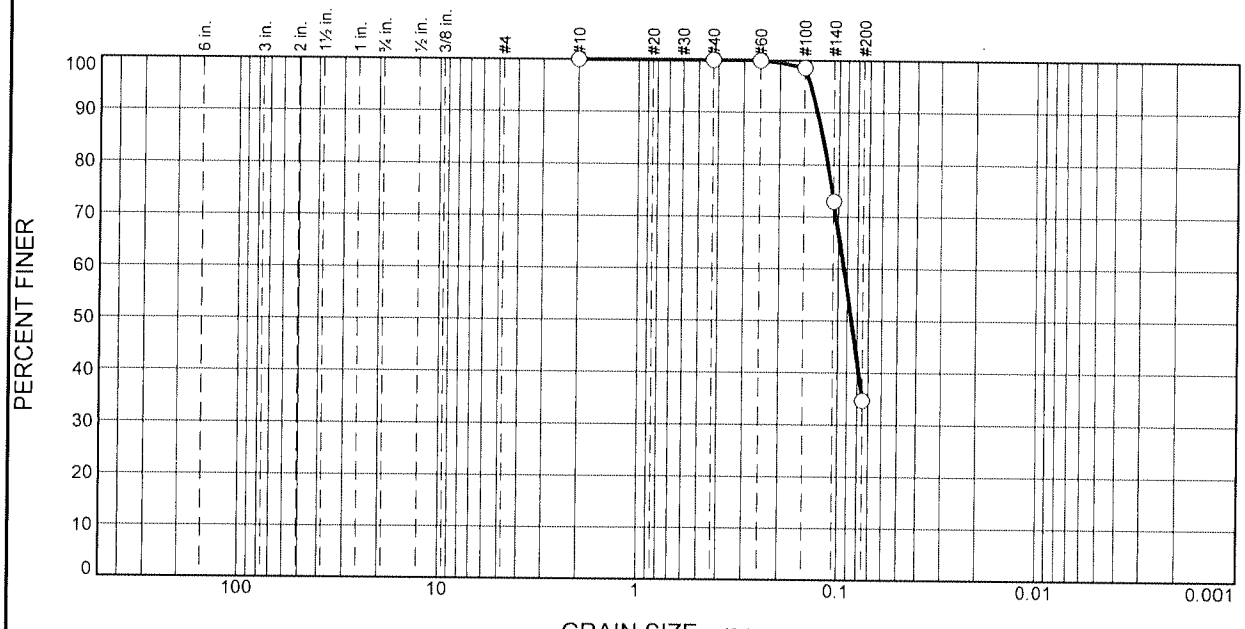
ATLANTIC TESTING LABORATORIES

Particle Size Distribution Report

Project: Saranac Lake Gas Company, Saranac Lake, NY **Report No.:** CD4141SL-01-01-17

Client: AMEC Foster Wheeler **Date:** 01/05/17

Sample No: SB-501, S-7,8,9 **Source of Sample:** Boring Sample
Location: In-place **Elev./Depth:** 30, 35, 40'



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	0	0	65	35	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
#10	100		
#40	100		
#60	100		
#100	99		
#140	73		
#200	35		

Soil Description

Brown f SAND; some SILT

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 0.1209 D_{60}= 0.0937 D_{50}= 0.0856
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Figure

ATLANTIC TESTING LABORATORIES, LIMITED

Reviewed by: Judy Ames Date: 1/10/17

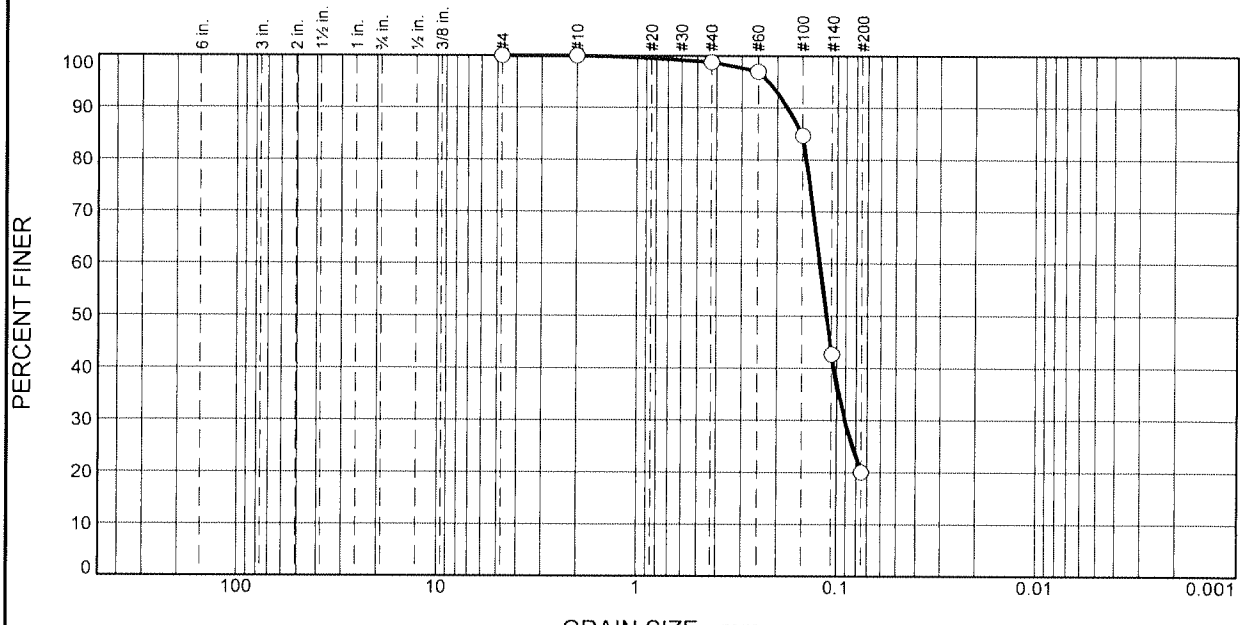
ATLANTIC TESTING LABORATORIES

Particle Size Distribution Report

Project: Saranac Lake Gas Company, Saranac Lake, NY **Report No.:** CD4141SL-01-01-17

Client: AMEC Foster Wheeler **Date:** 01/05/17

Sample No: SB-502, S-4,5,6 **Source of Sample:** Boring Sample
Location: In-place **Elev./Depth:** 15, 20, 25'



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	0	1	79	20	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
#4	100		
#10	100		
#40	99		
#60	97		
#100	85		
#140	43		
#200	20		

Soil Description

Light Brown mf+ SAND; little SILT

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 0.1514 D_{60}= 0.1221 D_{50}= 0.1130
D_{30}= 0.0909 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Figure

ATLANTIC TESTING LABORATORIES, LIMITED

Reviewed by: Judy Ames Date: 1/10/17

ATLANTIC TESTING LABORATORIES

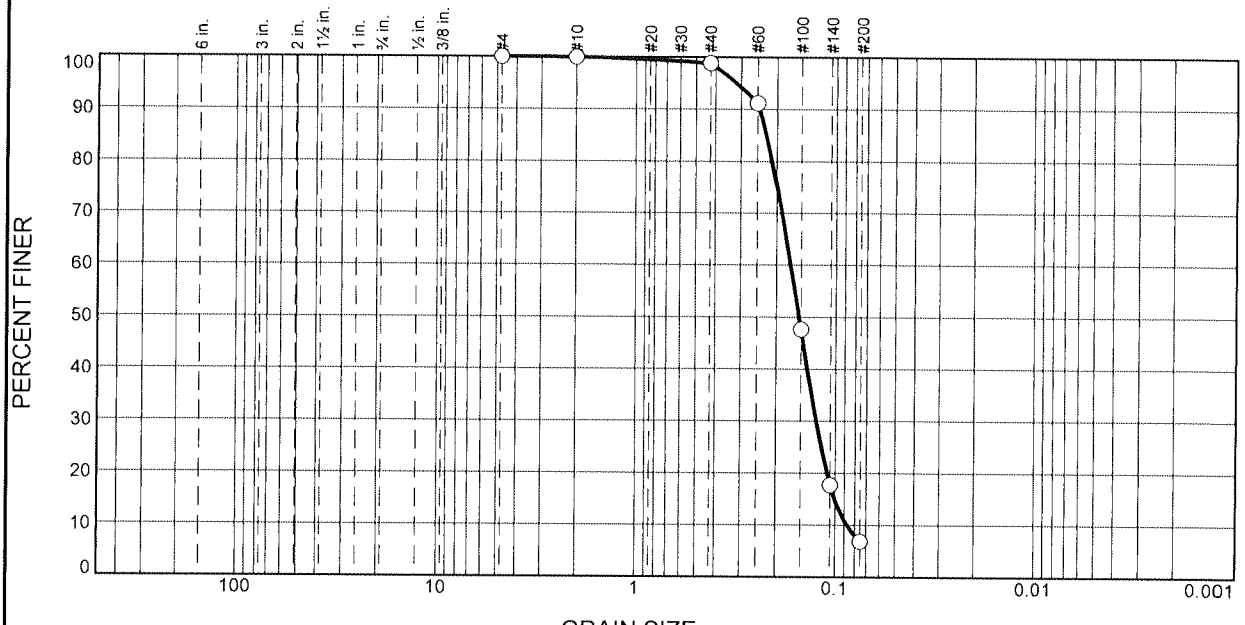
Particle Size Distribution Report

Project: Saranac Lake Gas Company, Saranac Lake, NY **Report No.:** CD4141SL-01-01-17

Client: AMEC Foster Wheeler **Date:** 01/05/17

Sample No: SB-503, S-2 **Source of Sample:** Boring Sample

Location: In-place **Elev./Depth:** 5'



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	0	1	92	7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
#4	100		
#10	100		
#40	99		
#60	91		
#100	48		
#140	18		
#200	6.9		

Soil Description

Brown mf+ SAND; trace SILT

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 0.2257 D_{60}= 0.1696 D_{50}= 0.1536

D_{30}= 0.1250 D_{15}= 0.1007 D_{10}= 0.0874

C_u= 1.94 C_c= 1.05

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Figure

ATLANTIC TESTING LABORATORIES, LIMITED

Reviewed by: Judy Ames Date: 1/10/17

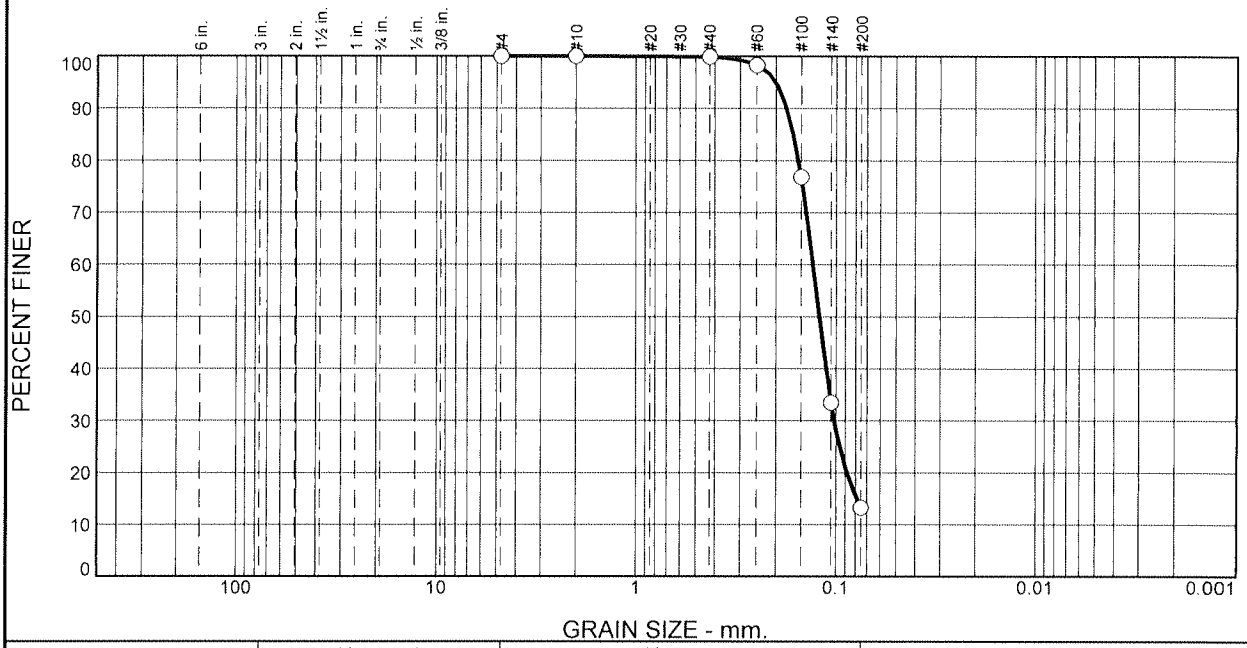
ATLANTIC TESTING LABORATORIES

Particle Size Distribution Report

Project: Saranac Lake Gas Company, Saranac Lake, NY **Report No.:** CD4141SL-01-01-17

Client: AMEC Foster Wheeler **Date:** 01/05/17

Sample No: SB-503, S-4,5,6 **Source of Sample:** Boring Sample
Location: In-place **Elev./Depth:** 15, 20, 25'



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	0	0	87	13	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
#4	100		
#10	100		
#40	100		
#60	98		
#100	77		
#140	33		
#200	13		

Soil Description

Light Brown f SAND; little SILT

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 0.1644 D_{60}= 0.1308 D_{50}= 0.1215
D_{30}= 0.1022 D_{15}= 0.0786 D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Figure

ATLANTIC TESTING LABORATORIES, LIMITED

Reviewed by: Judy Ames Date: 1/10/17

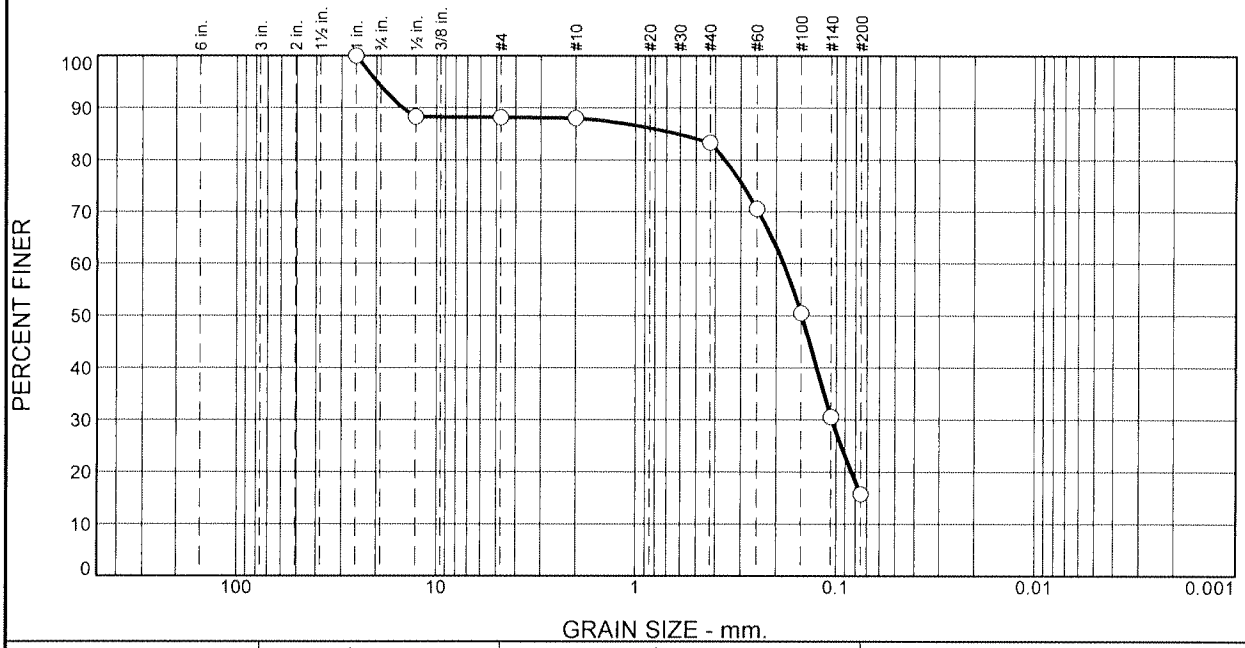
ATLANTIC TESTING LABORATORIES

Particle Size Distribution Report

Project: Saranac Lake Gas Company, Saranac Lake, NY **Report No.:** CD4141SL-01-01-17

Client: AMEC Foster Wheeler **Date:** 01/05/17

Sample No: SB-504, S-2,3,4 **Source of Sample:** Boring Sample
Location: In-place **Elev./Depth:** 5, 10, 15'



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	6	6	0	5	67	16	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
1"	100		
1/2"	88		
#4	88		
#10	88		
#40	83		
#60	71		
#100	50		
#140	31		
#200	16		

Soil Description

Grey and Brown mf+ SAND; little SILT; little m GRAVEL

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 0.6211 D_{60}= 0.1840 D_{50}= 0.1487
D_{30}= 0.1048 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Figure

ATLANTIC TESTING LABORATORIES, LIMITED

Reviewed by: Judy Conel Date: 1/10/17

ATLANTIC TESTING LABORATORIES

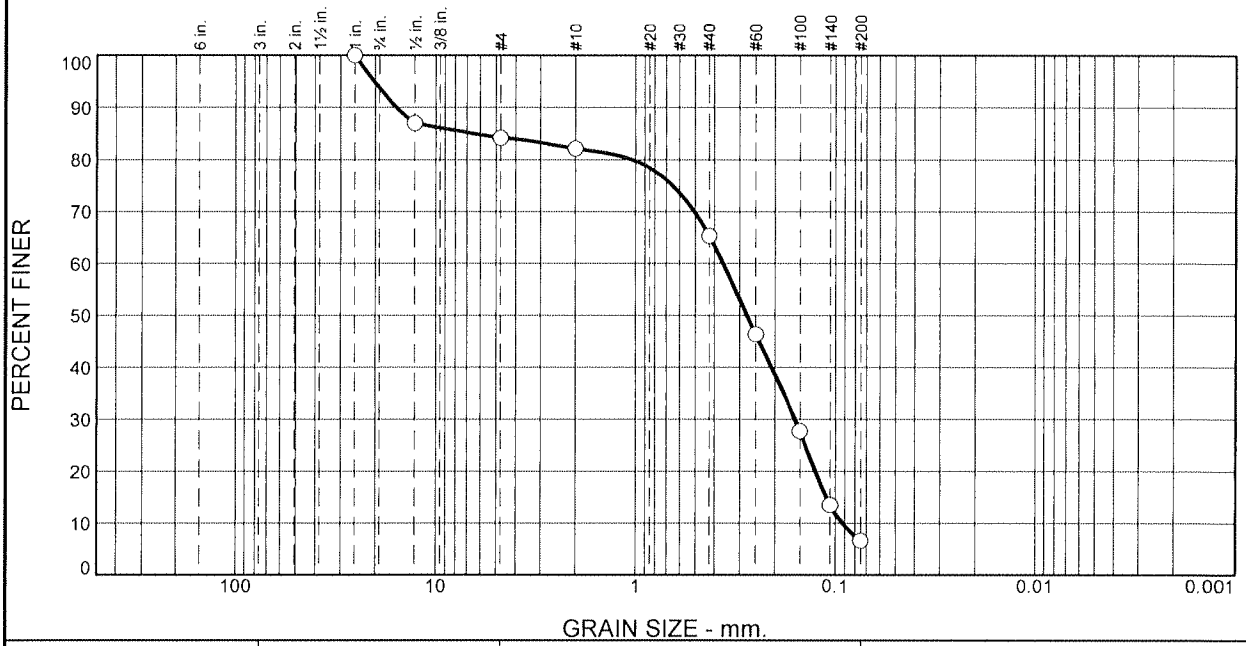
Particle Size Distribution Report

Project: Saranac Lake Gas Company, Saranac Lake, NY **Report No.:** CD4141SL-01-01-17

Client: AMEC Foster Wheeler **Date:** 01/05/17

Sample No: SB-505, S-5 **Source of Sample:** Boring Sample

Location: In-place **Elev./Depth:** 20'



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	6	10	2	17	58	7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
1"	100		
1/2"	87		
#4	84		
#10	82		
#40	65		
#60	46		
#100	28		
#140	14		
#200	6.6		

Soil Description

Light Brown c-mf+ SAND; little mf- GRAVEL; trace SILT

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 6.4427 D_{60}= 0.3619 D_{50}= 0.2763

D_{30}= 0.1585 D_{15}= 0.1108 D_{10}= 0.0924

C_u= 3.91 C_c= 0.75

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Figure

ATLANTIC TESTING LABORATORIES, LIMITED

Reviewed by: Judy Ames Date: 1/10/17

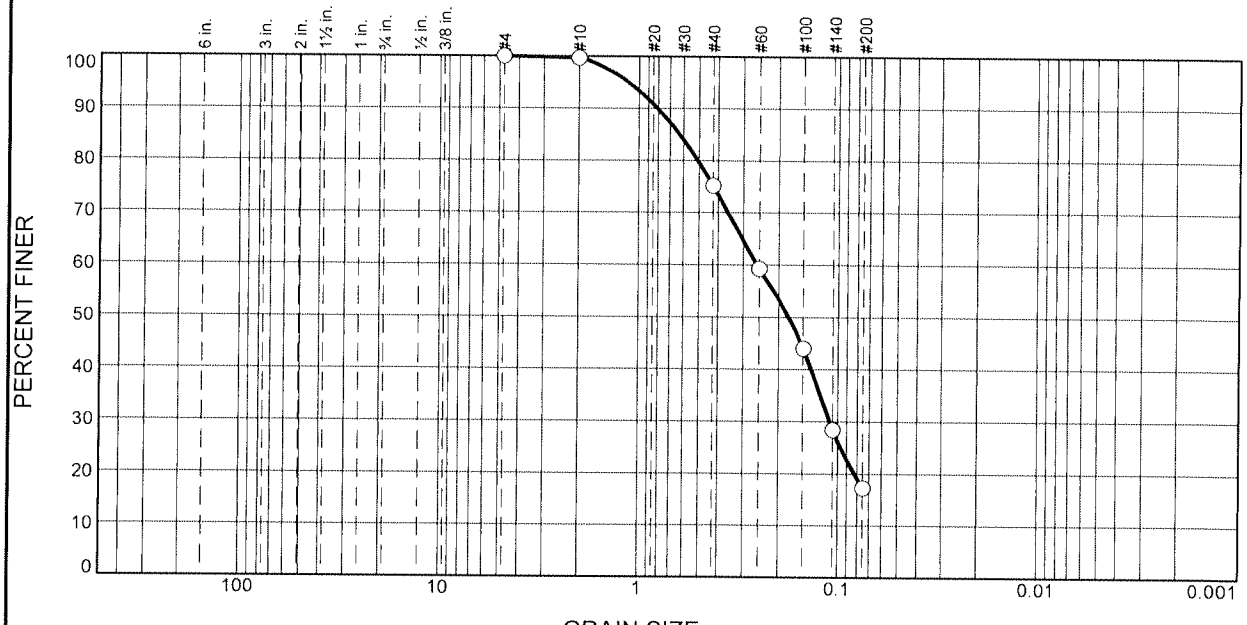
ATLANTIC TESTING LABORATORIES

Particle Size Distribution Report

Project: Saranac Lake Gas Company, Saranac Lake, NY **Report No.:** CD4141SL-01-01-17

Client: AMEC Foster Wheeler **Date:** 01/05/17

Sample No: SB-505, S-7A **Source of Sample:** Boring Sample
Location: In-place **Elev./Depth:** 30'



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	0	25	58	17	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
#4	100		
#10	100		
#40	75		
#60	59		
#100	44		
#140	28		
#200	17		

Soil Description

Light Brown mf+ SAND; little SILT

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 0.6282 D_{60}= 0.2564 D_{50}= 0.1779
D_{30}= 0.1100 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Figure

ATLANTIC TESTING LABORATORIES, LIMITED

Reviewed by: Judy Ames Date: 1/10/17

ATLANTIC TESTING LABORATORIES

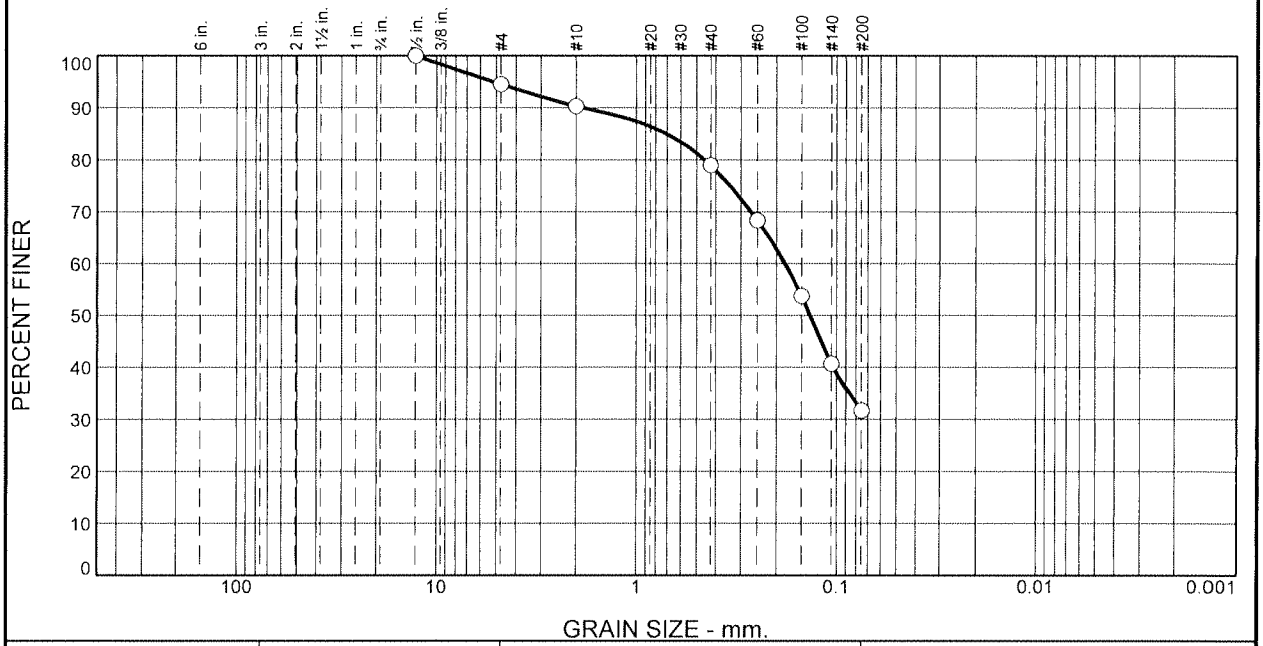
Particle Size Distribution Report

Project: Saranac Lake Gas Company, Saranac Lake, NY **Report No.:** CD4141SL-01-01-17

Client: AMEC Foster Wheeler **Date:** 01/05/17

Sample No: SB-505, S-11 **Source of Sample:** Boring Sample

Location: In-place **Elev./Depth:** 50'



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	5	5	11	47	32	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
1/2"	100		
#4	95		
#10	90		
#40	79		
#60	68		
#100	54		
#140	41		
#200	32		

Soil Description

Grey c-mf+ SAND; some SILT; trace f GRAVEL

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 0.7068 D_{60}= 0.1814 D_{50}= 0.1359

D_{30}= D_{15}= D_{10}=

C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Figure

ATLANTIC TESTING LABORATORIES, LIMITED

Reviewed by: Judy Ames Date: 1/10/17

ATLANTIC TESTING LABORATORIES

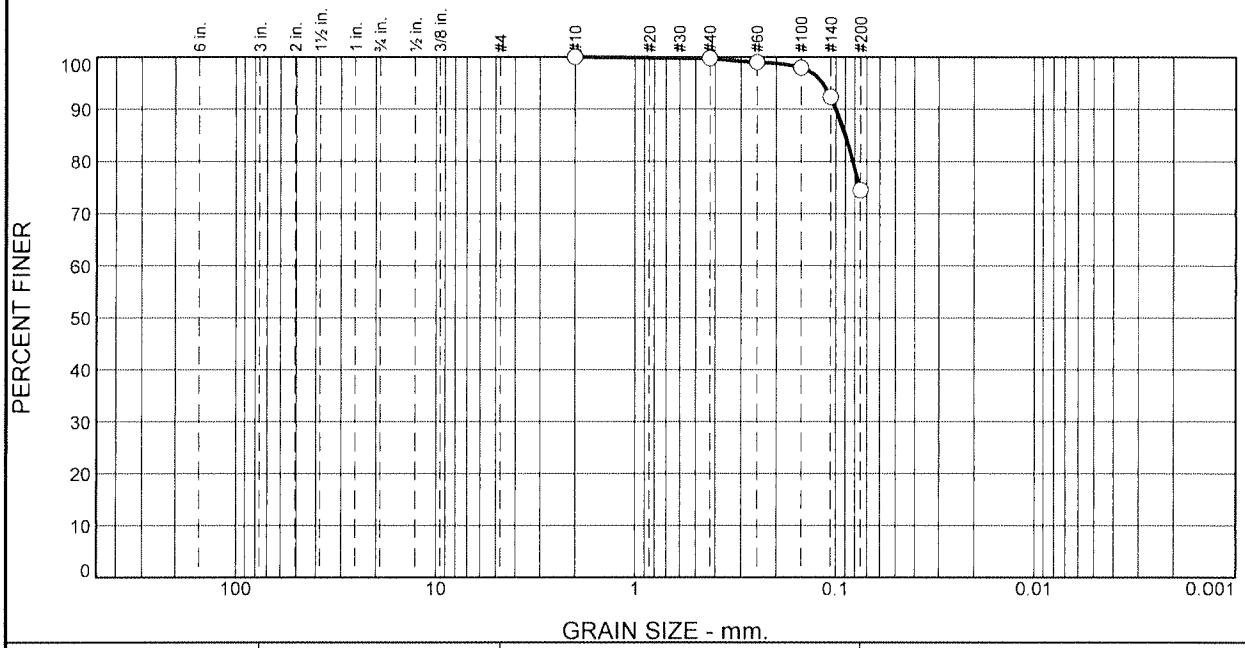
Particle Size Distribution Report

Project: Saranac Lake Gas Company, Saranac Lake, NY **Report No.:** CD4141SL-01-01-17

Client: AMEC Foster Wheeler **Date:** 01/05/17

Sample No: SB-506, S-7 **Source of Sample:** Boring Sample

Location: In-place **Elev./Depth:** 30'



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	0	0	26	74	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
#10	100		
#40	100		
#60	99		
#100	98		
#140	92		
#200	74		

Soil Description

Brown SILT; some f SAND

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 0.0899 D_{60}= D_{50}=
D_{30}= D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Figure

ATLANTIC TESTING LABORATORIES, LIMITED

Reviewed by: Judy Ames Date: 1/10/17

ATLANTIC TESTING LABORATORIES

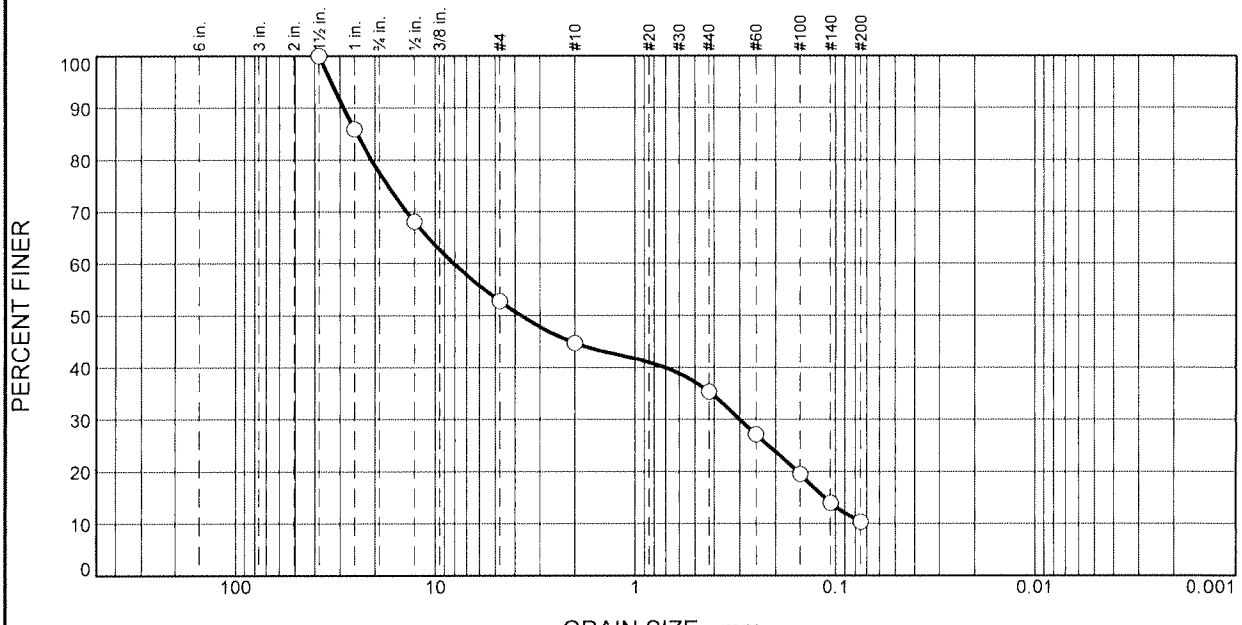
Particle Size Distribution Report

Project: Saranac Lake Gas Company, Saranac Lake, NY **Report No.:** CD4141SL-01-01-17

Client: AMEC Foster Wheeler **Date:** 01/05/17

Sample No: SB-506, S-8 **Source of Sample:** Boring Sample

Location: In-place **Elev./Depth:** 35'



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	22	25	8	10	25	10	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
1-1/2"	100		
1"	86		
1/2"	68		
#4	53		
#10	45		
#40	35		
#60	27		
#100	20		
#140	14		
#200	10		

Soil Description

Grey cmf GRAVEL; and cmf+ SAND; trace SILT

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 24.6811 D_{60}= 8.0723 D_{50}= 3.7203

D_{30}= 0.2996 D_{15}= 0.1139 D_{10}=

C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Figure

ATLANTIC TESTING LABORATORIES, LIMITED

Reviewed by: Judy Ames Date: 1/10/17

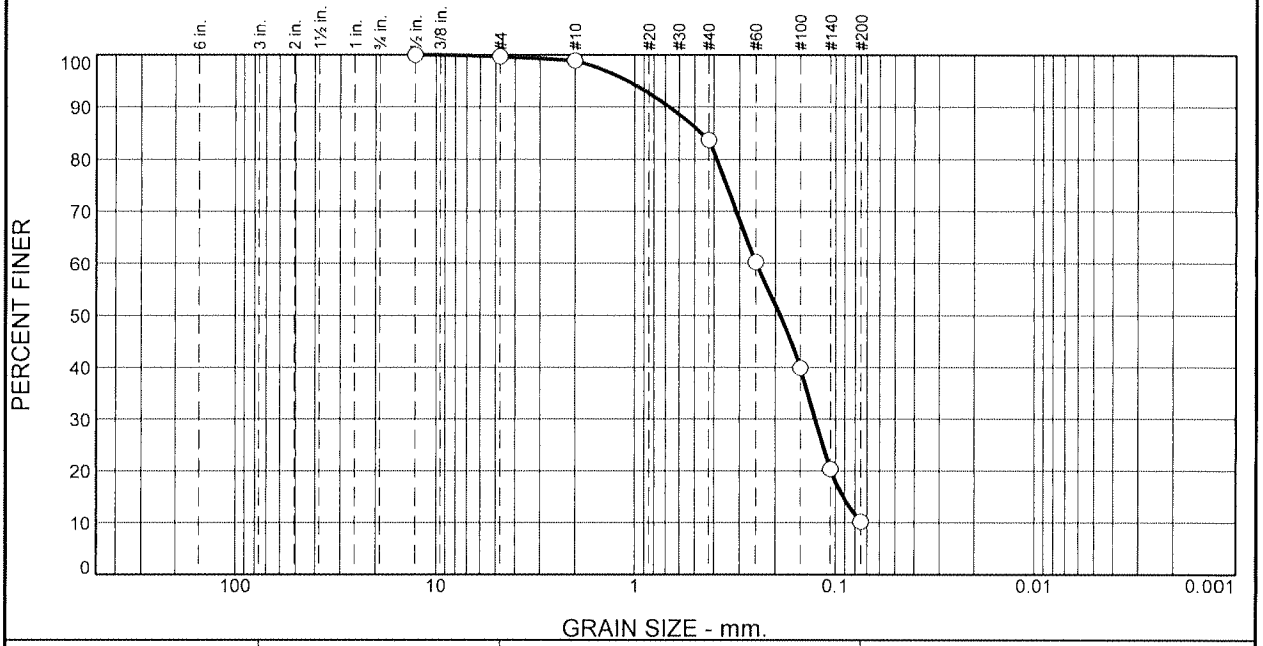
ATLANTIC TESTING LABORATORIES

Particle Size Distribution Report

Project: Saranac Lake Gas Company, Saranac Lake, NY **Report No.:** CD4141SL-01-01-17

Client: AMEC Foster Wheeler **Date:** 01/05/17

Sample No: SB/PZ-331, S-7 **Source of Sample:** Boring Sample
Location: In-place **Elev./Depth:** 15'



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	1	15	74	10	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
1/2"	100		
#4	100		
#10	99		
#40	84		
#60	60		
#100	40		
#140	20		
#200	10		

Soil Description

Brown c-mf+ SAND; trace SILT

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 0.4630 D_{60}= 0.2483 D_{50}= 0.1890
D_{30}= 0.1264 D_{15}= 0.0916 D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Figure

ATLANTIC TESTING LABORATORIES, LIMITED

Reviewed by: Judy Ames Date: 1/10/17

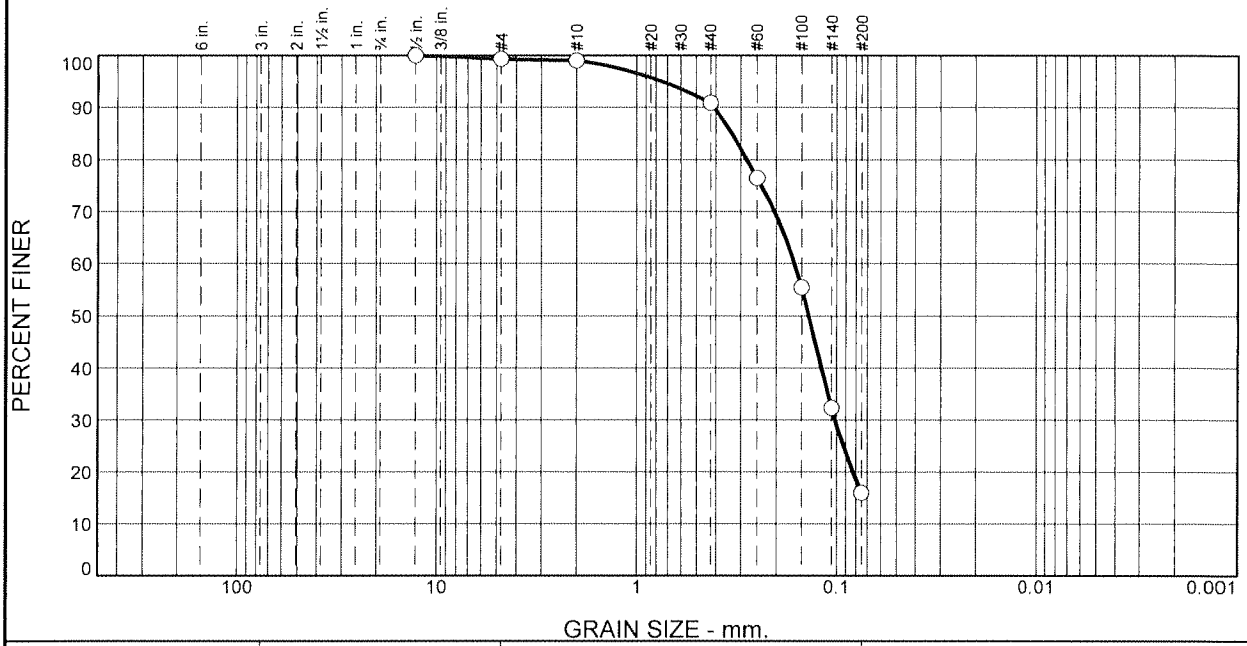
ATLANTIC TESTING LABORATORIES

Particle Size Distribution Report

Project: Saranac Lake Gas Company, Saranac Lake, NY **Report No.:** CD4141SL-01-01-17

Client: AMEC Foster Wheeler **Date:** 01/05/17

Sample No: SB/PZ-335, S-7 **Source of Sample:** Boring Sample
Location: In-place **Elev./Depth:** 15'



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	1	0	8	75	16	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC. (X)
1/2"	100		
#4	99		
#10	99		
#40	91		
#60	76		
#100	55		
#140	32		
#200	16		

Soil Description

Brown mf+ SAND; little SILT; trace f GRAVEL

Atterberg Limits

PL= -- LL= -- PI= --

Coefficients

D_{85}= 0.3339 D_{60}= 0.1626 D_{50}= 0.1377
D_{30}= 0.1018 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= AASHTO=

Remarks

* (no specification provided)

Figure

ATLANTIC TESTING LABORATORIES, LIMITED

Reviewed by: Judy Amos Date: 1/10/17

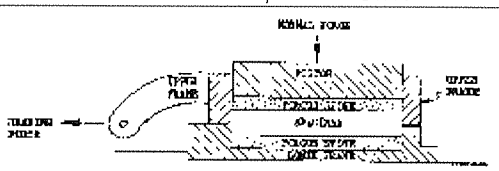
ATLANTIC TESTING LABORATORIES

WBE certified company

PROJECT INFORMATION

Client:	AMEC Foster Wheeler	ATL Report No.:	CD4141SL-01-01-17
Project:	Saranac Lake Gas Company	Report Date:	January 10, 2017
		Date Received:	December 22, 2016

Direct Shear Test of Soils Under Consolidated Drained Conditions
ASTM D 3080

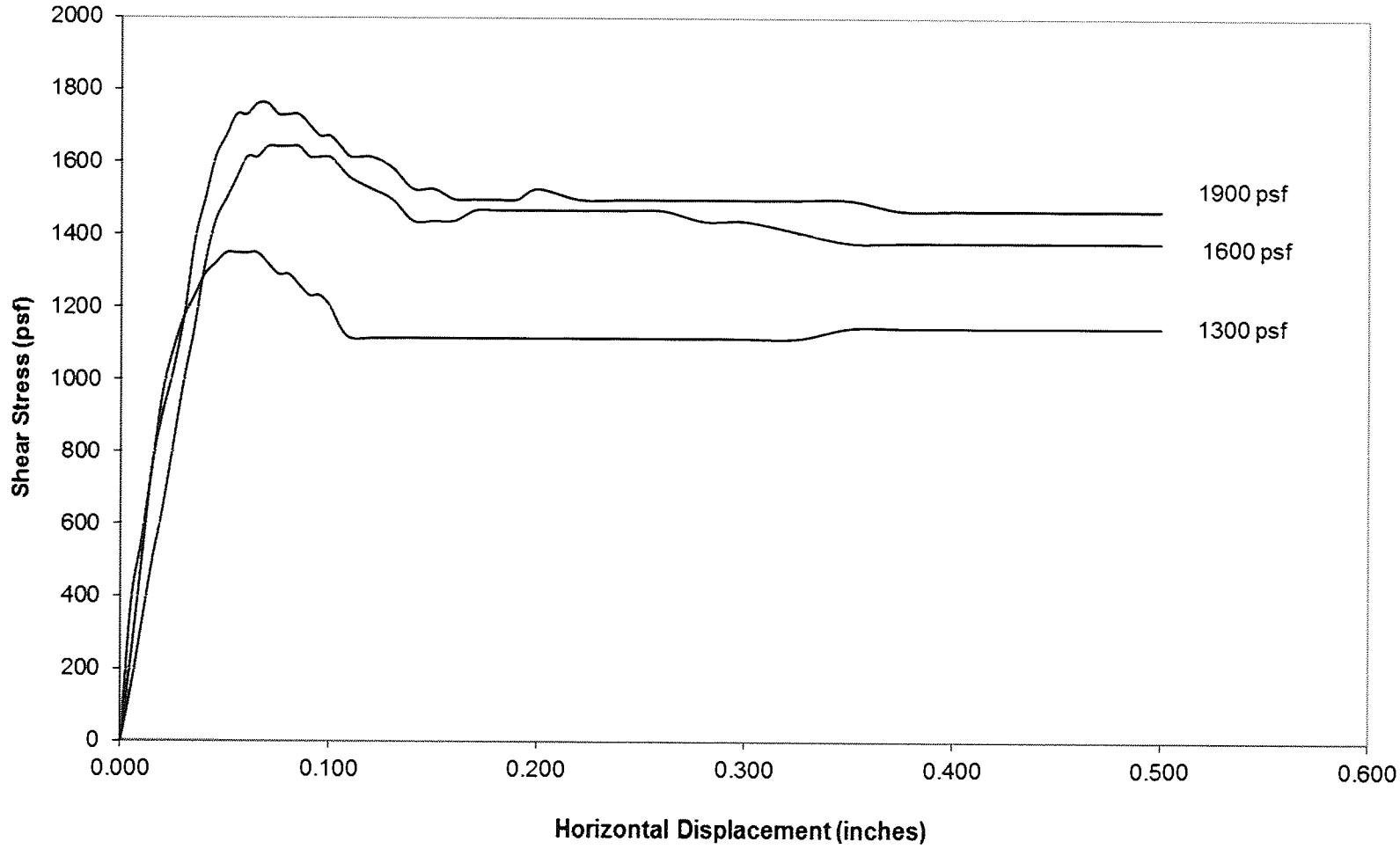
Parameter	Results
Sample Source	SB-501, S-7,8,9
Soil Sample Description	Brown f SAND; some SILT
Specimen Configuration	
Interface Tested	Soil to Soil
Specimen Preparation	Remolded
Compacted Test Density (pcf)	100
Normal Stress (psf)	1300, 1600, 1900
Test Conditions	Temperature 70°F Relative Humidity Nominal
Initial Thickness (in)	1.08
Initial Width (in)	2.50
Displacement Rate	0.005 in/min
Soaking Conditions	Saturated
Testing Method	Single Stage Test (3 points)
Shear Stress used for Strength Parameter	Peak or 0.5 in. Relative Displacement
Internal Friction Angle (degrees)	34
Apparent Cohesion (psf)	490

Remarks

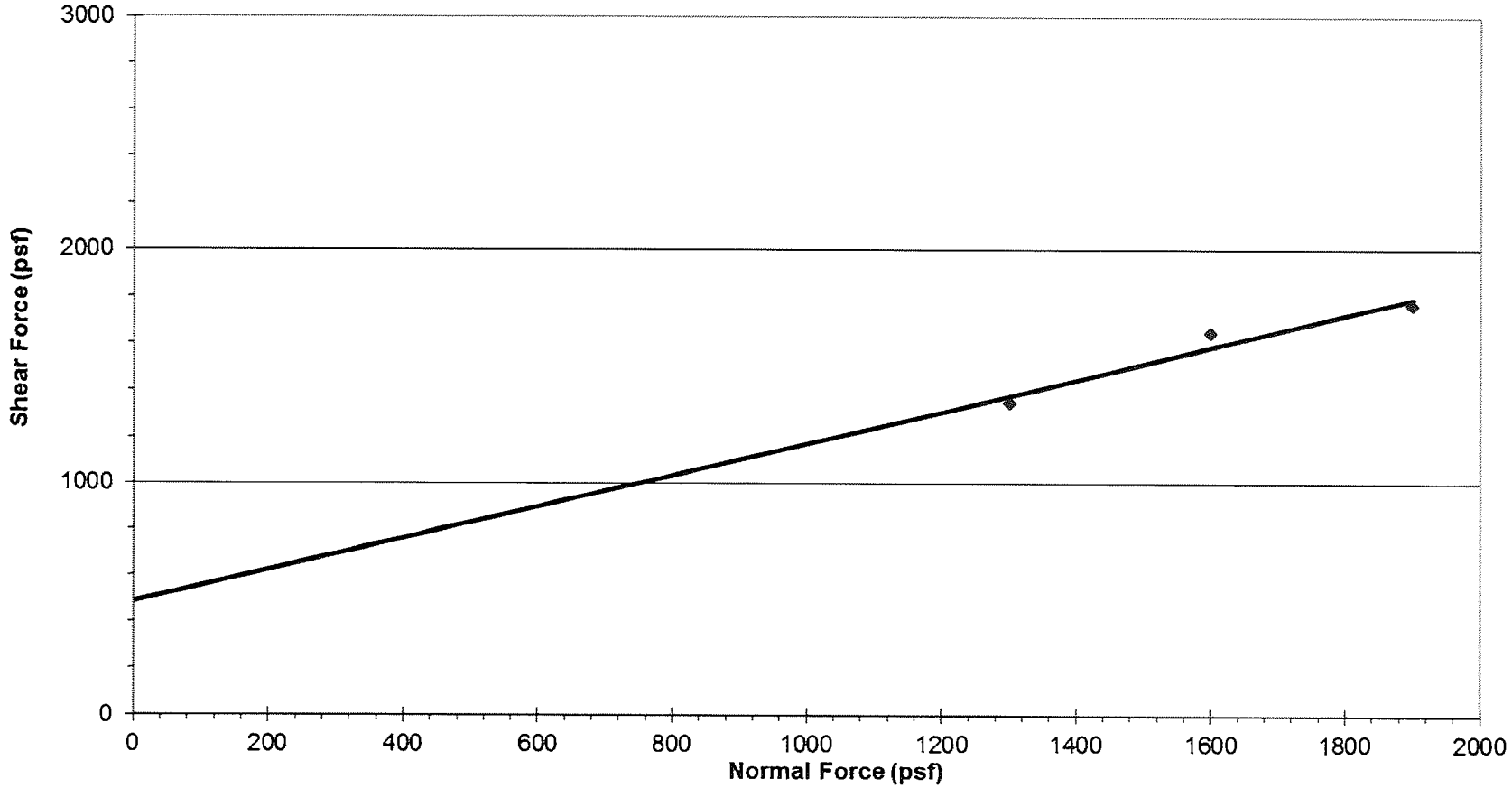
The samples were formed at received moisture content and 100 pcf.

Reviewed By: Judy Ames Date: January 10, 2017

AMEC Foster Wheeler
Saranac Lake Gas Company
SB-501, S-7,8,9
30, 35, 40 feet



AMEC Foster Wheeler
Saranac Lake Gas Company
Sample.: SB-501, S-7,8,9
30, 35, 40 feet
Friction Angle: 34°
Cohesion: 490 psf



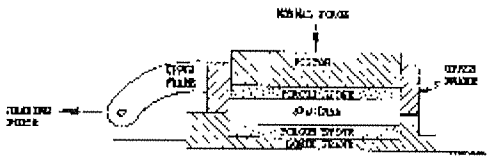
ATLANTIC TESTING LABORATORIES

WBE certified company

PROJECT INFORMATION

Client:	AMEC Foster Wheeler	ATL Report No.:	CD4141SL-01-01-17
Project:	Saranac Lake Gas Company	Report Date:	January 11, 2017
		Date Received:	December 22, 2016

Direct Shear Test of Soils Under Consolidated Drained Conditions
ASTM D 3080

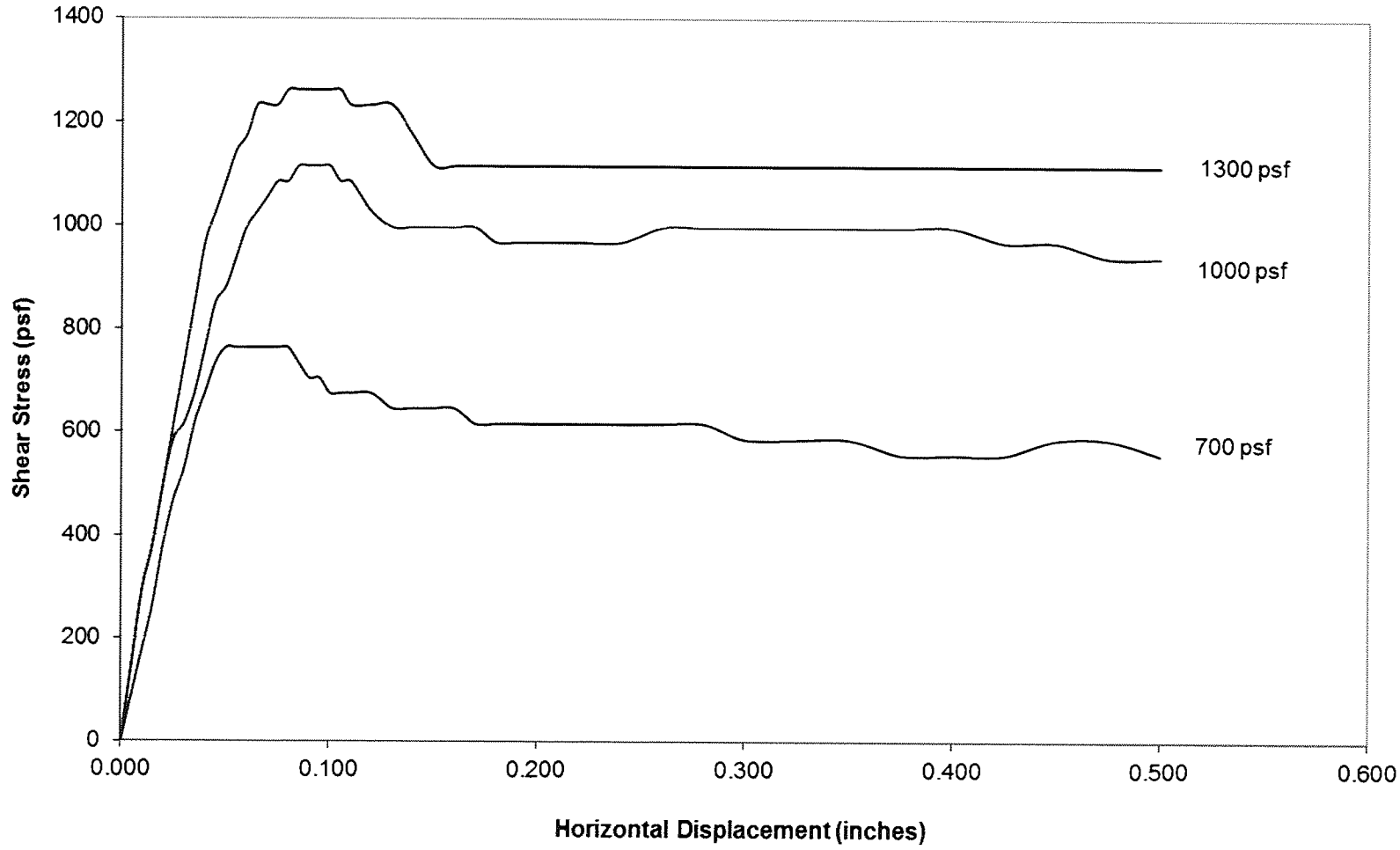
Parameter	Results
Sample Source	SB-502, S-4,5,6
Soil Sample Description	Light Brown mf+ SAND; little SILT
Specimen Configuration	
Interface Tested	Soil to Soil
Specimen Preparation	Remolded
Compacted Test Density (pcf)	100
Normal Stress (psf)	700, 1000, 1300
Test Conditions	Temperature 70°F Relative Humidity Nominal
Initial Thickness (in)	1.08
Initial Width (in)	2.50
Displacement Rate	0.005 in/min
Soaking Conditions	Saturated
Testing Method	Single Stage Test (3 points)
Shear Stress used for Strength Parameter	Peak or 0.5 in. Relative Displacement
Internal Friction Angle (degrees)	40
Apparent Cohesion (psf)	215

Remarks

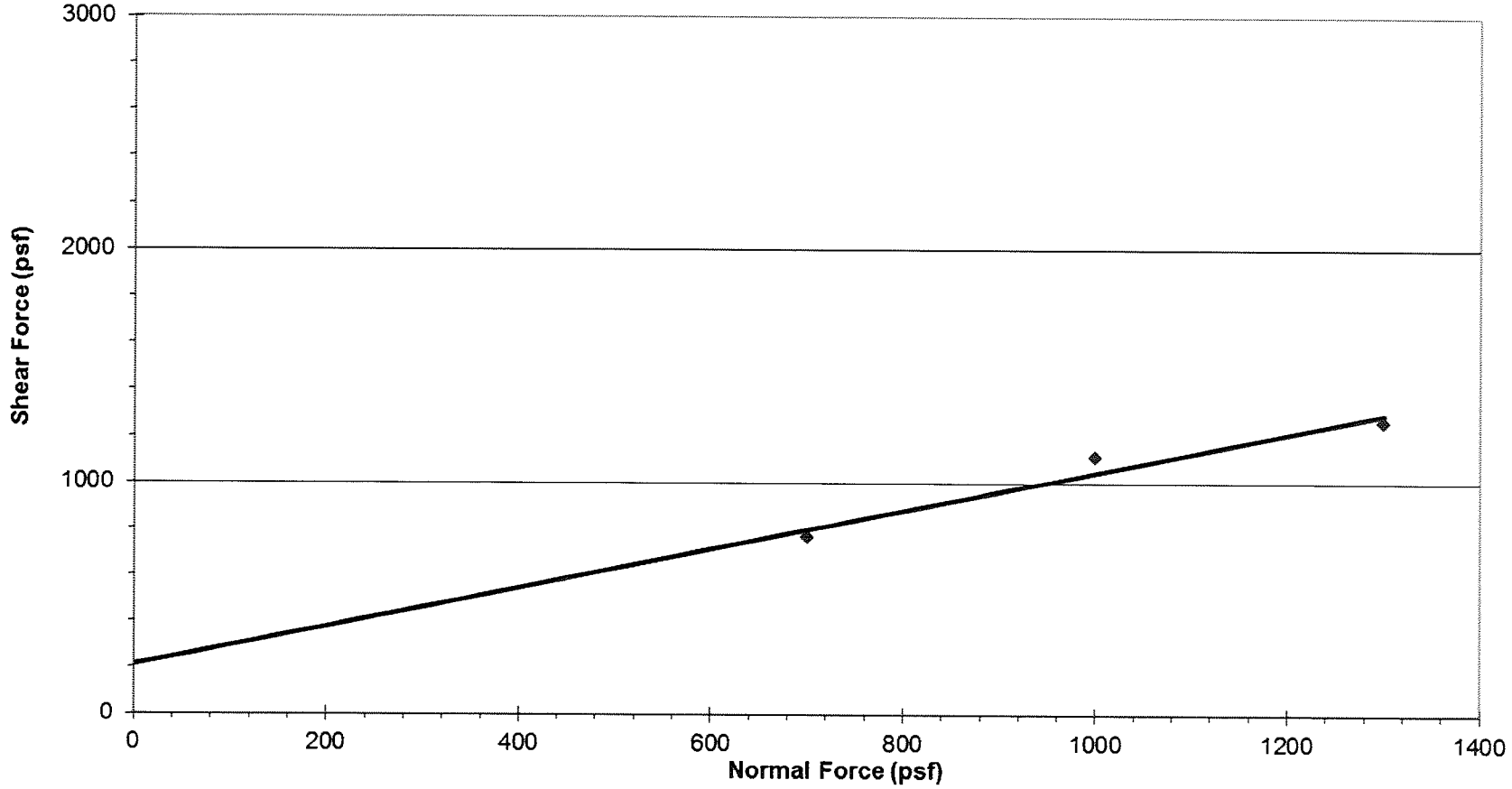
The samples were formed at received moisture content and 100 pcf.

Reviewed By: Judy Ames Date: January 11, 2017

AMEC Foster Wheeler
Saranac Lake Gas Company
SB-502, S-4,5,6
15, 20, 25 feet



AMEC Foster Wheeler
Saranac Lake Gas Company
Sample.: SB-502, S-4,5,6
15, 20, 25 feet
Friction Angle: 40°
Cohesion: 215 psf



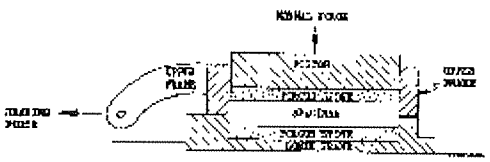
ATLANTIC TESTING LABORATORIES

WBE certified company

PROJECT INFORMATION

Client:	AMEC Foster Wheeler	ATL Report No.:	CD4141SL-01-01-17
Project:	Saranac Lake Gas Company	Report Date:	January 12, 2017
		Date Received:	December 22, 2016

Direct Shear Test of Soils Under Consolidated Drained Conditions
ASTM D 3080

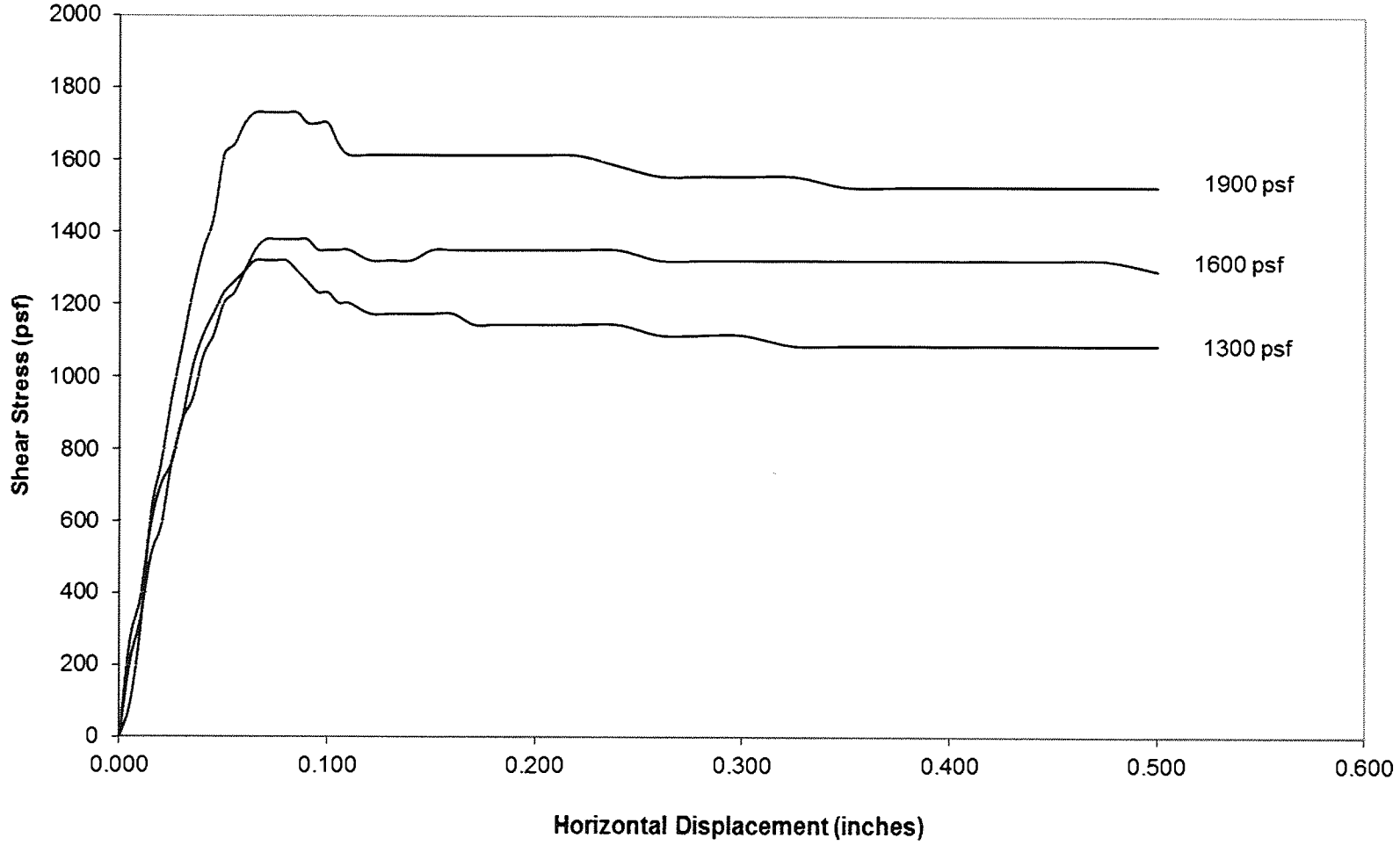
Parameter	Results
Sample Source	SB-503, S-4,5,6
Soil Sample Description	Light Brown f SAND; little SILT
Specimen Configuration	
Interface Tested	Soil to Soil
Specimen Preparation	Remolded
Compacted Test Density (pcf)	100
Normal Stress (psf)	1300, 1600, 1900
Test Conditions	Temperature 70°F Relative Humidity Nominal
Initial Thickness (in)	1.08
Initial Width (in)	2.50
Displacement Rate	0.005 in/min
Soaking Conditions	Saturated
Testing Method	Single Stage Test (3 points)
Shear Stress used for Strength Parameter	Peak or 0.5 in. Relative Displacement
Internal Friction Angle (degrees)	34
Apparent Cohesion (psf)	380

Remarks

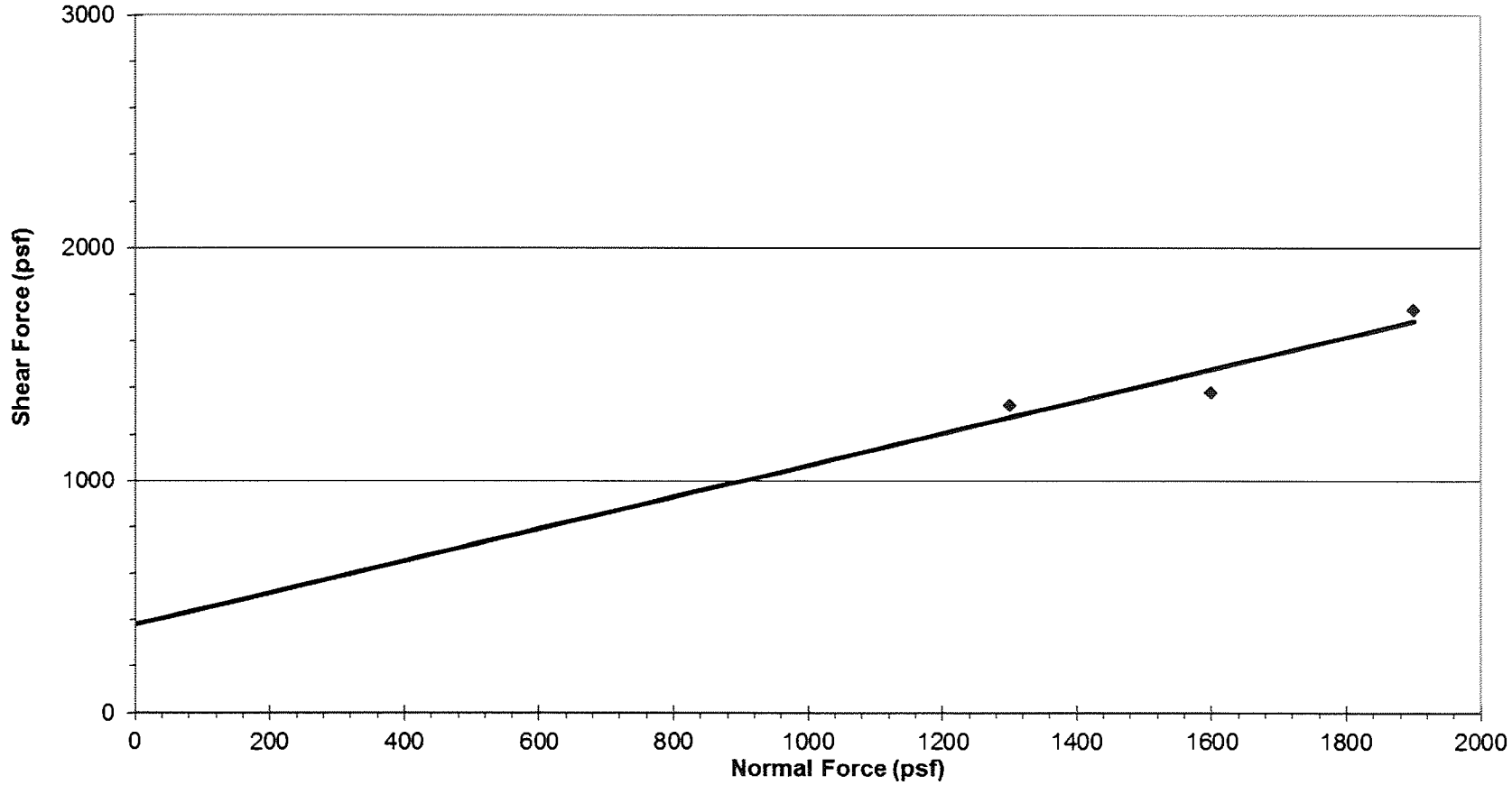
The samples were formed at received moisture content and 100 pcf.

Reviewed By: Judy Ames Date: January 12, 2017

AMEC Foster Wheeler
Saranac Lake Gas Company
SB-503, S-4,5,6
15, 20, 25 feet



AMEC Foster Wheeler
Saranac Lake Gas Company
Sample.: SB-503, S-4,5,6
15, 20, 25 feet
Friction Angle: 34°
Cohesion: 380 psf



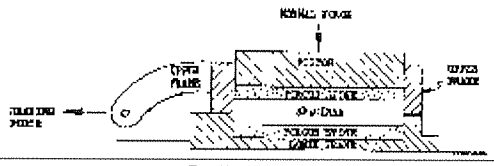
ATLANTIC TESTING LABORATORIES

WBE certified company

PROJECT INFORMATION

Client:	AMEC Foster Wheeler	ATL Report No.:	CD4141SL-01-01-17
Project:	Saranac Lake Gas Company	Report Date:	January 13, 2017
		Date Received:	December 22, 2016

Direct Shear Test of Soils Under Consolidated Drained Conditions
ASTM D 3080

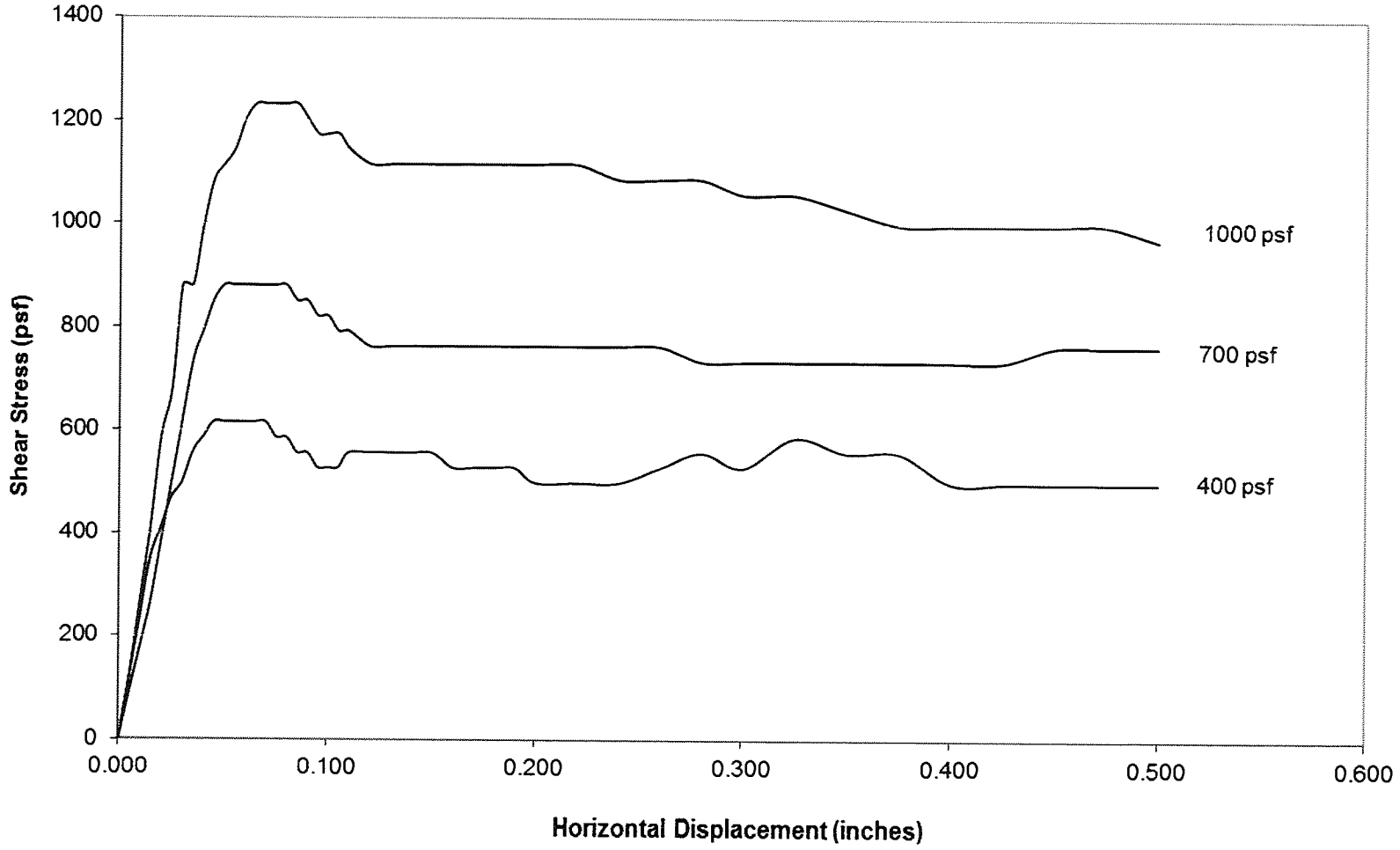
Parameter	Results
Sample Source	SB-504, S-2,3,4
Soil Sample Description	Grey and Brown mf+ SAND; little SILT; little m GRAVEL
Specimen Configuration	
Interface Tested	Soil to Soil
Specimen Preparation	Remolded
Compacted Test Density (pcf)	100
Normal Stress (psf)	400, 700, 1000
Test Conditions	Temperature 70°F Relative Humidity Nominal
Initial Thickness (in)	1.08
Initial Width (in)	2.50
Displacement Rate	0.005 in/min
Soaking Conditions	Saturated
Testing Method	Single Stage Test (3 points)
Shear Stress used for Strength Parameter	Peak or 0.5 in. Relative Displacement
Internal Friction Angle (degrees)	46
Apparent Cohesion (psf)	190

Remarks

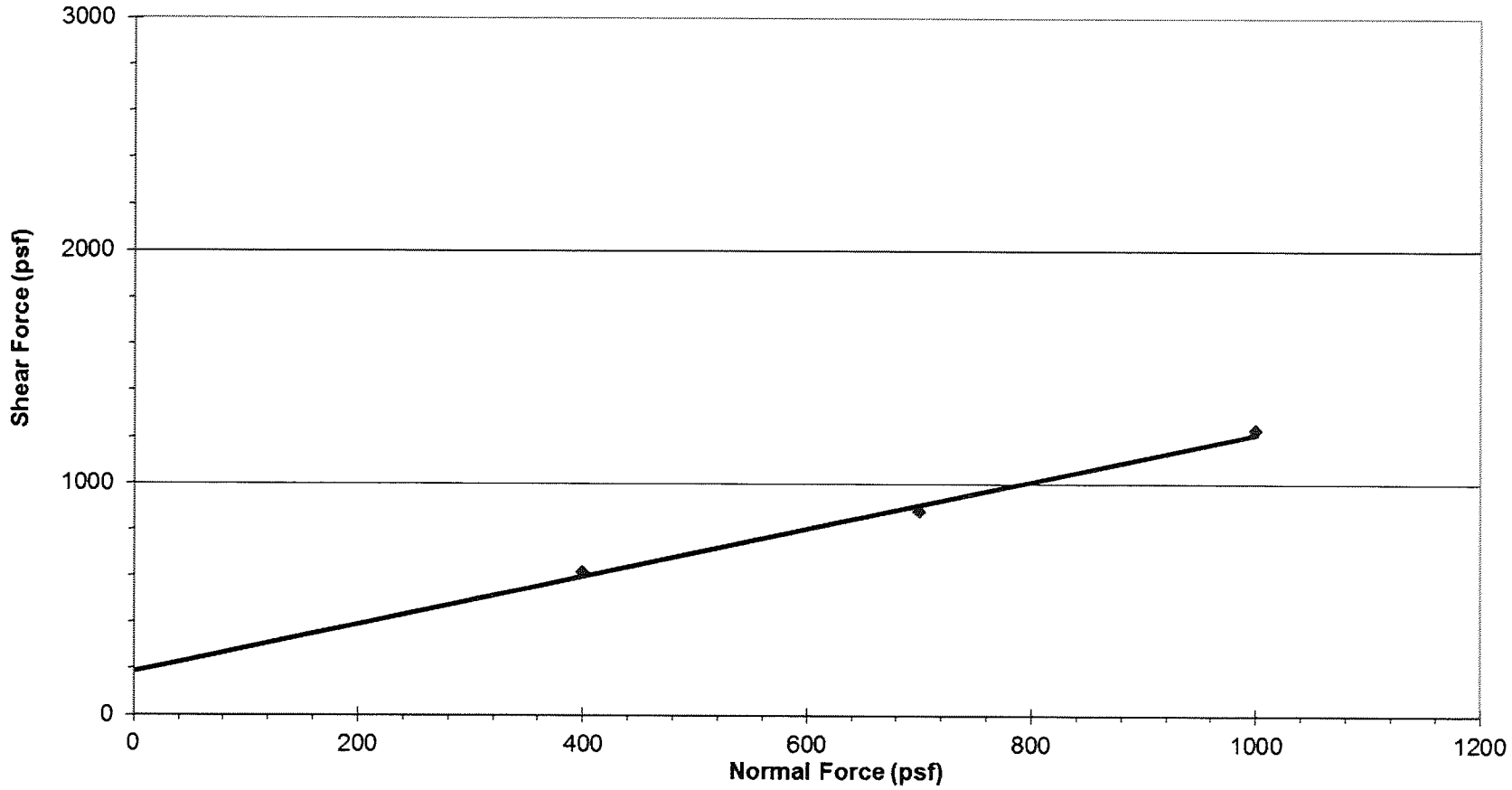
The samples were formed at received moisture content and 100 pcf.

Reviewed By: Judy Ames Date: January 13, 2017

AMEC Foster Wheeler
Saranac Lake Gas Company
SB-504, S-2,3,4
5, 10, 15 feet



AMEC Foster Wheeler
Saranac Lake Gas Company
Sample.: SB-504, S-2,3,4
5, 10, 15 feet
Friction Angle: 46°
Cohesion: 190 psf



MACTEC

engineering and constructing a better tomorrow

Response to Comments Letter

Army Corps of Engineers
Upstate Regulatory Field Office
1 Buffington St., Building 10, 3rd FL. North
Watervliet, New York 121189-4000

To:	Bruce, Kevin
From:	Stelmack, Mark (MACTEC)
CC:	Mason, Mike (NYSDEC); Lyman, Charles (MACTEC)
Date:	October 10, 2017
Re:	Permit Application No. NAN02017-00440-UBR – Additional Information and Clarification

Dear Mr. Bruce

This letter contains a response to your request for additional information and clarification regarding the subject Permit Application, outlined in your letter dated September 18, 2017.

1) **USACOE Comment:** Additional Joint Application signature pages with property owner signatures or copies of formal signed legal consent documents for each property owner.

   Response: Copies of property owner access agreements, currently being arranged by the New York State Department of Environmental Conservation (NYSDEC), will be furnished to the USCOE when completed.

2) **USACOE Comment:** An official list of Endangered or Threated species in the vicinity of the project site from the U.S. Fish and Wildlife Service IPaC website, as referenced in FWS correspondence dated June 8, 2017 which was included in your submittal. Provide an assessment of the proposed project and its potential impact on any bats listed.

   Response: Attachment 1 to this letter is the output from the IPaC website and a brief Endangered or Threatened Species Assessment for the Northern Long-eared Bat.

3) **USACOE Comment**: The application states you are requesting an Approved JD for the project. I will be emailing you a more current JD request (Appendix 1) form along with information on the types of JDs available. Please review this information and submit the revise form.

   Response: Attachment 2 is the revised Appendix 1 – Request of Corps Jurisdictional Determination (JD) form. Based on our review of the information you provided we are not requesting a JD at this time. The Regulatory Guidance Letter No. 16-01 dated

MACTEC Engineering and Consulting, P.C.
511 Congress Street, Suite 200 • Portland, ME 04112-7050 • Phone: 207-775-5401 • Fax: 207-772-4762

October 2016 suggests that a JD is not issued when seeking authorization to do work under nationwide general permits.

4) **USACOE Comment:** A narrative providing details on how excavation of sediment from the brook and bay would be conducted, how the materials would be handled, where the materials would be dewatered and whether there would be return flow to the waterway. Locations of dewatering areas should be depicted on drawings.

Response: The following text provides a description of the excavation process proposed for Brandy Brook and Pontiac Bay.

Sediment Excavation from Brandy Brook.

The selected remedial action contractor will be responsible for providing details for the diversion of upstream brook flow around the excavation area. Diverted flows will be routed to Pontiac Bay.

The remedial action contractor will be responsible for providing details for dewatering within the sediment excavation area. Construction water will be transported to an onsite treatment unit located at a yet to be determined location. Treated water is planned to be discharged to the Village of Saranac Lake sanitary sewer with permission/approval from the receiving facility.

Sediment will be removed with an excavator bucket and transported in lined vehicles to a dewatering facility located at a yet to be determined location, possibly at the former Saranac Lake Gas Company (OU-1) property located adjacent to the brook as depicted on Drawing C-101.

Sediment Excavation from Pontiac Bay.

The selected remedial action contractor will be responsible for providing details for the diversion of upstream brook flow around the bay excavation area. Diverted brook flow will be routed to a location in Pontiac Bay outside of the excavation area.

The remedial action contractor will be responsible for providing details for dewatering within the sediment excavation area. Construction water will be transported to an onsite treatment unit located at a yet to be determined location. Treated water is planned to be discharged to the Village of Saranac Lake sanitary sewer with permission/approval from the receiving facility.

Sediment will be removed using mechanical dredging (an excavator mounted on a floating barge) and loaded onto support barge(s) for transport to a dewatering facility located at the public boat launch property owned by the NYSDEC as depicted on Drawing C-104.

5) **USACOE Comment**: Cross-section drawings of all stream channel crossings that will be replaced.

Response: Attachment 3 contains drawings (which will be included in the final remedial action design) of the stream channel crossings proposed. The crossing design complies with the requirements of Section G-B in Section G of the Buffalo and New York Districts General Regional Conditions.

6) **USACOE Comment:** Volumes of all temporary and permanent fills that would be discharged into waters of the United States for in-stream structures, check dams for

dewatering, temporary access, cofferdams, etc. In addition, please provide the volume of materials that would be used for restoration both in the brook and Lake Flower.

Response: To effectively conduct diversion of up gradient brook flows around active work areas as well as manage dewatering activities within active work areas, remediation of OU2 Brandy Brook will be conducted in segments starting from the upstream end and progressing downstream. The actual limits of each segment will be provided by the Remedial Contractor prepared Construction Work Plan, however it is expected the segments will be approximately 200 to 400 feet in length (shorter lengths for deeper excavation areas). The actual methods for temporary isolation of the active work areas will also be outlined in the Remedial Contractor's Construction Work Plan but will likely consist of temporary cofferdams using aqua dams or sheeting. The temporary cofferdams would be removed and reused as work progresses downstream and restored areas are stabilized. The total impacted sediment and soil excavation for OU2 Brandy Brook is approximately 5800 cubic yards (cy) (includes 25% contingency since actual excavation limits will be determined by confirmation sampling). Permanent filling for the restoration activities will also be approximately 5800 cy with the goal to generally restore the existing topography. Permanent fill for restoration will include clean subgrade fill (approximately 4500 cy), wetland topsoil (approximately 830 cy), and stream bed material (approximately 470 cy).

Sediment removal within UO3 Pontiac Bay in Lake Flower will be conducted by dredging therefore no temporary fills, check dams or cofferdams will be used, with the OU3 limits isolated within a turbidity curtain. The total impacted sediment excavation for OU3 Pontiac Bay is approximately 15,950 cy (includes 25% contingency since actual excavation limits will be determined by confirmation sampling). Some of the sediment to be excavated includes a mound of sediment deposition near the east end of the bay likely from storm drain piping systems within adjacent roads. Permanent filling for the restoration activities will not include replacing this sediment mound so the fill volume will be slightly less than the excavated volume but the goal is to generally restore the original bay topography. Permanent fill for restoration will include clean granular dredged area backfill material of approximately 15,100 cy.

We hope that the responses and information provided satisfactorily address your request for clarification and additional information. Please feel free to contact us should you require additional information or have any questions.

Sincerely,

MACTEC Engineering and Consulting, P.C.

Mark Stelmack, P.E.

Project Manager

cc: Mike Mason, NYSDEC

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9349
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To:
Consultation Code: 05E1NY00-2017-SLI-3457
Event Code: 05E1NY00-2017-E-09887
Project Name: Saranac Lake Gas Company Site

September 21, 2017

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (

http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9349
(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2017-SLI-3457

Event Code: 05E1NY00-2017-E-09887

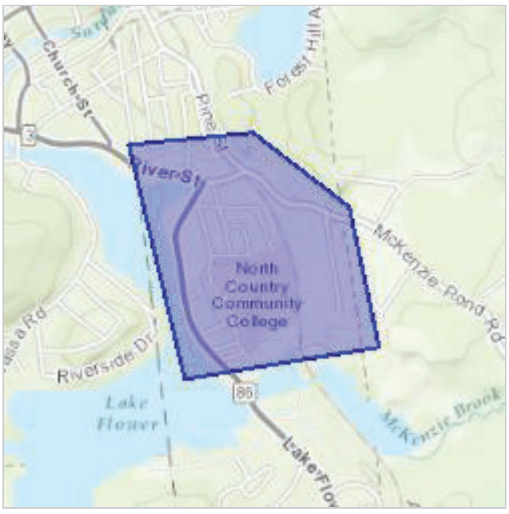
Project Name: Saranac Lake Gas Company Site

Project Type: Superfund Site Remediation

Project Description: The site is a former manufactured gas plant in Saranac Lake, New York. The site is a State superfund site and has been slated for clean up. The clean up project is going to take several years and includes dredging Pontiac Bay of Lake Flower and a 2000 ft section of Brandy Brook a small perennial stream that discharges to Pontiac Bay. The remediation work will require the removal of trees over 3" DBH in order to access the site and excavate contaminated sediment and soil. The site will be restored in kind once contaminated sediment and soil have been excavated and trucked off site. A formal inventory of trees that will be impacted has not been conducted however, It has already been established that any tree removal would occur during the period between November 1st and March 31st.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/44.32043990403298N74.11939229368554W



Counties: Essex, NY | Franklin, NY

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

There are no critical habitats within your project area under this office's jurisdiction.

Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

To: New York District

- Type of determination being requested:
  ___ I am requesting an approved JD.
  ___ I am requesting a preliminary JD.
  X___ I am not requesting a JD.
  ___ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
  ___ I am unclear as to which JD I would like to request and require additional information to inform my decision.

- On property located at: Payeville Road
  (Street Address)
  City/Township/Parish: Saranac Lake County: Essex State: ME
  Acreage of Parcel/Review Area for JD: 2.23 acres
  Section: NA Township: NA Range: NA
  Latitude (decimal degrees): 44.32082° Longitude (decimal degrees): 74.11726°
  (For linear projects, please include the center point of the proposed alignment.)
- Please attach a survey/plat map and vicinity map identifying location and review area for the JD.
- ___ I currently own this property. ___ I plan to purchase this property.
  X___ I am an agent/consultant acting on behalf of the requestor.
  ___ Other (please explain): _____
- Reason for request: (check as many as applicable)
  ___ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
  ___ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
  ___ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
  ___ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
  ___ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
  ___ A Corps JD is required in order to obtain my local/state authorization.
  ___ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
  ___ I believe that the site may be comprised entirely of dry land.
  Other: Work is being done under Nationwide Permit

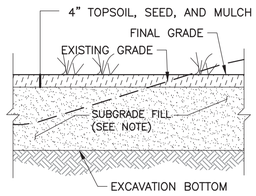
By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property. rights to request a JD on the subject property.

*Signature: Mark Stelmack as agent for NYSDEC Date: 10/10/2017

- Typed or printed name: Mark Stelmack, P.E.
  Company name: MACTEC Engineering and Consulting, P.C.
  Address: 511 Congress Street, Suite 200, Portland, Maine 04101

  Daytime phone no.: 207-775-5401
  Email address: mark.stelmack@amecfw.com

*Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.
Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.
Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.
Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

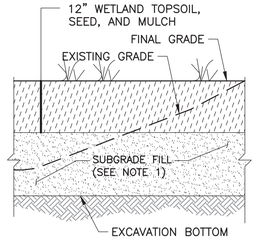


NOTE:
DEPTHS OF SUBGRADE FILL VARIES BASED ON ACTUAL EXCAVATION BOTTOM AND FINAL GRADE ELEVATIONS.

VEGETATED UPLAND RESTORATION

NTS

N — TYP C-304

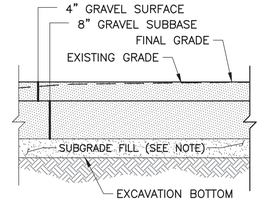


NOTES:
1. DEPTHS OF SUBGRADE FILL VARIES BASED ON ACTUAL EXCAVATION BOTTOM AND FINAL GRADE ELEVATIONS.
2. INSTALL PLANTINGS AS SHOWN ON DRAWINGS.

VEGETATED WETLAND RESTORATION

NTS

O — TYP C-304

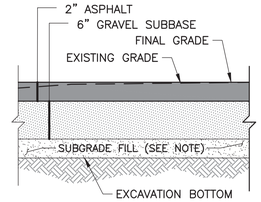


NOTE:
DEPTHS OF SUBGRADE FILL VARIES BASED ON ACTUAL EXCAVATION BOTTOM AND FINAL GRADE ELEVATIONS.

GRAVEL DRIVE RESTORATION

NTS

P — TYP C-304

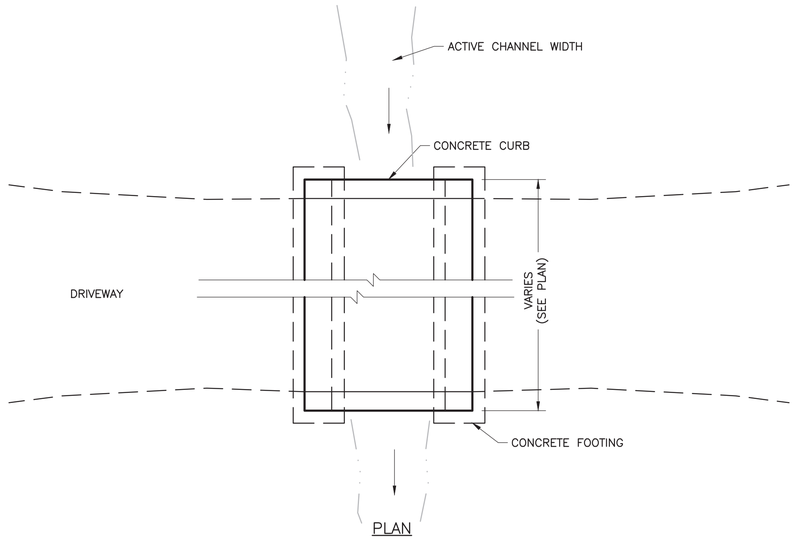


NOTE:
DEPTHS OF SUBGRADE FILL VARIES BASED ON ACTUAL EXCAVATION BOTTOM AND FINAL GRADE ELEVATIONS.

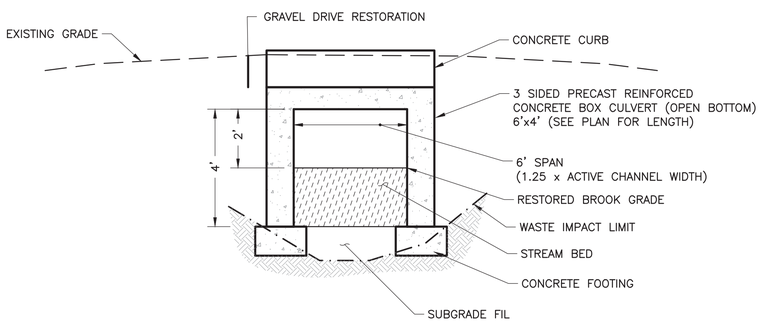
PAVED DRIVE RESTORATION

NTS

Q — TYP C-304



PLAN

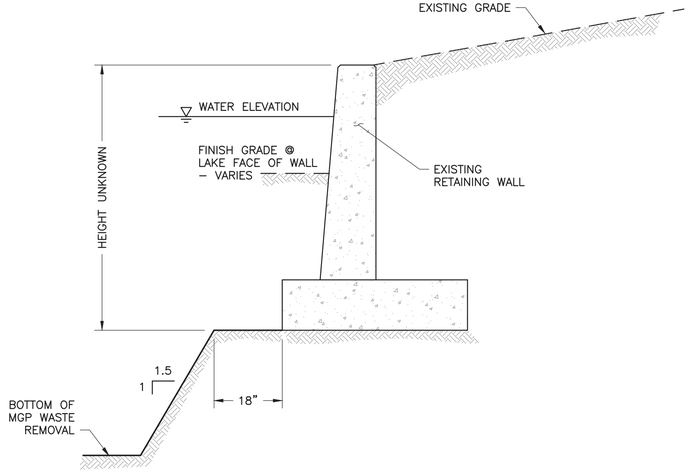


SECTION

DRIVEWAY CULVERTS

NTS

R — TYP C-304



RETAINING WALL

NTS

S — TYP C-304

NO.	DATE	DSGN
C	-	
B	8/22/17	MAP
A	4/20/17	MAP

	BY	APVD
- PERMITTING	CHL	MJS
30% DESIGN	MAP	MJS
REVISION	CHK	APVD
	WJW	MAP
	DR	MJS

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

REMEDIAL ACTION
SARANAC LAKE GAS CO., INC.
SARANAC LAKE, NEW YORK
NYSDEC SITE NUMBER - 516008

MACTEC Engineering and Consulting, P.C.
P.O. Box 7050, 511 Congress Street
Portland, Maine 04112-7050
(207) 775-5401

MACTEC

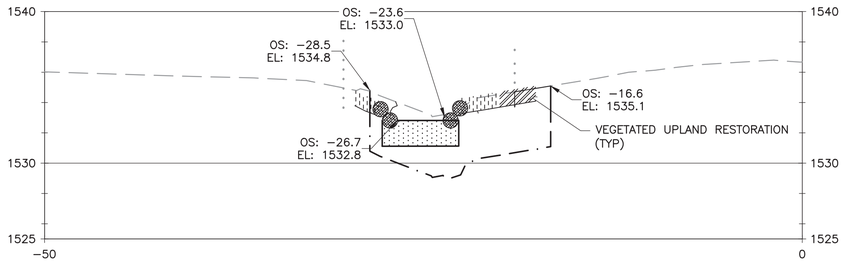
CIVIL

CIVIL DETAILS - 2

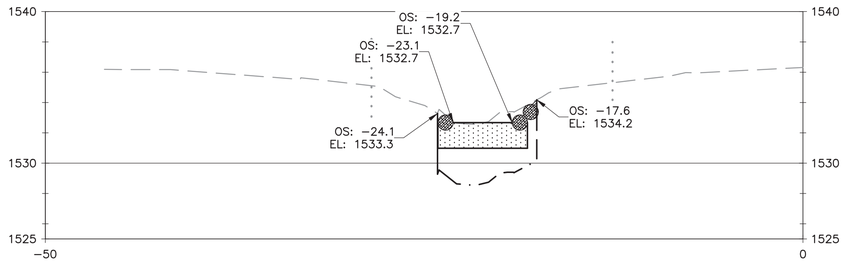
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

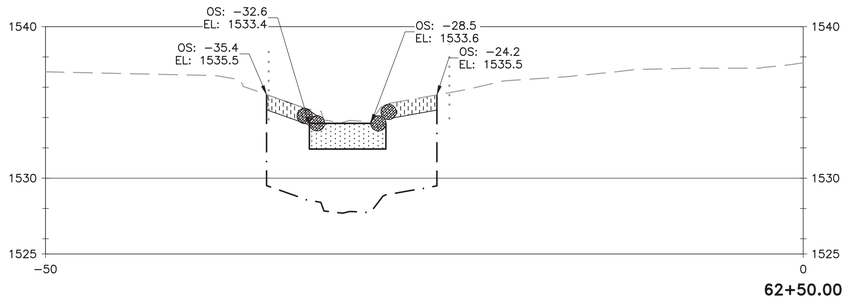
DATE	JULY 2017
PROJ	3611-16-1193
DWG	C-304
SHEET	16 OF 29



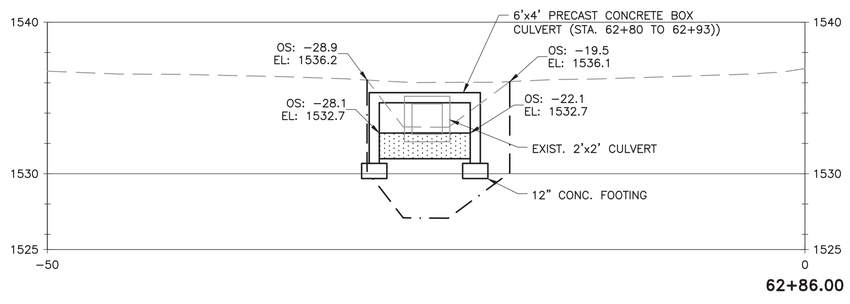
63+00.00



63+50.00



62+50.00



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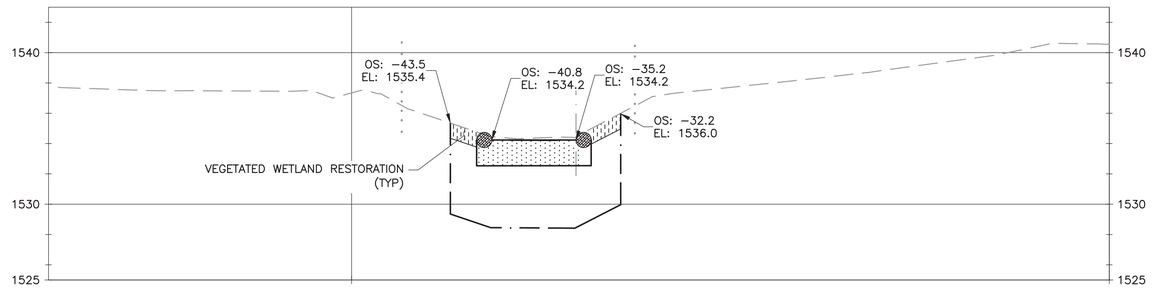
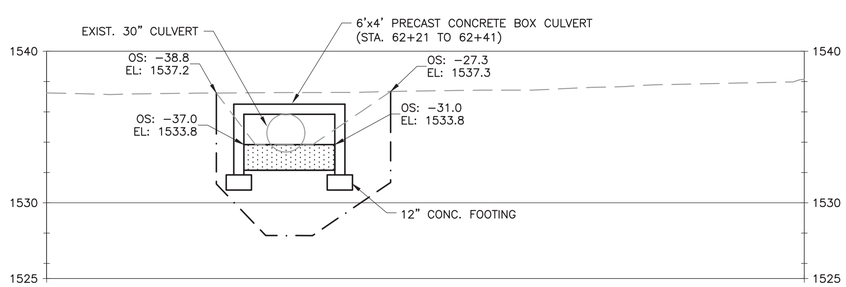


62+00.00



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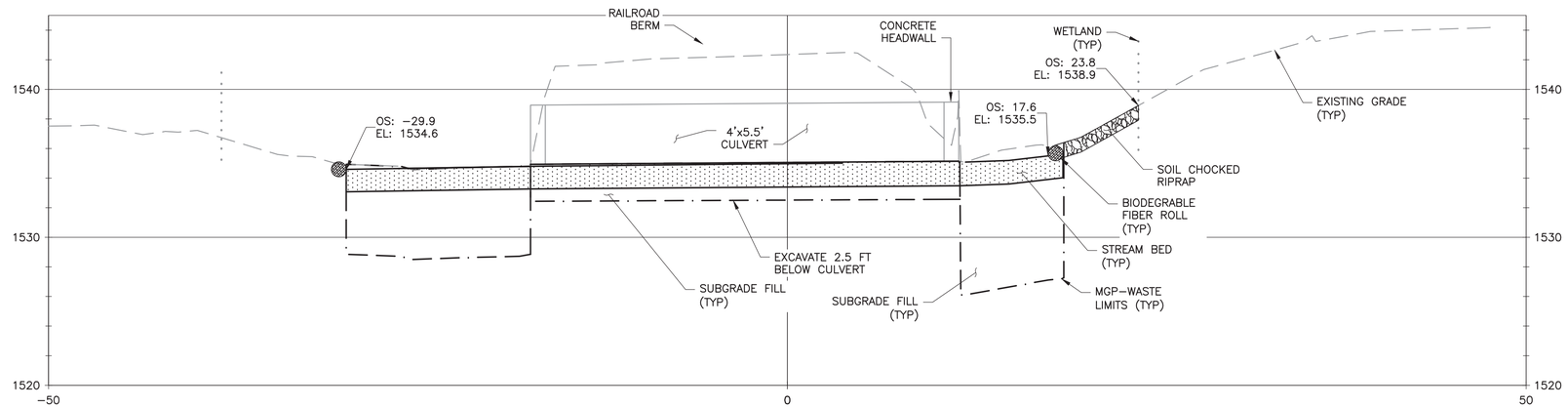

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SCALE IN FEET VERTICAL: 0, 2.5, 5, 10

SCALE IN FEET HORIZONTAL: 0, 2.5, 5, 10

NO.	DATE	DSGN	DR	CHK	APVD
C	10/06/17	CHL	MAP	WJW	MJS
B	8/22/17	CHL	MAP	MAP	MJS
A	4/20/17	MAP	MJS	MAP	MJS

PERMITTING - REVISED PER COMMENTS
PERMITTING
30% DESIGN
REVISION

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

REMEDIAL ACTION
SARANAC LAKE GAS CO., INC.
SARANAC LAKE, NEW YORK
NYSDEC SITE NUMBER - 516008

MACTEC Engineering and Consulting, P.C.
P.O. Box 1026, 51 Comercial Street
Portland, Maine 04112-7050
(207) 775-5401

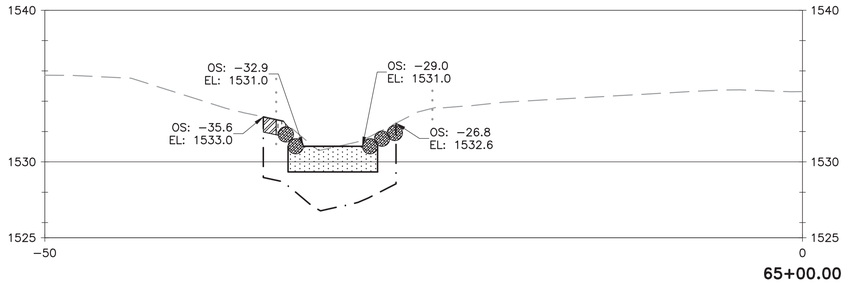
MACTEC

CIVIL
CONSTRUCTION BASELEINE
CROSS SECTIONS
OU02

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	FEB 2017
PROJ	3611-16-1193
DWG	C-405
SHEET	21 OF 29



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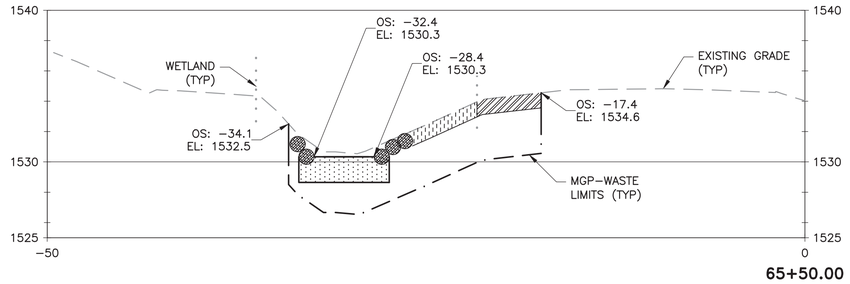

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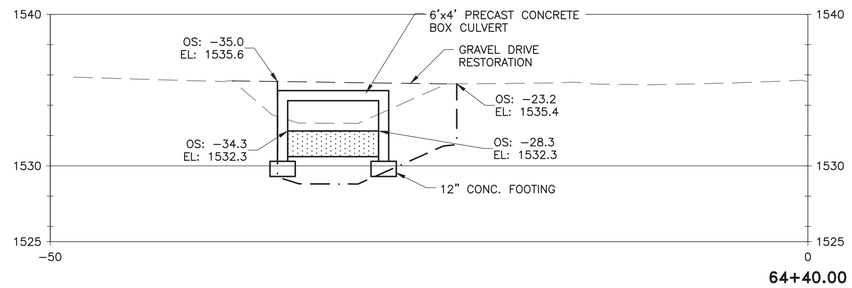

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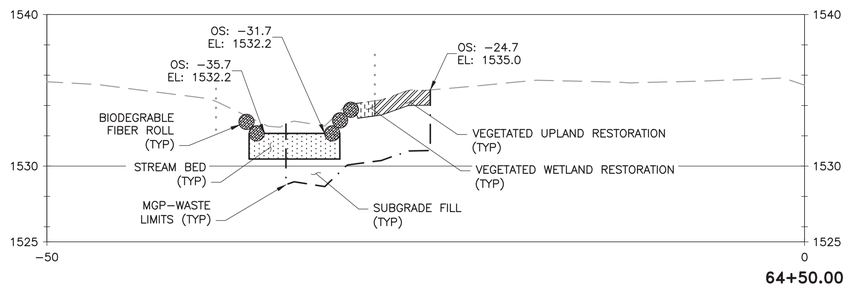

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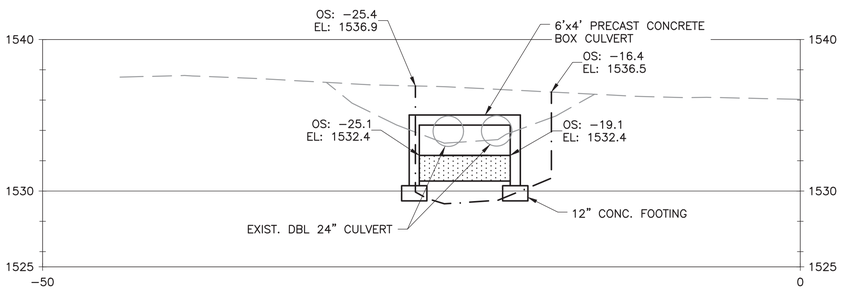

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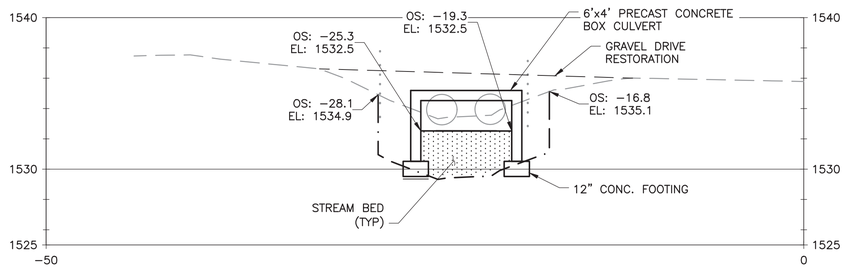

64+00.00

NO.	DATE	DSGN	DR	CHK	APVD
C	10/06/17	MAP	WJW	MAP	MJS
B	8/22/17				
A	4/20/17				

PERMITTING - REVISED PER COMMENTS — CHL MJS
PERMITTING — CHL MJS
30% DESIGN — MAP MJS
REVISION — BY APVD

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Department of Environmental Conservation

REMEDIAL ACTION
SARANAC LAKE GAS CO., INC.
SARANAC LAKE, NEW YORK
NYSDEC SITE NUMBER - 516008

MACTEC Engineering and Consulting, P.C.
P.O. Box 7050, 511 Congress Street
Portland, Maine 04112−7050
(207) 775−5401

MACTEC

CIVIL
CONSTRUCTION BASELEINE
CROSS SECTIONS
OU02

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	FEB 2017
PROJ	3611-16-1193
DWG	C-406
SHEET	22 OF 29

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers, ATTN: CENAN-OP-RU
Upstate Regulatory Field Office
1 Buffington St., Building 10, 3rd Fl. North
Watervliet, New York 12189-4000

JAN 25 2018

Upstate New York Section

SUBJECT: Permit Application No. NAN-2017-00440-UDE
by New York State Department of Environmental Conservation
Village of Saranac Lake, Essex County, New York

Michael Mason
New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, New York 12233

Dear Mr. Mason:

On August 31, 2017, the New York District of the U.S. Army Corps of Engineers received a request for Department of the Army authorization to conduct dredging and discharge fill material into waters of the United States to facilitate the removal of hazardous waste in and adjacent to Pontiac Bay of Lake Flower and Brandy Brook. The site is located in the Lake Champlain watershed, off of State Route 86 and Payeville Lane, in the Village of Saranac Lake, Essex County, New York.

The above submittal, and subsequent submittals received on October 11, November 2 and December 6 and 15, 2017, including the drawings prepared by MACTEC Engineering and Consulting, P.C., entitled "Remedial Action, Saranac Lake Gas Co., Inc., Saranac Lake, New York, NYSDEC Site Number 516008", with Sheets 7, 10 – 15, 17 – 20, 23, 25, 26, 28 and 29 of 29, dated February 2017 and last revised on August 22, 2017, Sheets 9, 16 and 27 of 29 dated July 2017 and last revised on August 22, 2017, a second Sheet 26 of 29 dated July 2017 and last revised on September 22, 2017, Sheet 8 of 29 dated August 2017 and last revised on August 22, 2017, and Sheets 21 and 22 of 29 dated February 2017 and last revised on October 6, 2017, indicate that the total impacts to waters of the United States would involve the discharge of fill material into 1,360 linear feet of Brandy Brook and 0.58 acre of adjacent wetlands, and dredging and the discharge of fill material into approximately 71,650 square feet of Pontiac Bay to facilitate the removal of the hazardous waste. Three culverts conveying driveways across Brandy Brook that total 72 feet would be replaced with 6 foot wide by 4 foot high 3-sided pre-cast concrete culverts. Temporary cofferdams, check dams and turbidity curtains would be used to facilitate the accomplishment of the work. As depicted on the above referenced drawings and described in the report entitled "Restoration Plan, Brandy Brook (OU02) and Pontiac Bay on Lake Flower (OU03), Saranac Lake Gas Company, Inc, NYSDEC Site No. 516008", prepared by MACTEC Engineering and Consulting, P.C., dated August 2017, and revised by letter to this office dated November 2, 2017, 1,360 linear feet of Brandy Brook, 0.58 acre of adjacent wetlands, 0.09 acre of upland riparian area and stream bank, along with 71,650 square

feet of Pontiac Bay and 175 linear feet of associated shoreline would be restored upon completion of the remedial work.

Based on the information submitted to this office, and accomplishment of notification in accordance with the applicable federal requirements, our review of the project indicates that an individual permit is not required. It appears that the activities within the jurisdiction of this office could be accomplished under Department of the Army Nationwide General Permit Number 38. The nationwide permits are prescribed as a Reissuance of Nationwide Permits in the Federal Register dated January 6, 2017 (82 FR 1860). The work may be performed without further authorization from this office provided the activity complies with the permit conditions listed in Section B, No. 38, Section C, any applicable New York District regional conditions, the special conditions below, and any applicable regional conditions added by the State of New York. The 2017 Nationwide Permits, including their final regional conditions, water quality certifications, and coastal zone concurrence statements are available at:

http://www.nan.usace.army.mil/Missions/Regulatory/Nationwide-Permits/

Please review and familiarize yourself with all relevant terms and conditions of the nationwide permit prior to proceeding with your project and subsequently ensure you adhere to all conditions through the duration of the project. If you do not have internet access and require a specific paper copy of the referenced materials, please contact the phone number below to request they be mailed to you. Please be sure to have your permit application number readily available when you call.

Special Conditions

(A) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice form the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

(B) The permittee shall successfully restore 1,360 linear feet of Brandy Brook, 0.58 acre of adjacent scrub-shrub and emergent wetlands, 0.09 acre of upland riparian area and stream bank, along with 71,650 square feet of Pontiac Bay and 175 linear feet of associated shoreline as described and depicted on Sheets 17 through 23 and 25 through 29 of the above referenced drawings and the report prepared by MACTEC Engineering and Consulting, P.C., entitled "Restoration Plan, Brandy Brook (OU02) and Pontiac Bay on Lake Flower (OU03), Saranac Lake Gas Company, Inc, NYSDEC Site No. 516008", dated August 2017, and revised by letter to this office dated November 2, 2017. The permittee shall ensure that the restored wetlands meet the federal wetland technical guidance and indicators outlined in the following documents (or current

versions): U.S. Army Corps of Engineers. 2011. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*, ed. J.S. Wakeley, R.W. Lichvar, C.V. Noble, and J.F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center; and Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, MS.

(C) The permittee shall ensure that all proposed restoration plantings have an eighty-five (85) percent survival rate and all restored wetland areas in conjunction with the restoration plan shall have an eighty-five (85) percent coverage of hydrophytic plants (those with a regional indicator status of FAC, FACW, or OBL as outlined in the document, Lichvar, R.W. 2012. *The National Wetland Plant List*. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory). The permittee shall also ensure that the vegetation in the restoration areas do not consist of more than a total of 5% areal coverage of common reed (Phragmites australis), purple loosestrife (Lythrum salicaria), reed canary grass (Phalaris arundinacea), Japanese knotweed (Polygonum cuspidatum), Tartarian honeysuckle (Lonicera tatarica), Eurasian water-milfoil (Myriophyllum spicata), and/or other invasive species.

(D) The permittee shall provide to this office annual reports (2 copies) on the status of the stream, bay, shoreline, riparian area and wetland restoration activities, with the wetland and riparian area data prepared during the growing season, no later than October 31 in each of the following five (5) years, after initiation of the activities authorized by this permit. If this office determines that the success criteria outlined in Special Conditions (B) and (C) above has not been met for at least three consecutive years, this period will be extended and the permittee shall continue to submit monitoring reports every year until this office determines that the success criteria has been met for three consecutive years. Your responsibility to complete the required restoration as set forth in Special Conditions (B) and (C) will not be considered fulfilled until you have demonstrated restoration project success and have received written verification of that success from this office. These reports shall include the following at a minimum:

1. A list of dominant plant species, along with their estimated relative frequency and percent areal cover, shall be identified by using plots measuring 10 feet by 10 feet with at least one representative plot located in each of the habitat types within the wetland and riparian area restoration areas. The location of each plot shall be identified on the plan view engineering drawing;

2. Vegetation cover maps, at a scale of one inch equals 100 feet, or larger scale, shall be prepared for each growing season in the above listed reporting years;

3. Photographs showing all representative areas of all of the restoration areas shall be taken each reporting year, with the photos of the wetland and riparian area restoration areas taken during the period between June 1 and August 15;

4. A Corps of Engineers approved wetland delineation data sheet for all representative areas of the wetland restoration sites;

5. Surface water and groundwater elevations in representative areas of the wetland restoration sites shall be recorded twice a month during April through September of each year. The location of the monitoring wells shall be shown on the plan view engineering drawing; and

6. As-built drawings of the bay and the stream reach, in plan view, that also locate all in-stream structures in relation to the bankfull elevation of the stream and the bathymetry of Pontiac Bay, shall be provided in reporting years one and five.

7. A written description of existing conditions within each restoration area, including the condition of the restored section of stream channel and the in-stream structures, conditions upstream and downstream from the stream restoration area, the condition of the restored shoreline along the bay, how each restored resource is functioning, and any observed usage by fish and wildlife.

8. A remedial plan, if necessary, outlining all practicable steps taken or proposed to be taken to ensure the success criteria outlined in Special Conditions (B) and (C) above, the stability of the stream reach, and the restoration of the functions of the existing resources, are met by the specified due date of the next monitoring report. The permittee shall not undertake these remedial actions until they are approved by the New York District, U.S. Army Corps of Engineers.

(E) All backfilling, grading, planting and seeding in conjunction with the restoration of the bay, stream, wetlands, and associated shorelines and riparian areas shall be completed by June 30, 2019. Also, within 30 days of the completion of the grading associated with the restoration of the wetlands, the permittee shall install at least two groundwater monitoring wells within the wetland restoration area and submit to the New York District Corps of Engineers, Regulatory Branch, Upstate New York Section an as-built drawing and photographs of the site. This as-built shall consist of a field-surveyed drawing, at 1" = 50' scale, with one-foot contours and appropriate spot elevations, in addition to showing the submitted photograph locations, and installed monitoring wells.

(F) The permittee shall ensure that no mowing of the wetland and riparian buffer areas occur outside of the areas that are being restored to lawn.

(G) The permittee shall undertake the authorized filling activities in a manner aimed at reducing impacts upon the general environment. In addition, the permittee shall not stockpile fill or other materials in a manner conducive to erosion, or in areas likely to cause high turbidity runoff during storm events. All exposed soils shall be re-vegetated in a timely manner to further reduce potential effects. The permittee shall also fence off all wetlands and other sensitive ecological areas, including forested lands to remain, during construction periods to prevent equipment and personnel from entering these areas.

(H) The permittee shall ensure that all synthetic erosion control features (e.g., silt fencing, netting, mats), which are intended for temporary use during construction, are completely removed and properly disposed of after their initial purpose has been served. Only natural fiber materials, which will degrade after time, may be used as permanent measures, or if used temporarily, may be abandoned in place.

(I) The permittee shall assume all liability for accomplishing the corrective work should the New York District determine that the stream, wetland, riparian area, bay and shoreline restoration work has not been fully satisfactory. If the New York District does not find the restoration satisfactory, an extension of monitoring time may be required to cover any necessary remedial work.

(J) The permittee shall assure that all tree removal necessary to accomplish the authorized work shall only occur during the period from November 1 through March 31 in any year this verification is in effect.

This determination covers only the work described in the submitted material. Any major changes in the project may require additional authorizations from the New York District.

Care should be taken so that construction materials, including debris, do not enter any waterway to become drift or pollution hazards. You are to contact the appropriate state and local government officials to ensure that the subject work is performed in compliance with their requirements.

This verification is valid until March 18, 2022, unless the nationwide permit is modified, reissued, or revoked. This verification will remain valid until March 18, 2022, if the activity complies with the terms of any subsequent modifications of the nationwide permit authorization. If the nationwide permits are suspended, revoked, or modified in such a way that the activity would no longer comply with the terms and conditions of a nationwide permit, and the proposed activity has commenced, or is under contract to commence, the permittee shall have 12 months from the date of such action to complete the activity.

This authorization is conditional on the applicant's receipt of the required water quality certificate or waiver from the New York State Department of Environmental Conservation (NYSDEC). No work may be accomplished until the required approval from NYSDEC has been obtained.

Within 30 days of the completion of the activity authorized by this permit and any mitigation required by this permit, you are to sign and submit the attached compliance certification form to this office.

In order for us to better serve you, please complete our Customer Service Survey located at:

http://www.nan.usace.army.mil/Missions/Regulatory/CustomerSurvey.aspx

If any questions should arise concerning this matter, and/or if you require a specific paper copy of the above referenced nationwide general permit program, please contact Christine Delorier, of my staff, at (518) 266-6354.

Sincerely,

Amy L. Gitchell
Chief, Upstate New York Section

Enclosures

cf: E. Burns - NYSDEC Region 5, Ray Brook (DEC #5-1540-00440/00001)
Village of Saranac Lake
M. Stelmack – Environment & Infrastructure Solutions
C. Cloud
J. Sweeney
S. Tyrell, NCCC
M. Bimson Maggi – AmeriGas Propane, L.P.
K. Cameron
S. Reynolds
G. Tolhurst
M. Nason
S. Stiles
B. Kent

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers, ATTN: CENAN-OP-RU
Upstate Regulatory Field Office
1 Buffington St., Building 10, 3rd Fl. North
Watervliet, New York 12189-4000

CENAN-OP-RU

NATIONWIDE PERMIT COMPLIANCE CERTIFICATION AND REPORT FORM

Permittee: New York State Department of Environmental Conservation Permit No. NAN-2017-00440-UDE

Date Permit Issued: JAN 2 5 2018

Location: Village of Saranac Lake, Essex County, New York

Within 30 days of the completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the address at the bottom of this form.

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of said permit, and required mitigation was completed in accordance with the permit conditions.

_____ _____
Signature of Permittee Date

Printed Name: _____

Fold this form into thirds, with the bottom third facing outward. Tape it together and mail to the address below
or EMAIL TO: cenan.rfo@usace.army.mil

Place Stamp
Here

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
ATTN: CENAN-OP-RU
Upstate Regulatory Field Office
1 Buffington St., Bldg. 10, 3rd Fl. North
Watervliet, New York 12189-4000

Appendix H
Saranac Lake Gas Co., OU02 & OU03
Remedial Action Restoration Inspection
ACOE Permt NAN-2017-00440-UDE

Backfill materials, plantings and installed features conform to specifications and plan details:
❑ Yes ❑ No
Notes: _____

Placement of subgrade backfill complete: ❑ Yes ❑ No
Notes: _____

Placement of backfill complete: ❑ Yes ❑ No
Notes: _____

Placement of stream bed complete: ❑ Yes ❑ No
Notes: _____

Installation of fiber Roll complete: ❑ Yes ❑ No
Notes: _____

Instream Structures:

- Two-Log Drop Structure: ❑ Yes ❑ No
  Location(s): _____
- Rock Step Pool: ❑ Yes ❑ No
  Location(s): _____
- Fish Cribs: ❑ Yes ❑ No
  Location(s): _____
- Rock Piles: ❑ Yes ❑ No
  Location(s): _____
- Log Deflector: ❑ Yes ❑ No
  Location(s): _____
- Soil Choked Rip/Rap: ❑ Yes ❑ No
  Location(s): _____
- Tree Plantings: ❑ Yes ❑ No
  Notes/Locations: _____
- Shrub Plantings: ❑ Yes ❑ No
  Notes/Locations: _____
- Driveway Culverts: ❑ Yes ❑ No
  Notes/Locations: _____

Shore Treatment:

- Rock with soil and veg.: ❑ Yes ❑ No
  Length: _____
  Location: _____
- Rip/Rap apron: ❑ Yes ❑ No

Length: _____
Location: _____

- Bank Restoration: ❑ Yes ❑ No
  - Soil Choked Rip/Rap: ❑ Yes ❑ No
  - Tree and Shrub Plantings: ❑ Yes ❑ No

Notes:_____
_____

Restoration Monitoring (Year 1):

The first-year monitoring event will occur after the Site has been through a full growing season following completion of the construction and planting. A growing season starts no later than May 31.

Information collected in each restored area will include the following:

- Condition of planted stock (i.e., number alive versus number dead),
- Number of planted stock and naturally-colonized (i.e., volunteer) woody plants,
- Plant vigor,
- Shrub and tree height range, and
- The presence of invasive species within the area or plot.

Observations of the type, quality, and integrity of the soil will be made in each of the restored riparian areas during each year of monitoring.

At least 95% of the tree and shrub species planted in the riparian zone are healthy and vigorous and showing signs of growth. ❑ Yes❑ No
Notes: _____

In the riparian area, the required number of non-exotic species including planted and volunteer species should be observed by Year 5. To count species as a volunteer, it must be well represented on the Site (i.e., greater than 50 individuals per acre). Volunteer species should support functions consistent with the design goals. ❑ Yes ❑ No
Notes: _____

Common reed (*Phragmites australis*), Purple loosestrife *Lythrum salicaria*), Russian and Autumn olive (*Elaeagnus* spp.), Buckthorn (*Rhamnus* spp.), Japanese knotweed (*Polygonum cuspidatum*), and/or Multiflora rose (*Rosa multiflora*) plants at the restoration site are being controlled. ❑ Yes ❑ No
Notes: _____

All slopes, soils, substrates, and constructed features within and adjacent to the restored Brook and Bay are stable. ❑ Yes ❑ No
Notes: _____

The horizontal brook channel location and associated banks are exhibiting a change of less than 0.5 feet per year in restored locations as measured from known fixed points. ❑ Yes ❑ No
Notes: _____

Meander survey conducted during site visits to assess the overall vegetative and hydrologic conditions in the restored brook and bordering wetland. The meander surveys will provide an opportunity to identify and implement needed corrective actions during the growing season. These surveys will involve walking random routes throughout the restoration areas to identify problems such as significant plant mortality, erosion, and insufficient hydrology: ❑ Yes ❑ No
Notes: _____

Data on general wildlife use collected during each site visit during meander surveys. Actual wildlife sightings and observed signs will be recorded by species and presented in a list for general year-to-year comparisons. ❑ Yes ❑ No
Notes: _____

Representative photographs of the restored areas taken from established points to allow yearly comparisons of vegetative cover and hydrologic conditions. ❑ Yes ❑ No
Notes: _____

Annual Monitoring Reports:

An Annual Monitoring Report shall be prepared following each year of monitoring. The purpose of this report will be to document the results of monitoring, document progress of the tributary and riparian area habitat development and identify any corrective actions that may be needed to obtain the performance standards.

The annual reports will provide evaluation of the standards for success.

Additional items to be discussed in the narrative will include:

- Description of the monitoring inspections and the dates, that occurred since the last report;
- Soils data, commensurate with the requirements of the soils portion of the 1987 Delineation Manual data form, should be collected after construction and every alternate year throughout the monitoring period;
- Any remedial actions done during the monitoring year to meet the success standards. Actions such as removing debris, replanting, controlling invasive plant species (with biological, herbicidal, or mechanical methods), re-grading the Site, applying additional topsoil or soil amendments, adjusting site hydrology, etc. will be reported;
- The status of all erosion control measures on the restoration sites. Included in this discussion will be a recommendation to remove or maintain in place;
- Estimates of percent vegetative cover for each restoration site and percent cover of invasive species ;
- Observation of wildlife and aquatic organisms using the Site and type of use (e.g., nesting, feeding, shelter, etc.);
- Description of the health and vigor of the surviving plants, the prognosis for their future survival and a diagnosis of the cause(s) of morbidity or mortality;
- Recommended remedial measures to achieve or maintain achievement of the success standards and otherwise improve the extent to which the restoration sites replace the functions and values lost because of project impacts.

Annual Monitoring Report prepared: ❑ Yes ❑ No
Notes: _____

Recommendations for corrective action or remedial steps, such as replacing dead plantings, fertilizing plants to increase growth rate, re-seeding small areas or changes needed to hydrology or grading: ❑ Yes ❑ No
Notes: _____

Post-construction Assessment (Year 5)

A post-construction assessment of the condition of the restored upland and wetlands shall be performed following the fifth growing season (Year 5) after completion of the project, or by the end of the monitoring period, whichever is later.

The post-construction assessment shall include the following:

- Summary of the original and/or modified restoration objectives and discussion of the level of attainment of these objectives in the restored uplands and wetlands.
- Description of significant problems and solutions during construction and monitoring of the restoration areas.
- Identification of agency procedures or policies that encumbered implementation of the restoration plan, specifically noting procedures or policies that contributed to less success or less effectiveness than anticipated in the restoration plan.
- Recommendations of measures to improve the efficiency, reduce the cost, or improve the effectiveness of similar projects in the future.

Post-Construction Assessment prepared: ❑ Yes ❑ No

- Notes: _____

Miscellaneous:

Drainage restored to not impede flow, impact recreational use or create flooding hazards: ❑ Yes❑ No
Notes: _____
Fish structure or other permanent features installed to not impact recreational use or create physical hazards: ❑ Yes ❑ No
Notes: _____

General Notes/Observations: