CONTRACTOR	Earth Dimensions, Inc. (EDI)	BORING LOCATION	See Location Plan - Figure 2
DRILLER	Brian Bartron / Brandon	GROUND SURFACE ELEVATION	1300 DATUM N/A
START DATE:	11/9/2015 END DATE: 11/9/2015	GZA REPRESENTATIVE	M. Kress

WATER LEVEL DATA

DATE	TIME	WATER	CASING (Y/N)	NOTES
11/9/15	1030 am	3.5'	Y	in augers

TYPE OF DRILL RIG	Track Mounted Diedrich D50
CASING SIZE AND DIAMETER	3 1/4" I.D. HSA
OVERBURDEN SAMPLING METHOD	ASTM 1586
ROCK DRILLING METHOD	N/A

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
	1	S-1	0-2	4	80	Loose, dark brown TOPSOIL, moist	
1	1					Loose, grayish brown, fine to coarse SAND, trace	
	3					Silt, moist	
2	4						
	2	S-2	2-4	6	50		Wet below 2'
3	3						
	3						
4	2						
	1	S-3	4-6	2	60	Very loose, grayish brown, fine to coarse SAND,	Sample not holding
5	1					trace Silt, trace fine Gravel, wet	shape of spoon.
	1						Water in spoon
6	2						
	3	S-4	6-8	4	50	Grades to … loose	
7	2						
	2						
8	2						
	2	S-5	8-10	6	80		
9	3						
	3						
10	5						
	3	S-6	10-12	13	100	Grades to … medium dense	
11	5						
	8						
12	9						
							Sands running into
13							auger. Water
	3	S-7	13-15	16	90	Medium dense, brownish gray, fine to coarse	introduced to
14	7					SAND, trace fine Gravel, little Silt, wet	augers by driller
	9						
15	9						
16							
17							
18							
	4	S-8	18-20	16	80	Medium dense, gray, fine to coarse SAND, trace	
19	7					Silt, wet	
	9						
20	10						

S = Split Spoon Sample
table noted as perched at 0.5 to 1.5

NOTES: HSA - Hollow Stem Augers
Approximate ground surface elevation extrapolated from USGS Topographic Map - See Figure 2

General Notes:
1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
21							
22							
23							
	2	S-9	23-25	29	80	Grades to ... dark gray, fine SAND and Silt, wet	
24	14						
	15						
25	26						
26							
27							
28							
	1	S-10	28-30	11	100	Grades to … little Silt	
29	5						
	6						
30	8						
31							
32							
33							
	1	S-11	33-35	19	90	Medium dense, gray, SILT, trace fine Sand, wet	
34	7						
	12						
35	15						
36							
37							
38							
	12	S-12	38-40	47	90	Grades to … dense	
39	21						
	26						
40	28						
						End of boring at 40' bgs	
41							
42							

ADDITIONAL NOTES:

1) Borehole backfilled with cuttings upon completion.
2) Soil Survey of Chautauqua County, NY identified dominant soil at this location as Getzville Silt Loam (Ge) having a seasonal high water table noted as perched at the surface or within a depth of 0.5 feet from November through June. Information pertaining to average water table values was not available in the publications reviewed. Soils are reported as poorly to very poorly drained.
3) Foundation depths for proposed substation equipment/structures at this location are anticipated to range from 4 to 6 feet bgs.

CONTRACTOR	Earth Dimensions, Inc. (EDI)	BORING LOCATION	See Location Plan - Figure 2
DRILLER	Brian Bartron / Brandon	GROUND SURFACE ELEVATION	1810 DATUM N/A
START DATE:	11/10/15 END DATE: 11/10/15	GZA REPRESENTATIVE	M. Kress
WATER LEVEL DATA		TYPE OF DRILL RIG	Track Mounted Diedrich D50
		CASING SIZE AND DIAMETER	3 1/4" I.D. HSA
		OVERBURDEN SAMPLING METHOD	ASTM 1586
		ROCK DRILLING METHOD	N/A

DATE	TIME	WATER	CASING (Y/N)	NOTES

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
	1	S-1	0-2	3	60	Loose, brown TOPSOIL, moist	
1	1					Loose, light brown, SILT, little fine to coarse Sand,	
	2					moist	
2	9					Medium dense, olive gray, CLAY and SILT, little	(Glacial Till)
	7	S-2	2-4	22	65	Sand, little fine Gravel, moist	
3	11						
	11						
4	12						
	7	S-3	4-6	21	90		
5	10						
	11						
6	19						
	11	S-4	6-8	35	90	Grades to … dense	
7	15						
	20						
8	34						
	29	S-5	8-10	51	90	Grades to … very dense, gray	
9	27						
	24						
10	27						
	14	S-6	10-12	36	95	Grades to … dense	Increasing gravel
11	17						fraction with depth
	19						
12	26						
13							
	6	S-7	13-15	33	100		
14	12						
	21						
15	33						
16							
17							
18							
	12	S-8	18-20	81	100	Grades to ... very dense	
19	21						
	60						
20	100/1"						

S = Split Spoon Sample
table noted as perched at 0.5 to 1.5

NOTES: HSA - Hollow Stem Augers
Approximate ground surface elevation extrapolated from USGS Topographic Map - See Figure 2

General Notes:
1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
21							
22							
23							
	7	S-9	23-25	54	100		
24	21						
	33					Very dense, olive brown, Clayey SILT, some fine to	
25	37					coarse Sand, little Gravel, moist	
26							
27							
28							
	14	S-10	28-30	>100	90	Very dense, olive brown, fine to coarse SAND, little	
29	28					Gravel, little Clayey Silt, moist	
	78						
30	25						
31							
32							
33							
	60	S-11	33-35	92	60	Grades to … and Clayey Silt, trace Gravel	
34	57						
	35						
35	42						
36							
37							
38							
	10	S-12	38-40	35	100	Grades to … dense, some Clayey Silt, little Gravel	
39	15						
	20						
40	25						
						End of boring at 40' bgs	
41							
42							

ADDITIONAL NOTES:

1) Borehole backfilled with cuttings upon completion.
2) Soil Survey of Chautauqua County, NY identified dominant soil at this location as Volusia Channery Silt Loam (Vo) having a seasonal table noted as perched at 0.5 to 1.5 feet from December through May. Information pertaining to average water table values was not available in the publications reviewed. Soils are reported as somewhat poorly drained.
3) Foundation depths for proposed substation equipment/structures at this location are anticipated to range from 4 to 6 feet bgs.

CONTRACTOR	Earth Dimensions, Inc. (EDI)	BORING LOCATION	See Location Plan - Figure 2
DRILLER	Brian Bartron / Brandon	GROUND SURFACE ELEVATION	1925 DATUM N/A
START DATE:	11/11/15 END DATE: 11/11/15	GZA REPRESENTATIVE	M. Kress
WATER LEVEL DATA		TYPE OF DRILL RIG	Track Mounted Diedrich D50
		CASING SIZE AND DIAMETER	3 1/4" I.D. HSA
		OVERBURDEN SAMPLING METHOD	ASTM 1586
		ROCK DRILLING METHOD	NQ

DATE	TIME	WATER	CASING (Y/N)	NOTES
11/11/15	1000 am	DRY	Y	Prior to coring

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
	1	S-1	0-2	12	80	Brown TOPSOIL, little Organics, moist	
1	3					Medium dense, brown, fine SAND, trace Clay, trace	
	9					Gravel, moist	
2	9						
	4	S-2	2-4	12	80	Stiff, brown, Clayey SILT, some fine to coarse Sand	(Glacial Till)
3	7					little fine Gravel, moist	2.5 TSF P.P.
	5						4.2 TSF torvane
4	5						
	2	S-3	4-6	42	75	Grades to ... hard, some Gravel	2.5 TSF P.P.
5	12						3.6 TSF torvane
	30						
6	27						
	15	S-4	6-6.8	R	30		Horizontal depostion
7	100/5"						crumble with knife
							point
8							
	80	S-5	8-8.6	R	2	Light gray, thin horizontal WEATHERED BEDROCK	(Weathered
9	100/1"					fragments, dry	Bedrock)
							Auger cuttings dry
10							
	14	S-6	10-11.3	R	60		Soft rock fragments
11	43						easily broken
	100/4"						with fingers
12							
13							
	100/5"	S-7	13-13.5	0	100		
14						Auger refusal at 14' bgs	
		C-1	14-19	10	100	Hard, slightly weathered, gray, aphanitic,	
15						interbedded SHALE and SILTSTONE. Very highly	
						fractured, close horizontal joint spacing with clay	
16						and silt deposits within joints. Some fossilization.	
						(Cattaraugus Formation)	
17							
18							
19							
		C-2	19-24	7	95		
20							

S = Split Spoon Sample
table noted as perched at 0.5 to 1.5

NOTES: P.P. - Pocket Penetrometer, HSA - Hollow Stem Augers, TSF - Tons/Square Foot, R - Refusal
Approximate ground surface elevation extrapolated from USGS Topographic Map - See Figure 2

General Notes:
1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
21							
22							
23							
24							
25						End of boring at 24' bgs	
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							

ADDITIONAL NOTES:

1) Borehole backfilled with cuttings upon completion.
2) Soil Survey of Chautauqua County, NY identified dominant soil at this location as Busti Silt Loam (Bs) having a seasonal high water table noted as perched at 0.5 to 1.5 feet from November through April. Information pertaining to average water table values was not available in the publications reviewed. Soils are reported as somewhat poorly drained.
3) Foundation depth for the proposed wind turbine at this location is anticipated to range from about 8 to 10 feet bgs.

CONTRACTOR	Earth Dimensions, Inc. (EDI)	BORING LOCATION	See Location Plan - Figure 2
DRILLER	Brian Bartron / Brandon	GROUND SURFACE ELEVATION	1960 DATUM N/A
START DATE:	11/11/15 END DATE: 11/12/15	GZA REPRESENTATIVE	M. Kress

WATER LEVEL DATA

DATE	TIME	WATER	CASING (Y/N)	NOTES
11/12/15	730 am	DRY	Y	Prior to coring
				open overnight

TYPE OF DRILL RIG	Track Mounted Diedrich D50
CASING SIZE AND DIAMETER	3 1/4" I.D. HSA
OVERBURDEN SAMPLING METHOD	ASTM 1586
ROCK DRILLING METHOD	NQ

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
	1	S-1	0-2	13	60	Loose, brown TOPSOIL, little Organics, moist	
1	2					Medium dense, gray, GRAVEL and Silty Clay, little	
	11					fine to coarse Sand, moist	
2	10						
	7	S-2	2-4	25	75	Very stiff, brown, Silty CLAY, trace Gravel, trace	(Glacial Till)
3	10					fine to coarse Sand, trace organics, moist	>4.5 TSF P.P.
	15						Unable to torvane
4	12						
	7	S-3	4-6	25	100	Grades to … some Gravel	>4.5 TSF P.P.
5	12						Unable to torvane
	13						
6	12						
	6	S-4	6-8	24	100		4.2 TSF P.P.
7	9						Unable to torvane
	15						
8	17						
	11	S-5	8-10	54	100	Grades to … hard	>4.5 TSF P.P.
9	19						Unable to torvane
	35						
10	43						
	10	S-6	10-11.4	R	100		
11	20						
	100/5"						
12							
13							
	100/5"	S-7	13-13.4	R	100	Light gray, thin horizontal WEATHERED BEDROCK	(Weathered
14						fragments, wet	Bedrock)
		C-1	14-19	16	88	Hard, slightly weathered, gray, aphanitic,	Auger Refusal at
15						interbedded SHALE and SILTSTONE. Very highly	14'
						fractured, close horizontal joint spacing with clay	
16						and silt deposits within joints.	
						(Cattaraugus Formation)	
17							
18							
19							
		C-2	19-24	0	73		
20							

S = Split Spoon Sample
table noted as perched at 0.5 to 1.5

NOTES: P.P. - Pocket Penetrometer, HSA - Hollow Stem Augers, TSF - Tons/Square Foot, R - Refusal
Approximate ground surface elevation extrapolated from USGS Topographic Map - See Figure 2

General Notes:
1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
21							
22							
23							
24							
25						End of boring at 24' bgs	
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							

ADDITIONAL NOTES:

1) Borehole backfilled with cuttings upon completion.
2) Soil Survey of Chautauqua County, NY identified dominant soil at this location as Busti Silt Loam (Bs) having a seasonal high water table noted as perched at 0.5 to 1.5 feet from November through April. Information pertaining to average water table values was not available in the publications reviewed. Soils are reported as somewhat poorly drained.
3) Foundation depth for the proposed wind turbine at this location is anticipated to range from about 8 to 10 feet bgs.

CONTRACTOR	Earth Dimensions, Inc. (EDI)	BORING LOCATION	See Location Plan - Figure 2
DRILLER	Brian Bartron / Brandon	GROUND SURFACE ELEVATION	1910 DATUM N/A
START DATE:	11/12/15 END DATE: 11/13/15	GZA REPRESENTATIVE	M. Kress
WATER LEVEL DATA		TYPE OF DRILL RIG	Track Mounted Diedrich D50
DATE / TIME / WATER / CASING (Y/N) / NOTES		CASING SIZE AND DIAMETER	3 1/4" I.D. HSA
11/13/15 / 730 am / DRY / Y / Prior to coring		OVERBURDEN SAMPLING METHOD	ASTM 1586
		ROCK DRILLING METHOD	NQ

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
	1	S-1	0-2	6	75	Loose, brown fine SAND, trace clay, trace	
1	3					Organics, moist	
	3						
2	4					Stiff, reddish brown, Silty CLAY, some fine Sand,	slightly cohesive
	5	S-2	2-4	13	80	trace fine Gravel, moist	(Glacial Till)
3	6						
	7						
4	7						
	12	S-3	4-6	58	100		
5	25					Very dense, light brown, SILT, trace fine Sand,	sample breaks
	33					trace Clay, moist. 2" thick gravel lens at 5' bgs	easily in thin
6	27						horizontal layers
	30	S-4	6-8	35	80		
7	21					Hard, brown Silty CLAY, trace fine to coarse	
	14					Sand, trace Gravel, moist	
8	23						
	11	S-5	8-10	86	40		
9	26						
	60						
10	68					Light gray, thin horizontal severely WEATHERED	(Weathered
	9	S-6	10-11.6	>100	100	BEDROCK fragments, moist	Bedrock)
11	64						easily broken with
	62						fingertips
12	100/1"						
13							
	40	S-7	13-13.4	R	50		
14	100/2"						Auger refusal at
		C-1	14-19	0	100	Hard, gray, slightly weathered, aphanitic, SHALE,	14'
15						very highly fractured, close horizontal joint spacing	
						with clay and silt deposits within joints.	
16						(Ellicott Shale)	
17							
18							
19							
		C-2	19-24	8	100		
20							

S = Split Spoon Sample
table noted as perched at 0.5 to 1.5

NOTES: HSA - Hollow Stem Augers, R - Refusal
Approximate ground surface elevation extrapolated from USGS Topographic Map - See Figure 2

General Notes:
1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
21							
22							
23							
24							
25						End of boring at 24' bgs	
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							

ADDITIONAL NOTES:

1) Borehole backfilled with cuttings upon completion.
2) Soil Survey of Chautauqua County, NY identified dominant soil at this location as Schuyler Silt Loam (Sh) having a seasonal high water table noted as perched at 1.5 to 2.0 feet from March through May. Information pertaining to average water table values was not available in the publications reviewed. Soils are reported as moderately well drained.
3) Foundation depth for the proposed wind turbine at this location is anticipated to range from about 8 to 10 feet bgs.

GZA GEOENVIRONMENTAL OF NY
535 WASHINGTON ST, 11th FL.
BUFFALO, NY

EVERPOWER
CASSADAGA WIND PROJECT
PRELIMINARY GEOTECHNICAL ASSESSMENT
CHAUTAUQUA COUNTY, NEW YORK

BORING No. T-14
SHEET 1 OF 2
GZA FILE # 21.0056761.00
CHECKED BY: D. TROY

CONTRACTOR	Earth Dimensions, Inc. (EDI)	BORING LOCATION	See Location Plan - Figure 2
DRILLER	Brian Bartron / Brandon / Andy	GROUND SURFACE ELEVATION	1950 DATUM N/A
START DATE:	11/13/15 END DATE: 11/16/15	GZA REPRESENTATIVE	M. Kress
WATER LEVEL DATA		TYPE OF DRILL RIG	Track Mounted Diedrich D50
		CASING SIZE AND DIAMETER	3 1/4" I.D. HSA
		OVERBURDEN SAMPLING METHOD	ASTM 1586
		ROCK DRILLING METHOD	N/A

DATE	TIME	WATER	CASING (Y/N)	NOTES
11/16/15	730 am	DRY	Y	Open over
				weekend

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
	1	S-1	0-2	8	80	Medium stiff, brown, Clayey SILT, little Gravel, trace	(Glacial Till)
1	3					Sand, moist	
	5						
2	6						
	6	S-2	2-4	19	80	Grades to … very stiff	
3	8						
	11						
4	17						
	6	S-3	4-6	18	100		>4.5 TSF P.P.
5	8						
	10						
6	15						
	12	S-4	6-8	57	40	Grades to … hard, some Gravel	>4.5 TSF P.P.
7	17						
	40						
8	46						
	15	S-5	8-10	66	100		>4.5 TSF P.P.
9	30						
	36						
10	55						
	16	S-6	10-12	51	75	Grades to … gray	>4.5 TSF P.P.
11	26						
	25						
12	47						
13							
	24	S-7	13-15	38	66	Grades to … and Gravel	>4.5 TSF P.P.
14	21						
	17						
15	19						
16							
17							
18							
	96	S-8	18-20	60	60	4" thick Gravel lens at 18' bgs	
19	36					Hard, brown, Silty CLAY, some Gravel, trace	4.2 TSF P.P.
	24					fine to coarse Sand, moist	
20	26						

S = Split Spoon Sample
table noted as perched at 0.5 to 1.5

NOTES: P.P. - Pocket Penetrometer, HSA - Hollow Stem Augers, TSF - Tons per Square Foot
Approximate ground surface elevation extrapolated from USGS Topographic Map - See Figure 2

General Notes:
1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
21							
22							
23							
	6	S-9	23-25	30	80	Hard, brown, Clayey SILT, some fine to coarse	>4.5 TSF P.P.
24	14					Sand, trace Gravel, moist	
	16						
25	26						
26							
27							
28							
	23	S-10	28-30	39	100	Grades to … some Gravel	>4.5 TSF P.P.
29	18						
	21						
30	26						
31							
32							
33							
	11	S-11	33-35	37	100		>4.5 TSF P.P.
34	17						
	20						
35	27						
36							Driller introduced
							water to flush
37							augers
38							
	19	S-12	38-40	66	100	Grades to … wet	
39	30						
	36						
40	41						
						End of boring at 40' bgs	
41							
42							

ADDITIONAL NOTES:

1) Borehole backfilled with cuttings upon completion.
2) Soil Survey of Chautauqua County, NY identified dominant soil at this location as Fremont Silt Loam (Fm) having a seasonal high water table noted as perched at 0.5 to 1.5 feet from December through May. Information pertaining to average water table values was not available in the publications reviewed. Soils are reported as somewhat poorly drained.
3) Foundation depth for the proposed wind turbine at this location is anticipated to range from about 8 to 10 feet bgs.

CONTRACTOR	Earth Dimensions, Inc. (EDI)	BORING LOCATION	See Location Plan - Figure 2
DRILLER	Brian Bartron / Andy	GROUND SURFACE ELEVATION	2055 DATUM N/A
START DATE:	11/16/15 END DATE: 11/16/15	GZA REPRESENTATIVE	M. Kress
WATER LEVEL DATA		TYPE OF DRILL RIG	Track Mounted Diedrich D50
		CASING SIZE AND DIAMETER	3 1/4" I.D. HSA
		OVERBURDEN SAMPLING METHOD	ASTM 1586
		ROCK DRILLING METHOD	N/A

DATE	TIME	WATER	CASING (Y/N)	NOTES
11/16/15	1400 pm	16'	Y	boring
				completion

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
	1	S-1	0-2	2	60	Very loose, brown, TOPSOIL and Organics, moist	
1	1					Very loose, brown, SILT and fine to coarse Sand,	(Glacial Till)
	1					little Gravel, moist	
2	9						
	10	S-2	2-4	27	100	Grades to ... dense	non-cohesive
3	13						
	14						
4	13						
	11	S-3	4-6	24	100	Grades to … some fine to coarse Gravel	
5	12						
	12						
6	10						
	3	S-4	6-8	16	70		
7	7						
	9						
8	7						
	5	S-5	8-10	12	60	Medium dense, brown, fine to coarse GRAVEL and	non-cohesive
9	6					fine to coarse Sand, some Silt, moist	
	6						
10	10						
	5	S-6	10-12	22	60	Grades to … wet	
11	10						
	12						
12	9						
13							
	7	S-7	13-15	31	70		
14	13						
	18						
15	14						
16							
17							
18							
	13	S-8	18-20	27	40		
19	9						
	18						
20	21						

S = Split Spoon Sample
table noted as perched at 0.5 to 1.5

NOTES: HSA - Hollow Stem Augers
Approximate ground surface elevation extrapolated from USGS Topographic Map - See Figure 2

General Notes:
1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
21							
22							
23							
	28	S-9	23-25	38	60		
24	24					Dense, brown, fine to coarse SAND, some Silt, wet	
	14						
25	16						
26							
27							
28							
	16	S-10	28-30	28	50		
29	13						
	15						
30	14					Gray, horizontal, severely WEATHERED BEDROCK	(Weathered
						fragments, with Sand and Silt, moist	Bedrock)
31							
32							
33							
	91	S-11	33-35	41	80	Grades to … wet	
34	13						
	28						
35	46						
36							
37							
38							
	79	S-12	38-38.7	R	75		
39	100/2"						
						End of boring at 38.7' bgs	
40							
41							
42							

ADDITIONAL NOTES:

1) Borehole backfilled with cuttings upon completion.
2) Soil Survey of Chautauqua County, NY identified dominant soil at this location as Chautauqua Silt Loam (Ck) having a seasonal high table noted as perched at 1.5 to 2.0 feet from November through April. Information pertaining to average water table values was not not available in the publications reviewed. Soils are reported as moderately well drained.
3) Foundation depth for the proposed wind turbine at this location is anticipated to range from about 8 to 10 feet bgs.

CONTRACTOR	Earth Dimensions, Inc. (EDI)	BORING LOCATION	See Location Plan - Figure 2
DRILLER	Brian Bartron / Andy	GROUND SURFACE ELEVATION	1870 DATUM N/A
START DATE:	11/17/15 END DATE: 11/17/15	GZA REPRESENTATIVE	M. Kress
WATER LEVEL DATA		TYPE OF DRILL RIG	Track Mounted Diedrich D50
CASING SIZE AND DIAMETER	3 1/4" I.D. HSA		
OVERBURDEN SAMPLING METHOD	ASTM 1586		
ROCK DRILLING METHOD	N/A		

DATE	TIME	WATER	CASING (Y/N)	NOTES
11/17/15	1100 am	12'	Y	boring
				completion

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
	1	S-1	0-2	5	100	Loose, brown, fine to coarse SAND and Silt, some	(Glacial Till)
1	2					Gravel, little Clay, moist	non-cohesive
	3						
2	7						
	12	S-2	2-4	19	100	Grades to ... medium dense	
3	11						
	8						
4	8						
	3	S-3	4-6	10	75	Medium dense, brown, Clayey SILT and fine to	non-cohesive
5	4					coarse Gravel, some fine to coarse Sand, moist	
	6						
6	5						
	5	S-4	6-8	11	40		
7	5						
	6						
8	8						
	4	S-5	8-10	23	40	Grades to …wet	
9	8						
	15						
10	11						
	3	S-6	10-12	22	50		
11	8						
	14						
12	12						
13							
	20	S-7	13-15	35	10	Grades to … dense	water in spoon
14	20						
	15						
15	23						
16							
17							
18							
	13	S-8	18-20	46	80	Grades to … gray, moist	
19	21						
	25						
20	32						

S = Split Spoon Sample
table noted as perched at 0.5 to 1.5

NOTES: HSA - Hollow Stem Augers
Approximate ground surface elevation extrapolated from USGS Topographic Map - See Figure 2

General Notes:
1) Stratification lines represent approximate boundary between soil types, transitions may be gradual.
2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

DEPTH	BLOWS (/6")	SAMPLE NO.	DEPTH (ft.)	N-VALUE / RQD %	RECOVERY (%)	SAMPLE DESCRIPTION	NOTES
21							
22							
23							
	52	S-9	23-25	>100	10	Grades to … very dense, wet	
24	49						
	53						
25	49						
26							
27							
28							
	17	S-10	28-30	74	70	Very dense, brown, Clayey SILT, some fine to coarse	
29	35					Gravel, some fine to coarse Sand, moist	
	39						
30	42						
31							
32							
33							
	53	S-11	33-35	R	90		
34	100/1"						Auger Refusal
						Assumed top of Bedrock	at 34'
35							
36							
37							
38							
39							
40							
41							
42							

ADDITIONAL NOTES:

1) Borehole backfilled with cuttings upon completion.
2) Soil Survey of Chautauqua County, NY identified dominant soil at this location as Busti Silt Loam (Bs) having a seasonal high water table noted as perched at 0.5 to 1.5 feet from November through April. Information pertaining to average water table values was not available in the publications reviewed. Soils are reported as somewhat porly drained.
3) Foundation depth for the proposed wind turbine at this location is anticipated to range from about 8 to 10 feet bgs.