

Test Boring Record

GBB-1

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 6
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/13/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/13/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Sunny to overcast, 74 to 90 °	▽ Water Level Upon Completion: 48.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1078'										
		FILL sampled as brown sandy silt, some rock/brick fragments, medium dense, moist		S-1	80	3-3-4 (7)				
		(FILL)	3.0							
		Brown-orange SANDSTONE FRAGMENTS (GP), little sand, medium dense, moist		S-2	80	7-9-12 (21)				
1073		(RESIDUAL)	5.0							
		Orange-brown and gray SANDSTONE FRAGMENTS (GP), few sand, moist		S-3	100	10-12-12 (24)				
		(RESIDUAL)	9.0							
1068		Gray and orange-brown DECOMPOSED SANDSTONE sampled as sandstone fragments, trace sand, medium dense to very dense, dry	10	S-4	100	8-9-11 (20)				
				S-5	100	32-50/0.4'				
1063		(RESIDUAL)	15.3							
		Brown to light gray fine to medium-grained micaceous SANDSTONE, highly to slightly weathered, thinly laminated to very thinly bedded, very broken to blocky, medium hard		S-6	100	50/0.3'				
		-highly weathered from 17.3' to 17.5'		R-1	100 (0)					
		MOHS 3.5 at 17.7'								
		-vertically fractured from 15.3' to 28.3'								
1058		MOHS 5.5 at 20.0'	20							
				R-2	10 (0)					
1053			25							
		-slightly weathered from 28.2' to 31.0'								
		-vertical fracture from 28.6' to 28.7'								
1048			30							
		-vertical fracture from 30.6' to 30.8'	31.0							
		Light gray very fine-grained SANDSTONE, slightly weathered, thinly bedded, moderately broken to massive, hard		R-3	96 (49)					
1043			35							

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Project Number: 16123	Project Name: Tull Property	Sheet: 3 of 6
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/13/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/13/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Sunny to overcast, 74 to 90 °	▽ Water Level Upon Completion: 48.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1003		Red-purple and gray calcareous CLAYSTONE, slightly weathered, medium bedded, very broken to blocky, soft (continued)	75	R-7	100 (0)					
998		Purple CLAYSTONE, slightly weathered, medium bedded, moderately broken to massive, soft, few calcareous clasts and veins	80							
993		-some medium hard clayey siltstone interbeds from 83.0' to 90.7'	85	R-8	100 (28)					
988			90							
983	x x x x x	Light gray SILTSTONE, highly weathered to fresh, thinly laminated to very thinly bedded, very broken to massive, soft to hard MOHS 5.5 at 91.0' -Soft from 91.0' to 91.3' -clayey, calcareous veins from 90.7' to 97.5' -very broken from 93.5' to 93.7' -very broken from 95.2' to 95.4' -slickensides from 95.7' to 96.3' -high angle fracture from 97.8' to 98.6' MOHS 7.5 at 99.0'	95	R-9	97 (43)					
978	x x x x x		100							
973	x x x x x	-soft from 103.3' to 103.6'	105	R-10	100 (65)					

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Project Number: 16123	Project Name: Tull Property	Sheet: 5 of 6
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/13/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/13/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Sunny to overcast, 74 to 90 °	▽ Water Level Upon Completion: 48.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
933		Gray SHALE, fresh, thinly laminated, moderately broken to massive, hard <i>(continued)</i>	145	R-14	100 (95)					
928		-some fine-grained sandstone laminations from 146.0' to 169.5'	150							
923		MOHS 6.5 at 150.0'	155	R-15	100 (100)					
918			160							
913			165	R-16	100 (100)					
908			169.5							
903		Medium gray SHALE, fresh, thinly laminated, very broken to massive, hard -visible pyrite lenses from 169.5' to 173.0'	170	R-17	100 (98)					
			175							

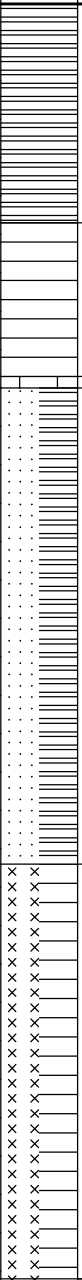
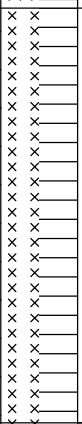
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Project Number: 16123	Project Name: Tull Property	Sheet: 6 of 6
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/13/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/13/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Sunny to overcast, 74 to 90 °	▽ Water Level Upon Completion: 48.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
898		Medium gray SHALE, fresh, thinly laminated, very broken to massive, hard <i>(continued)</i>	180	R-18	100 (60)					
		-black carbonaceous shale from 179.9' to 180.7'	180.7							
		Gray CLAYSTONE, fresh, thinly bedded, moderately broken to blocky, soft								
893		Light gray LIMESTONE, fresh, moderately broken, soft	185	R-19	100 (67)					
		Light gray and medium gray INTERBEDDED fine-grained SANDSTONE and SHALE, fresh, moderately broken to massive, hard	185.0							
		MOHS 9.5 at 187.0'								
888			190	R-20	100 (64)					
883			195							
			197.4							
878		Gray to red-brown and red-gray INTERBEDDED silty CLAYSTONE and clayey SILTSTONE, fresh, medium bedded, moderately broken to massive, soft to hard	200	R-20	100 (64)					
		MOHS 2.5 at 202.0'								
873			205							
			208.2							
868		Boring Terminated at 208.2 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	210							

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Test Boring Record

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Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 9
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/16/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/17/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Partly Sunny, Thunderstorms, 70 to 80°	▽ Water Level Upon Completion: 50.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G./L. Phillips, P.E.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1085'		TOPSOIL	0.6	S-1	100	1-2-3 (5)				
		Brown-orange SAND (SP), few to some sandstone fragments, loose to medium dense, moist		S-2	100	5-7-10 (17)				
1080		(RESIDUAL)	6.0	S-3	100	8-18-13 (31)				
		Brown-orange to gray DECOMPOSED SANDSTONE (GW) sampled as sandstone fragments, few to little sand, dense to very dense, moist to dry		S-4	100	15-14-21 (35)				
1075			10	S-5	100	50/0.4'				
				S-6	100	47-42-50/0.4'				
1070		(RESIDUAL)	18.3	S-7	100	50/0.3'				
		Brown fine to medium-grained micaceous SANDSTONE, moderately weathered, thinly laminated to thinly bedded, very broken, soft to medium hard MOHS 5.5 at 20.0'	20	R-1	90 (58)					
1065				R-2	52 (12)					
1060		-vertically fracture, soft from 25.0' to 28.0'	25							
1055		Gray fine-grained micaceous SANDSTONE, highly to slightly weathered, thinly laminated to very thinly bedded, very broken to blocky, very soft to medium hard -carbonaceous shale interbed from 30.1' to 30.3' -many carbonaceous laminations from 30.3' to 33.0' MOHS 2.5 at 31.5' -some high angle bedding planes and vertical fractures from 32.2' to 33.4'	30.1	R-3	100 (40)					
1050			35							

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Project Number: 16123	Project Name: Tull Property	Sheet: 2 of 9
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/16/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/17/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Partly Sunny, Thunderstorms, 70 to 80°	▽ Water Level Upon Completion: 50.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G./L. Phillips, P.E.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1045		-some high angle bedding planes and vertical fractures from 33.9' to 35.0' Gray fine-grained micaceous SANDSTONE, highly to slightly weathered, thinly laminated to very thinly bedded, very broken to blocky, very soft to medium hard (<i>continued</i>) MOHS 5.5 at 35.5'	37.7	R-4	100 (52)					
		Brown to light gray fine to medium-grained micaceous SANDSTONE, moderately weathered to slightly weathered, thinly laminated to medium bedded, very broken to massive, hard, some interstitial carbon and a few carbonaceous laminations -lost water at 38.0' -carbonaceous sandstone seam from 37.7' to 38.9'	40							
1040		-vertically fracture from 44.2' to 45.3' MOHS 8.5 at 45.0'	45	R-5	95 (87)					
		Medium gray to black silty very fine-grained SANDSTONE, slightly weathered, thinly laminated to thinly bedded, very broken to blocky, medium hard -black, carbonaceous sandstone from 48.4' to 51.7' MOHS 4.5 at 49.0'	46.3							
1035		-vertical fracture from 49.2' to 51.1'	50							
		Gray to purple clayey SILTSTONE, highly weathered to slightly weathered, thinly laminated to very thinly bedded, very broken to massive, soft to medium hard -soft, highly weathered from 51.7' to 58.5' -silty claystone interbeds from 51.7' to 54.0' MOHS 0.5 at 54.0'	51.7	R-6	100 (9)					
1030			55							
1025		-fine-grained sandstone laminations from 59.0' to 63.0' MOHS 2.5 at 59.5'	60							
1020			65	R-7	100 (49)					
		MOHS 1.5 at 67.0'	69.3							
1015			70							

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Project Number: 16123	Project Name: Tull Property	Sheet: 3 of 9
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Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/17/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Partly Sunny, Thunderstorms, 70 to 80°	▽ Water Level Upon Completion: 50.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G./L. Phillips, P.E.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1010		MOHS 9.8 at 69.4' Light and medium gray nodular fossiliferous LIMESTONE, slightly weathered, very thinly bedded, very broken to moderately broken, medium hard to hard (<i>continued</i>) -pyrite visible from 69.3' to 70.0' MOHS 4.5 at 70.0'	71.2	R-8	89 (0)					
		Gray to brown-red calcareous CLAYSTONE with calcareous inclusions, slightly weathered, medium bedded, very broken to massive, soft to medium hard MOHS 4.5 at 74.0'	75							
1005			80							
1000			85	R-9	100 (17)					
			88.0							
995		Brown-red and purple CLAYSTONE, slightly weathered, thinly bedded, moderately broken to blocky, soft, some gray mottling	90							
		NOTE: UNCONFINED COMPRESSIVE STRENGTH PER ASTM D 7012 METHOD C 40 PSI AT 90' MOHS 1.5 at 91.0'	95	R-10	100 (0)					
990			98.8							
985	x x x x x	Gray SILTSTONE, moderately weathered to fresh, thickly laminated to thinly bedded, very broken to massive, medium hard, some calcareous veins MOHS 3.5 at 99.0' MOHS 8.5 at 101.0'	100	R-11	100 (50)					
980	x x x x x		105							

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Project Number: 16123	Project Name: Tull Property	Sheet: 6 of 9
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/16/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/17/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Partly Sunny, Thunderstorms, 70 to 80°	▽ Water Level Upon Completion: 50.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G./L. Phillips, P.E.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
905		INTERBEDDED medium gray SHALE and light gray fine-grained SANDSTONE, fresh, thinly laminated, massive, hard, some dark gray siltstone laminations (<i>continued</i>)	180							
		-possible pyrite from 179.9' to 188.0'								
		MOHS 8.5 at 180.0'								
900			185	R-19	100 (100)					
895			190							
		Gray CLAYSTONE with calcareous clasts, slightly weathered, thinly bedded, very broken to moderately broken, soft	190.7							
890			195	R-20	100 (57)					
		Gray INTERBEDDED SHALE and light gray SANDSTONE, slightly weathered to fresh, thinly laminated, very broken to massive, hard	196.0							
885			200							
		MOHS 9.5 at 200.0'								
880			205	R-21	100 (56)					
			208.8							
875		Gray CLAYSTONE with clay seams, slightly weathered, moderately broken, soft to medium hard	210.0							

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Project Number: 16123	Project Name: Tull Property	Sheet: 7 of 9
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/16/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/17/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Partly Sunny, Thunderstorms, 70 to 80°	▽ Water Level Upon Completion: 50.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G./L. Phillips, P.E.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
870		Gray and red CLAYSTONE, soft seams, slightly weathered, moderately broken to blocky, medium hard	215	R-22	100 (30)					
865		Gray INTERBEDDED SHALE and light gray SANDSTONE, slightly weathered, thinly bedded, blocky to massive, hard	220							
860			225	R-23	98 (75)					
855			230							
850			235	R-24	100 (100)					
845			240							
840			245	R-25	100 (100)					

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Project Number: 16123	Project Name: Tull Property	Sheet: 8 of 9
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/16/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/17/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Partly Sunny, Thunderstorms, 70 to 80°	▽ Water Level Upon Completion: 50.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G./L. Phillips, P.E.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
835		Gray INTERBEDDED SHALE and light gray SANDSTONE, slightly weathered, thinly bedded, blocky to massive, hard (continued)	250							
		MOHS 9.5 at 248.3'								
830			255	R-26	100 (100)					
		MOHS 9.0 at 253.5'								
825			260							
		Gray LIMESTONE, slightly weathered, thinly bedded, massive, hard	261.0							
		MOHS 9.0 at 263.5'		R-27	100 (100)					
820			265							
		Light gray SANDSTONE and INTERBEDDED gray SHALE, possible pyrite, fine-grained, micaceous, fresh, massive, hard, thinly bedded	266.0							
815			270							
		MOHS 9.5 at 273.5'		R-28	100 (100)					
810			275							
805			280							

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Project Number: 16123	Project Name: Tull Property	Sheet: 9 of 9
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/16/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/17/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Partly Sunny, Thunderstorms, 70 to 80°	▽ Water Level Upon Completion: 50.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G./L. Phillips, P.E.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
800		Light gray SANDSTONE and INTERBEDDED gray SHALE, possible pyrite, fine-grained, micaceous, fresh, massive, hard, thinly bedded (<i>continued</i>)	285	R-29	100 (100)					
795			290							
790			295	R-30	100 (100)					
785		MOHS 9.5 at 298.5'	300.0	R-31	93 (93)					
780		Boring Terminated at 300.0 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	305							
775			310							
770			315							

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Test Boring Record

GBB-3

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 9
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/14/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/15/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Sunny, 72°	▽ Water Level Upon Completion: 72.1'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours: 57.6'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1113'		TOPSOIL	0.4							
		Brown SAND and SANDSTONE FRAGMENTS (GP). loose, moist		S-1	100	2-5-7 (12)				
		(RESIDUAL)	3.5							
1108		Orange-brown and gray DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, dense to very dense, dry	5	S-2	100	6-8-23 (31)				
				S-3	100	18-20-26 (46)				
		(RESIDUAL)	9.3							
1103		Brown to light gray fine to medium-grained micaceous SANDSTONE, moderately to slightly weathered, thinly laminated to thinly bedded, moderately broken to massive, very soft to hard	10	S-4	100	50/0.3'				
		-few carbonaceous laminations from 9.3' to 48.0'		R-1	98 (28)					
		-no drill water return from 11.0' to end of boring at 300.0'								
		MOHS 7.5 at 11.5'								
		-soft from 12.0' to 12.5'								
1098		MOHS 7.5 at 14.5'	15	R-2	98 (30)					
		-vertically fractured from 18.6' to 18.9'								
1093		-vertically fractured from 20.4' to 20.7'	20	R-3	100 (46)					
		-vertically fractured from 21.7' to 24.0'								
1088		-massive from 24.0' to 28.0'	25	R-4	100 (54)					
		MOHS 7.5 at 25.0'								
		-vugs from 25.0' to 28.0'								
1083			30							
		MOHS 7.5 at 31.0'								
1078			35	R-5	90 (56)					

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Project Number: 16123	Project Name: Tull Property	Sheet: 2 of 9
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/14/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/15/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Sunny, 72°	▽ Water Level Upon Completion: 72.1'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours: 57.6'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1073		Brown to light gray fine to medium-grained micaceous SANDSTONE, moderately to slightly weathered, thinly laminated to thinly bedded, moderately broken to massive, very soft to hard (<i>continued</i>) -dark grayish-brown shale, very soft to soft from 37.3' to 39.3' -soft from 37.3' to 39.3'	40							
1068		-vertically fractured from 39.6' to 40.6' MOHS 7.5 at 40.0'	45	R-6	90 (68)					
1063		MOHS 8.5 at 48.0' -dark grayish-brown shale, very soft to soft from 48.5' to 49.6' MOHS 0.5 at 48.7'	50							
1058		-dark grayish-brown shale, very soft to soft from 51.3' to 53.0'	55	R-7	78 (18)					
1053		-vugs from 55.8' to 56.3' -fine-grained carbonaceous sandstone, possible visible ▽ pyrite from 56.3' to 58.0' MOHS 2.5 at 56.8' -vugs from 57.5' to 58.0' MOHS 9.5 at 57.6' -fine-grained carbonaceous sandstone, possible visible pyrite from 58.3' to 58.7'	60							
1048		-vertical fracture from 58.7' to 61.5' MOHS 7.5 at 60.0' -many clasts, vugs, and carbonaceous inclusions from 61.7' to 63.2' MOHS 7.5 at 62.2' -vertical fracture from 63.4' to 64.2'	65	R-8	90 (30)					
1043		-many clasts, vugs, and carbonaceous inclusions from 66.0' to 67.2' -vertical fracture from 68.6' to 69.7'	70							

(Continued Next Page)

Test Boring Record

GBB-3

Project Number: 16123	Project Name: Tull Property	Sheet: 3 of 9
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/14/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/15/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Sunny, 72°	▽ Water Level Upon Completion: 72.1'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours: 57.6'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1038		Brown to light gray fine to medium-grained micaceous SANDSTONE, moderately to slightly weathered, thinly laminated to thinly bedded, moderately broken to massive, very soft to hard (<i>continued</i>) -moderate carbonaceous laminations from 68.0' to 84.0' MOHS 8.5 at 72.0'	75	R-9	95 (68)					
1033		MOHS 8.5 at 80.0' -very soft from 80.5' to 90.0'	80							
1028		-many clasts, vugs, and carbonaceous inclusions from 84.0' to 90.0'	85	R-10	73 (29)					
1023			90.0							
		Gray silty fine-grained SANDSTONE, highly to slightly weathered, thinly laminated, very broken to moderately broken, very soft to medium hard MOHS 4.5 at 90.6'	91.0	R-11	57 (0)					
1018		Gray and purple clayey SILTSTONE, highly to slightly weathered, thinly laminated to thinly bedded, very broken to massive, very soft to medium hard -vugs and clasts, visible pyrite from 94.8' to 95.2' -highly weathered, very soft from 95.2' to 101.5', MOHS 0.5	95							
1013			100							
1008		MOHS 3.5 at 102.5' -vertical fracture from 103.0' to 104.1'	105	R-13	79 (27)					

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Test Boring Record

GBB-3

Project Number: 16123	Project Name: Tull Property	Sheet: 5 of 9
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/14/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/15/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Sunny, 72°	▽ Water Level Upon Completion: 72.1'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours: 57.6'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
		Purple and gray CLAYSTONE, highly to slightly weathered, medium bedded, very broken to massive, very soft to soft (continued)								
		MOHS 3.5 at 143.0'	144.0	R-17	50 (41)					
968	x x x x x	Gray SILTSTONE, slightly weathered, thinly laminated to thinly bedded, moderately broken to massive, hard -some calcareous veins from 144.0' to 149.0'	145							
	x x x x x	MOHS 4.5 at 146.0'								
963	x x x x x	-some clayey siltstone interbeds from 149.0' to 165.0'	150							
	x x x x x			R-18	100 (46)					
958	x x x x x	MOHS 5.5 at 155.0'	155							
	x x x x x	-vertical fracture from 155.8' to 157.0'								
953	x x x x x		160							
	x x x x x			R-19	100 (50)					
948	x x x x x		165							
	x x x x x	Gray to purple CLAYSTONE, highly weathered, thinly bedded, very broken, very soft to soft -very soft, highly weathered from 165.8' to 166.3'	165.8							
943		MOHS 0.5 at 171.0'	170							
		-very soft, highly weathered from 174.0' to 174.5'	175.0	R-20	100 (34)					
938			175							

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Test Boring Record

GBB-3

Project Number: 16123	Project Name: Tull Property	Sheet: 6 of 9
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/14/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/15/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Sunny, 72°	▽ Water Level Upon Completion: 72.1'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours: 57.6'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
933		Light gray fine-grained SANDSTONE, slightly weathered to fresh, thinly laminated, moderately broken to massive, hard, some carbonaceous lenses MOHS 8.5 at 177.0'	180							
928		Gray and purple SILTSTONE, slightly weathered to fresh, thinly laminated to thinly bedded, very broken to massive, hard, some clayey siltstone interbeds, some calcareous clasts MOHS 4.5 at 182.0'	181.0	R-21	100 (72)					
		-vertical fracture from 184.7' to 187.0'	185							
923		-vertical fracture from 188.3' to 188.8'	190							
		MOHS 5.5 at 190.0'								
		-vertical fracture from 190.3' to 194.3'								
918		MOHS 7.5 at 196.0'	195	R-22	100 (39)					
913		Gray INTERBEDDED SHALE and very fine-grained SANDSTONE, fresh, thinly laminated, very massive, hard	198.0							
		Medium gray SHALE, fresh, thinly laminated, moderately broken to massive, hard	200							
908		MOHS 7.5 at 204.0'	200.5	R-23	100 (100)					
903			205							
			210							

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Test Boring Record

GBB-3

Project Number: 16123	Project Name: Tull Property	Sheet: 7 of 9
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/14/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/15/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Sunny, 72°	▽ Water Level Upon Completion: 72.1'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours: 57.6'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
898		Medium gray SHALE, fresh, thinly laminated, moderately broken to massive, hard <i>(continued)</i>	215	R-24	100 (87)					
		MOHS 7.5 at 216.0'	218.2							
893		INTERBEDDED medium gray SHALE and light gray fine-grained SANDSTONE, fresh, thinly laminated, moderately broken to massive, hard -some dark gray laminations, possibly pyrite from 218.3' to 219.2'	220							
		MOHS 6.5 at 222.0'		R-25	99 (87)					
888		-carbonaceous laminations, visible pyrite from 223.5' to 223.9'	225							
			226.3							
883		Light gray fossiliferous LIMESTONE with a few shale interbeds and silt inclusions, fresh, thinly bedded, moderately broken to massive, hard, some pyrite visible MOHS 9.5 at 227.5'	227.7							
		INTERBEDDED medium gray SHALE and light gray fine-grained SANDSTONE, fresh, thinly laminated, massive, hard	230							
		MOHS 7.5 at 232.0'		R-26	100 (100)					
878			235							
873		-few carbonaceous laminations, calcareous and pyritic nodules from 239.0' to 240.0'	240.0							
		Gray fossiliferous LIMESTONE, slightly weathered, thinly bedded, very broken, hard MOHS 9.5 at 240.3'	240.4							
		Gray calcareous CLAYSTONE with calcareous nodules, slightly weathered, very broken to moderately broken, medium hard		R-27	89 (85)					
868		MOHS 2.5 at 242.6'	245							

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Test Boring Record

GBB-3

Project Number: 16123 Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: T. Zilka (Test Boring Services, Inc.) Drilling Rig: CME 850 Buggy Rig Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Tull Property Start Date: 06/14/17 Completion Date: 06/15/17 Weather: Sunny, 72° Logged By: K. Thiry, P.G.	Sheet: 8 of 9 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: 72.1' Water Level After 24 Hours: 57.6'
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
863		INTERBEDDED medium gray SHALE and light gray fine-grained SANDSTONE, fresh, thinly laminated, moderately broken to massive, hard MOHS 8.5 at 247.0'	245.6 247.6							
		Light gray fine-grained SANDSTONE, fresh, medium bedded, massive, hard -calcareous from 247.6' to 248.2' MOHS 8.5 at 249.0'	249.6							
858		Gray SILTSTONE, fresh, thinly laminated to thinly bedded, very broken to massive, hard MOHS 5.5 at 250.0'	250	R-28	100 (60)					
		-calcareous from 258.3' to 259.6'	255							
853		-carbonaceous lenses and visible pyrite from 259.6' to 259.7'	259.9							
		Medium gray to brown-red CLAYSTONE, slightly weathered, thinly bedded, very broken to moderately broken, very soft to soft	260	R-29	100 (5)					
848		MOHS 2.5 at 264.0'	265							
843			270							
		Light gray fine-grained micaceous SANDSTONE, fresh, thinly laminated to thinly bedded, massive, hard -calcareous veins and clasts from 272.3' to 276.0' MOHS 9.5 at 274.0'	272.3	R-30	100 (63)					
838			275							
833			280							

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Test Boring Record

GBB-3

Project Number: 16123 Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: T. Zilka (Test Boring Services, Inc.) Drilling Rig: CME 850 Buggy Rig Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Tull Property Start Date: 06/14/17 Completion Date: 06/15/17 Weather: Sunny, 72° Logged By: K. Thiry, P.G.	Sheet: 9 of 9 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: 72.1' Water Level After 24 Hours: 57.6'
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
828		Light gray fine-grained micaceous SANDSTONE, fresh, thinly laminated to thinly bedded, massive, hard <i>(continued)</i>	285	R-31	100 (100)					
		MOHS 9.5 at 285.0'								
823			290							
				R-32	100 (100)					
818		MOHS 9.5 at 295.0'	295							
				R-33	88 (71)					
813		Boring Terminated at 300.0 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc	300.0 300							
808			305							
803			310							
798			315							

Test Boring Record

GBB-4

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/21/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/21/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Partly sunny, 78°	▽ Water Level Upon Completion: 16.9'
Drilling Method: 3 1/4-inch HSA	Logged By: Lynn Phillips, P.E.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1020'		TOPSOIL	0.5							
		Brown and gray mottled silty CLAY (CL), little sand, trace gravel, medium to stiff, moist		S-1	47	1-2-2 (4)				
1015			5	S-2	100	3-5-5 (10)				
				S-3	100	2-3-3 (6)				
1010		-small sandstone fragments at 9.5' -trace black carbonaceous fragments and wood fragments at 10.0'	10	S-4	67	3-5-4 (9)				
		(COLLUVIAL)	13.0	S-5	100	6-9-15 (24)				
1005		Red-brown silty CLAY (CL), trace gravel, very stiff, moist	15.0	S-6	67	10-6-10 (16)				
		(COLLUVIAL)	18.0	S-7	100	10-16-19 (35)				
1000		Red and gray mottled silty CLAY (CL), trace gravel, very stiff, moist	20	S-8	100	10-8-3 (11)				
		-soft, wet at 22.0'	24.0	S-9	100	15-32-50/0.4'				
995		Red DECOMPOSED CLAYSTONE sampled as claystone fragments, very dense, dry	25	S-10	100	50/0.4'				
		(RESIDUAL)	27.4							
990		Boring Terminated at 27.4 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	30							
985			35							

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Test Boring Record

GBB-5

Project Number: 16123 Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: K. Erickson (Test Boring Services, Inc.) Drilling Rig: CME 45C Track Mounted Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Tull Property Start Date: 06/14/17 Completion Date: 06/15/17 Weather: Sunny, 72° Logged By: M. Walker, E.I.T.	Sheet: 1 of 5 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: 39.4' Water Level After 24 Hours: 4.3'
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
933'										
		Light brown sandy CLAY (CL), few sandstone fragments, trace organics, medium, dry		S-1	73	2-3-3 (6)		13.7		
		(COLLUVIAL)	3.0							
928		Light brown sandy CLAY (CL), few gray sandstone fragments, very stiff, dry -sample S-2 trace red clay	5	S-2	100	7-10-11 (21)	62.45	16.7	24	15
				S-3	100	6-12-9 (21)	62.45	12.7	24	15
923			10	S-4	100	9-12-14 (26)		12.4		
		(COLLUVIAL)	12.0							
		Light brown and light gray sandy CLAY (CL), few light gray and orange sandstone fragments, very stiff, dry		S-5	100	8-8-13 (21)		17.5		
918		(COLLUVIAL)	15.0							
		Medium gray to dark gray CLAY (CL), few sandstone and claystone fragments, very stiff, dry		S-6	100	5-7-9 (16)		15.8		
		(COLLUVIAL)	18.0							
913		Light gray and red CLAY (CL), few sandstone, siltstone, and claystone fragments, very stiff, dry		S-7	100	4-7-13 (20)		22.1		
		(COLLUVIAL)	21.0							
		Gray, brown, red, and orange CLAY (CL), few sandstone and shale fragments, very stiff to stiff, dry to moist		S-8	100	6-9-8 (17)		13.3		
908			25	S-9	67	6-8-5 (13)		11.1		
		-Sample S-9 spoon had moist sample above jar material -Sample S-9 possible sandstone boulder (COLLUVIAL)	27.0							
		Gray and red CLAY (CL), few sandstone and claystone fragments, very stiff, dry		S-10	100	6-10-13 (23)		19.8		
903			30	S-11	100	13-8-12 (20)		12.8		
		(COLLUVIAL)	33.0							
898		Light gray and brown sandy DECOMPOSED CLAYSTONE sampled as claystone fragments, extremely stiff, dry (RESIDUAL)	34.4	S-12	100	7-17-50/0.4'		6.0		

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Test Boring Record

GBB-5

Project Number: 16123 Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: K. Erickson (Test Boring Services, Inc.) Drilling Rig: CME 45C Track Mounted Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Tull Property Start Date: 06/14/17 Completion Date: 06/15/17 Weather: Sunny, 72° Logged By: M. Walker, E.I.T.	Sheet: 2 of 5 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: 39.4' Water Level After 24 Hours: 4.3'
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
893		Light gray to medium gray medium to fine-grained SANDSTONE, slightly weathered to fresh, moderately broken to blocky, hard to medium hard (<i>continued</i>)	40	R-1	100 (28)					
		MOHS 4.5 at 42.0'	43.4	R-2	94 (60)					
888		Dark gray CARBONACEOUS silty fine-grained SANDSTONE, fresh to slightly weathered, moderately broken, hard	44.8							
		Gray and red CLAYSTONE, fresh, moderately broken, soft to very soft		R-3	100 (6)					
		MOHS 0 at 47.0'								
		MOHS 0.5 at 48.0'								
883			50.7							
		Medium gray to dark gray CARBONACEOUS SILTSTONE, fresh, blocky to massive, hard		R-4	100 (56)					
		MOHS 0.5 at 52.0'	53.6							
878		CARBONACEOUS LIMESTONE, fresh, blocky, hard	54.2							
		MOHS 2.5 at 54.0'								
		Medium gray CARBONACEOUS fine-grained SANDSTONE, fresh, moderately broken to massive, hard		R-5	80 (24)					
		MOHS 5.5 at 55.0'								
		-gray-purple claystone seam from 56.4' to 57.1'								
873			60	R-6	100 (82)					
		MOHS 8.5 at 60.5'								
868			65	R-7	100 (100)					
863		MOHS 4.5 at 68.0'	70							

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Test Boring Record

GBB-5

Project Number: 16123 Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: K. Erickson (Test Boring Services, Inc.) Drilling Rig: CME 45C Track Mounted Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Tull Property Start Date: 06/14/17 Completion Date: 06/15/17 Weather: Sunny, 72° Logged By: M. Walker, E.I.T.	Sheet: 3 of 5 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: 39.4' Water Level After 24 Hours: 4.3'
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
858		Medium gray CARBONACEOUS fine-grained SANDSTONE, fresh, moderately broken to massive, hard <i>(continued)</i>	75	R-8	100 (100)					
853		MOHS 3.5 at 76.0'	76.7	R-9	100 (98)					
		Medium gray to dark gray INTERBEDDED silty fine-grained SANDSTONE and sandy SILTSTONE, fresh, massive, medium hard to hard	80	R-10	100 (100)					
848		MOHS 3.5 at 84.0'	84.2	R-11	100 (98)					
		Dark gray CARBONACEOUS silty fine-grained SANDSTONE, fresh, massive, medium hard with shale interbeds	85	R-12	100 (98)					
843			90	R-13	100 (98)					
838		MOHS 4.5 at 92.0'	95	R-14	100 (100)					
833			97.8							
		Light gray medium-grained SANDSTONE, fresh, carbonaceous laminations, massive, medium hard to hard, limy inclusions	100							
		MOHS 9.5 at 101.0'								
828		MOHS 9.5 at 104.0'	105							

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Test Boring Record

GBB-5

Project Number: 16123	Project Name: Tull Property	Sheet: 4 of 5
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/14/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/15/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Sunny, 72°	▽ Water Level Upon Completion: 39.4'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: M. Walker, E.I.T.	▽ Water Level After 24 Hours: 4.3'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
823		Light gray medium-grained SANDSTONE, fresh, carbonaceous laminations, massive, medium hard to hard, limy inclusions (<i>continued</i>) MOHS 6.5 at 107.0'	110	R-15	100 (90)					
818		Light to medium gray medium-grained SANDSTONE, slightly weathered to fresh, blocky to massive (generally massive), hard, micaceous -few carbonaceous laminations from 111.9' to 114.1' MOHS 6.5 at 114.0'	115	R-16	100 (100)					
813		-few carbonaceous laminations from 118.8' to 119.4'	120	R-17	100 (100)					
808			125	R-18	100 (100)					
803		MOHS 8.5 at 126.0' -few carbonaceous laminations from 126.8' to 127.3' MOHS 9.5 at 128.0'	130	R-19	100 (100)					
798		-few carbonaceous laminations from 132.9' to 133.5'	135	R-20	100 (100)					
793			140	R-21	100 (100)					

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Test Boring Record

GBB-5

Project Number: 16123	Project Name: Tull Property	Sheet: 5 of 5
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/14/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/15/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Sunny, 72°	▽ Water Level Upon Completion: 39.4'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: M. Walker, E.I.T.	▽ Water Level After 24 Hours: 4.3'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
788		Light to medium gray medium-grained SANDSTONE, slightly weathered to fresh, blocky to massive (generally massive), hard, micaceous (<i>continued</i>)	145.3	R-22	100 (100)					
		MOHS 8.5 at 144.5'	145							
783		Light and medium gray fine to medium-grained SANDSTONE, slightly weathered to fresh, massive, hard, micaceous, many carbonaceous laminations	150.6	R-23	100 (100)					
		Medium to very dark gray CARBONACEOUS very fine-grained silty SANDSTONE, slightly weathered to fresh, massive, hard	155	R-24	100 (100)					
778		MOHS 3.5 at 155.0'								
		-black coal veins and interbeds from 157.8' to 159.2'	159.2	R-25	100 (74)					
773		INTERBEDDED dark gray very fine-grained sandy CARBONACEOUS SILTSTONE and light gray fine-grained SANDSTONE with carbonaceous laminations, slightly weathered to fresh, moderately broken to massive (generally massive), hard, micaceous, few fossiliferous zones	160	R-26	96 (96)					
768			165	R-27	100 (96)					
763		Boring Terminated at 169.4 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. NOTE: GRAIN SIZE ANALYSIS (ASTM D 422) AND ATTERBERG LIMITS (ASTM D 4318) COMPLETED ON COMPOSITE SAMPLE INCLUDING S-2 AND S-3	170							
758			175							

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Test Boring Record

GBB-6

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/20/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/20/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Sunny, 72°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: L. Phillips, P.E.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1011'		TOPSOIL	0.4							
		Brown and gray silty CLAY (CL), some sand, little micaceous sandstone fragments, medium to very stiff, moist		S-1	27	1-1-1 (2)				
1006			5	S-2	53	2-2-3 (5)				
				S-3	20	2-3-5 (8)				
1001			10	S-4	100	5-7-11 (18)				
		(POSSIBLE COLLUVIAL)	12.0							
		Red-brown silty CLAY (CL), trace gravel, very stiff to hard, moist		S-5	100	10-13-18 (31)				
996			15	S-6	100	15-16-21 (37)				
				S-7	100	21-19-22 (41)				
991		(POSSIBLE COLLUVIAL)	21.0							
		Brown DECOMPOSED CLAYSTONE sampled as claystone fragments, dense, dry		S-8	100	17-22-18 (40)				
986			25	S-9	100	23-27-34 (61)				
		(RESIDUAL)	27.0							
		Light brown DECOMPOSED SHALE sampled as shale fragments, very dense, dry		S-10	100	50/0.4'				
981			30							
		(RESIDUAL)	31.2	S-11	100	34-47-50/0.2'				
		Boring Terminated at 31.2 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.								
976			35							

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Test Boring Record

GBB-7

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/20/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/20/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Sunny, 72°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: L. Phillips, P.E.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1037'		TOPSOIL	0.5							
		Brown and gray silty CLAY (CL), little sand, trace gravel, stiff, moist		S-1	73	1-2-6 (8)				
				S-2	67	2-4-8 (12)				
1032		(COLLUVIAL)	5							
		Brown and orange silty CLAY (CL), trace shale fragments, very stiff, moist	6.0	S-3	100	4-10-10 (20)				
		(POSSIBLE RESIDUAL)								
		Red-brown silty CLAY (CL), little sand, trace decomposed rock fragments, extremely stiff, moist	9.0	S-4	100	15-25-24 (49)				
1027		(RESIDUAL)	10							
		Light brown and gray DECOMPOSED CLAYSTONE sampled as claystone fragments, dense, dry	12.5	S-5	100	13-14-17 (31)				
			15	S-6	100	27-21-30 (51)				
1022		(RESIDUAL)								
		Light gray to purple DECOMPOSED clayey SILTSTONE sampled as clayey siltstone fragments, very dense, dry	18.0	S-7	100	36-50/0.4'				
1017			20	S-8	100	50/0.4'				
		(RESIDUAL)								
1012		Boring Terminated at 24.4 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	24.4	S-9	100	50/0.4'				
			25							
1007			30							
1002			35							

Test Boring Record

GBB-8

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/19/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/19/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Cloudy, 70's	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: L. Barnes, E.I.T.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
960'										
		TOPSOIL	0.2'							
		Orange-brown clayey SAND (SC), few to little rock fragments, soft to stiff, moist		S-1	80	1-1-3 (4)	48.10	8.9	33	22
				S-2	100	8-7-8 (15)	48.10	20.7	33	22
955		(COLLUVIAL)	6.0							
		Red-brown and tan silty CLAY (CL), little small soft claystone fragments, very stiff, moist		S-3	87	5-7-13 (20)		10.6		
		(POSSIBLE COLLUVIAL/RESIDUAL)	9.0							
950		Red DECOMPOSED CLAYSTONE sampled as claystone fragments, dry	10	S-4	100	24-23-32 (55)		8.7		
		(RESIDUAL)	12.0							
		Tan DECOMPOSED clayey SHALE sampled as clayey shale fragments, few sand, dry		S-5	0	50/0.3'		4.4		
945		(RESIDUAL)	15.4	S-6	100	50/0.4'		6.4		
		Boring Terminated at 15.4 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. NOTE: GRAIN SIZE ANALYSIS (ASTM D 422) AND ATTERBERG LIMITS (ASTM D 4318) COMPLETED ON COMPOSITE SAMPLE INCLUDING S-1 AND S-2								
940			20							
935			25							
930			30							
925			35							

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Test Boring Record

GBB-9

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/13/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/13/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Sunny, 80's	▽ Water Level Upon Completion: 6.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: M. Walker, E.I.T.	▽ Water Level After 24 Hours: 12.9'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
890'										
		Brown SANDSTONE FRAGMENTS (GC), some gray clay, trace organics, loose, dry		S-1	73	1-2-3 (5)		14.5		
		(COLLUVIAL)	3.0							
		Brown SANDSTONE FRAGMENTS (GC), little red clay, few sand, medium dense, dry		S-2	100	6-12-12 (24)		11.3		
885		(COLLUVIAL)	6.0							
		Gray and brown mottled sandy CLAY (CL), little sandstone fragments, trace coal fragments, stiff to very stiff, dry -Sample S-3 trace red clay		S-3	80	5-6-8 (14)		16.1		
				S-4	100	6-11-12 (23)		11.5		
880		(COLLUVIAL)	12.0							
		Dark brown and orange SANDSTONE FRAGMENTS (GW), few coal fragments, very dense, dry		S-5	100	18-21-25 (46)		10.8		
		(COLLUVIAL)	15.0							
875		Light brown and orange CLAY (CL), trace red clay, few sandstone fragments, few coal fragments, very stiff, dry		S-6	100	11-9-10 (19)		15.5		
		(COLLUVIAL)	18.0							
		Brown SANDSTONE FRAGMENTS (GC), some clay, trace coal fragments, medium dense, dry		S-7	73	9-8-10 (18)		12.1		
870		(COLLUVIAL)	21.0							
		Gray and light brown mottled CLAY (CL), few sandstone fragments, trace coal fragments, stiff to very stiff, dry		S-8	67	5-6-9 (15)		18.0		
				S-9	67	4-6-11 (17)		15.8		
865		-FAT CLAY (CH) seam ~25'								
		(COLLUVIAL)	27.0							
		Light gray, light brown, red, and purple CLAY (CL), trace claysstone fragments, trace sandstone fragments, very stiff, moist		S-10	100	4-8-10 (18)	88.74	22.9	47	17
860				S-11	80	7-9-12 (21)	88.74	18.0	47	17
		(COLLUVIAL)	33.0							
		Red, gray, and brown mottled CLAY (CL), some sandstone fragments, extremely stiff, dry		S-12	100	9-13-17 (30)		15.3		
855			35							

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Test Boring Record

GBB-9

Project Number: 16123	Project Name: Tull Property	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/13/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/13/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Sunny, 80's	▽ Water Level Upon Completion: 6.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: M. Walker, E.I.T.	▽ Water Level After 24 Hours: 12.9'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
		(COLLUVIAL)	36.0							
		Light brown and orange DECOMPOSED SHALEY SANDSTONE sampled as sandstone fragments, dense to very dense, dry -Sample S-13 wet spoon		S-13	100	9-18-19 (37)		6.3		
850		(RESIDUAL)	39.8	S-14	100	40-50/0.3'		5.9		
		Brown to gray SHALE, moderately weathered to slightly weathered, thinly laminated, very broken to blocky, soft to hard MOHS 0.5 at 40.2' -moderately weathered, soft from 40.2' to 40.6' MOHS 4.5 at 40.8' -moderately weathered from 41.5' to 41.7'	40	R-1	93 (0)					
845		MOHS 4.5 at 43.7' -moderately weathered, soft from 43.7' to 44.0'	45	R-2	64 (12)					
840		MOHS 4.5 at 46.0' -vertical fracture from 48.0' to 49.0' -moderately weathered, soft from 49.0' to 50.3'	50	R-3	94 (58)					
835		-some fine sandstone laminations from 52.0' to 56.0' -limy at 52.5' -hard from 52.6' to 57.0' -dark gray from 52.0' to 57.0'	55	R-4	100 (98)					
		-black carbonaceous shale, some visible pyrite at 57.0'	57.5							
830		Gray fine-grained SANDSTONE, fresh, thinly to thickly laminated, massive, hard, some carbonaceous laminations, limestone inclusions MOHS 9.5 at 58.0'	59.0							
		Boring Terminated at 59.0 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. NOTE: GRAIN SIZE ANALYSIS (ASTM D 422) AND ATTERBERG LIMITS (ASTM D 4318) COMPLETED ON COMPOSITE SAMPLE INCLUDING S-10 AND S-11	60							
825			65							
820			70							

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Test Boring Record

GBB-10

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/20/17	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/20/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Sunny, 60's	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1033'		TOPSOIL	0.3'							
		Tan ROCK FRAGMENTS (GW), some sand, few silt, loose, dry		S-1	80	1-2-3 (5)		10.5		
		(COLLUVIAL)		S-2	67	6-4-4 (8)		23.8		
1028		Brown and gray mottled CLAY (CL), trace claystone fragments, firm, moist	5.0							
		-purple ~9'		S-3	100	8-6-8 (14)	97.68	11.9	43	22
1023		(COLLUVIAL)		S-4	100	12-11-12 (23)	97.68	9.6	43	22
		Tan DECOMPOSED SHALE sampled as shale fragments, medium dense, dry	12.0	S-5	100	7-10-16 (26)		13.1		
1018		(RESIDUAL)		S-6	100	28-41-50/0.3'		8.5		
		(RESIDUAL)		S-7	100	50/0.4'		8.2		
1013		Boring Terminated at 18.4 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. NOTE: GRAIN SIZE ANALYSIS (ASTM D 422) AND ATTERBERG LIMITS (ASTM D 4318) COMPLETED ON COMPOSITE SAMPLE INCLUDING S-3 AND S-4	20							
1008			25							
1003			30							
998			35							

Test Boring Record

GBB-11

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/22/17	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/22/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly sunny, 72 °	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
975'		TOPSOIL	0.3'							
		Red-brown and yellow-brown ROCK FRAGMENTS (GW) (sandstone, shale, claystone), few sand, few to little clay, very loose to medium dense, moist		S-1	47	1-1-3 (4)				
970			5	S-2	100	14-7-6 (13)				
				S-3	100	8-12-13 (25)				
965			10	S-4	100	11-10-9 (19)				
		(COLLUVIAL)	12.0							
		Brown-red to purple and brown-yellow mottled DECOMPOSED CLAYSTONE sampled as claystone fragments, trace to few clay, medium dense to dense, moist		S-5	100	7-10-12 (22)				
960			15	S-6	100	11-12-11 (23)				
		(RESIDUAL)	20.0							
955		Brown and brown-red DECOMPOSED SHALE sampled as shale fragments, few clay, very dense, moist	20							
				S-8	100	50/0.2'				
		(RESIDUAL)	24.0							
950		Brown DECOMPOSED SANDSTONE sampled as sandstone fragments, very dense, moist	24.4	S-9	100	50/0.4'				
		(RESIDUAL)								
		Boring Terminated at 24.4 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.								
945			30							
940			35							

Test Boring Record

GBB-12

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/22/17	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/22/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly sunny, 70°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
983'										
		TOPSOIL	0.4							
		Brown-red and tan CLAY (CL), trace to some rock fragments (shale, claystone), soft to stiff, moist		S-1	80	1-1-2 (3)				
978			5	S-2	100	8-6-6 (12)				
		(COLLUVIAL)	7.0							
		Brown and brown-red DECOMPOSED SHALE (GW) sampled as shale fragments, few silt, few clay, medium dense to dense, moist, some clayey shale interbeds		S-3	100	4-7-10 (17)				
973			10	S-4	100	13-12-14 (26)				
				S-5	100	18-16-17 (33)				
968		(RESIDUAL)	15.0							
		Purple and yellow-brown mottled to tan DECOMPOSED CLAYSTONE sampled as claystone fragments, few clay, medium dense to very dense, moist to dry		S-6	100	16-16-20 (36)				
963			20	S-7	100	16-17-16 (33)				
				S-8	100	19-30-50/0.4'				
958		(RESIDUAL)	24.4							
		Boring Terminated at 24.4 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	25	S-9	100	50/0.4'				
953			30							
948			35							

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Test Boring Record

GBB-13

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/20/17	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/20/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Sunny, 65°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
996'										
		TOPSOIL 0.3'								
		Brown SANDSTONE FRAGMENTS (GW), trace to few sand, few clay, very loose to firm, moist		S-1	60	1-1-1 (2)		13.8		
991			5	S-2	67	6-6-5 (11)		10.9		
		(COLLUVIAL) 6.5'								
		Brown and gray ROCK FRAGMENTS (GC) (sandstone, shale), some brown-red clay, medium dense, moist		S-3	100	6-10-15 (25)		9.8		
		(COLLUVIAL) 9.0'								
986		Purple to gray and orange-brown mottled DECOMPOSED CLAYSTONE sampled as claystone fragments, dense, moist (RESIDUAL) 11.0'	10	S-4	100	18-21-14 (35)		10.0		
		Gray-brown DECOMPOSED SHALE sampled as shale fragments, very dense, dry		S-5	100	41-44-43 (87)		6.2		
981			15	S-6	100	32-31-37 (68)		7.9		
				S-7	100	33-50/0.4'		6.0		
976			20							
		(RESIDUAL) 22.4'		S-8	100	40-34-50/0.4'		8.0		
971		Boring Terminated at 22.4 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	25							
966			30							
961			35							

Test Boring Record

GBB-14

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/20/17	▽ Water Level During Drilling:
Drilled By: T. Zilka (Test Boring Services, Inc.)	Completion Date: 06/20/17	▽ Water Level Before Coring:
Drilling Rig: CME 850 Buggy Rig	Weather: Sunny, 72°	▽ Water Level Upon Completion: 23.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Phillips, P.E.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1083'		TOPSOIL	0.4							
		Brown silty CLAY (CL/ML), little gravel, trace sand, medium, moist		S-1	100	1-3-2 (5)				
		(COLLUVIAL)	3.0							
		Orange-brown SANDSTONE FRAGMENTS (SW), very dense, moist		S-2	100	33-32-50/0.4'				
1078		(COLLUVIAL)	6.0							
		Orange-brown DECOMPOSED SANDSTONE sampled as sandstone fragments, some sand, very dense, moist		S-3	100	39-50/0.4'				
		(RESIDUAL)	9.3							
1073		Brown to light gray medium to fine-grained SANDSTONE, slightly weathered, thinly bedded, medium hard, dark stained fractures	10	S-4 R-1	100	50/0.3'				
				R-1	86 (0)					
				R-2	100 (14)					
1068		-vertical fracture from 13.5' to 13.7' -soft seam from 14.0' to 14.1'	15							
				R-3	100 (12)					
1063		-vertical fracture from 17.5' to 18.0' MOHS 8.5 at 18.0'	20							
		-vertical fracture from 20.3' to 20.6'		R-4	92 (0)					
1058		-micaceous seam at 24.0'	25							
				R-5	100 (0)					
1053		Gray completely weathered CLAYSTONE, very soft	27.5							
			30.0							
		Light gray fine-grained SANDSTONE, slightly weathered, moderately broken to blocky, hard	30							
				R-6	98 (76)					
1048		MOHS 5.5 at 34.0'	35.0							

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GBB-15

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/20/17	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/20/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly sunny, 78°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
968'		TOPSOIL	0.4							
		Brown-red CLAY (CL), soft, moist		S-1	80	1-1-2 (3)				
		(COLLUVIAL)	3.0							
963		Purple CLAY (CL), little to some rock fragments (yellow-brown sandstone, red claystone), stiff, moist		S-2	100	3-4-5 (9)				
		(COLLUVIAL)	6.0							
		Brown-red CLAY (CL), few claystone fragments, very stiff, moist		S-3	100	10-10-13 (23)				
		(RESIDUAL)	9.0							
958		Gray and red-yellow mottled CLAY (CL), few gray claystone fragments, very stiff, moist		S-4	100	13-12-14 (26)				
		(RESIDUAL)	12.0							
		Brown DECOMPOSED SHALE and SANDSTONE sampled as shale and sandstone fragments, few sand, few silt, very dense, dry	13.5	S-5	100	50/0.3'				
953		(RESIDUAL)	13.8	S-6	100	50/0.3'				
		Gray-brown DECOMPOSED SANDSTONE sampled as sandstone fragments, trace sand, very dense, dry								
		(RESIDUAL)								
		Boring Terminated at 13.8 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.								
948			20							
943			25							
938			30							
933			35							

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Test Boring Record

GBB-16

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/20/17	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/20/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Sunny, 68°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1023'										
		Tan SANDSTONE FRAGMENTS (GW), few sand, very loose, dry		▲ S-1	47	1-1-1 (2)		11.2		
		(COLLUVIAL)	3.0							
1018		Brown-red CLAY (CL), trace rock fragments (claystone, shale), firm to medium dense, moist	5	▲ S-2	100	5-4-5 (9)	98.55	15.8	39	21
				▲ S-3	100	5-6-10 (16)	98.55	14.9	39	21
		(COLLUVIAL)	9.0							
1013		Tan CLAY (CL), some rock fragments (claystone), hard, dry	10	▲ S-4	100	16-19-20 (39)		17.1		
		(RESIDUAL)	11.0							
		Brown-red and gray mottled DECOMPOSED CLAYSTONE sampled as claystone fragments, trace clay, very dense, dry		▲ S-5	100	14-35-40 (75)	77.69	10.3	35	18
1008			15	▲ S-6	100	30-31-50/0.4'	77.69	10.8	35	18
		(RESIDUAL)	19.3	▲ S-7	100	33-46-50/0.3'		10.9		
1003		Boring Terminated at 19.3 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. NOTE: GRAIN SIZE ANALYSIS (ASTM D 422) AND ATTERBERG LIMITS (ASTM D 4318) COMPLETED ON COMPOSITE SAMPLES COMPOSED S-2 & S-3 AND S-5 & S-6	20							
998			25							
993			30							
988			35							

Test Boring Record

GBB-17

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/20/17	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/20/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly sunny, 75°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
937'		TOPSOIL	0.4							
		Tan ROCK FRAGMENTS (GW) (sandstone, shale), little silt, loose, damp		S-1	100	1-3-3 (6)		11.6		
		(COLLUVIAL)	3.0							
932		Orange-red CLAY (CL), some gray and brown rock fragments (sandstone), stiff, moist	5	S-2	100	7-6-9 (15)		16.8		
		(COLLUVIAL)	6.0							
		Brown-red and gray mottled CLAY (CL), little rock fragments (claystone, shale, sandstone), stiff, moist		S-3	100	7-7-8 (15)		13.3		
		(COLLUVIAL)	8.0							
927		Tan and red-brown INTERBEDDED DECOMPOSED SANDSTONE and SHALE sampeld as sandstone and shale fragments, trace to few sand, trace to few silt, very dense, dry	10	S-4	100	50/0.4'		6.1		
		(RESIDUAL)	12.4	S-5	100	50/0.4'		5.3		
922		Boring Terminated at 12.4 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	15							
917			20							
912			25							
907			30							
902			35							

Test Boring Record

GBB-18

Project Number: 16123 Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: C. Selvoski (Test Boring Services, Inc.) Drilling Rig: CME 45C Track Mounted Drilling Method: 3 1/4-inch HSA	Project Name: Tull Property Start Date: 06/20/17 Completion Date: 06/20/17 Weather: mostly sunny, 75° Logged By: K. Thiry, P.G.	Sheet: 1 of 1 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: 17' Water Level After 24 Hours: 12.2'
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
936'										
		TOPSOIL	0.5							
		Brown-red CLAY (CL), some rock fragments (yellow-brown sandstone, shale, claystone), very soft to very stiff, moist to wet		S-1	33	1-1-1 (2)				
931			5	S-2	100	7-9-8 (17)				
				S-3	100	4-6-7 (13)				
926			10	S-4	100	7-5-5 (10)				
		-wet from 12.0' to 16.5'		S-5	100	5-5-5 (10)				
921		(COLLUVIAL)	15	S-6	100	5-7-5 (12)				
		Gray, brown, and brown-gray SHALE FRAGMENTS (GM), few silt, firm, wet	15.5							
		(RESIDUAL)	18.0	S-7	100	9-8-7 (15)				
916		Brown-gray DECOMPOSED SHALE sampled as shale fragments, medium dense to very dense, moist to dry	20	S-8	100	26-30-50/0.4'				
		(RESIDUAL)	24.4	S-9	100	50/0.4'				
911		Boring Terminated at 24.4 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	25							
906			30							
901			35							

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Test Boring Record

GBB-19

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/12/17	▽ Water Level During Drilling:
Drilled By: D. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/12/17	▽ Water Level Before Coring:
Drilling Rig: CME 55 Track Mounted	Weather: Sunny, 87°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1014'										
		TOPSOIL	0.4							
		Brown silty SAND (SM), few clay, trace organics (roots), loose, moist	2.0	S-1	60	1-3-2 (5)				
		(COLLUVIAL)								
		Brown CLAY (CL), some rock fragments (shale, sandstone, carbonaceous shale), stiff, moist		S-2	100	4-4-7 (11)				
1009		(COLLUVIAL)	5.0							
		Brown-red and gray mottled DECOMPOSED CLAYSTONE with calcareous nodules/clasts sampled as clay, some rock fragments, dense, dry		S-3	100	7-13-28 (41)				
		(RESIDUAL)	9.0							
1004		Brown-red and gray mottled DECOMPOSED calcareous CLAYSTONE sampled as claystone fragments, very dense, dry	10	S-4	100	21-28-50/0.4'				
		-limestone fragments at 12.5'		S-5	100	30-35-18 (53)				
999		(RESIDUAL)	15							
		Boring Terminated at 15.9 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	15.9	S-6	100	41-50/0.4'				
994			20							
989			25							
984			30							
979			35							

Test Boring Record

GBB-20

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/21/17	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/21/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Overcast, 65°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
953'		TOPSOIL	0.3							
		Brown-red CLAY (CL), some brown-yellow sandstone fragments, very soft, moist	2.0	S-1	67	1-1-1 (2)				
		(COLLUVIAL)								
		Red-yellow and brown-orange mottled CLAY (CL), little rock fragments (sandstone, shale), stiff to very stiff, moist		S-2	53	3-4-7 (11)				
948			5							
				S-3	100	6-8-9 (17)				
943		(COLLUVIAL)	10	S-4	100	9-6-7 (13)				
			11.0							
		Brown-red DECOMPOSED SHALE sampled as shale fragments, few silt, trace clay, very dense, moist, few claystone interbeds		S-5	100	22-28-43 (71)				
938			15							
				S-6	100	21-28-32 (60)				
		(RESIDUAL)	18.3							
933		Auger Refusal at 18.3 feet Boring Terminated at 18.3 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	20	S-7		50/0.0'				
			25							
928										
			30							
923										
			35							
918										

Test Boring Record

GBB-21

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/21/17	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/21/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Overcast, 65°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1024'		TOPSOIL	0.2'							
		Orange-red CLAY (CL), few rock fragments (shale, sandstone), few sand, very soft, moist (COLLUVIAL)	2.5'	S-1	100	1-1-1 (2)		15.0		
		Red-yellow and gray mottled CLAY (CL), few rock fragments (micaceous sandstone, shale), stiff, moist (COLLUVIAL)	5'	S-2	100	5-6-8 (14)		11.9		
1019'		Purple and gray mottled CLAY (CL), some rock fragments (claystone, shale), stiff, moist (COLLUVIAL)	6.0'	S-3	100	6-6-9 (15)		12.2		
		Purple and gray mottled DECOMPOSED CLAYSTONE sampled as claystone fragments, trace clay, dense, moist to dry	10'	S-4	100	14-13-11 (24)	97.66	11.4	38	21
1014'		-tested as (CL) -calcareous from 12.0' to 13.5'		S-5	100	13-15-18 (33)	97.66	10.9	38	21
1009'		(RESIDUAL)	15.0'	S-6	100	14-22-27 (49)		10.8		
		Red-brown, orange-yellow and gray-brown DECOMPOSED LIMESTONE sampled as limestone fragments, dense, dry (RESIDUAL)	18.0'	S-7	100	17-29-39 (68)		10.5		
1004'		Brown-red DECOMPOSED CLAYSTONE sampled as claystone fragments, very dense, dry	20'	S-8	100	24-27-50/0.4'		11.0		
		(RESIDUAL)	24.9'	S-9	100	43-50/0.4'		10.3		
999'		Boring Terminated at 24.9 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. NOTE: GRAIN SIZE ANALYSIS (ASTM D 422) AND ATTERBERG LIMITS (ASTM D 4318) COMPLETED ON COMPOSITE SAMPLE INCLUDING S-4 AND S-5	25'							
994'			30'							
989'			35'							

Test Boring Record

GBB-22

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/12/17	▽ Water Level During Drilling:
Drilled By: D. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/12/17	▽ Water Level Before Coring:
Drilling Rig: CME 55 Track Mounted	Weather: Sunny, 84°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1001'										
		TOPSOIL	0.4							
		Red-orange CLAY (CL), trace rock fragments, trace organics (roots), soft, moist		S-1	67	2-2-2 (4)				
		(COLLUVIAL)	4.0	S-2	80	4-5-9 (14)				
996		Brown-red CLAY (CL), trace organics (roots), stiff, moist	5							
		(RESIDUAL)	6.0	S-3	87	8-14-16 (30)				
		Brown-red and gray mottled DECOMPOSED CLAYSTONE, extremely stiff, moist								
991		-calcareous zones 9.0' from 13.0'	10	S-4	100	16-21-25 (46)				
		(RESIDUAL)	13.0	S-5	100	33-32-50/0.3'				
986		Brown-gray DECOMPOSED LIMESTONE sampled as clay, few limestone fragments, very dense, moist	13.3							
		(RESIDUAL)	15							
		Boring Terminated at 13.3 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.								
981			20							
976			25							
971			30							
966			35							

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Test Boring Record

GBB-23

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/22/17	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/22/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly sunny, 74°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1031'		TOPSOIL	0.5							
		Brown and brown-gray ROCK FRAGMENTS (GW) (sandstone, shale), some clay, very loose to firm, moist		S-1	53	1-1-1 (2)		28.2		
		(COLLUVIAL)	5.0	S-2	100	6-5-7 (12)		12.5		
1026		Gray SHALE FRAGMENTS (GW), firm, dense								
		(RESIDUAL)	6.8	S-3	100	6-4-5 (9)		32.8		
		Dark brownish-purple clayey SILT (CL/ML), trace limestone fragments, stiff, wet	7.3							
		(RESIDUAL)								
1021		Brown-gray DECOMPOSED SHALE FRAGMENTS sampled as shale fragments, loose to dense, moist	10.0	S-4	100	14-22-22 (44)		13.0		
		(RESIDUAL)								
		Tan to brown-red and gray mottled DECOMPOSED CLAYSTONE with calcareous nodules sampled as claystone fragments, trace clay, dense to very dense, dry		S-5	100	35-41-50/0.4'		10.6		
1016		(RESIDUAL)	15.4	S-6	100	50/0.4'		11.6		
		Boring Terminated at 15.4 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.								
1011			20							
1006			25							
1001			30							
996			35							



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Test Boring Record

GBB-25

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/19/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/19/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Rain, 70's	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: L. Barnes, E.I.T.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1032'										
		FILL sampled as dark brown clayey silt, little rock fragments/slag, trace organics, very soft, moist		▲ S-1	33	1-1-1 (2)		17.3		
		(FILL)	3.0							
		Orange-brown and gray mottled CLAY (CL), medium, moist		▲ S-2	100	2-3-3 (6)		29.0		
1027		(COLLUVIAL)	6.0							
		Red-brown and yellow-brown CLAY (CL), few claystone fragments, very stiff, moist		▲ S-3	100	4-7-10 (17)	85.82	14.8	41	22
		(COLLUVIAL)	9.0							
1022		Tan and black CLAY (CL), few claystone fragments, very stiff, moist		▲ S-4	100	11-12-16 (28)	85.82	23.4	41	22
		(COLLUVIAL)	12.0							
		Red-brown and yellow-brown CLAY (CL), few claystone fragments, extremely stiff, moist		▲ S-5	100	7-15-23 (38)	85.82	16.9	41	22
1017		(POSSIBLE COLLUVIAL/RESIDUAL)	15.0							
		Tan and orange-brown silty CLAY (CL), few limestone nodules/clasts, limy, dry		▲ S-6	100	22-35-50/0.4'		11.2		
		(RESIDUAL)	18.0							
		Red-brown DECOMPOSED CLAYSTONE sampled as silty clay, little claystone fragments, dry		▲ S-7	100	44-50/0.4'		9.6		
1012		(RESIDUAL)	21.0							
		Red-brown to red-gray to purplish-red and gray mottled DECOMPOSED CLAYSTONE sampled as claystone fragments, little clay, few calcareous clasts, dry		▲ S-8	100	26-25-18 (43)		12.2		
1007				▲ S-9	100	33-38-50/0.3'		9.6		
		(RESIDUAL)	28.3							
		Boring Terminated at 28.3 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. NOTE: GRAIN SIZE ANALYSIS (ASTM D 422) AND ATTERBERG LIMITS (ASTM D 4318) COMPLETED ON COMPOSITE SAMPLE INCLUDING S-3, S-4, AND S-5	30							
1002										
997			35							

Test Boring Record

GBB-26

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/19/17	Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/19/17	Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Rain, 70's	Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	Water Level After 24 Hours: 24.7'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
932'		TOPSOIL	0.2'							
		Red-brown to red and tan FAT CLAY (CH), few to little rock fragments (including sandstone, shale, claystone), soft to stiff, moist		S-1	80	1-3-4 (7)		26.4		
927			5	S-2	80	2-2-3 (5)	78.55	16.7	50	17
				S-3	47	2-2-2 (4)	78.55	19.8	50	17
922			10	S-4	67	3-5-6 (11)		17.7		
				S-5	100	4-9-5 (14)		20.7		
917			15	S-6	53	3-3-3 (6)		16.1		
				S-7	100	3-4-5 (9)		15.0		
912		(COLLUVIAL)	20							
		Brown and red mottled silty CLAY (CL), little rock fragments (including sandstone, shale), stiff, moist	21.0	S-8	100	6-7-8 (15)		15.3		
		(COLLUVIAL)	24.0							
907		Gray and brown CLAY (CL), little rock fragments, few sand, stiff, moist	25	S-9	100	7-7-7 (14)		14.6		
		(COLLUVIAL)	27.0							
		Tan, brown, and red silty CLAY (CL), little rock fragments, very stiff, moist		S-10	100	9-10-12 (22)		14.7		
902		(COLLUVIAL)	30.0							
		Tan silty CLAY (CL), few claystone fragments, extremely stiff, dry		S-11	100	8-15-22 (37)		11.3		
		(RESIDUAL)	33.0							
		Tan and yellow-brown silty CLAY (CL), few limestone nodules and clasts, dry		S-12	100	50/0.1'		6.5		
897		(RESIDUAL)	35							

(Continued Next Page)

Test Boring Record

GBB-26

Project Number: 16123 Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: K. Erickson (Test Boring Services, Inc.) Drilling Rig: CME 45C Track Mounted Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Tull Property Start Date: 06/19/17 Completion Date: 06/19/17 Weather: Rain, 70's Logged By: L. Barnes, E.I.T.	Sheet: 2 of 2 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: Water Level After 24 Hours: 24.7'
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
		Light gray DECOMPOSED LIMESTONE sampled as limestone fragments, trace sandy, dry (RESIDUAL)	35.2 35.4	S-13	50	50/0.2'		2.0		
892		Auger Refusal at 35.2 feet Boring Terminated at 35.4 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. NOTE: GRAIN SIZE ANALYSIS (ASTM D 422) AND ATTERBERG LIMITS (ASTM D 4318) COMPLETED ON COMPOSITE SAMPLE INCLUDING S-2 AND S-3	40							
887			45							
882			50							
877			55							
872			60							
867			65							
862			70							

Test Boring Record

GBB-27

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/19/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/19/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly sunny, 80's	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: L. Barnes, E.I.T.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
972'		TOPSOIL	0.2'							
		Brown clayey SILT (ML), few rock fragments (including red shale, carbonaceous shale, sandstone), trace organics, medium, moist		S-1	67	1-3-3 (6)		14.2		
		(COLLUVIAL)	3.0							
967		Red-brown and brown CLAY (CL), few rock fragments, stiff, moist	5	S-2	100	6-7-7 (14)		19.0		
		(COLLUVIAL)	6.0							
		Brown and light brown silty CLAY (CL), some rock fragments (mostly sandstone, including small red shale and coal), few sand, very stiff, moist		S-3	100	12-14-15 (29)		7.0		
962			10	S-4	87	16-14-15 (29)		8.4		
		(COLLUVIAL)	12.0							
		Red and yellow-brown CLAY (CL), little shaley claystone fragments, very stiff, dry		S-5	100	9-11-14 (25)		8.1		
957		(POSSIBLE COLLUVIAL/RESIDUAL)	15.0							
		Tan silty CLAY (CL), few claystone fragments, very stiff, dry		S-6	100	11-9-9 (18)		11.2		
		(POSSIBLE COLLUVIAL/RESIDUAL)	18.0							
952		Orange-brown and light brown CLAY (CL), few clayey shale fragments, very stiff, dry	20	S-7	100	11-13-11 (24)		8.1		
		(RESIDUAL)	21.0							
		Orange-brown and light brown DECOMPOSED CLAYEY SHALE sampled as clayey shale fragments, trace sand, dry		S-8	100	14-44-50/0.2'		5.4		
		(RESIDUAL)	24.0							
947		Light brown DECOMPOSED SHALE sampled as shale fragments, few silt, dry	24.3	S-9	67	50/0.3'		4.5		
		(RESIDUAL)								
		Boring Terminated at 24.3 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.								
942			30							
937			35							

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Test Boring Record

GBB-28

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/15/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/15/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Partly sunny, 70's	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: L. Barnes, E.I.T.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
887'										
		Brown and tan clayey SAND (SC), some gravel (claystone, shale, sandstone), very stiff, dry		S-1	67	2-7-12 (19)	33.66	10.0	30	19
				S-2	100	7-9-8 (17)	33.66	8.0	30	19
882			5							
		(COLLUVIAL)	7.5	S-3	100	6-9-11 (20)		7.7		
		Brown, yellow, orange and red-brown DECOMPOSED SANDSTONE sampled as sandstone fragmentss, some sand, very dense, dry		S-4	100	15-33-38 (71)		8.2		
877			10							
		(RESIDUAL)	12.0	S-5	100	50/0.4'		4.9		
		Brown DECOMPOSED sandy SHALE sampled as sandy shale fragments, little sand, few silt, few clay, dry to moist		S-6	100	30-42-43 (85)		4.7		
872			15							
		-Sample S-6 sampeld as sandy shale fragments, little clay, few sand								
		(RESIDUAL)	18.0							
		Tan DECOMPOSED clayey SHALE sampled as clayey shale fragments, few sand, few clay, dry	18.9	S-7	100	30-50/0.4'		5.1		
867			20							
		(RESIDUAL)								
		Boring Terminated at 18.9 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. NOTE: GRAIN SIZE ANALYSIS (ASTM D 422) AND ATTERBERG LIMITS (ASTM D 4318) COMPLETED ON COMPOSITE SAMPLE INCLUDING S-1 AND S-2								
862			25							
857			30							
852			35							

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Test Boring Record

GBB-29

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/16/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/16/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly sunny, 70's	▽ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▽ Water Level After 24 Hours: 14.8'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
874'										
		Brown and red-brown clayey GRAVEL (GC) (sandstone and shale fragments, little sand, stiff to very stiff, moist		S-1	73	1-4-4 (8)		13.8		
869			5	S-2	60	5-4-4 (8)	35.96	22.5	34	19
		(COLLUVIAL)	9.0	S-3	87	3-7-7 (14)	35.96	14.1	34	19
864		Brown and red-brown CLAY (CL), few to some rock fragments (sandstone, shale), trace to few sand, stiff to very stiff, moist	10	S-4	87	6-7-10 (17)		15.5		
				S-5	100	11-13-18 (31)		12.7		
859		(COLLUVIAL)	16.5	S-6	100	10-11-18 (29)		13.2		
		Brown DECOMPOSED SHALE sampled as shale fragments, trace to few silt, moist		S-7	100	12-15-19 (34)		10.0		
854			20	S-8	100	23-23-42 (65)		8.8		
		(RESIDUAL)	24.3	S-9	100	50/0.3'				
849		Medium and dark gray SHALE, moderately to highly weathered, very broken to moderately broken, very soft to medium hard, few carbonaceous zones, micaceous -high angle fracture from 26.0' to 26.1' MOHS 3.5 at 27.0' -hard gray limestone from 27.4' to 27.8'	25	R-1	100 (0)					
				R-2	90 (20)					
844		-very soft from 30.8' to 31.2' -very soft from 31.4' to 31.6' -very soft from 32.4' to 32.6'	30	R-3	100 (40)					
839			35							

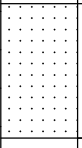
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Test Boring Record

GBB-29

Project Number: 16123	Project Name: Tull Property	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/16/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/16/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly sunny, 70's	▽ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▽ Water Level After 24 Hours: 14.8'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
834		-calcareous veins from 34.5' to 35.2' -slickensided from 34.7' to 34.9' Medium and dark gray SHALE, moderately to highly weathered, very broken to moderately broken, very soft to medium hard, few carboanceous zones, micaceous <i>(continued)</i> -calcareous veins from 37.4' to 37.6'	40	R-4	100 (80)					
829		Gray and medium gray SANDSTONE, moderately to slightly weathered, very broken to massive, medium hard to hard, miaceous, few calcareous clasts and inclusions, many medium gray laminations -brown, water-stained from 41.2' to 41.5' -brown, water-stained at 42.5' MOHS 9.5 at 43.0'	40.8 44.3 45	R-5	100 (51)					
824		Boring Terminated at 44.3 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. NOTE: GRAIN SIZE ANALYSIS (ASTM D 422) AND ATTERBERG LIMITS (ASTM D 4318) COMPLETED ON COMPOSITE SAMPLE INCLUDING S-2 AND S-3	50							
819			55							
814			60							
809			65							
804			70							

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Test Boring Record

GBB-30

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/16/17	Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/16/17	Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly sunny, 70's	Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	Water Level After 24 Hours: 11.2'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
905'										
		FILL sampled as brown silty clay, few to little rock fragments, few sand, trace wood fragments, soft to very stiff, moist		S-1	47	1-1-3 (4)		16.9		
				S-2	100	5-7-13 (20)		13.5		
900		(POSSIBLE FILL/COLLUVIAL)	6.0							
		Brown and light brown clayey SAND (SC), trace rock fragments (including red sandstone, sandstone, sandy shale), stiff to very stiff, moist		S-3	100	7-15-13 (28)		9.4		
		-Sample S-4 rock fragments include clayey shale		S-4	100	7-8-9 (17)		15.5		
895				S-5	100	7-7-9 (16)	40.63	12.4	28	17
				S-6	100	6-7-7 (14)	40.63	11.7	28	17
890		(COLLUVIAL)	18.0							
		Brown and tan CLAY (CL), little rock fragments (including small shale and clayey shale), few silt, very stiff, moist		S-7	100	7-11-13 (24)		13.2		
885				S-8	100	7-9-10 (19)		13.2		
		(COLLUVIAL)	24.0							
880		Brown DECOMPOSED SHALE sampled as shale fragments, few silt, trace clay, medium dense to very dense, moist		S-9	100	33-18-12 (30)		8.6		
				S-10	100	24-41-50/0.4'		6.9		
875				S-11	100	13-39-50/0.3'		7.3		
		(RESIDUAL)	31.3							
		Brown and gray shaley CLAYSTONE, highly weathered, very broken, very soft to soft		R-1	100 (21)					
		MOHS 0 at 33.0'	33.2							
870		-few thin clay seams from 34.4' to 36.1'	35							

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Test Boring Record

GBB-30

Project Number: 16123	Project Name: Tull Property	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/16/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/16/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly sunny, 70's	▽ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▽ Water Level After 24 Hours: 11.2'

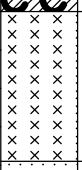
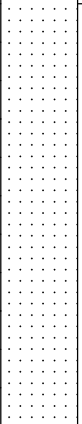
Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
865		Medium gray very fine to fine-grained SANDSTONE, slightly weathered, very broken to massive (generally blocky to massive), medium hard to hard, micaceous (<i>continued</i>) MOHS 9.5 at 37.0'	40	R-2	100 (64)					
860			45	R-3	100 (100)					
855		Grading into medium gray very fine-grained sandy SILTSTONE, slightly weathered to fresh, massive, hard MOHS 4.5 at 50.0'	46.0 50 51.3	R-4 R-5	100 (100) 100 (100)					
850		Boring Terminated at 51.3 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. NOTE: GRAIN SIZE ANALYSIS (ASTM D 422) AND ATTERBERG LIMITS (ASTM D 4318) COMPLETED ON COMPOSITE SAMPLE INCLUDING S-5 AND S-6	55							
845			60							
840			65							
835			70							

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Test Boring Record

GBB-31

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/13/17	▽ Water Level During Drilling:
Drilled By: K. Erickson (Test Boring Services, Inc.)	Completion Date: 06/13/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Sunny, 75°	▽ Water Level Upon Completion: 17.9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: M. Walker, E.I.T.	▽ Water Level After 24 Hours: 8.3'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
853'										
		Brown silty CLAY (CL), some sandstone fragments, trace sand, soft, dry		S-1	67	1-2-1 (3)		16.9		
		(COLLUVIAL)	3.0							
848		Light brown DECOMPOSED SANDSTONE (GW) (possible boulder) sampled as SANDSTONE FRAGMENTS, few clay, loose, dry	5	S-2	33	4-5-4 (9)		10.6		
		(COLLUVIAL)	6.0							
		Brown sandy CLAY (CL), few light gray sandstone and shale fragments, stiff, dry		S-3	100	4-5-6 (11)		14.8		
		(COLLUVIAL)	9.0							
843		Light gray to medium gray DECOMPOSED sandy SILTSTONE sampled as siltstone fragments, trace red clay in spoon, dense to very dense, dry	10	S-4	53	12-15-21 (36)		4.4		
		(RESIDUAL)	12.9	S-5	100	36-50/0.4'		3.7		
838		Medium gray CARBONACEOUS fine to very fine coarse-grained SANDSTONE to SILTSTONE, slightly weathered to fresh, very broken to moderately broken, medium hard	15	R-1	81 (0)					
		MOHS 2.5 at 15.7'								
833			20	R-2	100 (0)					
			22.0							
828		Light gray and brown medium-grained SANDSTONE, few carbonaceous laminations in light gray portion of rock core, slightly weathered, blocky to massive, medium hard to hard, limy inclusions	25	R-3	100 (58)					
		MOHS 7.5 at 23.0'								
			30	R-4	100 (84)					
823				R-5	100 (80)					
			33.0							
818		Boring Terminated at 33.0 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	35							

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Test Boring Record

GBB-32

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/23/17	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/23/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Rainy, 70°	▽ Water Level Upon Completion: 6.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
961'		TOPSOIL	0.4							
		Red-brown and gray ROCK FRAGMENTS (GW) (sandstone, clay, shale), little brown-red clay, very loose, moist (COLLUVIAL)	3.0	S-1	73	1-1-1 (2)		15.5		
		Orange-brown, gray, and brown SANDSTONE FRAGMENTS (GP), little to some sand, loose, moist	5	S-2	100	9-10-10 (20)		13.0		
956				S-3	100	3-3-5 (8)		15.4		
		(RESIDUAL)	9.0							
951		Gray-brown DECOMPOSED SANDSTONE sampled as sandstone fragments, little sand, medium dense, dry	10	S-4	100	6-7-9 (16)		15.3		
		(RESIDUAL)	12.1							
		Tan DECOMPOSED SHALE sampled as shale fragments, few silt, very dense, dry	15	S-5	100	50/0.4'		10.6		
946		(RESIDUAL)	15.3							
		Brown to gray SILTSTONE, moderately weathered, thinly to thickly bedded, very broken to massive, soft to hard, few clayey siltstone interbeds		S-6	100	50/0.3'				
		-vertical fracture from 15.3' to 17.5'		R-1	90 (0)					
		-soft from 15.3' to 16.5'								
		-medium hard from 16.5' to 23.0'								
941			20	R-2	100 (0)					
		-vertical fracture from 21.3' to 21.6'								
		MOHS 3.5 at 22.0'								
		-vertical fracture from 22.3' to 30.6'								
936			25	R-3	100 (38)					
		MOHS 5.5 at 27.0'								
931			30	R-4	100 (48)					
		-dark gray interbeds at 31.0'								
		-few fine-grained sandstone interbeds from 32.3' to 35.3'								
926			35	R-5	90 (40)					

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Test Boring Record

GBB-33

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/23/17	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/23/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Rainy, 70°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
892'		TOPSOIL	0.2'							
		Brown SILT (ML), few clay, soft, moist		S-1	80	1-2-1 (3)		15.3		
		(COLLUVIAL)	3.0							
		Yellow-brown SHALE FRAGMENTS (GM), little silt, medium dense, moist		S-2	100	13-9-8 (17)		11.8		
887		(RESIDUAL)	5.0							
		Pink and gray-green to tan DECOMPOSED CLAYSTONE sampled as claystone fragments, trace clay, medium dense to very dense, moist to dry		S-3	100	11-14-15 (29)	93.31	10.6	45	20
		-tested as (CL)								
882			10	S-4	100	16-18-12 (30)	93.31	13.4	45	20
		(RESIDUAL)	12.0							
877		Boring Terminated at 12.0 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. NOTE: GRAIN SIZE ANALYSIS (ASTM D 422) AND ATTERBERG LIMITS (ASTM D 4318) COMPLETED ON COMPOSITE SAMPLE INCLUDING S-3 AND S-4	15	S-5		50/0.0'				
872			20							
867			25							
862			30							
857			35							

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Test Boring Record

GBB-34

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/21/17	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/21/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Partly sunny, 67°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1005'		TOPSOIL	0.3'							
		Brown-red CLAY (CL), trace rock fragments, soft, moist		S-1	33	1-1-2 (3)		26.2		
		(COLLUVIAL)	3.0							
1000		Yellow-brown clayey SAND (SC), little yellow-brown and red-brown rock fragments (claystone and sandstone) (prior to soaking during test), stiff to very stiff, moist	5	S-2	100	3-5-8 (13)	44.87	10.9	35	18
		(COLLUVIAL)	9.0	S-3	100	10-7-10 (17)	44.87	10.4	35	18
995		Orange-brown and red-yellow DECOMPOSED SANDSTONE sampled as sandstone fragments (GW), little sand, firm, moist	10	S-4	100	3-4-9 (13)		8.9		
		(RESIDUAL)	12.0	S-5	100	22-24-50/0.4'		7.1		
990		Brown-yellow DECOMPOSED SHALE sampled as shale fragments, very dense, dry	15	S-6	163	30-50/0.3'		6.0		
		(RESIDUAL)	15.8							
985		Boring Terminated at 15.8 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. NOTE: GRAIN SIZE ANALYSIS (ASTM D 422) AND ATTERBERG LIMITS (ASTM D 4318) COMPLETED ON COMPOSITE SAMPLE INCLUDING S-2 AND S-3								
980			20							
			25							
975			30							
970			35							

Test Boring Record

GBB-35

Project Number: 16123 Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: C. Selvoski (Test Boring Services, Inc.) Drilling Rig: CME 45C Track Mounted Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Tull Property Start Date: 06/21/17 Completion Date: 06/21/17 Weather: Cloudy, rainy, 65° Logged By: K. Thiry, P.G.	Sheet: 1 of 2 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: 41.2' Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1074'		TOPSOIL 0.6								
		Red-brown SANDSTONE FRAGMENTS (GW), little sand, few silt, very loose, moist		S-1	60	1-1-1 (2)				
		(COLLUVIAL) 3.0								
1069		Gray and brown SANDSTONE FRAGMENTS (GW), little sand, medium dense, moist	5	S-2	100	8-9-8 (17)				
		(COLLUVIAL) 6.0								
		Gray and red-yellow DECOMPOSED micaceous SANDSTONE (GW) sampled as sandstone fragments, few sand, very dense, dry		S-3	100	7-8-10 (18)				
1064			10	S-4	100	43-30-24 (54)				
				S-5	100	24-36-27 (63)				
1059		(RESIDUAL) 15.0	15							
		Brown to gray fine to medium-grained SANDSTONE with interstitial carbon, slightly to moderately weathered, thinly bedded, very broken, very soft to hard, some carbonaceous laminations		S-6	93 (0)	50/0.0'				
		MOHS 8.5 at 16.0'		R-1						
1054		-very soft carbonaceous sandstone from 19.5' to 20.0'	20	R-2	100 (46)					
1049		-very soft to soft carbonaceous sandstone from 24.3' to 24.9'	25	R-3	78 (8)					
		-vertical fracture from 27.3' to 28.8'								
1044			30	R-4	100 (28)					
		MOHS 8.5 at 30.0'								
		-gray, slightly weathered from 32.0' to 35.8'								
1039			35	R-5	94 (46)					

(Continued Next Page)

Test Boring Record

GBB-35

Project Number: 16123 Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: C. Selvoski (Test Boring Services, Inc.) Drilling Rig: CME 45C Track Mounted Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Tull Property Start Date: 06/21/17 Completion Date: 06/21/17 Weather: Cloudy, rainy, 65° Logged By: K. Thiry, P.G.	Sheet: 2 of 2 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: 41.2' Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1034		Brown to gray fine to medium-grained SANDSTONE with interstitial carbon, slightly to moderately weathered, thinly bedded, very broken, very soft to hard, some carbonaceous laminations (<i>continued</i>)								
		-gray, slightly weathered from 39.0' to 41.3'	40	R-6	100 (12)					
1029		-very soft from 43.0' to 43.3'	43.3							
		Light gray clayey SILTSTONE, highly weathered, thinly bedded, very broken to moderately broken, soft MOHS 0.5 at 45.0'	45	R-7	74 (16)					
		Boring Terminated at 46.5 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	46.5							
1024			50							
1019			55							
1014			60							
1009			65							
1004			70							

BORING LOG - GARVIN - GARVIN.GDT - 08/14/19 08:56 - \\SERVER\SHARED DOCUMENTS\GINT\PROJECTS\16123 TULL PROPERTY.GPJ

Test Boring Record

GBB-36

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/23/17	▽ Water Level During Drilling: 32'
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/23/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Rainy, 72°	▽ Water Level Upon Completion: 36'
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
917'		TOPSOIL	0.4	S-1	80	1-1-3 (4)				
		Brown to red-brown CLAY (CL), some to and rock fragments (sandstone, shale), few sand, very loose to medium dense, moist		S-2	80	5-9-7 (16)		13.0		
912		(COLLUVIAL)	6.0	S-3	100	8-8-8 (16)		11.8		
		Brown clayey SAND (SC), some rock fragments (sandstone, shale), loose to medium dense, moist to wet		S-4	100	6-8-15 (23)		12.1		
907			10	S-5	100	9-8-7 (15)		11.5		
				S-6	100	5-3-4 (7)		14.8		
902		-very moist from 15.0' to 16.5'	15	S-7	100	3-2-3 (5)		12.8		
				S-8	100	3-2-7 (9)		12.6		
897		(COLLUVIAL)	24.0	S-9	100	0-0-0 (0)		22.8		
		Brown and red-brown silty SAND (SM), trace sandstone fragments, few clay, very loose to very dense, wet		S-10	100	50/0.3'		9.8		
892		-light gray coarse-grained sandstone boulder from 27.0' to 27.3'	25	S-11	100	7-6-9 (15)		16.8		
				S-12	67	11-15-18 (33)		10.7		
887		(COLLUVIAL)	33.7							
		Dark and light gray mottled DECOMPOSED CLAYSTONE sampled as claystone fragments, dense, dry	35							
882										

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Test Boring Record

GBB-36

Project Number: 16123 Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: C. Selvoski (Test Boring Services, Inc.) Drilling Rig: CME 45C Track Mounted Drilling Method: 3 1/4-inch HSA	Project Name: Tull Property Start Date: 06/23/17 Completion Date: 06/23/17 Weather: Rainy, 72° Logged By: K. Thiry, P.G.	Sheet: 2 of 2 Water Level During Drilling: 32' Water Level Before Coring: Water Level Upon Completion: 36' Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
		(RESIDUAL)	36.0							
		Gray and red-yellow DECOMPOSED INTERBEDDED SHALE and SANDSTONE sampled as shale and sandstone fragments, very dense, dry	36.7	S-13	100	44-50/0.2'		7.5		
		(RESIDUAL)								
877		Boring Terminated at 36.7 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	40							
872			45							
867			50							
862			55							
857			60							
852			65							
847			70							

Test Boring Record

GBB-37

Project Number: 16123	Project Name: Tull Property	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 06/23/17	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 06/23/17	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Overcast, 70°	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1019'		TOPSOIL	0.4							
		Brown-red and gray-green mottled CLAY (CL), few rock fragments, very soft, moist		S-1	27	1-1-1 (2)		25.8		
		(COLLUVIAL)	3.0							
1014		Purple and green-gray mottled FAT CLAY (CH), few rock fragments (shale, sandstone, limestone), firm to dense, moist	5	S-2	87	6-7-7 (14)		21.0		
		NOTE: COMPOSITE AUGER CUTTING BAG SAMPLE FROM 0 TO 9 FT NATURAL MOISTURE CONTENT EQUAL TO 14.0%. PERCENT PASSING #200 SIEVE 95.3%. LIQUID LIMIT 53%, PLASTIC LIMIT 15%								
				S-3	100	6-6-11 (17)		15.0		
1009			10	S-4	100	15-15-19 (34)		13.2		
		(COLLUVIAL)	12.0							
		Purple and green-gray mottled CLAY (CL), trace claystone fragments, extremely stiff, dry		S-5	100	15-14-19 (33)		11.7		
1004			15	S-6	100	13-19-29 (48)		11.8		
				S-7	100	29-34-50/0.4'		11.8		
999			20							
		(RESIDUAL)	21.7	S-8	100	33-50/0.2'		9.4		
		Boring Terminated at 21.7 feet								
		Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.								
994			25							
989			30							
984			35							

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Test Boring Record

D-1

Project Number: 16123-1	Project Name: Dohar Property	Sheet: 1 of 2
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 5/28/19	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 5/28/19	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly cloudy, 68 Degrees	▽ Water Level Upon Completion: 17.9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours: 4.5'

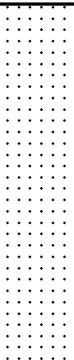
Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
761.2'		TOPSOIL	0.4'	S-1	67	1-1-2 (3)				
		FILL sampled as brown silty clay, some rock fragments, soft to stiff, moist								
756		(FILL)	5.0	S-2	100	7-5-4 (9)				
		Red-brown and brown CLAY (CL), some dark gray, light brown, and brown rock fragments (sandstone, shale), medium to stiff, moist		S-3	100	4-3-4 (7)				
751		(COLLUVIAL)	12.0	S-4	100	6-10-12 (22)				
		Red-brown and dark greenish gray CLAY (CL), little rock fragments, very stiff, moist		S-5	100	5-7-9 (16)				
746		(COLLUVIAL)	18.0	S-6	100	8-12-14 (26)				
		Dark gray and red-yellow CLAY (CL), few light gray and brown rock fragments (sandstone, shale), very stiff, moist		S-7	100	8-9-14 (23)				
741		(COLLUVIAL)	21.0	S-8	100	9-13-24 (37)				
		Light gray and orange-brown DECOMPOSED shaley SANDSTONE sampled as sandstone fragments, dense to very dense, dry -encountered water at 21.0'		S-9	100	50/0.4'				
736		(RESIDUAL)	24.4	R-1	96 (60)					
		Light gray fine to medium-grained micaceous SANDSTONE, slightly to moderately weathered, thinly to thickly laminated, moderately broken to massive, hard, few carbonaceous laminations MOH of 8.5 at 25.0'		R-2	100 (60)					
731			30							
726			35	R-3	100 (88)					

(Continued Next Page)

Test Boring Record

D-1

Project Number: 16123-1	Project Name: Dohar Property	Sheet: 2 of 2
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 5/28/19	▼ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 5/28/19	▼ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly cloudy, 68 Degrees	▼ Water Level Upon Completion: 17.9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 4.5'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
721		-MOH of 8.5 at 39.0'	40	R-4	100 (86)					
716			45	R-5	100 (72)					
711		Boring Terminated at 44.4 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	50							
706			55							
701			60							
696			65							
691			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 2/18/26 14:18 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123-1 DOHAR PROPERTY.GPJ

Test Boring Record

D-2A

Project Number: 16123-1	Project Name: Dohar Property	Sheet: 1 of 2
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 6/3/19	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 6/3/19	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Sunny, 65 Degrees	▽ Water Level Upon Completion: 9.9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours: 19'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
784.4'		TOPSOIL	0.4'							
		FILL sampled as brown clay, few to some rock fragments (sandstone, shale, claystone), soft to very stiff, moist		S-1	67	1-1-2 (3)				
				S-2	53	12-12-9 (21)				
779		(FILL)	6.0							
		Brown and gray SANDSTONE FRAGMENTS (GP), few red-brown clay, medium dense, moist		S-3	80	7-7-9 (16)				
774		(COLLUVIAL)	12.0							
		Dark brown and red-brown silty CLAY (CL), some to and rock fragments (yellow-brown sandstone, carbonaceous shale, brown shale), stiff to very stiff, moist		S-4	100	18-23-19 (42)				
769		(COLLUVIAL)	18.0							
		Gray DECOMPOSED thinly laminated SANDSTONE with carbonaceous laminations sampled as sandstone fragments, very dense, moist to dry		S-5	100	14-12-14 (26)				
764		-moist from 18.0' to 19.5'		S-6	100	6-6-7 (13)				
		-encountered water at 19.5'		S-7	100	7-39-16 (55)				
759		(RESIDUAL)	25.4							
		Brown SANDSTONE with carbonaceous laminations, highly weathered, thinly laminated, very broken to moderately broken, soft		S-8	100	47-34-19 (53)				
		-MOH of 0.5 at 27.0'		S-9	100	23-23-50/0.4'				
754		Brown clayey SILTSTONE, completely to slightly weathered, very thinly bedded, very broken, soft to medium hard		R-1	90 (0)					
				R-2	100 (0)					
		-MOH of 2.5 at 32.0'		R-3	100 (13)					
749		-medium hard from 34.5' to 35.4'								

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Test Boring Record

D-2A

Project Number: 16123-1 Project Location: Leetsdale Boro, Allegheny Co., PA Drilled By: C. Selvoski (Test Boring Services, Inc.) Drilling Rig: CME 45C Track Mounted Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Dohar Property Start Date: 6/3/19 Completion Date: 6/3/19 Weather: Sunny, 65 Degrees Logged By: K. Thiry, P.G.	Sheet: 2 of 2 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: 9.9' Water Level After 24 Hours: 19'
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
	x x x	-MOH of 4.5 at 35.0'								
		Boring Terminated at 35.4 feet								
		Ground Surface Elevations and Coordinates Surveyed and								
		Provided By Phillips & Associates, Inc.								
744			40							
739			45							
734			50							
729			55							
724			60							
719			65							
714			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 2/18/26 14:18 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016\16123-1 DOHAR PROPERTY.GPJ

Test Boring Record

D-3

Project Number: 16123-1	Project Name: Dohar Property	Sheet: 1 of 1
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 6/3/19	▼ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 6/3/19	▼ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Sunny, 50's	▼ Water Level Upon Completion: 21'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 6'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
928.7'		TOPSOIL	0.4'							
		Brown clayey SILT (ML), trace rock fragments, soft, moist (RESIDUAL)	2.0	S-1	100	1-1-3 (4)				
		Brown DECOMPOSED shaley SANDSTONE sampled as sandstone fragments, very dense, dry		S-2	100	11-20-30 (50)				
924		(RESIDUAL)	6.0	S-3	100	15-25-44 (69)				
		Brown DECOMPOSED SHALE sampled as shale fragments, very dense, dry		S-4	100	30-50/0.3'				
919		(RESIDUAL)	10.0	R-1	80 (0)					
		Brown SHALE, moderately weathered, thinly to thickly laminated, very broken to moderately broken, soft to medium hard -soft, very broken and fractured from 10.0' to 13.0'		R-2	100 (0)					
914		-vertical fracture from 13.5' to 14.5' -MOH of 4.5 at 13.5'	15							
		-vertical fracture from 16.0' to 16.5'	16.5							
909		Brown to gray INTERBEDDED SHALE and light gray fine-grained SANDSTONE, moderately to slightly weathered, thinly to thickly laminated, very broken to blocky, medium hard to hard -vertical fracture from 16.5' to 17.0' -vertical fracture from 17.5' to 18.0' -vertical fracture from 18.5' to 20.2' -MOH of 8.5 at 20.5'	21.0	R-3	100 (0)					
		Brown SILTSTONE, moderately weathered, very thinly bedded, very broken to moderately broken, medium hard	23.3							
904		Gray LIMESTONE with calcareous clasts, slightly weathered, hard, MOH of 8.5	23.8	R-4	100 (0)					
		Gray CLAYSTONE, few calcareous clasts, moderately weathered, very broken to blocky, soft -MOH of 1.5 at 24.0'	26.5							
899		Red-brown to brown very fine-grained SANDSTONE, highly to moderately weathered, very broken to moderately broken, medium hard -vertical fracture from 26.5' to 28.2' -soft, highly weathered from 28.2' to 29.0' -MOH of 7.5 at 29.8'	30	R-5	100 (0)					
		Boring Terminated at 30.0 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.								
894			35							

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Test Boring Record

D-4

Project Number: 16123-1	Project Name: Dohar Property	Sheet: 1 of 1
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 5/29/19	▽ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 5/29/19	▽ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Partly sunny, 75 Degrees	▽ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
824.1'		TOPSOIL	0.2'	S-1	67	1-1-1 (2)				
		FILL sampled as red-brown rock fragments, some clay, very loose, moist								
		(FILL)	3.0							
819		Red-brown CLAY (CL), little to some rock fragments (shale, carbonaceous shale), stiff, moist	5	S-2	100	4-4-8 (12)				
				S-3	100	12-8-8 (16)				
		(COLLUVIAL)	9.7							
814		Brown and gray SANDSTONE FRAGMENTS (GP), few sand, few red-brown clay, loose to very dense, dry	10	S-4	100	16-15-50/0.2'				
				S-5	80	8-3-2 (5)				
809		(COLLUVIAL)	16.5							
		Brown DECOMPOSED SANDSTONE sampled as sandstone fragments, trace sand, dense, dry								
				S-6	73	10-9-6 (15)				
				S-7	100	14-22-15 (37)				
804		-boulder from 21.5' to 23.0'	20							
				S-8	67	48-50/0.4'				
		(RESIDUAL)	24.1							
799		Brown fine to medium-grained micaceous SANDSTONE, slightly to moderately weathered, thickly laminated to very thinly bedded, moderately broken to massive, hard	25	S-9	0	50/0.1'				
				R-1	90 (43)					
794		-MOH of 8.5 at 30.0'	30	R-2	60 (78)					
		-no drill water return from 24.1' to 34.1'		R-3	100 (85)					
789		Boring Terminated at 34.1 feet	35							
		Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.								

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Test Boring Record

D-5

Project Number: 16123-1	Project Name: Dohar Property	Sheet: 1 of 4
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 5/29/19	▼ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 5/30/19	▼ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Rainy, 70's	▼ Water Level Upon Completion: 59.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
900.4'										
		TOPSOIL	0.5							
		Orange-yellow silty SAND (SM), few clay, trace sandstone fragments, very loose, moist		S-1	87	1-1-2 (3)				
		(RESIDUAL)	3.0							
895		Gray-brown SANDSTONE FRAGMENTS (GP), few sand, medium dense, dry	5.0	S-2	100	17-14-11 (25)				
		(RESIDUAL)								
		Brown-yellow DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, very dense, dry		S-3	100	14-33-50 (83)				
		(RESIDUAL)	9.0							
890		Gray-brown DECOMPOSED SHALE sampled as shale fragments, very dense, dry	10	S-4	100	15-17-16 (33)				
				S-5	100	24-26-34 (60)				
885		(RESIDUAL)	15.0							
		Brown-gray and brown-orange DECOMPOSED SILTSTONE sampled as siltstone fragments, very dense, dry		S-6	100	19-22-26 (48)				
				S-7	100	14-27-30 (57)				
880		(RESIDUAL)	21.0							
		Red-yellow to gray DECOMPOSED SANDSTONE sampled as sandstone fragments, little sand, very dense, dry	22.0	S-8	100	31-50/0.4'				
		(RESIDUAL)								
875		Red-yellow silty CLAYSTONE, completely to slightly weathered, thinly bedded, very broken to blocky, soft	25	R-1	100 (0)					
		-MOH of 2.5 at 23.0'								
		-soft from 24.2' to 26.0'	25.5							
		Red-yellow and gray INTERBEDDED fine-grained SANDSTONE and SHALE, completely to slightly weathered, thinly laminated to very thinly bedded, very broken, soft to hard		R-2	100 (8)					
870		-vertical fracture from 28.0' to 28.5'	30							
		-vertical fracture from 29.5' to 30.0'								
		-MOH of 8.5 at 31.0'								
865		-vertical fracture from 34.0' to 35.6'	35	R-3	100 (8)					

(Continued Next Page)

Test Boring Record

D-5

Project Number: 16123-1	Project Name: Dohar Property	Sheet: 2 of 4
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 5/29/19	▼ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 5/30/19	▼ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Rainy, 70's	▼ Water Level Upon Completion: 59.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
860		-vertical fracture from 40.0' to 41.0'	40	R-4	100 (0)					
855		-MOH of 5.5 at 45.0' -soft from 46.5' to 47.0'	45	R-5	100 (8)					
850		49.5 Gray SHALE, slightly weathered, thinly laminated, very broken to blocky, soft to hard -soft from 52.2' to 52.6' -MOH of 3.5 at 53.0'	50	R-6	100 (0)					
845		-soft from 54.5' to 55.0'	55	R-7	100 (20)					
840		57.2 Black CARBONACEOUS SHALE, moderately to slightly weathered, thinly laminated, very broken to blocky, soft to hard -MOH of 5.5 at 58.0' -vertically fracture, soft from 58.5' to 59.3' -many pyrite lenses and laminations	60	R-8	100 (48)					
835		-some gray siltstone laminations -soft, highly weathered from 62.0' to 66.0' -MOH of 2.5 at 63.0'	65	R-9	100 (10)					
830		65.0 Gray SHALE, moderately weathered to fresh, medium bedded, moderately broken to massive, soft to hard -MOH of 6.5 at 69.0'	70	R-10	100 (80)					

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BORING LOG - DOUG BEITKO - GARVIN.GDT - 2/18/26 14:18 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016\16123-1 DOHAR PROPERTY.GPJ

Test Boring Record

D-5

Project Number: 16123-1	Project Name: Dohar Property	Sheet: 3 of 4
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 5/29/19	▼ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 5/30/19	▼ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Rainy, 70's	▼ Water Level Upon Completion: 59.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
825		-carbonaceous shale and coal interbed from 73.4' to 73.8'	75	R-11	100 (34)					
		-vertical fracture from 73.5' to 75.2'								
		-MOH of 6.5 at 76.0'								
820		-soft from 80.0' to 80.5'	80	R-12	100 (70)					
		-carbonaceous shale and coal interbed from 82.8' to 83.1'	83.1							
815		Gray to light gray fine to medium-grained micaceous SANDSTONE, moderately to slightly weathered, moderately broken to massive, hard	85	R-13	50 (84)					
		-MOH of 8.5 at 88.0'								
810			90	R-14	100 (100)					
805			95	R-15	100 (100)					
		-moderately weathered from 97.5' to 103.0'								
800		-vertical fracture from 99.0' to 99.5'	100	R-16	100 (54)					
		-lost water return at 101.0'								
		-MOH of 8.5 at 101.5'								
		-vertical fracture from 101.5' to 102.0'								
795			105	R-17	100 (58)					

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BORING LOG - DOUG BEITKO - GARVIN.GDT - 2/18/26 14:18 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016\16123-1 DOHAR PROPERTY.GPJ

Test Boring Record

D-5

Project Number: 16123-1	Project Name: Dohar Property	Sheet: 4 of 4
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 5/29/19	▼ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 5/30/19	▼ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Rainy, 70's	▼ Water Level Upon Completion: 59.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
790		Red-brown to gray INTERBEDDED SHALE and light gray fine-grained SANDSTONE, slightly to moderately weathered, thinly laminated, very broken to blocky, hard -dark gray from 107.3' to 109.0' -MOH of 6.5 at 109.5'	110	R-18	100 (44)					
785		-MOH of 8.5 at 118.0'	115	R-19	100 (52)					
780		-fresh from 117.5' to 120.0'	120	R-20	93 (27)					
775		Boring Terminated at 120.0 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. Borehole collapsed at 12' after 24 hours	125							
770			130							
765			135							
760			140							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 2/18/26 14:18 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016\16123-1 DOHAR PROPERTY.GPJ

Test Boring Record

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Project Number: 16123-1	Project Name: Dohar Property	Sheet: 1 of 1
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 6/3/19	▼ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 6/3/19	▼ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Sunny, 55 Degrees	▼ Water Level Upon Completion: 6.4'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
896.4'										
		TOPSOIL	0.4'	S-1	80	1-1-1 (2)				
		Orange-brown sandy SILT (ML), some sandstone fragments, very loose, moist	2.0							
		(COLLUVIAL)								
		Yellow-brown SANDSTONE FRAGMENTS (GP), few sand, few red-yellow clay, medium dense, moist	5.0	S-2	100	13-10-7 (17)				
891		(COLLUVIAL)								
		Yellow-brown SANDSTONE FRAGMENTS (GP), few sand, medium dense, dry	9.0	S-3	100	12-17-10 (27)				
		(COLLUVIAL)								
886		Brown silty CLAY (CL), trace rock fragments (red sandstone, black shale), very stiff, dry	12.5	S-4	100	8-11-14 (25)				
		(COLLUVIAL)								
		Brown-gray and red-brown mottled DECOMPOSED silty CLAYSTONE sampled as claystone fragments, medium to very dense, dry	19.0	S-5	100	15-17-19 (36)				
881				S-6	100	12-13-17 (30)				
		(RESIDUAL)								
876		Brown-red and green-gray mottled silty CLAYSTONE, highly weathered, very thinly bedded, very broken to blocky, soft -MOH of 0.5 at 20.0'	23.0	R-1	88 (0)					
		Red-brown to tan fine-grained SANDSTONE, completely weathered, thinly bedded, very broken to moderately broken, very soft	26.0	R-2	100 (0)					
871		Brown SHALE, highly weathered, thinly laminated, very broken and fractured, very soft to soft -MOH of 3.5 at 27.0'		R-3	100 (0)					
866		Boring Terminated at 29.0 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. Borehole collapsed at 2' after 24 hours	30							
861			35							

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Test Boring Record

D-7

Project Number: 16123-1 Project Location: Leetsdale Boro, Allegheny Co., PA Drilled By: C. Selvoski (Test Boring Services, Inc.) Drilling Rig: CME 45C Track Mounted Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Dohar Property Start Date: 5/30/19 Completion Date: 5/31/19 Weather: Overcast, 60 to 70 Degrees Logged By: K. Thiry, P.G.	Sheet: 1 of 3 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: 32.5' Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
963'										
		TOPSOIL	0.1	S-1	80	2-3-3 (6)				
		FILL sampled as brown-red and yellow-brown clay, some rock fragments/gravel, few sand, medium, moist								
958		(FILL)	5.0	S-2	87	4-4-4 (8)				
		Brown-yellow to brown-red silty CLAY (CL), some red-brown and yellow-brown rock fragments (sandstone, shale), stiff to very stiff, moist		S-3	60	5-10-12 (22)				
953		(COLLUVIAL)	11.0	S-4	100	6-7-5 (12)				
		Brown DECOMPOSED SHALE sampled as shale fragments, very dense, dry		S-5	100	31-46-50 (96)				
948		(RESIDUAL)	18.0	S-6	100	19-27-34 (61)				
		Gray-brown DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, very dense, dry	19.0	S-7	100	50/0.2'				
943		(RESIDUAL)	20	R-1	65 (0)					
		Orange-brown SANDSTONE, completely weathered to highly weathered, thickly laminated, very broken, very soft to soft	21.2							
		Brown to gray INTERBEDDED SHALE and fine-grained SANDSTONE, highly to slightly weathered, thinly laminated to very thinly bedded, very broken, very soft to hard -very soft to soft from 21.2' to 24.0'		R-2	100 (0)					
938		-MOH of 5.5 at 25.5'	25							
		-moderately weathered, vertical fracture from 30.3' to 31.0'		R-3	100 (18)					
933		-moderately weathered, vertical fracture from 32.3' to 33.0'	30							
				R-4	100 (14)					
928		Gray to brown SILTSTONE, moderately weathered to slightly	34.0							
			35							

(Continued Next Page)

Test Boring Record

D-7

Project Number: 16123-1	Project Name: Dohar Property	Sheet: 2 of 3
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 5/30/19	▼ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 5/31/19	▼ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Overcast, 60 to 70 Degrees	▼ Water Level Upon Completion: 32.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
923		weathered, thinly laminated to very thinly bedded, very broken to blocky, hard -very soft from 36.0' to 36.4'	40.0	R-5	100 (24)					
918		Medium gray SILTSTONE INTERBEDDED with light gray fine-grained SANDSTONE, slightly to moderately weathered, very broken to blocky, hard -moderately weathered, waterstained vertical fracture from 41.0' to 43.5' -MOH of 7.5 at 42.5'	45	R-6	100 (14)					
913		-moderately weathered, waterstained vertical fracture from 44.2' to 46.0'	50	R-7	100 (44)					
908		-MOH of 8.5 at 53.0'	55	R-8	100 (56)					
903		Gray SILTSTONE, slightly weathered to fresh, moderately broken to blocky, hard -45 Degree fractures -MOH of 7.5 at 57.0'	58.4	R-9	94 (10)					
898		Gray fossiliferous LIMESTONE, highly weathered to slightly weathered, moderately broken, soft to hard -hard from 58.4' to 58.7'	59.8							
		Light gray CLAYSTONE with calcareous clasts, slightly weathered, thinly bedded, very broken to blocky, soft, MOH of 2.5	60.8							
		Light gray fine-grained SANDSTONE, slightly weathered, medium bedded, very broken to massive, hard		R-10	100 (58)					
		-waterstained vertical fracture from 64.0' to 65.3'	65							
893		Gray to brown SHALE, slightly to moderately weathered, thinly laminated to thickly laminated, very broken to massive, hard -MOH of 7.5 at 67.0'	65.8	R-11	100 (30)					

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Test Boring Record

D-7

Project Number: 16123-1	Project Name: Dohar Property	Sheet: 3 of 3
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 5/30/19	▼ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 5/31/19	▼ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Overcast, 60 to 70 Degrees	▼ Water Level Upon Completion: 32.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
888		-moderately weathered, waterstained vertical fracture from 71.8' to 72.6' -MOH of 7.5 at 73.0' -moderately weathered, waterstained vertical fracture from 73.4' to 73.9'	75	R-12	100 (16)					
883		Gray to brown-red CLAYSTONE, slightly weathered, very thinly bedded, very broken to blocky, soft -MOH of 5.5 at 89.0'	80	R-13	100 (0)					
878			85	R-14	100 (0)					
873		Brown-red INTERBEDDED SHALE and CLAYSTONE, moderately weathered, thickly laminated, very broken to moderately broken, soft to medium hard -MOH of 3.5 at 89.0'	90	R-15	96 (18)					
868		Gray SILTSTONE with some light gray sandstone laminations, slightly weathered, very broken to massive, hard -MOH of 8.5 at 93.0'	95	R-16	100 (74)					
863		Boring Terminated at 96.0 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc. Borehole collapsed at 3' after 24 hours	100							
858			105							

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Test Boring Record

D-8

Project Number: 16123-1	Project Name: Dohar Property	Sheet: 1 of 3
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 5/28/19	Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 5/29/19	Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly cloudy, 80 Degrees	Water Level Upon Completion: 42.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	Water Level After 24 Hours: 1'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
809.2'										
		Cinders and gravel (FILL) FILL sampled as brown and gray rock fragments, loose, dry (FILL)	0.4-3.0	S-1	67	10-6-4 (10)				
804		Brown CLAY (CL), few to little rock fragments (shale, carbonaceous shale), medium to stiff, moist	5	S-2	100	6-8-10 (18)				
				S-3	100	4-6-6 (12)				
799		(COLLUVIAL)	10	S-4	100	6-7-9 (16)				
		Brown and red-brown CLAY (CL), some rock fragments sandstone, shale), stiff, moist (COLLUVIAL)	12.0-14.0	S-5	67	5-3-7 (10)				
794		Brown DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, very dense, dry (RESIDUAL)	15-16.0	S-6	100	29-50/0.3'				
		Brown fine to medium-grained micaceous SANDSTONE, moderately weathered, thinly to thickly laminated, very broken to moderately broken, soft to hard -water stained and vertically fractured from 16.7' to 17.4' -soft seams at 17.4', 17.6', and 17.8' -water stained vertical fracture from 18.1' to 18.6' -medium hard from 16.0' to 20.0' -MOH of 8.5 at 21.0' -water stained vertical fracture at 21.0'	20	R-1	94 (0)					
789		-water stained vertical fracture from 23.0' to 23.5'		R-2	100 (34)					
784		Gray SILTSTONE, slightly weathered, thinly laminated to very thinly bedded, very broken to blocky, medium hard -MOH of 8.5 at 25.5'	25							
		-soft seam from 27.7' to 27.8'		R-3	100 (32)					
779		-water stained vertical fracture from 28.8' to 29.1'	30							
		-few light gray sandstone laminations	30.8							
		Light gray fine to medium-grained micaceous SANDSTONE with shale and carbonaceous shale laminations, slightly weathered, thinly laminated, very broken to blocky, medium hard		R-4	100 (26)					
774		-MOH of 8.5 at 35.5'	35							

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Test Boring Record

D-8

Project Number: 16123-1	Project Name: Dohar Property	Sheet: 2 of 3
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 5/28/19	▼ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 5/29/19	▼ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly cloudy, 80 Degrees	▼ Water Level Upon Completion: 42.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 1'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
769			40	R-5	100 (34)					
			42.3							
764		▼ Gray to black SHALE, slightly weathered, thinly laminated, very broken to moderately broken, medium hard -MOH of 6.5 at 42.5' -carbonaceous from 44.1' to 44.5'	45	R-6	100 (42)					
		Gray CLAYSTONE, slightly weathered, medium bedded, very broken to massive, very soft to soft -calcareous from 46.0' to 47.0' -MOH of 3.5 at 46.5'								
759			50	R-7	100 (8)					
754		-MOH of 3.5 at 52.5'	55	R-8	100 (0)					
749			60	R-9	100 (54)					
		-carbonaceous from 61.8' to 62.4'								
744			64.3	R-10	100 (52)					
		Brown fine to medium-grained micaceous SANDSTONE, moderately to slightly weathered, medium bedded, very broken to massive, soft to hard -soft from 65.0' to 65.2' -MOH of 8.5 at 65.5' -high angle fracture from 68.0' to 68.5'	65							
739			70	R-11	100 (90)					

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Test Boring Record

D-8

Project Number: 16123-1	Project Name: Dohar Property	Sheet: 3 of 3
Project Location: Leetsdale Boro, Allegheny Co., PA	Start Date: 5/28/19	▼ Water Level During Drilling:
Drilled By: C. Selvoski (Test Boring Services, Inc.)	Completion Date: 5/29/19	▼ Water Level Before Coring:
Drilling Rig: CME 45C Track Mounted	Weather: Mostly cloudy, 80 Degrees	▼ Water Level Upon Completion: 42.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 1'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
734		-soft from 71.0' to 71.3'	75	R-12	100 (74)					
729		-fine-grained sandstone interbed from 71.6' to 73.5'	80	R-13	100 (94)					
724		-MOH of 8.5 at 82.0'	85	R-14	100 (88)					
719			90	R-15	96 (90)					
714		Boring Terminated at 91.0 feet Ground Surface Elevations and Coordinates Surveyed and Provided By Phillips & Associates, Inc.	95							
709			100							
704			105							

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Test Boring Record

B-1

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 10/7/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 10/7/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 60s	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
758.2'		ASPHALTIC CONCRETE	0.6							
		FILL sampled as orange-brown sandstone fragments, little sand, little clay, medium dense, moist		S-1	100	12-9-9 (18)				
		(FILL)	3.5	S-2	100	7-6-5 (11)				
753		Brown-yellow clayey SILT to silty CLAY (CL/ML), some rock fragments, trace sand, iron staining, stiff to very stiff, moist	5	S-3	100	6-10-11 (21)				
		(COLLUVIAL)	6.0	S-4	100	7-12-19 (31)				
		Yellow-brown SAND (SM), some silt, little clay, little rock fragments, iron stained, medium dense to dense, moist		S-5	100	10-9-10 (19)				
748		(COLLUVIAL)	10.0	S-6	100	9-10-9 (19)				
		Yellow-brown SAND (SM), some silt, little sandstone fragments, little clay, medium dense to dense, moist		S-7	100	12-11-8 (19)				
				S-8	100	7-11-8 (19)				
743			15	S-9	100	12-10-8 (18)				
				S-10	100	7-10-8 (18)				
				S-11	100	20-38-15 (53)				
738			20	S-12	100	7-12-13 (25)				
				S-13	100	9-12-11 (23)				
				S-14	100	6-10-12 (22)				
		(COLLUVIAL)	23.0	S-15	100	13-12-9 (21)				
733		Light brown-gray SANDSTONE SAPROLITE, relic bedding, dry	24.2	S-16	100	50/0.2'				
		(RESIDUAL)								
		Boring Terminated at 24.2 feet	25							
728			30							
723			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:57 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-2

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 10/7/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 10/7/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 50s	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
767.2'		TOPSOIL	0.5	S-1	60	1-3-4 (7)				
		FILL sampled as brown silty sand, some sandstone fragments, trace organics, loose to medium dense, moist (FILL)	3.0	S-2	73	6-11-14 (25)				
762		Light brown SANDSTONE FRAGMENTS (GP), little sand, trace silt, firm to medium dense, dry (COLLUVIAL)	5	S-3	100	9-17-11 (28)				
				S-4	100	8-10-12 (22)				
				S-5	100	9-7-7 (14)				
757		Brown-orange SAND (SM), some silt, little sandstone fragments, some iron staining, firm to medium dense, moist (COLLUVIAL)	10	S-6	100	6-7-9 (16)				
				S-7	100	19-12-14 (26)				
		Orange-brown SAND (SM), some silt, little clay and rock fragments, very stiff, moist (COLLUVIAL)	12.0	S-8	53	17-11-10 (21)				
				S-9	100	4-5-2 (7)				
752		Brown-gray clayey SILT to silty CLAY (CL/ML), little sand and rock fragments, medium to very stiff, moist (COLLUVIAL)	15	S-10	100	4-8-11 (19)				
				S-11	100	7-7-11 (18)				
		Yellow-brown clayey SILT to silty CLAY (CL/ML), very stiff, moist (COLLUVIAL)	18.0	S-12	100	7-10-19 (29)				
				S-13	100	10-16-26 (42)				
747		Gray clayey SILT to silty CLAY (CL/ML), trace rock fragments, iron stained, very to extremely stiff, moist (COLLUVIAL)	20	S-14	100	16-13-10 (23)				
				S-15	100	10-14-18 (32)				
		Gray CLAYSTONE SAPROLITE, relic bedding, dry (RESIDUAL)	27.2	S-16	100	13-14-25 (39)				
742			25	S-17	100	10-20-38 (58)				
				S-18	100	22-41-48 (89)				
		Gray SANDSTONE, slightly weathered to fresh, hard, medium bedded, slightly broken		S-19	100	50/0.2'				
737			30	R-1	68 (8)					
732			35		100					

(Continued Next Page)

Test Boring Record

B-2

Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: W. Ewing (Test Boring Services, Inc.) Drilling Rig: Acker Rebel Track Mounted Rig Drilling Method: 3 1/4-inch HSA	Project Name: Proposed QVSD High School Start Date: 10/7/24 Completion Date: 10/7/24 Weather: Overcast, 50s Logged By: C. Ledney	Sheet: 2 of 2 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
727		-vertical fracture from 36.0' to 36.2'		R-2	(52)					
		-lost water return at 37'								
		-vertical fracture from 37.9' to 38.5'		R-3	72 (10)					
		Boring Terminated at 42.3 feet	42.3							
722			45							
717			50							
712			55							
707			60							
702			65							
697			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:57 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-3

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 10/8/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 10/8/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 60s	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
781'										
		ASPHALTIC CONCRETE	0.6							
		SUBBASE (slag)	1.5	S-1	100	12-27-8 (35)				
		FILL sampled as gray slag, sandstone fragments, sand, and silt, loose, moist		S-2	100	6-3-5 (8)				
		(FILL)	3.0							
		Dark brown clayey SILT to silty CLAY (CL/ML), trace fine sand, medium, moist	4.5	S-3	100	3-3-2 (5)				
776		(COLLUVIAL)		S-4	100	4-5-4 (9)				
		Brown SAND (SM), some silt, trace clay, loose, moist	6.0	S-5	100	5-7-7 (14)				
		(COLLUVIAL)		S-6	100	10-14-15 (29)				
		Brown-gray SANDSTONE FRAGMENTS (GP), little sand, trace silt, firm to very dense, moist		S-7	100	11-12-11 (23)				
771			10	S-8	100	9-13-14 (27)				
				S-9	100	15-18-22 (40)				
		(COLLUVIAL)	15.0	S-10	100	12-29-23 (52)				
766		Brown SAND (SM), some silt, little sandstone fragments, little clay, dense, moist		S-11	100	22-19-22 (41)				
		(RESIDUAL)	18.0	S-12	100	15-16-20 (36)				
		Light brown SANDSTONE FRAGMENTS (GP), some sand, trace silt, dense, moist		S-13	100	15-22-26 (48)				
761			20	S-14	100	10-10-19 (29)				
		(RESIDUAL)	23.7	S-15	100	18-26-50/0.2'				
756		Boring Terminated at 23.7 feet	25							
751			30							
746			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:57 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-4

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/20/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/20/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 80s	▼ Water Level Upon Completion: 38.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
814.9'										
810		FILL sampled as black silt, sand, ash, brick fragments, soft to very stiff, moist	5	S-1	27	0-1-2 (3)				
				S-2	67	3-3-5 (8)				
				S-3	53	10-9-9 (18)				
				S-4	33	2-5-5 (10)				
				S-5	100	5-5-7 (12)				
				S-6	73	12-7-5 (12)				
805		(FILL)	10	S-7	80	6-7-8 (15)				
		Yellow-brown clayey SILT to silty CLAY (CL/ML), trace rock fragments, stiff, moist	11.0	S-8	93	7-6-4 (10)				
		(COLLUVIAL)	13.0	S-9	100	7-6-3 (9)				
800		Yellow-red SILT (ML), some sandstone fragments, little sand, very stiff, moist	15.0	S-10	100	9-8-9 (17)				
		(COLLUVIAL)		S-11	100	12-15-11 (26)				
		Light brown SANDSTONE FRAGMENTS (GM), little sand, little silt, medium dense to very dense, moist		S-12	100	8-15-9 (24)				
795			20	S-13	100	6-5-13 (18)				
				S-14	100	8-14-9 (23)				
				S-15	100	7-8-13 (21)				
790			25	S-16	100	21-24-26 (50)				
				S-17	100	25-38-24 (62)				
		(POSSIBLE COLLUVIAL/RESIDUAL)	27.0	S-18	100	25-16-12 (28)				
		Light brown SANDSTONE SAPROLITE, relic bedding, medium dense to very dense, dry	28.8	S-19	100	28-44-49 (93)				
		(RESIDUAL)		S-20	100	50/0.3'				
785		Gray SANDSTONE, slightly weathered, hard, iron stained, moderately broken to 33.8', medium bedded to massive	30	R-1	95 (20)					
				R-2	93 (13)					
780			35							

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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:57 - \\10.87.1.5\SHARED\DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-4

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/20/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/20/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 80s	▼ Water Level Upon Completion: 38.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
775		-clay seam from 39.2' to 39.4'	40	R-3	100 (52)					
770		Gray SANDSTONE, fresh, hard, laminated with siltstone, minor iron staining, medium bedded -subvertical fracture from 44.0' to 44.5'	43.1 45	R-4	100 (8)					
765			50	R-5	98 (18)					
760		Gray SILTSTONE, fresh, hard, medium bedded -clay seam from 54.2' to 54.6'	53.5 55	R-6	98 (0)					
		Boring Terminated at 56.3 feet	56.3	R-7	100 (0)					
755			60							
750			65							
745			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:57 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-5

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 10/4/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 10/4/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 70s	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
802.4'		ASPHALTIC CONCRETE	0.6							
		SUBBASE (slag)	1.5							
		Gray to yellow-brown SILT (ML), some sand, medium, dry		S-1	100	10-11-6 (17)				
		(COLLUVIAL)	4.0	S-2	100	10-3-3 (6)				
797		Dark brown clayey SILT to silty CLAY (CL/ML), little rock fragments, medium to stiff, moist	5	S-3	60	1-4-5 (9)				
		(COLLUVIAL)	6.0	S-4	100	12-7-7 (14)				
		Brown SILT (ML), some sand, little rock fragments, stiff, dry	7.5	S-5	100	8-13-12 (25)				
		(COLLUVIAL)	11.0	S-6	100	8-10-9 (19)				
792		Yellow-brown SAND (SP), some sandstone fragments, medium dense, dry	10	S-7	100	20-15-14 (29)				
		(COLLUVIAL)	13.7	S-8	100	12-44-50/0.4'				
		(RESIDUAL)		S-9	100	50/0.2'				
787		Boring Terminated at 13.7 feet	15							
			20							
782			25							
777			30							
772			35							
767										

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:57 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-6

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 3
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/20/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/20/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 70's	▼ Water Level Upon Completion: 35.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
858.8'										
		Yellow-brown clayey SILT to silty CLAY (CL/ML), little rock fragments, stiff to very stiff, dry		S-1	100	1-4-4 (8)				
		(COLLUVIAL)	3.0	S-2	100	10-12-15 (27)				
854		Brown and little red clayey SILT to silty CLAY (CL/ML), iron staining, stiff to very stiff, dry	5	S-3	100	5-6-4 (10)				
		(COLLUVIAL)	6.0	S-4	100	11-15-10 (25)				
		Brown clayey SILT to silty CLAY (CL/ML), trace sand, iron stained, very stiff, moist		S-5	100	13-10-11 (21)				
		(COLLUVIAL)	9.0	S-6	100	10-9-10 (19)				
849		Brown SAND (SM), little silt, little sandstone fragments, trace clay, medium dense, moist	10	S-7	100	14-11-14 (25)				
		(COLLUVIAL)	11.0	S-8	100	7-8-7 (15)				
		Light brown SANDSTONE FRAGMENTS (GP), little sand, medium dense, moist		S-9	100	14-9-9 (18)				
844		(POSSIBLE COLLUVIAL/RESIDUAL)	15	S-10	100	6-7-10 (17)				
		Light brown SANDSTONE SAPROLITE, relic bedding, dense to very dense, dry	16.0	S-11	100	12-24-15 (39)				
		(RESIDUAL)	20.3	S-12	100	11-30-50/0.4'				
839				S-13	100	34-50/0.2'				
		Light gray SANDSTONE, slightly weathered, hard, highly broken to 21.8', slightly broken from 21.8' on, iron stained medium bedded to massive -clay seam from 22.3' to 22.5'	20	S-14	100	48-50/0.3'				
				R-1	95 (25)					
834			25	R-2	100 (20)					
				R-3	100 (60)					
829			30							
		Medium gray SILTSTONE, fresh, hard, some interbedded sandstone layers, slightly broken to medium bedded	31.0	R-4	98 (0)					
824			35							

(Continued Next Page)

Test Boring Record

B-6

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 3 of 3
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/20/24	▽ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/20/24	▽ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 70's	▽ Water Level Upon Completion: 35.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
784		Boring Terminated at 70.3 feet	70.3							
779			75							
774			80							
769			85							
764			90							
759			95							
754			100							
			105							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:58 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-7

Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: W. Ewing (Test Boring Services, Inc.) Drilling Rig: Acker 445 Drilling Method: 3 1/4-inch HSA	Project Name: Proposed QVSD High School Start Date: 10/4/24 Completion Date: 10/4/24 Weather: Sunny, 70s Logged By: C. Ledney	Sheet: 1 of 1 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
821.9'										
		ASPHALTIC CONCRETE	0.6							
		SUBBASE (slag)	1.5							
		Gray and yellow-brown SILT (ML), some sand, stiff to very stiff, dry		S-1	100	26-16-10 (26)				
				S-2	100	11-6-7 (13)				
817		(RESIDUAL)	5.0	S-3	100	7-8-50/0.1'				
		Gray SILTSTONE SAPROLITE, iron stained, relic bedding, dry								
		(RESIDUAL)	6.1	S-4	100	50/0.1'				
		Boring Terminated at 6.1 feet								
812			10							
807			15							
802			20							
797			25							
792			30							
787			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:58 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Project Number: 16123A		Project Name: Proposed QVSD High School		Sheet: 1 of 2						
Project Location: Edgeworth, Leet Twp., Leetsdale, PA		Start Date: 10/4/24		Water Level During Drilling:						
Drilled By: W. Ewing (Test Boring Services, Inc.)		Completion Date: 10/4/24		Water Level Before Coring:						
Drilling Rig: Acker Rebel Track Mounted Rig		Weather: Sunny, 50s		Water Level Upon Completion:						
Drilling Method: 3 1/4 HSA & NQ2 Core		Logged By: C. Ledney		Water Level After 24 Hours:						
Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
839.4'		ASPHALTIC CONCRETE 0.6'								
		SUBBASE (slag) 1.5'								
		FILL sampled as brown sand, sandstone fragments, and slag, little silt, medium dense, dry (FILL) 3.0'		S-1	100	18-11-7 (18)				
834		Brown SANDSTONE FRAGMENTS (GP), some sand, iron stained, medium dense, dry (RESIDUAL) 6.0'	5	S-2	100	16-13-9 (22)				
		Gray SILTSTONE FRAGMENTS (GM), some sand, little silt, medium dense, dry (RESIDUAL) 7.0'		S-3	100	10-9-7 (16)				
		Gray SILTSTONE SAPROLITE, relic bedding, iron stained, dry (RESIDUAL) 9.9'		S-4	100	6-7-12 (19)				
829			10	S-5	100	16-36-50/0.4'				
				S-6	100	22-50/0.4'				
		Gray SANDSTONE, hard, extensive iron staining, medium bedded		R-1	100 (0)					
824		-slightly to moderately weathered and slightly broken from 9.9' to 12.0'								
		-lost water return at 12'								
		-clay seam from 13.4' to 13.6'	15	R-2	60 (0)					
		-slightly weathered from 12.0' to 22.0'		R-3	100 (36)					
819		-vertical fracture from 19.0' to 19.9'	20							
				R-4	100 (78)					
814		-vertical fracture from 24.5' to 24.9'	25							
				R-5	88 (28)					
809		-massive from 30.0' to 44.9'	30							
				R-6	100 (66)					
804			35							

(Continued Next Page)

Test Boring Record

B-8

Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: W. Ewing (Test Boring Services, Inc.) Drilling Rig: Acker Rebel Track Mounted Rig Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Proposed QVSD High School Start Date: 10/4/24 Completion Date: 10/4/24 Weather: Sunny, 50s Logged By: C. Ledney	Sheet: 2 of 2 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: Water Level After 24 Hours:
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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:58 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
799		-clay seam at 43.3'	40	R-7	100 (82)					
794			44.9	R-8	100 (90)					
		Boring Terminated at 44.9 feet	45							
789			50							
784			55							
779			60							
774			65							
769			70							

Test Boring Record

B-8A

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/19/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/19/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 70's	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
820.6'										
		Light brown SAND (SM), little silt, little sandstone fragments, iron stained, medium dense, dry (RESIDUAL)	2.0	S-1	53	3-10-10 (20)				
		Light brown SANDSTONE SAPROLITE, relic bedding, iron stained, dry (RESIDUAL)	3.8	S-2	100	44-47-50/0.3'				
816		Light gray SANDSTONE, moderately weathered, hard, extensive iron staining, medium bedded -moderately broken from 3.8' to 8'	5	S-3	50	26-50/0.3'				
				R-1	80 (0)					
				R-2	100 (0)					
811		-massive from 8' to 13.8'	10	R-3	76 (40)					
				R-4	98 (75)					
806		Boring Terminated at 13.8 feet	13.8							
			15							
801			20							
796			25							
791			30							
786			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:58 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-9

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 10/7/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 10/7/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny	▼ Water Level Upon Completion: 33.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

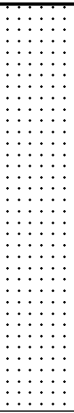
Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
859.8'										
		ASPHALTIC CONCRETE 0.7								
		SUBBASE (slag) 1.5								
		Light brown clayey SILT to silty CLAY (CL/ML), little rock fragments, trace sand, iron stained, hard, dry (RESIDUAL) 3.5		S-1	87	17-21-24 (45)				
855		Light brown SILTSTONE SAPROLITE, relic bedding, iron stained, very dense, dry	5	S-2	100	15-26-33 (59)				
				S-3	100	21-43-45 (88)				
				S-4	100	13-27-50/0.3'				
				S-5	100	30-50/0.3'				
850		(RESIDUAL) 9.6		S-6	100	30-50/0.1'				
		Gray silty SANDSTONE, slightly weathered, hard, medium bedded, extensive iron staining, slightly broken	10	R-1	70 (0)					
				R-2	93 (0)					
845			15							
				R-3	100 (0)					
840			20							
		-subvertical fracture from 23.6' to 23.9'		R-4	98 (48)					
835			25							
		-subvertical fracture from 25.7' to 26.1'		R-5	100 (44)					
830			30							
		Light gray SANDSTONE, fresh, hard, minor iron staining, micaceous, massive 30.2		R-6	100 (68)					
825			35							

(Continued Next Page)

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 10/7/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 10/7/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny	▼ Water Level Upon Completion: 33.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
820		-vertical fracture from 35.7' to 36.5'	40	R-7	98 (74)					
815			45	R-8	100 (48)					
		Boring Terminated at 45.6 feet	45.6							
810			50							
805			55							
800			60							
795			65							
790			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:58 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-9A

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/23/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/23/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 70's	▼ Water Level Upon Completion: 24.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
839.6'										
		Brown to gray SILT (ML), some sand, trace rock fragments, stiff, dry (COLLUVIAL)	1.5	S-1	100	3-7-6 (13)				
		Brown, some red clayey SILT to silty CLAY (CL/ML), trace sand, very stiff, dry (COLLUVIAL)	4.0	S-2	100	8-10-7 (17)				
835		Yellow-brown clayey SILT to silty CLAY (CL/ML), very to extremely stiff, dry (COLLUVIAL)	7.0	S-3	100	10-7-10 (17)				
				S-4	100	6-6-12 (18)				
				S-5	100	12-18-20 (38)				
		Light brown SAND (SM), some sandstone fragments, little silt, dense, dry (RESIDUAL)	8.0	S-6	100	16-24-50/0.1'				
830		Light brown SANDSTONE SAPROLITE, relic bedding, dry (RESIDUAL)	10.3	S-7	92	13-32-50/0.3'				
		Gray SANDSTONE, slightly weathered, hard, extensive iron staining, slightly broken, medium bedded		R-1	90 (0)					
825			15	R-2	90 (17)					
820			20	R-3	100 (24)					
		Gray SILTSTONE, fresh, medium hard, medium bedded	20.3							
815		-lost water return at 22.5'		R-4	100 (28)					
		Boring Terminated at 25.3 feet	25.3							
810			30							
805			35							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/16/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/16/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 80's	▼ Water Level Upon Completion: 4.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
847'										
		FILL sampled as light brown sandy silt, some siltstone fragments, stiff, dry to moist (FILL)	2.0	S-1	100	3-4-8 (12)				
				S-2	100	7-8-5 (13)				
842		Brown clayey SILT to silty CLAY (CL/ML), trace sand, some iron staining, stiff to very stiff, moist (COLLUVIAL)	5	S-3	100	12-9-10 (19)				
				S-4	80	8-9-8 (17)				
		Light brown SILT (ML), some sand, little rock fragments, iron stained, very stiff, dry to moist (COLLUVIAL)	6.0	S-5	100	8-12-16 (28)				
				S-6	100	12-11-11 (22)				
837		Gray SHALE SAPROLITE, relic bedding, iron staining, dry (RESIDUAL)	10.0	S-7	100	12-16-14 (30)				
			11.1	S-8	100	40-50/0.1'				
		Gray SANDSTONE, slightly to moderately weathered, hard, extensive iron staining, highly broken, some small clay seams, thinly bedded	14.5	R-1	90 (0)					
832				R-2	90 (0)					
		Gray SILTSTONE, fresh, hard, slightly broken, thinly to medium bedded	15							
				R-3	98 (0)					
827			20							
		Boring Terminated at 21.1 feet	21.1							
822			25							
817			30							
812			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:58 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/16/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/16/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 70's	▼ Water Level Upon Completion: 9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
859.2'										
		Yellow-brown clayey SILT to silty CLAY (CL/ML), some sand and rock fragments, stiff to very stiff, dry		S-1	73	1-5-6 (11)				
		(COLLUVIAL)	3.0	S-2	100	6-5-20 (25)				
		Light gray to light brown SAND (SM), some sandstone fragments, little silt, dense to very dense, dry		S-3	100	15-23-17 (40)				
854		(POSSIBLE COLLUVIAL/RESIDUAL)	6.2	S-4	67	15-50/0.1'				
		Gray SANDSTONE, medium hard, extensive iron staining, moderately weathered, highly broken, thinly bedded		S-5	100	50/0.2'				
				R-1	70 (0)					
849			10	R-2	93 (0)					
				R-3	88 (0)					
844			15							
			17.2							
		Gray SILTSTONE, slightly weathered, iron stained, slightly to moderately broken, thinly to medium bedded, some small clay seams		R-4	88 (0)					
839			20							
		Boring Terminated at 21.2 feet	21.2							
834			25							
829			30							
824			35							

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 10/3/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 10/3/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 50s	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
876.4'										
		ASPHALTIC CONCRETE 0.6								
		SUBBASE (slag) 1.5								
		Yellow-brown clayey SILT to silty CLAY (CL/ML), little shale fragments, hard, dry 3.0		S-1	100	21-29-41 (70)				
		(RESIDUAL)								
		Yellow-brown SILTSTONE SAPROLITE, relic bedding, dry 5.4		S-2	100	34-20-50/0.4'				
871		(RESIDUAL)		S-3	100	31-50/0.4'				
		Gray silty SANDSTONE, moderately weathered, medium hard, fine-grained, extensive iron staining, highly broken to 25", thin to medium bedded	5	R-1	85 (0)					
				R-2	90 (0)					
866			10							
				R-3	92 (0)					
861			15							
		-occasional small clay seams to 17'		R-4	98 (0)					
856			20							
				R-5	56 (0)					
851			25							
		-moderately broken from 25.0' to 30.0'		R-6	92 (8)					
846			30							
				R-7	96 (28)					
841			35							

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Test Boring Record

B-13

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/31/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/31/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 63-69°, Sunny	▼ Water Level Upon Completion: 8.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 11.9'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
892.1'										
		TOPSOIL	0.2'							
		Brown and gray ROCK FRAGMENTS (sandstone, shale) (GP), few sand, few clay, loose to medium dense, moist		S-1	40	1-3-4 (7)		16.1		
887		(COLLUVIAL)	5	S-2	80	7-8-9 (17)		12.4		
		Orange-brown and gray faintly mottled clayey SILT (ML/CL), trace rock fragments (sandstone, shale), very stiff, moist	6.0	S-3	100	10-11-15 (26)		12.4		
		(COLLUVIAL)	9.0							
882		Brown and gray sand to gravel-sized ROCK FRAGMENTS (SC), some brown-red clay, medium dense, moist	10	S-4	100	7-12-15 (27)		14.6		
				S-5	100	7-9-9 (18)		13.9		
877			15	S-6	100	8-9-11 (20)	41.82	15.1		
				S-7	100	4-9-7 (16)		16.2		
872		(COLLUVIAL)	20							
		Yellow-brown and gray-green ROCK FRAGMENTS (sandstone, shale, claystone) (GC), some brown-red clay, medium dense, moist	21.0	S-8	100	10-10-16 (26)		14.4		
		(COLLUVIAL)	24.0							
867		Brown-red and gray mottled CLAY (CL), little sand/rock fragments (sandstone, shale, claystone), very stiff to extremely stiff, moist	25	S-9	100	7-15-17 (32)		18.4		
				S-10	100	5-7-10 (17)	81.09	22.9	34	20
862		(COLLUVIAL)	30.0							
		Gray DECOMPOSED SHALE sampled as shale fragments, very dense, dry	30.3	S-11	100	50/0.3'		4.1		
		(RESIDUAL)								
		Gray SILTSTONE, slightly weathered to fresh, thinly laminated to thinly bedded, very broken to massive, hard		R-1	74 (28)					
857			35							

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Test Boring Record

B-21

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/27/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/27/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 80-84°, Partly Sunny	▼ Water Level Upon Completion: 39.4'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 9.5'

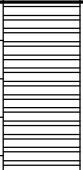
Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
873'										
868		Brown ROCK FRAGMENTS (GP), little tan sand, few silt, firm to medium dense, dry	5	S-1	53	1-4-9 (13)		7.9		
		(COLLUVIAL)	6.0	S-2	100	18-13-11 (24)		10.8		
863		Brown and black ROCK FRAGMENTS (sandstone, shale, carbonaceous shale) (GP), little sand, few brown clay, medium dense, moist	9.0	S-3	100	12-11-14 (25)		12.7		
		(COLLUVIAL)	10	S-4	100	9-10-13 (23)		11.2		
858		Brown and yellow-brown SANDSTONE FRAGMENTS (GP), few sand, few brown-red clay, medium dense, moist	15.0	S-5	100	6-8-12 (20)		12.0		
		(COLLUVIAL)	15	S-6	100	11-20-21 (41)		6.1		
853		Brown to gray DECOMPOSED SHALE sampled as shale fragments, few silt, medium dense to very dense, dry	20	S-7	100	16-20-34 (54)		9.0		
		-fractured and wet from 21.0' to 22.5'		S-8	100	6-11-13 (24)		7.3		
848		(RESIDUAL)	24.4	S-9	100	50/0.4'		5.4		
		-light gray at 24.0'	25	R-1	100 (0)					
843		Gray SHALE, slightly weathered to fresh, thinly laminated, very broken to massive, hard	30	R-2	100 (8)					
		-MOHS 6.5 at 28.0'								
		-vertical fracture from 29.7' to 30.5'								
838			35							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/27/23	▽ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/27/23	▽ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 80-84°, Partly Sunny	▽ Water Level Upon Completion: 39.4'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours: 9.5'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
833		-MOHS 6.5 at 39.0' Boring Terminated at 39.4 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	40	R-3	100 (62)					
828			45							
823			50							
818			55							
813			60							
808			65							
803			70							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/27/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/27/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 76-82°, Cloudy	▼ Water Level Upon Completion: 14.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 6.3'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
873'		TOPSOIL	0.3'	S-1	53	1-2-3 (5)		14.8		
		Brown and black ROCK FRAGMENTS (sandstone, shale) (GP), little sand, few clay, loose, moist								
		(COLLUVIAL)	4.0	S-2	100	7-4-3 (7)		24.9		
868		Orange-brown and light gray mottled SAND (SC), little gravel, some clay, very soft to very stiff, moist	5							
		-sandstone boulder from 6.0' to 7.0'		S-3	100	50/0.3'		5.3		
863		(COLLUVIAL)	10	S-4	100	10-8-11 (19)		9.9		
		Brown-yellow SAND (SC), little to some gravel, some clay, stiff to very stiff, moist	12.0	S-5	40	4-4-6 (10)		11.6		
858		(COLLUVIAL)	15	S-6	100	9-12-14 (26)		15.0		
		-some clay from 18.5' to 19.0'		S-7	100	6-11-17 (28)		13.1		
853		(COLLUVIAL)	20	S-8	100	8-11-11 (22)	41.86	16.1		
		-wet at 22.5'								
848		-coal fragments, from 24.5' to 25.0'	25	S-9	100	12-9-15 (24)		12.1		
		(COLLUVIAL)	27.0							
		Gray-brown and rust-orange mottled CLAY (CL), trace sandstone fragments, stiff, moist	28.0	S-10	100	7-9-14 (23)		16.2		
843		(COLLUVIAL)	30	S-11	100	8-17-19 (36)		10.4		
		Brown, black, and gray SANDSTONE FRAGMENTS (GP), little sand, few clay, medium dense to dense, moist								
		(COLLUVIAL)	33.0	S-12	100	5-8-12 (20)		12.7		
838		Gray-brown SANDSTONE FRAGMENTS (GP), some red clay, very stiff, moist	35							

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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:58 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/27/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/27/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 76-82°, Cloudy	▼ Water Level Upon Completion: 14.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 6.3'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	%< #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit	
833		-gray-green and gray mottled clay from 45.0' to 45.7'	40	S-13	100	10-15-13 (28)		15.8			
828			45	S-14	100	10-16-13 (29)		12.5			
823		Dark gray-red clayey SILT (CL/ML), trace gray-blue rock fragments (sandstone, shale), stiff, moist -trace wood at 49.0'	50	S-15	100	12-13-13 (26)	13.9				
		(COLLUVIAL)	48.0								
	</										

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:58 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/26/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/27/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 84°, Sunny	▼ Water Level Upon Completion: 8.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 16.2'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
852.1'										
		FILL sampled as brown and red-brown silty clay, few rock fragments (shale, sandstone), medium to stiff, moist		S-1	100	1-2-5 (7)		12.9		
				S-2	100	5-7-7 (14)		11.5		
847		(FILL)	5.0							
		Brown-red SAND (SC), some clay, trace gravel (claystone, shale), very stiff, moist		S-3	100	5-8-8 (16)		11.7		
		-few yellow-brown sandstone fragments from 9' to 13'		S-4	100	6-9-12 (21)	42.89	10.2	24	14
842			10	S-5	100	8-10-12 (22)		6.6		
		(COLLUVIAL)	15.0							
837		Brown SAND (SC), some gravel, some brown to brown-red clay, firm to medium dense, moist		S-6	100	6-6-7 (13)		11.8		
				S-7	100	6-6-7 (13)		13.0		
832			20	S-8	100	6-6-8 (14)	35.5	12.3		
				S-9	100	4-7-7 (14)		13.1		
827		-wet at 25.5'	25							
		(COLLUVIAL)	28.0							
		Brown DECOMPOSED shaley SANDSTONE sampled as sandstone fragments, few sand, few silt, medium dense, dry		S-10	100	5-16-26 (42)		6.5		
822		(RESIDUAL)	30.0							
		Brown DECOMPOSED SHALE sampled as shale fragments, very dense, dry	30.1	S-11	100	50/0.1'		8.0		
		(RESIDUAL)		R-1	90 (64)					
		Gray fine- to medium-grained SANDSTONE, micaceous, slightly weathered to fresh, thickly laminated to medium bedded, massive, hard								
817		-soft from 34.3' to 34.6'	35							

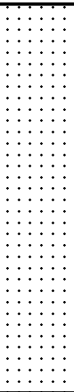
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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:58 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-23

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/26/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/27/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 84°, Sunny	▼ Water Level Upon Completion: 8.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 16.2'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
812		-MOHS >9 at 38.0'	40	R-2	100 (76)					
807		-MOHS >9 at 41.5' -carbonaceous laminations from 43.0' to 45.1'	45	R-3	100 (100)					
802		Boring Terminated at 45.1 feet	50							
797			55							
792			60							
787			65							
782			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:58 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-24

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/26/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/26/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 79-81°, Sunny	▼ Water Level Upon Completion: 8.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
884'										
		Brown clayey SILT (ML), stiff, moist (COLLUVIAL)	2.0	S-1	40	2-6-6 (12)				
		Brown-gray and light gray mottled CLAY (CL), few shale fragments, very stiff, moist	5	S-2	80	9-9-14 (23)				
879		(RESIDUAL)	6.0							
		Brown-orange and gray mottled DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, medium dense to very dense, moist to wet -wet from 7.2' to 7.5'	10	S-3	100	4-14-12 (26)				
874		(RESIDUAL)	10.4	S-4	100	15-31-50/0.4'				
		Brown fine-grained SANDSTONE, thinly to thickly laminated, highly to moderately weathered, very broken to broken, very soft to medium hard -many soft zones from 10.4' to 12.8' -MOHS 6.5 at 10.8'	13.3	R-1	86 (0)					
869		Brown to green-gray SHALE, moderately weathered, thinly to thickly laminated, very broken, medium hard to hard -MOHS 4.5 at 14.6' -mostly vertically fractured from 15.4' to 20.4'	15	R-2	100 (8)					
864			20	R-3	100 (0)					
859		-vertical fracture from 24.1' to 25.4' -MOHS 4.5 at 24.7'	25							
854		Boring Terminated at 25.4 feet shifted 3.5' downhill, 210° SW. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	30							
849			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:58 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-25

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/1/23	▽ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 8/1/23	▽ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 76-79°, Sunny	▽ Water Level Upon Completion: 4.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
930'										
		TOPSOIL	0.3'	S-1	33	1-1-1 (2)		23.7		
		Brown-red and gray mottled CLAY (CL), little to some sand, few to little gravel-sized rock fragments (shale, yellow sandstone, claystone), very soft to stiff, moist		S-2	100	4-6-3 (9)		15.7		
925		-high-plasticity clay from 6.0' to 7.0'	5	S-3	100	3-4-3 (7)	62.46	30.2	40	20
				S-4	100	2-4-5 (9)		23.6		
920		-some rock fragments from 12.0' to 13.0	10	S-5	100	2-2-4 (6)		17.9		
		(COLLUVIAL)	15.0							
915		Brown and gray-green ROCK FRAGMENTS (GC), some brown-red clay, loose, moist	15	S-6	100	3-4-5 (9)		15.0		
		(COLLUVIAL)	19.0	S-7	100	2-6-9 (15)		13.8		
910		Brown-red and gray mottled CLAY (CL), little rock fragments (sandstone, shale, claystone), few sand, stiff to very stiff, moist	20	S-8	100	6-8-10 (18)		14.8		
				S-9	100	6-7-9 (16)		12.7		
905		-wet from 24.5' to 25.0'	25							
		(COLLUVIAL)	27.0	S-10	100	50/0.4'		11.0		
		Brown-gray DECOMPOSED SHALE sampled as shale fragments, few silt, very dense, dry								
900		(RESIDUAL)	30.0	S-11	100	50/0.3'				
		Light gray DECOMPOSED LIMESTONE sampled as limestone fragments, very dense, dry	30.3							
		(RESIDUAL)		R-1	100 (0)					
		Brown to gray SHALE, slightly to moderately weathered, thinly to thickly laminated, very broken to broken, medium hard, few sandstone interbeds and laminations								
		-very broken and fractured from 30.3' to 39.6'								
		-MOHS 3.5 at 32.0'								
895			35							

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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-25

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/1/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 8/1/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 76-79°, Sunny	▼ Water Level Upon Completion: 4.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
890		-MOHS 5.5 at 40.0'	40	R-2	40 (0)					
885		Red-brown and gray-green mottled CLAYSTONE, moderately weathered, thinly bedded, very broken to broken, soft -MOHS 2.5 at 43.0'	45	R-3	100 (0)					
880		Boring Terminated at 45.3 feet Boring caved in at 5' after 24 Hours. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	50							
875			55							
870			60							
865			65							
860			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016\16123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 3
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 10/2/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 10/2/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 60s	▼ Water Level Upon Completion: 44.9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
986'		ASPHALTIC CONCRETE 0.7								
		SUBBASE (Slag) 1.5								
		FILL sampled as brown-gray sand, silt, rock fragments, very loose to medium dense, moist								
981			5	S-1	100	22-16-9 (25)				
				S-2	100	13-7-13 (20)				
				S-3	93	14-15-13 (28)				
				S-4	100	9-10-11 (21)				
				S-5	100	10-23-15 (38)				
976		-wet at 9'	10	S-6	80	8-1-1 (2)				
				S-7	67	1-2-2 (4)				
		(FILL) 13.5		S-8	100	2-1-3 (4)				
971		Yellow-brown clayey SILT to silty CLAY (CL/ML), little rock fragments, iron stained, stiff, moist	15	S-9	100	5-8-4 (12)				
		(RESIDUAL) 15.0		S-10	100	17-24-30 (54)				
		Red CLAYSTONE SAPROLITE, relic bedding, dense to very dense, dry		S-11	100	14-19-29 (48)				
966			20	S-12	100	7-11-30 (41)				
		(RESIDUAL) 21.1		S-13	100	25-33-50/0.2'				
		Gray SANDSTONE, moderately weathered, medium hard, moderately broken, medium bedded, extensive iron staining		S-14	100	50/0.1'				
		-subvertical fracture from 21.1' to 22.3'		R-1	60 (0)					
961			25	R-2	100 (0)					
		Gray SANDSTONE, slightly weathered, medium hard, moderately broken, iron stained, medium bedded								
956		-claystone from 29.3' to 29.5'	30	R-3	86 (0)					
		-red zones from 31.8' to 33.0'								
951			35	R-4	100 (10)					

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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:06 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-26

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 3
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 10/2/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 10/2/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 60s	▼ Water Level Upon Completion: 44.9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
		-lost water during R-4	36.2							
		Red SILTSTONE, fresh, medium hard, medium bedded, minor iron staining	37.8							
946		Gray silty SANDSTONE, fresh, fine-grained, medium hard, medium bedded	40	R-5	98 (48)					
		-some iron staining from 41.1' to 43.0'								
941			45	R-6	92 (50)					
			46.2							
936		Gray SILTSTONE, fresh, medium hard, medium bedded to massive	50	R-7	100 (64)					
		-high angle fracture from 51' to 52.2', iron stained								
931			55	R-8	100 (62)					
926			60	R-9	94 (58)					
		-massive from 60.0'								
921			65	R-10	100 (46)					
		-high angle fracture from 63.0' to 63.7'								
916			70	R-11	98 (68)					

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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:06 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 3 of 3
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 10/2/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 10/2/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 60s	▼ Water Level Upon Completion: 44.9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
911	xxxxxx	-high angle fracture from 75.6' to 75.8'	75	R-12	100 (64)					
906	xxxxxx	-high angle fracture from 81.3' to 81.6'	80	R-13	100 (88)					
901	xxxxxx	Gray calcareous CLAYSTONE, fresh, soft to medium hard, massive -broken zone from 83.3' to 83.8'	83.4 85	R-14	96 (44)					
896	xxxxxx	Gray LIMESTONE, fresh, medium hard, some red clasts, medium bedded	86.0 87.4	R-15	100 (54)					
891	xxxxxx	Gray calcareous SILTSTONE, fresh, medium hard	90	R-16	100 (56)					
	xxxxxx	Gray SILTSTONE, fresh, hard, massive	90.8							
	xxxxxx	Boring Terminated at 96.1 feet	96.1							
886			100							
881			105							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:06 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-27

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/31/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/31/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 72°, Sunny	▼ Water Level Upon Completion: 6.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 3.3'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
960'										
		TOPSOIL	0.3'							
		FILL sampled as brown and gray rock fragments (sandstone, shale), few clay, loose, moist	2.0	S-1	80	1-1-8 (9)		5.6		
		(FILL)								
		▼ Brown to gray-brown DECOMPOSED SHALE sampled as shale fragments, few silt, very dense, dry		S-2	100	9-22-29 (51)		6.0		
955			5							
		▼ -brown-red clayey shale from 6.0' to 6.8'		S-3	100	20-28-50/0.4'		7.5		
950		(RESIDUAL)	9.8	S-4	100	29-50/0.3'		4.9		
		Brown-gray SHALE, highly to moderately weathered, thinly to thickly laminated, very broken to broken, medium hard, some vertical fractures and soft zones	13.0	R-1	100 (18)					
		-MOHS 6.5 at 10.5'								
945		Gray SHALE, some fine-grained sandstone laminations, thinly to thickly laminated, very broken to massive, hard	15	R-2	100 (42)					
		-moderately weathered from 14.8' to 15.5'								
		-MOHS 7.5 at 15.7'								
		-moderately weathered from 16.1' to 16.4'								
940			20	R-3	100 (62)					
		-moderately weathered from 20.0' to 20.4'								
935			25	R-4	100 (82)					
930		-MOHS 7.5 at 28.5'	30	R-5	100 (76)					
925		-MOHS 7.5 at 32.5'	35							

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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED\DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-27

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/31/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/31/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 72°, Sunny	▼ Water Level Upon Completion: 6.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 3.3'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
920		-soft, vertical fracture from 34.8' to 35.2'	40	R-6	100 (48)					
915			45	R-7	100 (58)					
910		-high angle fracture from 47.2' to 48.5'	50	R-8	92 (78)					
		-MOHS 7.5 at 49.0'								
		Boring Terminated at 49.8 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.								
905			55							
900			60							
895			65							
890			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/1/23	Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 8/1/23	Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 68-70°, Partly Sunny	Water Level Upon Completion: 3.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	Water Level After 24 Hours: 7'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
907'										
		TOPSOIL	0.4'	S-1	67	4-2-3 (5)				
		Brown SANDSTONE FRAGMENTS (GP), trace to few sand, trace to few clay, loose to firm, moist								
902			5	S-2	100	3-2-3 (5)				
				S-3	53	6-5-9 (14)				
		-cobble from 8.0' to 8.5' (COLLUVIAL)	9.0							
897		Brown-red CLAY (CL), few rock fragments (brown-yellow sandstone, shale, claystone), very stiff, moist (COLLUVIAL)	10	S-4	100	10-10-16 (26)				
		Brown and gray DECOMPOSED LIMESTONE sampled as limestone fragments, few silt, few clay, firm, moist (RESIDUAL)	11.0							
		Brown-gray DECOMPOSED SHALE sampled as shale fragments, few silt, very dense, dry (RESIDUAL)	12.3	S-5	100	15-31-35 (66)				
892			15							
			16.4	S-6	100	32-46-50/0.4'				
887		Brown INTERBEDDED fine-grained SANDSTONE and SHALE, highly to moderately weathered, thinly laminated to very thinly bedded, very broken to broken, very soft to soft, (almost completely fractured, highly weathered and soft)	20	R-1	38 (0)					
		-MOHS <2 at 21.6'								
882			25	R-2	50 (0)					
			26.2							
		Purple to light gray CLAYSTONE, highly to slightly weathered, thinly bedded, very broken to broken, very soft to soft highly weathered, very soft from 26.2' to 27.0'								
877			30	R-3	100 (0)					
		-MOHS 2.5 at 30.4'								
		Boring Terminated at 31.4 feet Boring Shifted 8' 355°N. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.								
872			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/27/23	▽ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/28/23	▽ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 86-89°, Partly Sunny	▽ Water Level Upon Completion: 39.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours: 3.1'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
908'										
		TOPSOIL	0.3'							
		Brown-red and gray CLAY (CL), little to some sand-sized and little gravel-sized rock fragments (shale, sandstone), medium dense, moist		S-1	40	1-7-10 (17)		9.5		
903			5	S-2	100	20-12-11 (23)		13.9		
				S-3	100	15-12-8 (20)	54.26	16.4		
898			10	S-4	100	7-8-12 (20)		17.4		
				S-5	100	5-7-10 (17)		16.1		
893		(COLLUVIAL)	15.0							
		Green, gray, brown, and brown-red CLAY (CL), little sand-sized and little gravel-sized rock fragments (sandstone, shale, claystone), medium dense to dense, moist		S-6	100	6-10-12 (22)		18.2		
888			20	S-7	100	13-13-13 (26)		10.5		
				S-8	100	5-10-11 (21)		15.7		
883			25	S-9	100	6-11-12 (23)	68.67	18.4		
				S-10	100	5-10-16 (26)		16.8		
878			30	S-11	100	11-12-12 (24)		20.9		
				S-12	100	5-9-17 (26)		16.4		
873		-encountered perched water at 33.0'	35							

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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-29

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/27/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/28/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 86-89°, Partly Sunny	▼ Water Level Upon Completion: 39.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 3.1'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
868			40	S-13	100	6-8-12 (20)		13.0		
				S-14	100	5-12-15 (27)		13.5		
863			45	S-15	100	5-9-15 (24)		17.3		
				S-16	100	7-12-23 (35)		16.2		
		(COLLUVIAL) 48.0								
858		Blue-gray SANDSTONE FRAGMENTS (GC), some red clay, dense, moist	50	S-17	100	6-14-19 (33)		12.6		
				S-18	100	7-13-27 (40)		12.0		
		(COLLUVIAL) 54.0								
853		Light gray decomposed SHALE sampled as shale fragments, very dense, dry 54.2	55	S-19	100	50/0.2'				
		(RESIDUAL)								
		Gray SHALE, moderately weathered to fresh, thinly laminated, very broken to massive, soft to hard, few sandstone laminations -moderately weathered, soft from 54.2' to 55.0' -MOHS 6.5 at 57.7'	60	R-1	98 (64)					
848				R-2	100 (64)					
843			65	R-3	100 (40)					
		-lost water return at 67.0' -soft from 67.4' to 67.7' -MOHS 6.5 at 68.0'								
838		Boring Terminated at 69.2 feet	70							

Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-30

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/1/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 8/1/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 70-74°, Sunny	▼ Water Level Upon Completion: 5.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 6.5'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
943.1'		TOPSOIL	0.3'	S-1	80	1-1-1 (2)				
		Brown clayey SILT (ML), trace organics, very soft, moist								
			3.0	S-2	100	2-2-4 (6)				
938		Brown ROCK FRAGMENTS (shale) (GP), little brown clay, loose to firm, moist	5							
				S-3	100	3-4-4 (8)				
				S-4	100	3-4-5 (9)				
933		-water around rock fragments from 9.0' to 10.5'	10							
				S-5	100	2-5-7 (12)				
928		(COLLUVIAL)	15.0							
		Gray and brown ROCK FRAGMENTS (GC), little brown-red clay, medium dense, moist		S-6	100	5-7-9 (16)				
		(COLLUVIAL)	18.0							
923		Brown DECOMPOSED SHALE sampled as shale fragments, very dense, dry	20	S-7	100	3-16-50/0.4'				
		-MOHS 4.5 at 20.0'								
		(RESIDUAL)	21.4	S-8	100	50/0.4'				
		Brown to brown-gray SHALE, slightly to moderately weathered, thinly to thickly laminated, very broken to blocky, soft to hard -very broken and fractured from 21.4' to 24.4'								
918		-many fractured zones from 24.4' to 31.0'	25	R-1	100 (0)					
				R-2	100 (0)					
913		-MOHS 5.5 at 30.0	30							
				R-3	100 (0)					
908		-MOHS 6.5 at 34.0'	35							

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Test Boring Record

B-31

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 10/1/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 10/1/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 60s	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1000.1'		ASPHALTIC CONCRETE	0.8							
		SUBBASE (slag)	1.5							
		FILL sampled as brown-gray sand, silt, slag, medium dense, moist (FILL)	3.0	S-1	53	26-17-4 (21)				
		Red silty CLAY to clayey SILT (CL/ML), stiff to very stiff, dry		S-2	87	12-6-4 (10)				
995			5	S-3	93	4-9-11 (20)				
				S-4	100	9-10-10 (20)				
		(COLLUVIAL)		S-5	100	11-12-12 (24)				
990		Light brown SHALE SAPROLITE, relic bedding, iron stained, very dense, dry	9.5	S-6	100	16-21-31 (52)				
			10	S-7	100	20-25-31 (56)				
		(RESIDUAL)		S-8	100	13-22-49 (71)				
		Gray SILTSTONE, slightly to moderately weathered, soft to medium hard, iron stained, minor clay seams, moderately broken, medium bedded, interbedded shale layers	13.8	S-9	100	50/0.3'				
985			15	R-1	85 (0)					
				R-2	100 (13)					
980			20	R-3	100 (12)					
				R-4	100 (18)					
975		-subvertical fracture from 25.5' to 25.7'	25							
			30	R-5	98 (0)					
970		Gray-red CLAYSTONE, fresh, very soft, medium bedded	30.7							
965			35							

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Test Boring Record

B-31

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 10/1/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 10/1/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 60s	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
960		-red from 34.8' to 40.2'	40.2	R-6	100 (0)					
		Gray sandy CLAYSTONE, fresh, very soft, medium bedded	42.1	R-7	100 (0)					
955		Gray SANDSTONE, slightly weathered, hard, fine-grained, minor iron staining -vertical fracture from 42.5' to 43.7'	45							
		Gray CLAYSTONE, fresh, very soft	46.0	R-8	92 (24)					
950		Gray and red SILTSTONE, fresh, medium hard, medium bedded, slightly broken	50	R-9	100 (66)					
945		-red from 53.0' to 54.7'	55	R-10	94 (60)					
940		-massive from 54'	60	R-11	86 (42)					
935		Boring Terminated at 63.8 feet	63.8							
930			70							

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Test Boring Record

B-32

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/13/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/13/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 70's	▼ Water Level Upon Completion: 4.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours: 1.7'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
888.7'										
		FILL sampled as brown clayey silt, little rock fragments, some organics, some sand, medium to stiff, moist		S-1	53	4-3-3 (6)				
				S-2	47	13-7-5 (12)				
884			5							
				S-3	47	5-3-3 (6)				
		(FILL)	9.0							
879		Brown SAND (SP), some sandstone fragments, trace silt, trace clay, dense, moist	10	S-4	47	15-22-16 (38)				
		(RESIDUAL)	12.0							
		SANDSTONE SAPROLITE, relic bedding, iron stained, dry		S-5	100	10-35-50/0.4'				
874			15							
		(RESIDUAL)	16.2	S-6	117	15-44-50/0.2'				
		Gray SANDSTONE, slightly to moderately weathered, medium-grained, micaceous, thin to medium-bedded, hard, extensive iron staining, moderately broken		R-1	86 (0)					
869			20							
				R-2	94 (0)					
864			25							
		-grades to fine-grained sandstone at 26.5'								
				R-3	84 (0)					
859			30							
		Gray SILTSTONE, fresh, medium hard, massive, minor iron staining	30.2							
		-claystone seam from 32.0' to 32.2'								
854			35	R-4	98 (0)					

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Test Boring Record

B-33

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/1/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 8/1/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Sunny, 74 to 76 Degrees	▼ Water Level Upon Completion: 13.9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours: 9.6'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
960'										
		TOPSOIL	0.4'	S-1	27	1-1-1 (2)		23.7		
		Yellow CLAY (CH), very soft, moist								
955		(COLLUVIAL)	5	S-2	100	2-3-3 (6)		25.6	59	22
		Reddish brown and grayish brown CLAY (CL), soft to stiff, moist	6.0	S-3	67	3-5-7 (12)		14.4	29	15
		(COLLUVIAL)	9.0	S-4	100	13-15-15 (30)		12.2		
950		Yellowish gray completely weathered SHALE, iron stained on remnant bedding, very stiff, moist	10	S-5	100	27-42-33 (75)		7.6		
		(POSSIBLE COLLUVIAL)	11.9							
		Reddish brown SHALE, completely weathered, very stiff, friable, moist	12.5	S-6		25-31-38 (69)		7.4		
945		Light yellow-gray SHALE, completely weathered, iron stained on remnant bedding, hard, friable, moist	15	S-7	100	50/0.3'		3.5		
		(RESIDUAL)	18.0	R-1	100 (0)					
940		Light yellow-gray weathered fine-grained SANDSTONE, very dense, moist	18.3							
		Light yellowish gray SILTSTONE and silty SHALE, slightly weathered, iron stained on bedding, very broken to blocky, hard	20	R-2	100 (0)					
		-MOHs 7.5 at 19'								
		-some iron concretions from 19.7' to 19.9'								
		-dark gray to yellow-gray shale, hard, slickensided, soft from 21.5' to 22.4'	22.4							
935		Yellow-gray SILTSTONE and silty SHALE, moderately weathered, fractured and very broken, hard	24.2	R-3	100 (0)					
		-MOHs 7.5 at 23.8'								
		Light gray and greenish silty SHALE and SILTSTONE, fresh, slightly broken to broken, very hard	25							
		-iron stained areas/concretions from 24.2' to 27.1'								
930		-MOHs 8.5 at 27'		R-4	100 (52)					
		-high angle open iron stained fracture from 29.9' to 30.2'	30							
925			35							

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Test Boring Record

B-34

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/2/23	Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 8/2/23	Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 66-72°, Partly Sunny	Water Level Upon Completion: 9.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
936'										
		Red-brown and brown CLAY (CL), some sand-sized and trace gravel-sized shale fragments, very soft, moist to wet		S-1	27	1-1-1 (2)		24.6		
		-wet from 0.0' to 1.5'					59.11		32	20
931		(COLLUVIAL)	5	S-2	27	1-1-1 (2)		25.1		
			6.0							
		Brown-red and gray-green mottled CLAY (CL), some sand-sized and few gravel-sized rock fragments (sandstone, shale, claystone), loose to firm, moist to wet		S-3	67	1-3-8 (11)		18.8		
		-wet at 6.5' to 7.5'					53.8		26	13
926		-some rock fragments from 9.0' to 10.0'	10	S-4	80	3-3-7 (10)		16.0		
		(COLLUVIAL)	12.0							
		Yellow-brown, gray and black ROCK FRAGMENTS (yellow sandstone, shale, carbonaceous shale) (GP), trace to few brown-red clay, firm to very dense, moist		S-5	80	5-5-6 (11)		12.0		
921			15	S-6	100	5-7-6 (13)		11.9		
				S-7	80	3-6-7 (13)		14.9		
916			20	S-8	100	9-10-11 (21)		12.1		
				S-9	100	9-47-21 (68)		7.2		
911		-sandstone cobbles 24.5' to 27.5'	25	S-10	53	49-11-11 (22)		11.2		
				S-11	100	8-9-7 (16)		11.8		
906		-wood fragments from 31.3' to 31.5'	30							
		-wood fragments from 33.0' to 33.5'								
		-perched water at 33'		S-12	100	3-6-9 (15)		14.4		
901			35							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/2/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 8/2/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 66-72°, Partly Sunny	▼ Water Level Upon Completion: 9.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
		(COLLUVIAL) 37.0		S-13	100	6-9-34 (43)		12.8		
		Purple and green-gray mottled DECOMPOSED CLAYSTONE; sampled as claystone fragments, very dense, dry (RESIDUAL) 39.0								
896		Light gray calcareous DECOMPOSED SHALE; sampled as shale fragments, trace silt, very dense, dry (RESIDUAL) 39.2	40	S-14	100	50/0.2'				
		Gray interbedded fine-grained SANDSTONE and SHALE, thickly laminated to very thinly bedded, slightly weathered, very broken to blocky, hard -MOHS 6.5 at 40.0'		R-1	100 (20)					
891			45	R-2	100 (44)					
		-MOHS 6.5 at 48.7'								
886			50	R-3	100 (12)					
		Pink and gray mottled CLAYSTONE, slightly weathered, thinly bedded, very broken to broken, soft -MOHS <2 at 53.5	50.5							
881		Boring Terminated at 54.2 feet Moved boring 9' 105°E. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project. Boring collapsed at 7' after 24 Hours	55							
876			60							
871			65							
866			70							

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Test Boring Record

B-35

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/2/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 8/3/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 81-85°, Partly Sunny	▼ Water Level Upon Completion: 5.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 9'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
944'										
		Brown clayey SILT (CL/ML), few rock fragments (claystone, sandstone), soft, moist		S-1	100	1-1-2 (3)				
		(COLLUVIAL)	3.0							
939		Brown and gray ROCK FRAGMENTS (GP), little brown sand, trace clay, very stiff, moist	5	S-2	100	7-10-11 (21)				
		(COLLUVIAL)	9.0	S-3	100	10-11-12 (23)				
934		Brown and gray mottled clayey SAND (SC), few rock fragments (sandstone, shale), loose to medium dense, moist	10	S-4	100	8-6-9 (15)				
		(COLLUVIAL)	15.0	S-5	100	1-3-5 (8)				
929		Brown and gray ROCK FRAGMENTS (sandstone, shale) (GP), little sand, few clay, firm to medium dense, moist	15	S-6	100	8-6-8 (14)				
		-micaceous sandstone boulders from 17.0' to 19.5'		S-7	100	22-10-10 (20)				
924		(COLLUVIAL)	21.0	S-8	100	6-6-6 (12)				
		(COLLUVIAL)	24.0	S-9	100	9-10-9 (19)				
919		Gray, green, and brown ROCK FRAGMENTS (gray-green sandstone, shale, claystone) (GC), little to some brown-red clay, medium dense, moist	25	S-10	100	5-8-11 (19)				
		-some clay from 27.0' to 28.5'								
914		(COLLUVIAL)	30.0							
		Brown DECOMPOSED SHALE; sampled as shale fragments, trace silt, very dense, dry	30.9	S-11	100	16-50/0.4'				
		(RESIDUAL)								
		Brown to gray interbedded fine-grained SANDSTONE and SHALE, thinly to thickly laminated, very broken, soft to hard -MOHS 2.5 at 32.3'		R-1	80 (0)					
909			35							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/2/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 8/3/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 81-85°, Partly Sunny	▼ Water Level Upon Completion: 5.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 9'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
904		-many vertical fractures from 30.9' to 34.4' -MOHS 7.5 at 40.0'	40	R-2	100 (62)					
899		Light gray CLAYSTONE, slightly weathered, thinly bedded, very broken to broken, soft -MOHS <2 at 45.0'	43.0 45	R-3	80 (0)					
894		Boring Terminated at 45.9 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	50							
889			55							
884			60							
879			65							
874			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/26/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/26/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 70-74°, Sunny	▼ Water Level Upon Completion: 24.4'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 6.6'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
940'										
		Tan clayey SILT (CL/ML), trace rock fragments (red and brown sandstone and shale), soft, moist		S-1	67	1-1-3 (4)		14.7		
		(COLLUVIAL)	3.0							
		Brown ROCK FRAGMENTS (sandstone, shale) (GP), few sand, few silt, medium dense, dry		S-2	100	9-9-18 (27)		5.9		
935		(COLLUVIAL)	6.0							
		▼ Brown DECOMPOSED SHALE sampled as shale fragments, few silt, very dense, dry		S-3	100	16-13-38 (51)		6.0		
		(RESIDUAL)	9.4							
930		Brown to gray SHALE, highly to moderately weathered, thinly to thickly laminated, very broken to broken, very soft to medium hard -very soft, almost completely weathered from 9.4' to 15.4'	10	S-4	100	50/0.4'		4.9		
				R-1	100 (0)					
925			15	R-2	98 (0)					
				R-3	60 (0)					
920		-MOHS 4.5 at 18.7'	20							
		-MOHS 3.5 at 20.0'								
915		▼ Boring Terminated at 24.4 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	25							
910			30							
905			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-37

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/2/23	▽ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 8/2/23	▽ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Partly sunny, 66 to 72 Degrees	▽ Water Level Upon Completion: 27.1'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▽ Water Level After 24 Hours: 20.4'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
993'										
		Reddish brown silty CLAY (CL/ML), few sandstone gravel, medium, moist		S-1	67	1-2-3 (5)		24.1		
		(POSSIBLE COLLUVIAL)	3.0							
988		Yellow-brown SAND (SC), some clay, trace gravel (shale fragments), medium dense, moist	5	S-2	100	8-8-7 (15)		12.0		
							43.41		40	23
				S-3	67	9-8-9 (17)		9.8		
		(POSSIBLE COLLUVIAL)	9.0							
983		Yellowish brown DECOMPOSED SHALE, iron stained on relic bedding, hard, dry -moist at 9.1'	10	S-4	100	12-22-26 (48)		8.0		
				S-5	87	25-22-21 (43)		9.0		
978		-coarse gravel-sized shale fragments at, 13.1' -short iron stained fracture and slickensided at ~13.1'-13.2'	15							
		-high angle iron stained fractures from 15.0' to 16.5'		S-6	100	20-29-39 (68)		9.2		
973		-highly weathered iron concretion, moist at 18.5'	20	S-7	100	23-27-37 (64)				
		-trace of iron stained high angle fractures, moist from 21.0' to 22.5'		S-8	100	24-28-24 (52)				
		(RESIDUAL)	24.0							
968		Reddish brown and light yellowish brown mottled completely weathered CLAYSTONE, slickensides, hard	25	S-9	100	14-19-29 (48)				
		(RESIDUAL)	27.0							
		Reddish brown completely weathered CLAYSTONE, gray mottles, slickensides, hard, moist	27.9	S-10	100	35-50/0.4'				
		(RESIDUAL)								
963		Reddish brown CLAYSTONE, highly weathered, slickensides, massive, very soft -yellowish gray claystone from 28.4' to 28.7' -MOHs <2 at 30.5' -yellow gray claystone from 31.1' to 31.4'	30	R-1	48 (0)					
958		Grayish-green to yellow gray SILTSTONE, highly weathered, broken to very broken, hard to medium hard -open high angle iron stained fracture from 33.1' to 33.8' -MOHs 6.5 at 32'	35	R-2	100 (0)					

(Continued Next Page)

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/1/23	▽ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 8/1/23	▽ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Sunny, 70 to 73'	▽ Water Level Upon Completion: 18.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▽ Water Level After 24 Hours: 5.7'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
985'		Yellow-brown CLAY with SAND (SC), soft, moist		S-1	67	0-1-2 (3)		18.2		
		(COLLUVIAL)	3.0							
980		Dark yellow brown silty CLAY (CL/ML), stiff, wet	5	S-2	40	4-6-7 (13)		20.0		
		(COLLUVIAL)	6.0							
		Dark yellow brown CLAY with GRAVEL (GC), highly weathered sandstone gravel, wet around sandstone gravel, stiff to very stiff, moist		S-3	80	7-6-9 (15)		15.3		
975		-heavy dark iron staining from 9.0' to 10.5'	10	S-4	100	8-9-12 (21)		15.1		
		(COLLUVIAL)	12.0							
		Reddish brown silty CLAY (CL/ML), trace fine-grained sandstone gravel, very stiff, moist	13.1	S-5	100	7-9-11 (20)		18.5		
970		Reddish brown silty CLAY (CL/ML), light gray reduction zones around blackened tree roots, some bright yellow clay films, stiff, moist	15	S-6	100	7-10-13 (23)		16.6		
		(COLLUVIAL)	15.9							
		Light yellow gray SHALE, completely weathered, very stiff, moist	18.0							
		(RESIDUAL)	18.0							
965		Yellowish gray and red mottled SHALE, completely weathered, little bright yellow clay film, very stiff, moist	20	S-7	100	9-11-12 (23)		20.2		
		(RESIDUAL)	21.0							
		Pale yellow brown silty CLAY (CL/ML), few reddish brown and light gray mottles, very stiff, moist	24.0	S-8	100	8-11-13 (24)		20.4		
		(RESIDUAL)	24.0							
960		Reddish brown silty CLAY (CL/ML), hard, moist	24.3	S-9	100	16-48-50/0.3'		5.4		
		(RESIDUAL)	25.3							
		Light gray SHALE, completely weathered, friable, hard, moist	25.6							
		Reddish brown and light gray CLAYSTONE, very soft	26.1							
		Light gray CLAYSTONE, few red mottles, very soft								
955		Light gray-green SILTSTONE, slightly weathered, very broken to moderately broken, medium hard	28.3	R-1	96 (32)					
		-soft from 26.7' to 27.1'								
		-MOHs 5.5 at 27.3'								
		Reddish brown CLAYSTONE, few gray green mottles, very broken, soft	30.5							
		-MOHs <2 at 29.4'								
950		Light greenish gray SILTSTONE, slickensided, very broken to moderately broken, medium hard	31.7	R-2	96 (24)					
		-MOHs 6.5 at 31'								
		-soft red shale layer from 31.1' to 31.4'								
			35							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/31/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/31/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Sunny, 65 Degrees	▼ Water Level Upon Completion: 19.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1004.2'										
		TOPSOIL	0.2'	S-1	67	2-5-4 (9)		21.7		
		(COLLUVIAL)	3.0							
999		Red-brown CLAY (CL), trace sand, homogeneous color and texture, very stiff to extremely stiff, moist	5	S-2	100	8-13-17 (30)		13.2		
							96.76		39	18
		(COLLUVIAL)	9.0	S-3	87	13-16-15 (31)		10.7		
994		Light yellow brown DECOMPOSED SHALE, iron stained on remnant bed, friable, faint slickenside, moist	10	S-4	100	36-50/0.4'		7.0		
		(RESIDUAL)	9.9							
989		Yellowish gray SHALE, moderately to highly weathered, large slickenside, iron stained, soft to very soft -iron stained fracture, very broken, core loss from 9.9' to 10.6' -core loss from 11.1' to 15.2' -MOHs <2 at 12'	15	R-1	76 (0)					
984		-core loss, very broken, iron stained from 17.4' to 18.0' -core loss, very broken, iron stained from 19.0' to 19.9'	20	R-2	100 (0)					
		-MOHs 2.5 at 20.2'								
979		-core loss, very broken, iron stained from 20.5' to 23.7'	25	R-3	90 (0)					
		Boring Terminated at 24.9 feet Boring collapsed at 8' after 24 Hours								
974			30							
969			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/31/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/31/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Sunny, 72 Degrees	▼ Water Level Upon Completion: 11.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours: 9.6'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
993'										
		Light yellow-brown SAND (SC), some clay, trace gravel, very loose to medium dense, moist		S-1	40	1-1-2 (3)		12.6		
							49.95		28	16
988			5	S-2	87	8-7-9 (16)		16.8		
		(POSSIBLE COLLUVIAL)	6.0							
		Red-brown, orange-brown, and gray SAND (SC), some clay, little gravel, firm to medium dense, moist		S-3	100	8-11-13 (24)		13.5		
		-Sample S-3 slickensided								
983			10	S-4	100	10-10-8 (18)		12.9		
		-Sample S-4 fine, flat, angular gravel								
		-Sample S-5 wet zones throughout. Visible water and iron stained around gravel		S-5	100	6-8-6 (14)	43.92	13.5	37	19
978			15	S-6	100	11-11-12 (23)		10.8		
		Sample S-6 visible water around highly weathered shale gravel, redclay films on gravel surfaces								
		(POSSIBLE COLLUVIAL)	18.0							
973		Brown-gray completely weathered SHALE, iron stained on remnant bedding, few red clay films, very dense, moist to wet (possible base of colluvium)	18.9	S-7	100	39-50/0.4'		11.5		
		(RESIDUAL)		R-1	55 (0)					
		-spoon wet in sample S-7								
		Gray SHALE, iron stained on bedding, very broken and fractured, hard	21.7							
		-iron stained from 18.9' to 21.7'	22.9	R-2	78 (0)					
		-MOHs 7.5 at 21.5'								
968		Yellowish gray SHALE, completely weathered, very soft	24.6							
		-faint high angle iron stained fissures from 22.8' to 23.3'	25.0							
		Red and gray mottled CLAYSTONE, slickensided, few coaly plant roots, very soft								
		-MOHs <2 at 24'								
		Light brownish yellow SHALE, very soft		R-3	100 (0)					
963		Reddish brown CLAYSTONE, few green-gray mottles with yellow clay films, slickensided, very broken to moderately broken, soft	30.0							
		-MOHs <2 at 27'								
		Reddish brown CLAYSTONE, few green-gray mottles, slickensided, very soft		R-4	100 (0)					
		-MOHs 2.5 at 31'								
958		Boring Terminated at 34.0 feet	35							
		Boring shifted approximately 8' east. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.								

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/30/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/30/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Rain, 60s	▼ Water Level Upon Completion: 5.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1018.6'		ASPHALTIC CONCRETE	0.8							
		SUBBASE (slag)	1.5							
		FILL sampeld as gray silty clay with sand, slag, stiff to extremely stiff, stiff to extremely stiff, moist		S-1	100	28-23-13 (36)				
		(FILL)	4.0	S-2	100	8-7-5 (12)				
1014		FILL sampled as brown sandstone fragments with sand, trace clay, medium dense to dense, moist	5	S-3	100	6-15-11 (26)				
				S-4	100	8-13-18 (31)				
		(FILL)	9.0	S-5	27	6-9-9 (18)				
1009		Brown clayey SILT to silty CLAY (CL/ML), some rock fragments, stiff, moist	10	S-6	100	4-5-9 (14)				
		-coal fragments at 11.0'		S-7	100	5-7-8 (15)				
		(COLLUVIAL)	12.0	S-8	100	5-6-10 (16)				
		Brown SANDSTONE FRAGMENTS (GP), little sand, trace silt, medium dense, moist with some wet zones		S-9	93	5-9-9 (18)				
1004		(COLLUVIAL)	15.0	S-10	53	3-5-6 (11)				
		Brown clayey SILT to silty CLAY (CL/ML), some sandstone fragments, little sand, stiff to very stiff, moist		S-11	100	6-18-10 (28)				
		(COLLUVIAL)	18.0	S-12	100	5-11-16 (27)				
999		Brown SAND (SM), some silt, little sandstone fragments, iron stained, firm to medium dense, moist with some wet zones	20	S-13	93	10-7-7 (14)				
		-spoon wet at 20'		S-14	100	4-6-9 (15)				
		(POSSIBLE COLLUVIAL/RESIDUAL)	21.0	S-15	100	9-8-14 (22)				
		Red silty CLAY to clayey SILT (CL/ML), very stiff, moist		S-16	100	7-14-17 (31)				
994		(POSSIBLE COLLUVIAL/RESIDUAL)	25.0	S-17	100	13-17-21 (38)				
		Yellow-brown silty CLAY to clayey SILT (CL/ML), little rock fragments, extremely stiff, dry to moist	26.0	S-18	100	17-24-20 (44)				
		(RESIDUAL)		S-19	100	22-34-38 (72)				
		Red to gray CLAYSTONE SAPROLITE, relic bedding, dense to very dense, dry		S-20	100	27-50/0.4'				
989		(RESIDUAL)	30.9							
		Gray shaley SILTSTONE, slightly to moderately weathered, soft to medium hard, extensive iron staining, minor clay seams, thinly bedded, moderately broken		R-1	100 (0)					
984			35							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/19/24	▽ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/19/24	▽ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 70's	▽ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
836.4'										
		Light brown clayey SILT to silty CLAY (CL/ML), little rock fragments, trace sand, soft to very stiff, dry		S-1	20	0-2-2 (4)				
				S-2	100	14-12-10 (22)				
831		(COLLUVIAL)	5							
			6.0	S-3	100	16-12-11 (23)				
		(RESIDUAL)	9.0							
826		Light brown SANDSTONE SAPROLITE, relic bedding, iron stained, dry	10	S-4	100	18-30-50/0.3'				
		(RESIDUAL)	10.8							
		Light gray SANDSTONE, slightly weathered, hard, iron stained, medium, slightly broken, medium bedded, medium-grained		R-1	94 (0)					
821			15							
				R-2	98 (8)					
816			20							
		Boring Terminated at 20.8 feet	20.8							
811			25							
806			30							
801			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/12/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/12/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 60's	▼ Water Level Upon Completion: 6.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

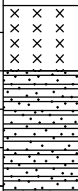
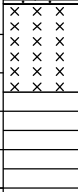
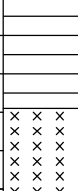
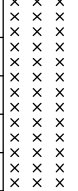
Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1021.8'		ASPHALTIC CONCRETE	0.5							
		Slag aggregate SUBBASE	1.0	S-1	40	3-6-8 (14)				
		FILL sampled as tan-gray silty clay with rock fragments, some sand and slag, stiff, moist	3.0	S-2	100	5-6-4 (10)				
		(FILL)								
1017		Tan-gray mottled and occasional red clayey SILT to silty CLAY (CL/ML), small carbonaceous fragments, stiff, moist	5	S-3	100	16-8-4 (12)				
		(COLLUVIAL)								
		Red clayey SILT to silty CLAY (CL/ML), stiff, moist	7.0	S-4	100	5-5-6 (11)				
		(COLLUVIAL)								
1012		Light brown clayey SILT to silty CLAY (CL/ML), little sand, stiff, moist	9.0	S-5	67	7-5-4 (9)				
		(COLLUVIAL)								
		Red clayey SILT to silty CLAY (CL/ML), some gray mottling, extremely stiff, moist	10.0	S-6	67	5-7-8 (15)				
1007		(POSSIBLE COLLUVIAL/RESIDUAL)	15.0	S-7	100	11-12-14 (26)				
		Red clayey SILT to silty CLAY (CL/ML), few sandstone fragments, trace sand, extremely stiff, moist	18.0	S-8	100	14-16-18 (34)				
		(RESIDUAL)								
1002		Red CLAYSTONE SAPROLITE, relic bedding, very dense, dry to moist	20	S-9	100	7-13-26 (39)				
				S-10	100	23-33-39 (72)				
				S-11	100	10-19-22 (41)				
				S-12	100	18-20-27 (47)				
				S-13	100	17-23-30 (53)				
				S-14	100	28-37-50/0.4'				
				S-15	100	16-30-45 (75)				
				S-16	100	22-22-46 (68)				
997		(RESIDUAL)	25	S-17	100	19-19-47 (66)				
		Red CLAYSTONE, slightly weathered, very soft to soft, slightly broken, some siltstone interbeds, thin to medium-bedded	26.3	S-18	100	31-50/0.3'				
				R-1	100 (35)					
992		Gray shaley CLAYSTONE, slightly to moderately weathered, soft to medium hard, iron stained, moderately broken	30.0	R-2	95 (0)					
				R-3	100 (0)					
987			35							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/12/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/12/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 60's	▼ Water Level Upon Completion: 6.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
982		Gray SILTSTONE, slightly weathered, claystone interbeds	35.3							
			37.0							
		Gray sandy SHALE, slightly to moderately weathered, soft to medium hard, slightly broken, iron stained, thinly bedded, claystone seams	40.2	R-4	100 (0)					
977		Gray SILTSTONE, slightly weathered, medium hard, slightly broken, iron stained, medium bedded	42.5	R-5	100 (0)					
		Gray sandy CLAYSTONE, slightly weathered, soft, slightly broken, medium bedded	47.9	R-6	100 (22)					
972		Gray SILTSTONE, fresh, medium hard, slightly broken, massive, minor clay seams	50	R-7	100 (42)					
967			55.3							
		Boring Terminated at 55.3 feet								
962			60							
957			65							
952			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-44

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/25/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/25/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Rain, 70s	▼ Water Level Upon Completion: 18'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1045.9'		ASPHALTIC CONCRETE	1.0							
		SUBBASE	1.5							
		FILL sampled as brown to orange silty sand with sandstone fragments, firm, moist		S-1	67	10-6-6 (12)				
		(FILL)	5.0	S-2	100	18-7-5 (12)				
1041		Yellow-brown SAND (SP), some sandstone fragments, little silt, loose, moist		S-3	100	7-6-4 (10)				
		(COLLUVIAL)	7.5	S-4	100	10-5-5 (10)				
		Light gray SANDSTONE FRAGMENTS (GP), little sand, firm, moist	9.0	S-5	100	12-7-4 (11)				
		(COLLUVIAL)								
1036		Light brown to gray SANDSTONE SAPROLITE, relic bedding, iron staining, very dense, dry	10.7	S-6	100	25-15-50/0.2'				
		(RESIDUAL)		S-7	100	50/0.2'				
		Gray matrix with dark brown clasts CONGLOMERATE, hard, moderately weathered, moderately broken, medium bedded, iron stained		R-1	90 (25)					
1031		-lost water return at 12'	15.0	R-2	60 (0)					
		Light gray CLAYSTONE with angular dark gray sandstone inclusions, very soft, slightly weathered, massive, iron staining		R-3	100 (0)					
1026		-water returned at 21'	22.2	R-4	100 (0)					
		Red CLAYSTONE, fresh, very soft, massive								
1021			27.9	R-5	100 (0)					
		Light gray CLAYSTONE, fresh, soft, thinly to medium bedded, shaley zones								
1016		-small siltstone seam from 27.9' to 28.3'	30	R-6	100 (0)					
1011			35							

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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-44

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/25/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/25/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Rain, 70s	▼ Water Level Upon Completion: 18'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1006		Light gray shaley CLAYSTONE, soft, thinly to medium bedded -lost water return at 36'	35.7 40	R-7	100 (0)					
1001		Red SHALE, fresh, soft, thinly bedded	42.0	R-8	100 (64)					
996		Red shaley CLAYSTONE, fresh, thinly bedded	43.8 45	R-9	100 (10)					
991		Red to gray SHALE, fresh, soft, thinly bedded	52.3	R-10	100 (44)					
986		-sandy zone from 54.7' to 55.2'	55	R-11	25 (0)					
981		Boring Terminated at 57.2 feet	57.2							
976			60 65 70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-45

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 3
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/26/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/26/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 70s	▼ Water Level Upon Completion: 38.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1068.9'		ASPHALTIC CONCRETE	0.8							
		SLAG	1.5							
		FILL sampled as light brown to gray sandstone fragments, iron stained, firm to medium dense, dry		S-1	67	16-18-15 (33)				
1064			5	S-2	87	46-11-9 (20)				
				S-3	100	7-8-5 (13)				
				S-4	100	10-5-6 (11)				
		(FILL)	9.0	S-5	100	3-6-16 (22)				
1059		Brown SAND (SP), some sandstone fragments, iron stained, medium dense, dry	10	S-6	100	14-13-5 (18)				
		(COLLUVIAL)	12.5	S-7	100	17-8-10 (18)				
		Light gray clayey SILT to silty CLAY (CL/ML), some shale fragments, very stiff, dry	14.0	S-8	100	24-12-13 (25)				
1054		(COLLUVIAL)	15	S-9	100	13-20-31 (51)				
		Dark brown SAND (SP), some sandstone fragments, micaceous, dense to very dense, moist		S-10	100	16-31-21 (52)				
		(RESIDUAL)	19.0	S-11	67	3-2-43 (45)				
1049		Light gray SANDSTONE SAPROLITE, relic bedding, iron stained, very dense, dry	20	S-12	100	19-21-30 (51)				
		(RESIDUAL)	21.8	S-13	100	21-26-32 (58)				
		Gray CLAYSTONE, slightly weathered, very soft, medium bedded	22.4	S-14	100	18-50/0.3'				
1044		Gray SANDSTONE, slightly to moderately weathered, medium grained, moderately broken, extensive iron staining	25	R-1	100 (15)					
		-lost water at 23'		R-2	38 (8)					
1039			30	R-3	48 (0)					
1034		Gray CLAYSTONE, fresh, very soft, medium bedded, shaley interbeds	33.2							
			35							

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Test Boring Record

B-45

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 3 of 3
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/26/24	▽ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/26/24	▽ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 70s	▽ Water Level Upon Completion: 38.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
994			75	R-11	100 (8)					
989			80	R-12	86 (68)					
984		-gray zone from 80.7' to 81.2'	84.5	R-13	80 (0)					
979		Boring Terminated at 84.5 feet	85							
974			90							
969			95							
964			100							
			105							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/11/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/11/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 60's	▼ Water Level Upon Completion: 6.9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours: 17.8'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1048.3'		TOPSOIL	0.3'							
		Tan SAND (SP), some sandstone fragments, some roots, loose, dry to moist	1.5	S-1	73	1-5-5 (10)				
		(COLLUVIAL)		S-2	87	1-27-31 (58)				
		Light brown SANDSTONE FRAGMENTS (GP), some sand, some iron staining, medium dense to very dense, moist		S-3	100	20-10-7 (17)				
1043		(COLLUVIAL)	5	S-4	100	10-11-7 (18)				
		Tan to yellow SAND (SM), some silt, some sandstone fragments, medium dense, dry	6.0	S-5	100	14-7-7 (14)				
		(COLLUVIAL)	7.0	S-6	100	6-7-7 (14)				
		Brown clayey SILT to silty CLAY (CL/ML), little siltstone fragments, little sand, iron stained, stiff, moist	9.0	S-7	100	11-6-10 (16)				
1038		(COLLUVIAL)	10	S-8	100	10-18-23 (41)				
		Yellow-brown clayey SILT to silty CLAY (CL/ML), little shale/siltstone fragments, iron stained, very stiff, dry	10.5	S-9	100	9-7-11 (18)				
		(POSSIBLE COLLUVIAL/RESIDUAL)	12.0	S-10	100	13-18-25 (43)				
		Gray clayey SILT to silty CLAY (CL/ML), some mottling, extremely stiff, moist	13.5	S-11	100	12-19-26 (45)				
1033		(POSSIBLE COLLUVIAL/RESIDUAL)	15	S-12	100	22-23-40 (63)				
		Gray clayey SILT to silty CLAY (CL/ML), shale fragments, some mottling, very stiff, moist	16.0	S-13	100	16-24-32 (56)				
		(RESIDUAL)		S-14	100	39-50/0.3'				
1028		Gray SHALE SAPROLITE, relic bedding, iron stained, dense to very dense, dry -red from 17.7' to 18.0'	20.3							
		(RESIDUAL)	20	R-1	85 (0)					
		Gray SANDSTONE, slightly weathered, hard, fine-grained, slightly broken, medium bedded, some iron staining on bedding planes		R-2	100 (0)					
1023			25.3							
		Gray SILTSTONE, slightly weathered, soft to medium hard, moderately broken, medium bedded, red claystone interbeds		R-3	96 (12)					
1018			30.3							
		Boring Terminated at 30.3 feet								
1013			35							

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Test Boring Record

B-47

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/27/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/28/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Partly sunny, 80 to 84 Degrees	▼ Water Level Upon Completion: 16.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1028'										
		Slag (FILL) 0.5'		S-1	100	6-1-3 (4)		21.9		
		Light gray silty CLAY (CL/ML), faint orange mottles, soft to medium, moist								
1023		(COLLUVIAL) 6.0'	5	S-2	0	2-3-3 (6)				
		Dark gray-green SAND (SM), some silt, trace gravel (sandstone), loose, wet								
		(COLLUVIAL) 9.0'		S-3	87	2-4-4 (8)	42.31	25.7	21	18
1018		Yellow-brown CLAY (CL), few to little sand, trace gravel, iron stained on bedding planes, stiff to very stiff, moist -vertical light gray clay-filled fissure from 9.0' to 9.5' -few red mottles from 10.0' to 10.5'	10	S-4	87	3-6-8 (14)		14.5		
		-red-brown with faint gray fine mottles and slickensided from 13' to 18'								
1013		(COLLUVIAL) 18.0'	15	S-5	100	3-9-9 (18)	88.21	16.3	39	21
				S-6	100	2-6-8 (14)		14.7		
1008		Red-brown silty CLAY (CL/ML), faint light gray mottles, slickensided, hard, moist	20	S-7	100	9-17-23 (40)		15.0		
		(RESIDUAL) 24.0'		S-8	100	14-18-24 (42)		13.2		
1003		Reddish brown/light gray-green CLAYSTONE, slightly weathered, hard, moist	25	S-9	100	11-23-29 (52)		13.1		
		(RESIDUAL) 30.5'	30	S-10	100	12-24-26 (50)		12.1		
998		Light gray-brown highly weathered SHALE, some red-brown mottles, hard, moist		S-11	100	22-17-30 (47)		12.3		
		(RESIDUAL) 33.8'		S-12	100	38-50/0.3'		8.1		
993		Red-brown SHALE, slickensided, soft 34.6'	35	R-1	100 (0)					

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/27/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/28/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Partly sunny, 80 to 84 Degrees	▼ Water Level Upon Completion: 16.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
988		Red-brown CLAYSTONE, slickensided, very soft Light yellow-brown CLAYSTONE, slickensides, very soft to soft -MOHs <2 at 36.5'	35.7 37.5	R-2	100 (0)					
988		Light gray and green SHALE, slickensided, soft Gray-green LIMESTONE, very hard -MOHs 8.5 at 38.2'	38.1 38.3							
983		Yellowish-gray CLAYSHALE, moderately weathered, soft, slickensides -MOHs 3.5 at 39'	40.2	R-3	90 (0)					
983		Light gray SHALE, fresh to moderately weathered, slickensided, soft -soft and very broken from 40.6' to 41.1' -yellowish-gray from 41.4' to 41.7' -MOHs 7.5 at 42.2' -yellowish-gray from 42.6' to 43.2' -high angle, open, iron stained fracture from 43.2' to 43.5'	43.6	R-4	100 (0)					
978		Light gray SHALE, fresh, slickensided, very broken to moderately broken, medium hard -yellow-gray from 44.2' to 44.5' -iron stained from 44.9' to 45.4' -MOHs 7.5 at 48.8'								
978		Boring Terminated at 49.2 feet Boring shifted 7' north towards driveway. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	50							
973			55							
968			60							
963			65							
958			70							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/27/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/27/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 70s	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1085.5'		ASPHALTIC CONCRETE	0.5							
		SUBBASE (Slag)	1.5							
		FILL sampled as yellow-brown silty clay with rock fragments, iron stained, stiff to very stiff, dry		S-1	100	21-19-7 (26)				
		(FILL)	4.0	S-2	100	6-7-6 (13)				
1081		Brown clayey SILT to silty CLAY (CL/ML), iron stained, stiff, dry	5	S-3	100	5-8-7 (15)				
		(COLLUVIAL)	6.0	S-4	100	8-11-10 (21)				
		Brown clayey SILT to silty CLAY (CL/ML), some sand, iron stained, very stiff, dry		S-5	100	12-16-21 (37)				
		(RESIDUAL)	8.5	S-6	100	17-29-39 (68)				
1076		Brown to gray sandy SHALE SAPROLITE, relic bedding, iron and manganese staining, very dense, dry	10	S-7	100	34-29-39 (68)				
		(RESIDUAL)	12.8	S-8	100	33-50/0.3'				
		Boring Terminated at 12.8 feet								
1071			15							
1066			20							
1061			25							
1056			30							
1051			35							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/27/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/27/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 70s	▼ Water Level Upon Completion: 34.1'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1099.3'		ASPHALTIC CONCRETE	0.5							
		AGGREGATE (slag)	1.5							
		Brown-orange SAND (SM), some silt, trace rock fragments, medium dense, moist		S-1	100	9-6-9 (15)				
		(COLLUVIAL)	4.0	S-2	93	25-15-6 (21)				
1094		Brown clayey SILT to silty CLAY (CL/ML), some shale fragments, stiff to very stiff, moist	5	S-3	53	6-6-9 (15)				
		(COLLUVIAL)	6.0	S-4	100	16-9-7 (16)				
		Gray clayey SILT to silty CLAY (CL/ML), little rock fragments, minor iron staining, stiff to very stiff, moist	8.0	S-5	100	5-9-10 (19)				
		(COLLUVIAL)	9.0	S-6	100	9-13-17 (30)				
1089		Brown-orange SAND (SM), some silt, little rock fragments, loose, moist	10.0	S-7	93	14-10-11 (21)				
		(COLLUVIAL)	12.0	S-8	100	7-16-22 (38)				
		Brown SILT (ML), some sand, little clay, very stiff, moist		S-9	100	16-16-23 (39)				
1084		(RESIDUAL)	16.2	S-10	100	20-48-50/0.2'				
		Brown sandy SHALE SAPROLITE, relic bedding, iron stained, dense to very dense, dry	15	R-1	70 (0)					
		(RESIDUAL)	20.5	R-2	100 (0)					
1079		Gray shaley CLAYSTONE, slightly weathered, soft, thinly bedded, slightly broken, iron stained	20	R-3	100 (0)					
		(RESIDUAL)	25.9	R-4	94 (18)					
1074		Gray SANDSTONE, slightly weathered, hard, medium bedded, coarse-grained, iron staining, slightly broken	25	R-5	92 (16)					
		(RESIDUAL)	32.0							
1069		-shaley zone from 32.3' to 34.0'								
1064			35							

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Test Boring Record

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Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: W. Ewing (Test Boring Services, Inc.) Drilling Rig: Acker Rebel Track Mounted Rig Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Proposed QVSD High School Start Date: 9/27/24 Completion Date: 9/27/24 Weather: Overcast, 70s Logged By: C. Ledney	Sheet: 2 of 2 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: 34.1' Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1059		Boring Terminated at 37.0 feet	40	R-6	78 (50)					
1054			45							
1049			50							
1044			55							
1039			60							
1034			65							
1029			70							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/10/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/10/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 70's	▼ Water Level Upon Completion: 10.9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1083.9'										
		Light brown SAND (SP), some sandstone fragments, some iron staining, loose to medium dense, dry		S-1	87	1-3-7 (10)				
		(COLLUVIAL)	3.0	S-2	93	8-11-11 (22)				
		Gray and red clayey SILT to silty CLAY (CL/ML), trace rock fragments, very stiff, dry	4.5	S-3	100	11-15-13 (28)				
1079		(COLLUVIAL)	5	S-4	100	13-18-16 (34)				
		Gray and red clayey SILT to silty CLAY (CL/ML), little rock fragments, extremely stiff, dry	6.0	S-5	100	17-13-11 (24)				
		(RESIDUAL)	7.5	S-6	87	9-15-13 (28)				
		Gray and red clayey SILT to silty CLAY (CL/ML), trace rock fragments, very stiff, dry	9.0	S-7	100	12-13-9 (22)				
		(RESIDUAL)	10	S-8	67	9-16-36 (52)				
1074		Gray and red clayey SILT to silty CLAY (CL/ML), trace rock fragments, iron stained, very stiff, dry	12.5	S-9	100	9-10-24 (34)				
		(RESIDUAL)	14.1	S-10	100	16-50/0.1'				
1069		Light brown SANDSTONE FRAGMENTS (GP), little sand, relic bedding, dense to very dense, dry	15	R-1	96 (0)					
		Gray SANDSTONE, medium hard, slightly weathered, medium-grained, medium bedded, slightly broken, extensive iron staining	15.9	R-2	100 (30)					
		Brown-gray CLAYSTONE, very soft, slightly weathered, medium bedded, some iron staining	18.6							
1064		Gray SANDSTONE, hard, slightly weathered to fresh, relative dip 25 degrees, micaceous, fine to medium-grained, massive, iron staining along joints	20	R-3	100 (70)					
			24.6							
1059		Boring Terminated at 24.6 feet	25							
			30							
1054										
1049			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-51

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/18/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/18/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 70's	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
912.1'										
		Light brown SILT (ML), some sand, little shale fragments, stiff, dry		S-1	87	0-3-8 (11)				
		(COLLUVIAL)	3.0							
907		Light brown SILT (ML), some sand, little clay, iron stained, very stiff, dry	5	S-2	100	16-14-12 (26)				
		(COLLUVIAL)	6.0							
		Light brown to gray clayey SILT to silty CLAY (CL/ML), little shale fragments, iron stained, very to extremely stiff, dry		S-3	100	26-15-17 (32)				
902			10	S-4	100	22-11-11 (22)				
		(COLLUVIAL)	12.0							
		Light brown SHALE SAPROLITE, relic bedding, iron stained, medium dense, dry		S-5	100	13-14-16 (30)				
897		(RESIDUAL)	15.1							
		Gray SANDSTONE, slightly to moderately weathered, hard, medium bedded, slightly broken, iron stained, some minor clay seams	15	S-6	100	50/0.1'				
892			20	R-1	94 (20)					
		-highly broken from 22.0' to 24.8'		R-2	100 (0)					
887			25							
				R-3	100 (0)					
882		Gray CLAYSTONE, slightly weathered, very soft, medium bedded to massive	28.1							
		-red from 29.9' to 35.2'	30							
				R-4	100 (0)					
877			35							

(Continued Next Page)

Test Boring Record

B-52

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 10/9/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 10/9/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 40s	▼ Water Level Upon Completion: 25.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1063.3'										
		TOPSOIL	0.2'	S-1	53	1-1-2 (3)				
		Yellow-brown SAND (SM), some silt, little sandstone fragments, some iron staining, soft to very stiff, dry		S-2	93	12-15-9 (24)				
1058			5	S-3	100	9-6-8 (14)				
				S-4	53	4-5-10 (15)				
1053		(COLLUVIAL)	11.0	S-5	47	28-20-10 (30)				
		Orange-brown SANDSTONE FRAGMENTS (GM), little silt, little sand, medium dense to very dense, dry		S-6	100	50/0.4'				
1048		(RESIDUAL)	15.4	R-1	80 (49)					
		Gray SANDSTONE, slightly to moderately weathered, hard, medium-grained, extensive iron staining, massive, numerous clay filled voids		R-2	76 (54)					
1043			20	R-3	68 (24)					
1038		-highly broken from 23.9' to 26.0'	25	R-4	98 (0)					
1033		Gray silty CLAYSTONE, slightly weathered to fresh, soft, varies between silty and sandy, massive	29.1							
			30							
1028			35							

(Continued Next Page)

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Test Boring Record

B-52

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 10/9/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 10/9/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 40s	▼ Water Level Upon Completion: 25.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1023			40	R-5	96 (0)					
1018		Gray SANDSTONE, fresh, hard, fine-grained, medium to massive -minor clay seams from 43.9' to 45.0'	43.9 45	R-6 R-7	100 (0) 100 (50)					
1013		-vertical fracture from 47.8' to 48.2' Gray and red SILTSTONE, slightly weathered, soft to medium hard, interbedded claystone layers, medium bedded	48.2 50	R-8	100 (12)					
1008		Boring Terminated at 53.9 feet	53.9 55							
1003			60							
998			65							
993			70							

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Test Boring Record

B-53

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/10/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/10/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 80's	▼ Water Level Upon Completion: 12.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1042.9'										
		Light brown SANDSTONE FRAGMENTS (GP), medium dense, dry		S-1	73	3-7-11 (18)				
		(COLLUVIAL)	4.0	S-2	87	8-16-8 (24)				
1038		Light gray clayey SILT to silty CLAY (CL/ML), trace sand, medium to stiff, moist	5	S-3	93	15-22-6 (28)				
		(COLLUVIAL)	6.0	S-4	53	3-5-8 (13)				
		Light gray with some maroon clayey SILT to silty CLAY (CL/ML), trace sand, iron staining, very stiff, moist	7.5	S-5	60	6-8-10 (18)				
		(COLLUVIAL)	10.0	S-6	80	9-17-17 (34)				
1033		Light gray clayey SILT to silty CLAY (CL/ML), few sand, very to extremely stiff, moist	10	S-7	100	17-19-21 (40)				
		(COLLUVIAL)	12.0	S-8	100	27-50/0.3'				
		Gray clayey SILT to silty CLAY (CL/ML), mottled, trace rock fragments, little sand, extensive iron staining, very to extremely stiff, moist	12.0	S-9	100	50/0.3'				
		(RESIDUAL)	13.8							
1028		Gray SHALE SAPROLITE, iron stained, relic bedding, , dry	14.9	R-1	100 (0)					
		Gray SANDSTONE, moderately weathered, medium hard, moderately broken, medium-grained	16.2	R-2	100 (0)					
		-subvertical fracture from 13.8' to 14.0' and 14.3' to 14.5'	18.6	R-3	100 (0)					
1023		Gray silty SHALE, slightly to moderately weathered, moderately broken, soft, thinly bedded	20	R-4	100 (0)					
		Gray SILTSTONE, some red interbeds, slightly weathered to fresh, soft to medium hard, slightly broken, thin to medium bedded, some claystone seams	22.9							
1018		Red CLAYSTONE, fresh, very soft, some siltstone interbeds, slightly broken	25							
		Light gray silty CLAYSTONE, fresh, very soft to soft, slightly broken, massive	28.8							
1013		Boring Terminated at 28.8 feet	30							
1008			35							

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Test Boring Record

B-54

Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: J. Powell (Test Boring Services, Inc.) Drilling Rig: Diedrich D-50 Track Mount Drilling Method: 3 1/4-inch HSA	Project Name: Proposed QVSD High School Start Date: 7/25/23 Completion Date: 7/25/23 Weather: Cloudy, 68 Degrees Logged By: K. Thiry, P.G.	Sheet: 1 of 1 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: 10.4' Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1065'										
		Brown SAND (SM), some silt, trace sandstone fragments, loose, dry		S-1	73	2-2-5 (7)				
		(RESIDUAL) 3.0								
1060		Brown and gray DECOMPOSED micaceous SANDSTONE sampled as sandstone fragments, few sand, firm to very dense, dry	5	S-2	100	10-7-8 (15)				
				S-3	100	7-5-9 (14)				
1055		-some silty and calcareous inclusions from 9.0' to 10.4' (RESIDUAL)	10	S-4	100	30-39-50/0.4'				
		Boring Terminated at 10.4 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.								
1050			15							
1045			20							
1040			25							
1035			30							
1030			35							

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Test Boring Record

B-55

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/24/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/25/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Sunny, 85 Degrees	▼ Water Level Upon Completion: 25.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1075.5'										
		FILL sampled as brown silt, little to some sand, few gravel (sandstone, shale), stiff to very stiff, dry		S-1	60	1-3-5 (8)		18.1		
							63.99			
1071			5	S-2	100	10-10-11 (21)		11.8		
		(FILL)	6.0							
		FILL sampled as dark brown sand, little rock fragments (brown and gray sandstone), very dense, dry	6.7	S-3	100	31-50/0.2'		3.1		
		(FILL)								
1066		Light gray to brown DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, very dense, dry	9.8	S-4	100	47-50/0.3'		8.0		
		(RESIDUAL)								
		Brown to brown-gray medium-grained SANDSTONE, micaceous, moderately weathered, thickly laminated to thinly bedded, very broken to massive, soft to medium hard	10							
		-MOHs 4.5 at 11.0'		R-1	64 (0)					
		-many vertical fractures from 9.8' to 17.2'								
1061		-lost drill water at 12.5'	15							
				R-2	74 (22)					
1056		-MOHs 5.5 at 19.0'	20							
		-vuggy from 19.0' to 20.2'								
		-some vertical fractures with heavy water staining from 22.0' to 24.4'		R-3	80 (34)					
1051			25	R-4	100 (58)					
		Boring Terminated at 26.0 feet Boring collapsed at 22.7' after 24 Hours								
1046			30							
1041			35							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/25/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/25/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Partly cloudy, 70 to 74 Degrees	▼ Water Level Upon Completion: 28.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 21.4'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1076.8'										
		GRAVEL (subbase)	0.4'							
		Dark brown sandy SILT (SM), trace organics, very loose, moist	0.7'	S-1	47	2-4-6 (10)		9.3		
		(TOPSOIL)	1.2'							
		Brown SANDSTONE FRAGMENTS (GP), few sand, very loose, dry		S-2	100	10-10-22 (32)		7.7		
1072		(RESIDUAL)								
		Brown DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, firm to very dense, dry	5							
		(RESIDUAL)	6.4							
		Brown fine to medium-grained SANDSTONE, highly to moderately weathered, thickly laminated to very thinly bedded, very broken to moderately broken, very soft to hard		S-3	100	50/0.4'		5.3		
		-many very soft zones from 6.4' to 19.0'		R-1	50 (0)					
1067		-very broken and vertically fractured from 8.0' to 19.0'	10	R-2	36 (0)					
		-lost water return from 10.0' to 13.5'								
		-MOHs 5.5 at 11.0'								
1062			15	R-3	22 (0)					
		-lost water at 17.0'								
1057		-hard from 19.0' to 29.0'	20	R-4	88 (0)					
		-MOHs 6.5 at 21.3'								
1052		-MOHs 7.5 at 23.5'	25	R-5	94 (0)					
		-some vertical fractures from 23.7' to 28.0'								
				R-6	95 (0)					
1047		Boring Terminated at 29.0 feet	30							
1042			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-57

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/27/23	▽ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/27/23	▽ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Cloudy, 76 to 78 Degrees	▽ Water Level Upon Completion: 21.9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▽ Water Level After 24 Hours: 21.9'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1058'		TOPSOIL	0.3'							
		Orange-brown silty CLAY (CL/ML), some sand and gravel, soft to medium, moist		S-1	47	1-1-3 (4)		8.8		
1053		(COLLUVIAL)	5	S-2	100	4-4-3 (7)		5.3		
		Coarse iron stained GRAVEL (GP-GM), some sand, few to little silt, firm to medium dense, moist	6.0	S-3	100	6-8-6 (14)		5.9		
1048		(COLLUVIAL)	10	S-4	100	22-10-10 (20)	10.84	4.9		
		Light gray fine-grained sandstone GRAVEL (GP), few fines, medium dense, moist, relic bedding and fractures	12.0	S-5	100	8-7-12 (19)		5.2		
1043		(COLLUVIAL)	15	S-6	100	7-11-11 (22)		9.5		
		Tan to light gray silty CLAY (CL/ML), orange mottles on remnant bedding planes, thin sandstone layers, very stiff, moist	18.0							
		(POSSIBLE COLLUVIAL)	18.9	S-7	100	28-50/0.4'		6.8		
1038		Light gray-brown completely weathered SHALE, iron stained on remnant bedding planes, hard, moist (RESIDUAL)	20	R-1	45 (0)					
		-lost water return at 18.9'	20.8							
		Gray-brown SILTSTONE, very broken, medium hard								
		-MOHs 5.5 at 20'								
		Gray SHALE, fractured, iron stained, very soft		R-2	100 (0)					
		-MOHs <2 at 23'								
1033		-iron stained and very broken from 24.1' to 25.0'	25.0							
		Light gray-green CLAYSTONE, iron stained, slightly weathered, slickensides, very soft	26.0							
		Light gray-green to dark gray SHALE, slightly weathered, soft	26.8							
		-MOHs <2 at 26.5'	27.1							
		Dark gray CLAYSTONE, slightly weathered, slickensides, very soft, ~0.1' of coal at top		R-3	100 (0)					
1028		Light gray-green CLAYSTONE, slightly weathered, few red mottles, slickensides, very soft	30							
		-iron stained fractures from 19.5' to 20.5'								
		-MOHs <2 at 30'		R-4	79 (0)					
1023		Boring Terminated at 33.9 feet	35							
		Boring shifted within 5' of stake, 1.5' lower in elevation. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project								

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/28/23	▼ Water Level During Drilling:
Drilled By: J. Powell/C. Crum (Test Boring Services, Inc.)	Completion Date: 7/28/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Partly sunny, 82 Degrees	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours: 1.8'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1027'										
		Yellow-brown silty CLAY (CL/ML), some gravel, moist (COLLUVIAL)	0.3'	S-1	100	1-2-4 (6)		20.0		
		Tan and reddish brown silty CLAY (CL/ML), medium, moist (COLLUVIAL)	3.0							
1022		Light gray and pale yellow CLAY (CL), few red mottles, trace sand, stiff to hard, moist	5	S-2	100	4-5-5 (10)		27.6		
							98.39		47	24
				S-3	100	5-6-11 (17)		21.5		
		(COLLUVIAL)	9.0							
1017		Light gray and pale yellow CLAY (CL), few red mottles, little sand, trace gravel, hard, moist	10	S-4	100	7-21-24 (45)		10.6		
		-Sample S-5 fine gray and green mottles		S-5	87	15-14-21 (35)	77.33	16.1	37	21
1012		(RESIDUAL)	15.0							
		Reddish brown silty CLAY (CL/ML), fine gray-green mottles, hard, moist (RESIDUAL)	16.4	S-6	100	23-41-50/0.4"		11.3		
1007		Reddish gray CLAYSTONE, fresh, slickensided, few gray/green mottles, very soft		R-1	84 (0)					
		-MOHs <2 at 19.5'	20							
		Reddish brown SHALE, slickensides, very soft	22.1							
1002		-light gray claystone, slickesided, very soft from 25.1' to 26.4'	25	R-2	100 (0)					
		-MOHs <2 at 26'								
		Red-brown CLAYSTONE, slickensided, very soft	27.1							
997		-light gray claystone, slickesided, very soft from 29.9' to 30.3'	30	R-3	100 (0)					
		-light gray claystone, slickesided, very soft from 30.7' to 31.1'								
		-MOHs <2 at 29.8'								
992		Boring Terminated at 31.4 feet Boring shifted 7' upslope, ~1' higher in elevation. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	35							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/24/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/24/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Sunny, 83 Degrees	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1069.7'										
		Gray and brown SANDSTONE FRAGMENTS (GP), few sand, few silt, loose, dry		S-1	67	1-3-5 (8)				
		(COLLUVIAL)	3.0							
1065		Brown DECOMPOSED micaceous SANDSTONE sampled as sandstone fragments, few sand, medium to very dense, dry	5	S-2	100	11-13-16 (29)				
				S-3	100	12-15-29 (44)				
1060			10	S-4	100	42-41-33 (74)				
		(RESIDUAL)		S-5	100	50/0.3'				
1055		Boring Terminated at 12.3 feet Boring collapsed at 10.3' after 24 Hours	15							
1050			20							
1045			25							
1040			30							
1035			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-60

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/25/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/25/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Mostly sunny, 78 Degrees	▼ Water Level Upon Completion: 34.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 15.2'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1081.9'										
		TOPSOIL	0.4'	S-1	53	2-4-7 (11)		11.7		
		FILL sampled as brown and gray rock fragments (sandstone, shale), few sand, few silt, loose to medium dense, moist (FILL)	3.0							
1077		Brown micaceous SAND (SM), some gravel (sandstone fragments), little silt, medium dense, dry	5	S-2	100	19-10-16 (26)		5.6		
				S-3	100	16-13-11 (24)	16.94	7.5		
1072			10	S-4	67	17-10-11 (21)		7.8		
		(RESIDUAL)	12.0							
1067		Brown-orange medium to coarse-grained DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, very dense, dry	15	S-5	100	50/0.2'		7.4		
		(RESIDUAL)	15.3	S-6	100	50/0.3'		6.4		
1062		Brown and light gray fine to medium-grained micaceous SANDSTONE, moderately weathered, thickly laminated to thinly bedded, very broken to massive, very soft to medium hard -MOHs 5.5 at 17.0' -few soft and vertically fractured zones from 18.0' to 20.7'	20	R-1	96 (14)					
1057		-some slightly weathered and massive zones from 22.0' to 25.0'	25	R-2	94 (50)					
		-MOHs 7.5 at 24.8'		R-3	76 (8)					
1052		-very soft, completely weathered from 25.3' to 27.3'	30							
			31.5	R-4	100 (0)					
1047		Brown and gray INTERBEDDED fine-grained micaceous SANDSTONE and SHALE, completely weathered to slightly weathered, thickly laminated, very broken and fractured to moderately broken, very soft to medium hard -MOHs <2 at 32.0'	35							

(Continued Next Page)

Test Boring Record

B-60

Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: J. Powell (Test Boring Services, Inc.) Drilling Rig: Diedrich D-50 Track Mount Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Proposed QVSD High School Start Date: 7/25/23 Completion Date: 7/25/23 Weather: Mostly sunny, 78 Degrees Logged By: K. Thiry, P.G.	Sheet: 2 of 2 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: 34.2' Water Level After 24 Hours: 15.2'
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
		-completely weathered, very soft from 32.4' to 34.3' -MOHs 5.5 at 35.0' Boring Terminated at 35.3 feet								
1042			40							
1037			45							
1032			50							
1027			55							
1022			60							
1017			65							
1012			70							

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Test Boring Record

B-61

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/25/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/26/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Mostly sunny, 79 Degrees	▼ Water Level Upon Completion: 37.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G./J. Hawk, P.G.	▼ Water Level After 24 Hours: 34.9'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1087'		TOPSOIL	0.5							
		Brown SANDSTONE FRAGMENTS (GP), few sand, firm, dry (RESIDUAL)	2.0	S-1	53	1-5-9 (14)		8.6		
1082		Brown and light gray SAND (SM) sampled as sand, few to little gravel (decomposed sandstone), little silt, medium dense to very dense, dry	5	S-2	100	32-44-18 (62)		8.8		
				S-3	100	13-13-10 (23)	19.25	10.1		
1077			10	S-4	100	7-9-36 (45)		8.0		
		(RESIDUAL)	12.0							
1072		Brown-orange medium to coarse-grained DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, medium dense to dense, moist -some carbonaceous inclusions from 12.0' to 13.5'	15	S-5	80	19-22-16 (38)		0.7		
		(RESIDUAL)	15.5	S-6	100	18-22-21 (43)		12.1		
		Brown-gray DECOMPOSED clayey SHALE sampled as shale fragments, few silt, few clay, dense, dry (RESIDUAL)	18.0							
1067		Brown-gray DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, very dense, dry (RESIDUAL)	18.2	S-7	100	50/0.2'				
		Orange-brown medium- to fine-grained SANDSTONE, moderately weathered, iron stained, broken to massive, hard -lost water return at start of coring -iron stained open fractures from 18.4' to 18.9' -MOHs 8.5 at 19'	21.1	R-1	95 (60)					
1062		Light gray fine-grained SANDSTONE, fresh, micaceous, massive, hard -MOHs 8.5 at 20.3' -iron stained on bedding at 20.5'	25	R-2	94 (70)					
1057		Light brown and gray fine- to medium-grained SANDSTONE, moderately weathered, micaceous, massive, hard -iron concretion at 23.1' -iron stained on bedding at 24.0' -high angle, iron stained open fracture from 26.3' to 27.0' -MOHs 8.5 at 29'	30	R-3	98 (88)					
		-low angle, iron stained open fracture at 30.2'	30.7							
1052		Brown coarse-grained SANDSTONE with coal laminations, moderately to highly weathered, iron stained, parallel vertical fracture, very soft -gray shale, very soft from 31.1' to 31.4' -very soft before parallel, vertical, op, iron-stained fractures from 31.6' to 34.4' (core loss)	35	R-4	72 (16)					

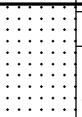
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Test Boring Record

B-61

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/25/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/26/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Mostly sunny, 79 Degrees	▼ Water Level Upon Completion: 37.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G./J. Hawk, P.G.	▼ Water Level After 24 Hours: 34.9'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1047		-MOHs 7.5 at 35' Light gray SANDSTONE, iron stained on bedding, very broken, hard -MOHs 8.5 at 35.4' -soft shale band at 35.6' -core loss, very broken from 35.8' to 40.1' -approx. 45° iron stained open fracture from 35.8' to 40.1' Brown-gray fine- to medium-grained SANDSTONE, micaceous, moderately weathered, very broken, hard -fractured, iron stained, very broken from 37.1' to 37.3' -yellow completely weathered shale, very soft, little coal, vertical, open, iron-stained fracture from 37.6' to 38' -MOHS 7.5 at 37.4' -vertical iron stained open fracture from 37.6' to 38.0' Boring Terminated at 38.0 feet	35.2 36.1 40 45 50 55 60 65 70	R-5	96 (0)					
1042										
1037										
1032										
1027										
1022										
1017										

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Test Boring Record

B-62

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/27/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/27/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Partly sunny, 80 to 82 Degrees	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1078'										
		Light yellow-brown silty CLAY (CL/ML), moist (RESIDUAL)	0.5	S-1	67	5-8-10 (18)		6.2		
		Light yellow-brown clayey GRAVEL (GC), some sand, medium dense, moist (RESIDUAL)	3.0							
1073		Light yellow-brown GRAVEL (GP-GM), some sand, few to little silt, firm to medium dense, moist (RESIDUAL)	5	S-2	80	5-7-6 (13)		4.4		
				s-3	100	8-9-6 (15)	10.64	5.6		
1068		Light yellow-gray highly weathered SANDSTONE, medium-grained, moist (RESIDUAL)	9.0 9.4	S-4 R-1	100 100 (0)	50/0.4'				
1063		Gray and brown medium-grained SANDSTONE, weathered, micaceous, iron stained, very broken to broken, medium hard -open high angle iron stained fracture from 11.4' to 11.9' -MOHs 5.5 at 11' -open high angle fracture from 12.9' to 13.2' -open, high angle fracture from 14.2' to 15.0' (core loss)	15	R-2	94 (0)					
1058		Light gray and green medium-grained SANDSTONE, micaceous, broken to blocky, medium hard to hard -MOHs 6.5 at 17'	20	R-3	84 (0)					
1053		-iron stained from 19.6' to 20.5' -open, 45-degree angle, iron stained fracture at 19.8' -open high angle iron stained fracture at 19.8' to 20.7' -open, iron-stained fracture from 22.4' to 24.6 (core loss) -MOHs 6.5 at 22'	25	R-4	70 (8)					
1048		Light gray and orange-brown SANDSTONE with coal laminations, highly to completely weathered, micaceous, iron stained, very broken, soft to very soft -coal band at 25.2' and 25.5' Brownish gray and yellow-brown INTERBEDDED SANDSTONE and SHALE, moderately to completely weathered, some iron staining, some coal and carbonaceous laminations, very broken to moderately broken, very soft to hard -coal from 27.8' to 27.9' -claystone from 27.9' to 28.0' -MOHs 7.5 at 29' -heavy iron staining from 30.0' to 30.4'	26.6 30	R-5 R-6	82 (0) 85 (5)					
1043		Boring Terminated at 32.0 feet Boring shifted 7.6' north. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project. Boring collapsed at 8' after 24 Hours	35							

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Test Boring Record

B-63

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/3/23	Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 8/4/23	Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 82°, Sunny	Water Level Upon Completion: 15.1'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	Water Level After 24 Hours: 8.6'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1044'										
		TOPSOIL	0.2'							
		Pale yellowish brown silty CLAY (CL/ML), trace weathred sandstone fragments, homogeneous color and texture, soft, moist (COLLUVIAL)	3.0	S-1	67	1-1-3 (4)				
		Yellowish brown sandstone GRAVEL with SAND, few fines, medium dense, moist (COLLUVIAL)	6.0	S-2	100	12-7-9 (16)				
1039		Yellowish brown to grayish brown sandstone GRAVEL with fines, medium dense, moist (COLLUVIAL)	9.0	S-3	100	8-9-14 (23)				
		Grayish brown CLAY (CL), iron stained throughout, hard, moist (RESIDUAL)	12.0	S-4	100	11-18-20 (38)				
		Light grayish brown SHALE, completely weathered, hard, moist (RESIDUAL)	12.9	S-5	100	27-50/0.4'				
		-heavy iron staining from 12.2' to 12.4'								
1029		Yellowish brown SHALE, completely to highly weathered, broken to very broken, very soft	15	R-1	85 (0)					
		-MOHs 2.5 at 14'								
		-fractured and iron stained, very broken, some core loss from 14.7' to 18.1'								
		Light yellow brown SHALE, completely weathered, very broken, very soft	18.5	R-2	52 (0)					
1024		Red/green SHALE, completely weathered, very broken (ground up), very soft -MOHs <2 at 19.5'	19.3							
		Red and green SHALE, moderately weathered, very broken, iron stained fractures, soft -MOHs 2.5 at 23'	19.9	R-3	56 (0)					
		Light grayish green SHALE, completely weathered, some iron staining on relict bedding, very soft -MOHs <2 at 28'	24.9	R-4	56 (0)					
1019		Reddish brown CLAYSTONE with limestone nodules, highly to completely weathered, iron stained on relict bedding, slickensides, soft -MOHs <2 at 29'	28.5							
		Boring Terminated at 29.9 feet Boring shifted ~5' downslope, ~1.5' lower in elevation. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	30							
1014										
1009			35							

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Test Boring Record

B-64

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/3/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 8/3/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 75-85°, Partly Sunny	▼ Water Level Upon Completion: 6.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 11.7'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
995'										
		Brown-red CLAY (CL), trace brown-yellow sandstone fragments, stiff, moist		S-1	80	2-4-5 (9)		22.6		
		(COLLUVIAL)	3.7							
990		Yellow-brown decomposed CLAYSTONE (GP); sampled as claystone fragments, few clay, medium dense, dry	5	S-2	100	4-11-8 (19)		10.4		
		(RESIDUAL)	6.0							
		Red-brown and yellow-brown decomposed SHALE; sampled as shale fragments, dense to very dense, dry		S-3	100	5-15-24 (39)		8.3		
985			10	S-4	100	20-26-27 (53)		9.5		
				S-5	100	15-27-27 (54)		8.2		
980			15	S-6	100	17-19-19 (38)		9.6		
		(RESIDUAL)	19.3	S-7	100	22-47-50/0.3'		7.7		
975		Brown SHALE, highly weathered, thinly to thickly laminated, very broken, very soft to soft -vertical fractures from 19.3' to 21.0'	20							
		-MOHS 2.5 at 23.5'	24.5	R-1	80 (0)					
970		Tan to gray-green and pink mottled CLAYSTONE, slightly weathered, very broken to broken, soft	25	R-2	100 (0)					
		-MOHS <2 at 27.0'								
965		-driller reported soft zone from 29.3' to 31.0' and from 32.0' to 34.3'	30	R-3	14 (0)					
960			35							

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Test Boring Record

B-64

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/3/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 8/3/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 75-85°, Partly Sunny	▼ Water Level Upon Completion: 6.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 11.7'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
955		-inner barrel didn't latch for R-4	40	R-4	20 (0)					
950		Gray to brown-red mottled SILTSTONE, highly to slightly weathered, thinly laminated to thickly bedded, very broken to massive, very soft to hard -MOHS 7.5 at 42.0'	41.0	R-5	100 (18)					
945		-slickensides at 45.4'	45	R-6	100 (44)					
940		-few fine-grained sandstone interbeds and laminations from 50.0' to 59.3'	50	R-7	100 (68)					
935		-MOHS 7.5 at 54.0'	55	R-8	100 (86)					
930		Boring Terminated at 59.3 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	60							
925			65							
			70							

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Test Boring Record

B-65

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 3
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/2/23	Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 8/2/23	Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: 75°, Sunny	Water Level Upon Completion: 39.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	Water Level After 24 Hours: 33.3'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
995'		TOPSOIL	0.1							
		Yellowish brown silty CLAY (CL/ML), homogeneous color and texture, soft, moist		S-1	100	0-1-3 (4)		12.3		
		(COLLUVIAL)	3.0							
		Reddish brown silty CLAY (CL/ML), homogeneous color and texture, very stiff, moist	4.1	S-2	100	9-12-15 (27)		10.3		
990		(COLLUVIAL)	6.0							
		Yellowish brown silty CLAY (CL/ML), faint red mottles, very stiff, moist		S-3	100	10-11-8 (19)		12.2		
		(COLLUVIAL)	9.0							
985		Yellowish-brown SHALE, completely weathered, hard, moist	10	S-4	100	19-22-30 (52)		9.2		
		-coarse gravel-sized siltstone fragments from 12.0' to 13.5'		S-5	100	24-31-38 (69)		9.5		
980		-high angle vertical iron stained fissures from 15.0' to 16.4'	15	S-6	100	23-32-50/0.4'		7.9		
		(RESIDUAL)	16.4							
		Greenish gray SHALE, moderately weathered, broken to very broken, hard, iron stained on bedding		R-1	64 (0)					
975		-high angle parallel fractures, very broken and iron stained (some core loss) from 17.7' to 22.6'	20							
		-MOHs 7.5 at 18'								
		-iron stained fractures, very broken from 22.3' to 23.9'		R-2	100 (0)					
970		-iron stained fractures, very broken from 25.8' to 27.4'	25							
			27.5							
		Light brownish yellow CLAYSTONE, completely weathered, very soft, iron stain on irregular surfaces		R-3	68 (0)					
965		-MOHs <2 at 30'	30							
			31.5							
		Reddish brown CLAYSTONE, completely to highly weathered, very soft, slickensides, fine green mottles		R-4	64 (0)					
960		-MOHs <2 at 34'	35							

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Test Boring Record

B-65

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 3
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 8/2/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 8/2/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: 75°, Sunny	▼ Water Level Upon Completion: 39.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours: 33.3'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
955		Light grayish green CLAYSTONE, highly weathered, very soft, slickensides -MOHs <2 at 39'	37.9	R-5	100 (0)					
		Yellowish gray SILTSTONE, highly weathered, broken, soft to medium hard -high angle open iron stained fractures, broken from 39.8' to 40.2' -MOHs 5.5 at 40'	39.6 40.2							
950		Light grayish green SILTSTONE, moderately weathered, broken to slightly broken, medium hard, iron concretions and banding -MOHs 7.5 at 41.5'	43.1 43.6	R-6	94 (22)					
		Light gray SILTSTONE, slightly weathered, broken, hard Reddish brown SHALE, iron stained on bedding, broken to very broken, medium hard -MOHs 6.5 at 44.3'	44.9							
945		Light grayish green SILTSTONE, massive, hard -about 1" red shale layers from 45.5' to 45.8' -MOHs 6.5 at 46.5' -0.2' red and brown shale layer with 45° angle fracture from 48.1' to 48.3' -irregular reddish brown slickensided shale from 48.3' to 48.7'	48.7 49.2	R-7	98 (0)					
		Light gray and green silty CLAYSTONE with limestone nodules, slickensides, little brown reddish mottling, slightly broken, medium hard -high angle to near vertical open iron stained fractures from 48.8' to 50.7' -MOHs 4.5 at 49'	50.9 51.6 52.1 52.9	R-8	100 (70)					
940		Light grayish green SILTSTONE, broken, hard -MOHs 7.5 at 49.5' -limestone nodule at 50.4'								
		Reddish brown and light grayish green SHALE with limestone nodules, broken to very broken, hard Red and green shaley LIMESTONE, broken, very hard -MOHs >9 at 51.7'		R-9	100 (82)					
935		Reddish brown and grayish green CLAYSTONE, slickensides, broken, very soft -MOHs 2.5 at 52.7'								
		Light grayish green SILTSTONE, fresh, massive, very hard -high angle open iron stained fractures from 56.8' to 57.1 -MOHs >9 at 55'		R-10	100 (100)					
930										
		-MOHs 8.5 at 67' -low angle open iron stained fracture at 67.8		R-11	98 (98)					
925										

(Continued Next Page)

Test Boring Record

B-66

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/25/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/25/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Cloudy, 70 Degrees	▼ Water Level Upon Completion: 6.6'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
952.2'										
		Light yellow brown clayey SILT (ML), homogeneous in structure, medium, moist		S-1	100	2-2-3 (5)		12.5		
		(COLLUVIAL)	3.0							
947		Yellow brown silty SAND (SM), with gravel (weathered coarse sandstone), medium dense, moist	5	S-2	100	6-8-11 (19)		11.4		
		(COLLUVIAL)	6.0							
		▼ Red and yellowish gray silty CLAY (CL/ML), occasional weathered sandstone gravel, very stiff, moist		S-3	100	8-10-11 (21)		11.8		
		(COLLUVIAL)	9.0							
942		Yellowish brown and red sandy CLAY (CL), few coarse sandstone gravel, stiff, moist wet, dark iron stain at 10.1'	10	S-4	100	6-7-7 (14)		13.3		
		(COLLUVIAL)	12.0							
937		Yellowish brown GRAVEL with CLAY (GC), iron stain on gravel, medium dense, moist	15	S-5	67	7-9-7 (16)		5.5		
		(COLLUVIAL)	15.0							
		Yellowish gray to light and dark reddish brown and orange completely weathered silty SHALE, iron stained on relict bedding, dense to very dense, moist		S-6	100	14-32-4 (36)		5.7		
		(RESIDUAL)	18.8							
932		Brownish gray silty SHALE, moderately weathered, iron stained on bedding, closely spaced iron stained open fractures, broken to very broken, medium hard -MOHs 4.5 at 21'	20	R-1	100 (0)			6.0		
			23.8							
927		Gray silty SHALE, closely to medium spaced fractures, iron stained on bedding, very broken, medium hard -MOHs 6.5 at 27'	25	R-2	100 (0)					
			30							
922		-iron stained and broken from 23.8' to 28.8' -MOHs 7.5 at 33'		R-3	100 (0)					
		-broken from 32.8' to 38.8'								
917		Boring Terminated at 33.8 feet Boring collapsed at 9' after 24 Hours	35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-67

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/25/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/25/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Cloudy, 70 Degrees	▼ Water Level Upon Completion: 6.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours: 6'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
978'		TOPSOIL	0.2'	S-1	100	1-2-4 (6)		14.2		
		(COLLUVIAL)	3.0	S-2	100	5-10-12 (22)		10.0		
973		Completely weathered shale with sandstone layers (GP), yellowish gray, moist, iron stain on remnant bedding	5	S-3	100	5-6-7 (13)		13.3		
		(COLLUVIAL)	6.0							
		Silty clay (CL/ML), light gray, coarse orange mottles, heavy iron stained from 6.0' to 6.1', little reddish brown	9.0	S-4	100	8-7-12 (19)		17.3		
968		Yellow-brown, gray-green, and grayish-brown SAND (SM), some silt, trace gravel, medium dense to dense, moist	10	S-5	100	6-11-13 (24)	36.21	10.8	17	15
		(COLLUVIAL)	15	S-6	100	6-14-22 (36)		7.1		
963		-interlayered yellow brown silt, highly weathered sandstone gravel, small vertical rock clasts, yellowish brown and reddish brown clay mixed, wet around sandstone gravel from 18.0' to 19.0'	19.0	S-7	100	6-6-7 (13)		18.6		
		(COLLUVIAL)	21.0	S-8	100	12-10-13 (23)		6.4		
958		Reddish brown and grayish brown mottled silty clay, moist	24.0	S-9	100	12-19-23 (42)		7.2		
		(POSSIBLE COLLUVIAL/RESIDUAL)	27.0							
		Highly weathered silty SHALE, grayish brown, iron stained, moist, very stiff	27.7	S-10	100	30-50/0.2'		6.4		
		(RESIDUAL)	28.9							
953		Highly weathered silty CLAYSTONE, reddish-brown and gray-green, hard, moist	29.8							
		(RESIDUAL)	30	R-1	94 (0)					
948		Grayish-green silty SHALE, highly weathered, iron stained, dry								
		Grayish-green silty SHALE, hard, slightly weathered, grades into reddish brown shale at 28.4' , very soft and broken from 28.4' to 28.6'								
		-MOHs 4.5 at 28.8'								
		Red and grayish-green mottled SHALE, slightly broken to massive, very soft								
		Light gray SILTSTONE, hard, slightly weathered, very broken to moderately broken								
		-high angle, iron-stained fracture from 30.2' to 32.4'								
943		-open, iron-stained fractures from 32.4' to 33.7'	35							

(Continued Next Page)

Test Boring Record

B-67

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/25/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/25/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Cloudy, 70 Degrees	▼ Water Level Upon Completion: 6.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours: 6'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
	xxxxxx	-MOHs 7.5 at 34'		R-2	98 (8)					
	xxxxxx		38.0							
938	xxxxxx	Light gray SILTSTONE, hard, fresh, moderately broken to massive								
	xxxxxx	-MOHs >9 at 40'	40	R-3	100 (36)					
	xxxxxx	-very broken with slickensided fractures from 40.9' to 41.6'								
	xxxxxx	-very broken with slickensided fractures from 42.3' to 42.7'								
	xxxxxx	-slickensided fracture from 41.7' to 41.9'								
	xxxxxx	Boring Terminated at 42.7 feet								
933			45							
928			50							
923			55							
918			60							
913			65							
908			70							

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Test Boring Record

B-68

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/24/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/25/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 76 Degrees	▼ Water Level Upon Completion: 6.7'
Drilling Method: 3 1/4-inch HSA	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours: 16'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1019.9'		Completely weathered gray-brown SANDSTONE with shale layers, medium dense		S-1		1-5-8 (13)		6.4		
		(COLLUVIAL)	3.0							
		Yellowish-brown silty CLAY (CL/ML) with red mottles, slickensides, very stiff, moist	3.4	S-2	100	11-10-10 (20)		12.2		
1015		(RESIDUAL)	5							
		Light reddish-brown silty CLAY (CL/ML), moist, grades into yellow-brown at 5.8', slickensides, very stiff	6.0	S-3	80	13-12-10 (22)		17.5		
		(RESIDUAL)	9.0							
1010		Reddish-brown silty CLAY (CL), abundant grayish-brown mottles, moist, hard	10	S-4	100	9-10-20 (30)		9.9		
		(RESIDUAL)	12.0							
		Reddish-gray CLAY (CL), little to some sand, trace gravel, hard, moist		S-5	100	13-38-49 (87)		8.9		
1005		-Sample S-6 abundant gray-brown mottles, layered	15	S-6	100	10-22-24 (46)	73.76	12.1	37	20
		(RESIDUAL)	18.0							
1000		Reddish-brown silty CLAY (CL/ML), some grayish-green mottles, hard, moist	20	S-7	100	22-48-50/0.4'		11.1		
		-relict iron stained fractures from 21.0' to 22.5'		S-8	100	14-19-45 (64)		9.1		
		(RESIDUAL)	22.5							
		Completely weathered silty SHALE, reddish-brown, relict bedding, hard (soil), very soft (rock)		S-9	100	21-50/0.4'		9.5		
995		(RESIDUAL)	24.9							
		CLAYSTONE, reddish-brown, very soft, slickensides -MOHs <2 at 25'								
			27.2							
		CLAYSTONE, light gray-green, slickensides, very soft, calcareous -MOHs <2 at 28'	28.2	R-1	100 (0)					
990		CLAYSTONE, reddish-brown, slickensides, very soft -light gray-green mottles and calcareous from 28.2' to 29.9' -limestone nodules at 29.9' -MOHs <2 at 30'	30.3							
			30.8							
		CLAYSTONE, light gray-green, very soft, slickensides								
		CLAYSTONE, reddish-brown, very soft, slickensides -MOHs <2 at 32'		R-2	100 (0)					
		-light gray-green mottles from 34.5' to 35.4'								
985		-fractured and broken from 34.5' to 34.9'								
		-fractured and broken from 35.1' to 35.4'	35							

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Test Boring Record

B-68

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/24/23	▽ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/25/23	▽ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 76 Degrees	▽ Water Level Upon Completion: 6.7'
Drilling Method: 3 1/4-inch HSA	Logged By: J. Hawk, P.G.	▽ Water Level After 24 Hours: 16'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
980		CLAYSTONE, yellowish-gray, very soft, slickensides 35.4 37.4 SHALE, greenish-gray, very soft, very broken and iron stained, slickensides on horizontal bedding planes, iron stained on bedding -MOHs <2 at 38' -very broken and iron stained from 39.9' to 40.2' 40.3	40	R-3	100 (0)					
975		SHALE, medium gray, soft, broken to very broken -MOHs 2.5 at 41' 41.3 SHALE, yellowish-gray, soft to very soft 42.0 SHALE, dark gray to light gray, very soft, fractured, and iron stained -intersecting low angle, iron stained fractures from 43.0' to 43.4' 43.4' Boring Terminated at 44.9 feet	45	R-4	100 (0)					
970			50							
965			55							
960			60							
955			65							
950			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-69

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/26/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/26/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 72 Degrees	▼ Water Level Upon Completion: 37.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1086'										
		Orangish-brown silty SAND (SM), few weathered sandstone gravel, loose, moist		S-1	67	1-2-2 (4)				
		(COLLUVIAL)	3.0							
1081		Orangish-brown clayey GRAVEL (GC), coarse weathered sandstone gravel, firm to medium dense, moist	5	S-2	100	4-6-7 (13)				
		-iron stain on gravel at 6.0'								
		(COLLUVIAL)	9.0	S-3	87	7-10-9 (19)				
1076		Orangish-brown silty GRAVEL (GM), some sand, iron stained, firm to very dense, moist	10	S-4	100	15-8-5 (13)				
		(COLLUVIAL)	12.0							
1071		Orangish-brown silty GRAVEL (GM), some sand, iron stained, firm to very dense, moist -iron stain on gravel at 13.0'	15.0	S-5	100	28-33-50 (83)				
		(RESIDUAL)	15.0							
		Yellowish-brown slightly weathered medium-grained SANDSTONE, iron stain on bedding	15.1	S-6	100	50/0.1'				
		Light gray and brown medium- to coarse-grained SANDSTONE, iron stain on breaks, broken to very broken, very hard -lost water at top of rock -MOHS 8.5 at 16' -coal laminations from 17.1' to 17.4' -very broken, short open iron stained fractures from 18.0' to 18.1'	19.8	R-1	100 (0)					
1066		Brownish-gray fine- to medium-grained SANDSTONE, micaceous, slightly weathered, very broken to moderately broken, very hard -large coal fragments at 20.5' -shale laminations from 20.6' to 22.5' -iron stained fractures and very broken from 21.5' to 22.5' -iron nodules from 23.1' to 23.5' -vugs at 23.2'	23.5	R-2	94 (0)					
1061		Light gray SANDSTONE, micaceous, some iron staining, broken to massive, very hard -MOHS >9 at 24'	27.6	R-3	88 (42)					
1056		Brownish-gray fine- to medium-grained SANDSTONE, slightly weathered, massive to very broken, soft to hard -micaceous, coal laminations from 28.9' to 30.1'	30	R-4	98 (58)					
1051		-MOHS 7.5 at 35'	35	R-5	96 (40)					

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Test Boring Record

B-70

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/24/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/24/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Sunny, 76 Degrees	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 24.8'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1062'										
		Orange-brown SANDSTONE FRAGMENTS (GP), few sand, firm, moist -trace roots from 0.0' to 1.0'		S-1	67	1-5-6 (11)				
		(COLLUVIAL)	3.0							
1057		Brown SANDSTONE FRAGMENTS (GP), few sand, firm to medium dense, moist to dry -moist from 3.0' to 4.5'	5	S-2	100	8-8-10 (18)				
		(COLLUVIAL)	8.0	S-3	100	8-7-6 (13)				
1052		Brown SANDSTONE FRAGMENTS (GP), few sand, firm to medium dense, moist to dry	10	S-4	100	25-10-11 (21)				
		(COLLUVIAL)	12.0							
1047		Brown-gray DECOMPOSED SANDSTONE sampled as sandstone fragments (GP), few sand, medium dense, dry -dark brown from 15.0' to 15.4'	15	S-5	67	29-17-6 (23)				
		(RESIDUAL)	18.5	S-6	80	14-9-12 (21)				
1042		Brown-orange and gray mottled DECOMPOSED SHALE sampled as shale fragments, few silt, few clay, dense, dry	20	S-7	80	17-21-23 (44)				
		(RESIDUAL)	21.0							
1037		Brown DECOMPOSED fine-grained SANDSTONE sampled as sandstone fragments, medium to very dense, dry	25	S-8	67	15-11-12 (23)				
		(RESIDUAL)	27.0	S-9	100	14-16-36 (52)				
1032		Light gray DECOMPOSED shaley CLAYSTONE sampled as claystone fragments, little clay, dense, dry	30	S-10	100	14-18-31 (49)				
		(RESIDUAL)	30.0							
		Light gray and brown-red mottled DECOMPOSED CLAYSTONE sampled as claystone fragments, very dense, dry		S-11	100	39-49-50/0.3'				
		(RESIDUAL)								
1027		Boring Terminated at 31.3 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/26/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/26/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 79 Degrees	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1086'		TOPSOIL	0.4'	S-1	53	2-4-7 (11)		8.3		
		Light brown, yellow-brown, and gray SAND (SM), little to some gravel, little silt, firm to medium, moist to dry								
1081			5	S-2	67	7-6-6 (12)	20.5	3.2		
				S-3	100	8-6-15 (21)		4.2		
		(RESIDUAL)	9.1							
1076		Brownish gray medium-grained SANDSTONE, iron staining on bedding, cross bedded, slightly to moderately weathered, broken to massive, hard	10	S-4 R-1	100 100 (0)	50/0.1'				
		-thin iron bands from 11.5' to 11.8'		R-2	92 (36)					
1071		-high angle open fracture from 14.4' to 14.6'	15							
		Yellow-gray medium- to coarse-grained SANDSTONE, occasional iron staining on coal laminations, slightly weathered, micaceous, massive, hard		R-3	54 (44)					
		-MOHs 8.5 at 15'								
1066		-very broken and iron stained from 16.9' to 19.2' (core loss)								
		-lost water return at 17.3'								
		-breaks along iron bands, fractured, very broken, iron stained from 19.6' to 21.9'	20							
			21.9	R-4	88 (32)					
1061		Light yellow-gray fine- to medium-grained SANDSTONE, very broken to massive, hard	25							
		-fine-grained from 22.2' to 22.5'		R-5	96 (34)					
		-very broken and iron stained from 23.0' to 23.4'								
		-heavy horizontal concentration of iron from 24.1' to 24.5'								
		-arcuate iron banding from 24.6' to 25.8'								
		-open vertical iron stained fracture from 25.6' to 28.1'								
1056		-large 0.5-0.7" diameter iron concentrations from 29.4' to 31.0'	30							
		-triangular iron concretion/nodule at 31.4'		R-6	100 (54)					
		-MOHs >9 at 31.5'								
		-high angle open fracture from 32.0' to 32.7'								
		-abundant coal laminations, very soft and broken from 32.8' to 33.1'								
1051		-closely spaced iron stained fractures from 33.6' to 34.6'	35							

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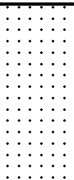
BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-71

Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: W. Ewing (Test Boring Services, Inc.) Drilling Rig: Acker Rebel Track Mounted Rig Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Proposed QVSD High School Start Date: 7/26/23 Completion Date: 7/26/23 Weather: Sunny, 79 Degrees Logged By: J. Hawk, P.G.	Sheet: 2 of 2 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: Water Level After 24 Hours:
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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1046		-coal lamination from 35.3' to 35.7' -high angle open iron stained fracture from 35.9' to 36.5' -MOHs 8.5 at 36.5' -low angle open iron stained fracture at 37.0' -vertical open iron stained fracture from 37.2' to 39.6'	40	R-7	100 (24)					
1041		Boring Terminated at 39.6 feet Boring shifted 10.5' downslope. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	45							
1036			50							
1031			55							
1026			60							
1021			65							
1016			70							

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/24/23	▽ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/24/23	▽ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Sunny, 75 Degrees	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1067.4'										
		Brown and black ROCK FRAGMENTS (GP), few sand, loose, moist		▲ S-1	53	1-4-4 (8)				
		(COLLUVIAL)	3.8	▲ S-2	100	10-50/0.3'				
1062		Gray DECOMPOSED SANDSTONE sampled as sandstone fragments, very dense, dry	5	▲ S-3	100	50/0.1'				
		(RESIDUAL)								
		Auger Refusal at 4.5 feet Boring Terminated at 4.6 feet Boring collapsed at 3.5' after 24 Hours								
1057			10							
1052			15							
1047			20							
1042			25							
1037			30							
1032			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-73

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/24/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/24/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 73 Degrees	▼ Water Level Upon Completion: 6.4'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours: 9.6'

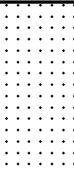
Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1093.8'		TOPSOIL Pale yellow SILT (ML), few plant roots, very stiff to hard, moist	0.3'	S-1	80	1-3-15 (18)		6.6		
		(RESIDUAL)	3.5'	S-2	100	9-35-50/0.3'		2.4		
1089		Light gray medium-grained DECOMPOSED SANDSTONE sampled as sandstone fragments with silty clay, highly weathered, soft, moist, heavy ironstain from 3.5' to 6.5', very dense to medium dense	5	S-3	100	11-11-8 (19)		6.0		
		(RESIDUAL)	7.5'	S-4	100	50/0.4'		6.9		
1084		Completely weathered silty shale with sandstone layers, very soft, moist, hard, faint iron staining, CL-ML with gravel	9.4'	R-1	84 (0)					
		Light gray SANDSTONE with coal laminations, medium-grained, completely weathered shale layers 9.6' to 9.7', very broken to moderately broken, iron staining along laminations, hard -soft clay layer from 9.6' to 9.8' -very broken and soft at 10.0' -MOHs 5.5 at 11.5'	11.6'	R-2	100 (46)					
1079		Yellow-brown SANDSTONE with clay layers, hard, moderately weathered, fine-grained -MOHs 4.5 at 13.5'	14.4'	R-3	100 (50)					
1074		Yellowish-brown SANDSTONE, moderately weathered, thickly bedded, slightly broken to massive, hard -broken to very broken from 14.4' to 15.0' -MOHs 7.5 at 16' -broken to very broken from 18.5' to 19.4' -MOHs >9 at 19.8'	20	R-4	98 (82)					
1069		-high angle, iron-stained healed fracture from 20.0' to 20.6' -MOHs 8.5 at 20.6' -thin iron bands- common 20.1' to 21.4' -large iron concretion from 22.4' to 22.8' -heavy iron stain 23.2' to 24.2'	24.2'	R-5	100 (100)					
1064		Brownish-gray SANDSTONE, medium to coarse-grained, slightly weathered, little iron-stain on bedding, massive, hard -heavy iron stain 24.8' to 25.2'	29.7'							
1059		Light gray medium-grained SANDSTONE, fresh, massive, very hard -MOHs >9 at 30'	34.8'							

(Continued Next Page)

Test Boring Record

B-73

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/24/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/24/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 73 Degrees	▼ Water Level Upon Completion: 6.4'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours: 9.6'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1054		Light yellowish-gray medium-grained SANDSTONE, slightly weathered, massive, hard -soft clay layer at 35.2' -very broken from 34.6' to 36.6' -closely spaced, high angle, healed fractures from 36.6' to 39.4' -1" to 2" iron concretions at 36.3', 37.2', and 38.4'	40	R-6	100 (62)					
		Boring Terminated at 39.4 feet								
1049			45							
1044			50							
1039			55							
1034			60							
1029			65							
1024			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-74

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/24/23	Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/24/23	Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 74 Degrees	Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1059.9'										
		Yellowish-brown SILT with fine sand (ML), few weathered sandstone gravel, loose, moist		S-1	80	1-3-5 (8)				
		(RESIDUAL)	3.5							
1055		GRAVEL with fine sand and silt (GP-GM), coarse gravel, buff, iron-stained, medium dense, moist	4.3	S-2	100	15-6-5 (11)				
		(RESIDUAL)								
		Orange-brown coarse-grained GRAVEL (GP-GM), micaceous, iron stain on remnant bedding planes, medium dense, moist		S-3	100	6-6-6 (12)				
		(RESIDUAL)	9.0							
1050		Very fine SAND (SP), yellow-brown, few sandstone gravel, very dense, moist	9.4	S-4	100	50/0.4'				
		(RESIDUAL)								
		SANDSTONE, medium-grained, brownish-gray, hard, moderately weathered, very broken to blocky, micaceous, iron stained open fractures		R-1	84 (8)					
		-MOHs >9 at 10'								
		-fine to medium-grained from 11.9' to 12.7'								
		-thin clay layer at 12.4'								
1045		-iron stained open fractures, very broken from 12.7' to 13.9' (core loss)	15.1							
		Yellowish-gray fine to medium-grained SANDSTONE, moderately weathered, hard		R-2	82 (10)					
		-high angle, iron stained open fracture from 16.7' to 18.2'								
		-few coaly laminations at 17.4'								
1040		very broken and iron-stained from 19.1' to 19.6'	19.6							
		Grayish-brown silty SHALE, completely weathered, very soft, iron-stained	20.3							
		-very soft, highly weathered from 19.4' to 20.3'	21.0							
		Yellowish-gray SANDSTONE, hard, micaceous, broken to very broken 20.3' to 21' (some core loss)		R-3	64 (24)					
		Yellowish-gray SANDSTONE, slightly weathered, micaceous, hard								
		-MOHs >9 at 22'								
1035		Boring Terminated at 24.4 feet	25							
1030			30							
1025			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-75

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/21/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/21/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Cloudy, 70's	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1093.6'										
		Light brown SANDSTONE FRAGMENTS (GP), little sand, few silt, medium dense, moist		S-1	53	2-7-8 (15)				
		(RESIDUAL)	3.0							
		Orange-brown and gray silty CLAY (CL/ML), stiff, moist		S-2	100	7-6-6 (12)				
1089		(RESIDUAL)	6.0							
		Gray-brown silty CLAY (CL/ML), relic bedding, hard, dry		S-3	100	10-17-29 (46)				
		(RESIDUAL)	9.0							
1084		Gray and orange-brown DECOMPOSED shaley SANDSTONE sampled as sandstone fragments, little sand, few silt, dry	10.1	S-4	100	27-37-50/0.1'				
		(RESIDUAL)	11.2							
		Brown and gray SANDSTONE, highly weathered, very broken to blocky, soft to hard -MOHs 5.5 at 10.5'	13.1	R-1	88 (14)					
		Gray CLAYSHALE, highly weathered, very soft -MOHs 4.5 at 12.5'								
1079		Brown and gray fine to medium-grained SANDSTONE, moderately to highly weathered, very broken to massive, medium hard to hard, water stained throughout, micaceous, vuggy in places	15							
		-MOHs 6.5 at 17'		R-2	92 (28)					
1074			20							
		-MOHs 8.5 at 23'		R-3	90 (66)					
1069			25							
		-vertical fracture from 26.6' to 27.6'		R-4	100 (0)					
		-MOHs 7.5 at 27'								
1064		Boring Terminated at 28.1 feet	30							
1059			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-76

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/21/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/21/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Cloudy, 70's	▼ Water Level Upon Completion: 14'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1076'										
		Tan SILT (ML), few small rock fragments (shale, sandy shale, clayshale), medium, moist		S-1	80	1-1-4 (5)		11.5	33	24
		(COLLUVIAL) 3.0								
1071		Brown and orange-brown SAND (SM), little silt, little gravel (mostly sandstone), medium dense, moist	5	S-2	100	6-8-7 (15)		7.4		
		(COLLUVIAL) 6.0					24.61			
		Orange-brown DECOMPOSED SANDSTONE sampled as sand, little gravel (sandstone), little silt, dense, moist		S-3	100	8-17-24 (41)		7.0		
		(RESIDUAL) 9.2								
1066		Brown and gray-brown fine to medium-grained SANDSTONE, moderately weathered, very broken to massive (generally moderately broken to massive), medium hard to hard, micaceous	10	S-4	100	50/0.2'				
		-MOHs 6.5 at 10.5'		R-1	96 (40)					
1061		-MOHs 8.5 at 14.5'	15							
		Boring Terminated at 15.0 feet Offset approximately 7' east. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project. Boring collapsed at 5.2' after 24 Hours								
1056			20							
1051			25							
1046			30							
1041			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-77

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/21/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/21/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Cloudy, 70's	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: L. Barnes, E.I.T.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1076'										
		Brown SILT (ML), few clay, trace small rock fragments (shale, carbonaceous shale), very soft, moist		▲ S-1	80	0-0-1 (1)				
		(COLLUVIAL) 3.0								
1071		Brown clayey SILT (ML), few rock fragments (shale, sandy shale), very stiff, moist	5	▲ S-2	100	5-9-8 (17)				
		(COLLUVIAL) 6.0								
		Brown SANDSTONE FRAGMENTS (GP), little sand, loose, moist		▲ S-3	100	5-6-4 (10)				
		(RESIDUAL) 9.0								
1066		Brown and orange-brown DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, trace silt, very dense, moist	10	▲ S-4	100	50/0.3'				
		(RESIDUAL)		▲ S-5	38	17-50/0.3'				
1061		Boring Terminated at 12.8 feet Boring collapsed at 3.7' after 24 Hours	15							
1056			20							
1051			25							
1046			30							
1041			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-78

Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: J. Powell (Test Boring Services, Inc.) Drilling Rig: Diedrich D-50 Track Mount Drilling Method: 3 1/4-inch HSA	Project Name: Proposed QVSD High School Start Date: 7/24/23 Completion Date: 7/24/23 Weather: unny, 74 Degrees Logged By: K. Thiry, P.G.	Sheet: 1 of 1 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1068.9'										
		TOPSOIL	0.2'							
		Dark orange-brown SAND (SM), some silt, loose, dry		S-1	100	1-3-4 (7)				
		(COLLUVIAL)	3.0							
1064		Brown-orange DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, dense to very dense, dry	5	S-2	100	10-24-25 (49)				
		(RESIDUAL)								
		Boring Terminated at 6.4 feet		S-3	100	50/0.4'				
1059			10							
1054			15							
1049			20							
1044			25							
1039			30							
1034			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-79

Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: J. Powell (Test Boring Services, Inc.) Drilling Rig: Diedrich D-50 Track Mount Drilling Method: 3 1/4-inch HSA	Project Name: Proposed QVSD High School Start Date: 7/24/23 Completion Date: 7/24/23 Weather: Sunny, 73 Degrees Logged By: K. Thiry, P.G.	Sheet: 1 of 1 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1071'										
		Orange-brown SANDSTONE FRAGMENTS (GP), few to little sand, loose to medium dense, dry		S-1	73	1-3-3 (6)				
				S-2	100	8-5-4 (9)				
1066			5							
				S-3	100	7-6-10 (16)				
		(COLLUVIAL)	9.0							
1061		Orange-brown DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, very dense, dry (RESIDUAL)	10	S-4	100	50/0.3'				
		Boring Terminated at 9.3 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.								
			15							
1056										
			20							
1051										
			25							
1046										
			30							
1041										
			35							
1036										

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-80

Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: W. Ewing (Test Boring Services, Inc.) Drilling Rig: Acker Rebel Track Mounted Rig Drilling Method: 3 1/4-inch HSA	Project Name: Proposed QVSD High School Start Date: 7/21/23 Completion Date: 7/21/23 Weather: Cloudy, 60's Logged By: L. Barnes, E.I.T.	Sheet: 1 of 1 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1063'										
		Brown SANDSTONE FRAGMENTS (GP), little sand, few silt, loose, moist		S-1	67	1-4-3 (7)				
		-Sample S-2 little clay		S-2	80	2-3-5 (8)				
1058		(COLLUVIAL)	5							
		Brown and gray-brown SANDSTONE FRAGMENTS (GP), little sand, few silt, firm, moist	6.0	S-3	100	7-7-7 (14)				
		(RESIDUAL)	9.0							
1053		Brown-gray DECOMPOSED SANDSTONE sampled as sandstone fragments, little sand, few silt, dry (RESIDUAL)	10	S-4	100	50/0.2'				
		Boring Terminated at 9.2 feet Offset approximately 10' north. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project. Boring collapsed at 3.8' after 24 Hours								
1048			15							
1043			20							
1038			25							
1033			30							
1028			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-81

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/24/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/24/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Sunny, 72 Degrees	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 13.2'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1073'										
		Orange-brown SANDSTONE FRAGMENTS (GP), little sand, very loose to medium dense, moist		S-1	27	1-1-2 (3)				
1068			5	S-2	100	8-4-5 (9)				
				S-3	100	8-6-10 (16)				
1063			10	S-4	100	7-10-10 (20)				
		(COLLUVIAL) 12.0								
		▼ Brown DECOMPOSED micaceous SANDSTONE sampled as sandstone fragments, few sand, very dense, dry		S-5	100	26-42-29 (71)				
1058		(RESIDUAL)	15	S-6	100	48-50/0.2'				
		Boring Terminated at 15.7 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.								
1053			20							
1048			25							
1043			30							
1038			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-82

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/21/23	▽ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/21/23	▽ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Cloudy, 60's	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: L. Barnes, E.I.T.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1068.4'										
		Light brown clayey SILT (ML), trace sand, medium, moist		▲ S-1	67	1-2-4 (6)				
		(COLLUVIAL)	3.0							
1063		Brown SAND (SM), some silt, few to little rock fragments (sandstone), medium dense, moist	5	▲ S-2	100	11-11-11 (22)				
				▲ S-3	100	10-11-15 (26)				
		(RESIDUAL)	9.0							
1058		Brown and orange-brown DECOMPOSED SANDSTONE sampled as sandstone fragments, little sand, few silt, dry (RESIDUAL)	10	▲ S-4	100	30-50/0.4'				
		Boring Terminated at 9.9 feet Boring collapsed at 1.8' after 24 Hours								
1053			15							
1048			20							
1043			25							
1038			30							
1033			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/24/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/24/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 79 Degrees	▼ Water Level Upon Completion: 3.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: J. Hawk, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1093.1'										
		FILL sampled as fine gravel with some sand, moist (FILL)	1.4	S-1	47	11-4-3 (7)		7.7		
		Completely weathered shale layers with trace angular fragments sampled as yellow-brown fine SAND (SM), little silt, few gravel, moist, trace thin clay, faint orange-brown mottles		S-2	87	7-8-8 (16)		8.9		
1088		(RESIDUAL)	5				22.62			
		CLAY (CL), coarse orange mottles, moist, stiff, little dark iron staining	6.9	S-3	100	13-5-11 (16)		12.3		
		(RESIDUAL)								
1083		Completely weathered, fine-grained sandstone, orange-brown, faint mottles, moist, very dense	9.4	S-4	100	50/0.4'				
		(RESIDUAL)								
		SANDSTONE, grayish-brown, medium to coarse-grained, hard, moderately weathered -moderately broken to slightly broken from 9.4' to 10.5' -massive from 10.5' to 13.1' -MOHs 8.5 at 11' -high angle fracture from 13.1' to 13.4' - soft, very broken	14.4	R-1	90 (50)					
1078		Gray brown SANDSTONE, coarse-grained, hard, moderately weathered, broken to very broken -approximate 60 Degree angle fracture from 15.4' to 15.6', open -MOHs 8.7 at 16.2' -heavy iron staining from 15.9' to 16.3' -high angle fracture from 15.9' to 16.3', open	17.0	R-2	92					
1073		SANDSTONE, medium gray, yellow brown, thin 2-3 mm iron bands 17.7' to 18', hard, moderately weathered -MOHs 8.5 at 17.5' -iron bands common from 17.4' to 18.6' Boring Terminated at 19.4 feet	20							
			25							
1068										
			30							
1063										
			35							
1058										

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-84

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/21/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/21/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Partly sunny, 74 Degrees	▼ Water Level Upon Completion: 13.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1092'										
		Brown and gray SANDSTONE FRAGMENTS (GP), some sand, very loose, moist		S-1	27	1-1-2 (3)				
		(COLLUVIAL) 3.0								
1087		Brown-orange DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, dense to very dense, dry	5	S-2	100	19-19-13 (32)				
		(RESIDUAL) 6.6								
		Orange-brown medium to coarse-grained SANDSTONE, moderately weathered, medium bedded, moderately broken to massive, hard, few vugs		S-3	100	34-50/0.1'				
1082				R-1	100 (0)					
		-lost water at 9.5'	10	R-2	92 (50)					
		-MOHs 8.5 at 10'								
1077		Boring Terminated at 14.0 feet Boring collapsed at 2.2' after 24 Hours. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	15	R-3	75 (0)					
1072			20							
1067			25							
1062			30							
1057			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-85

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/21/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/21/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Cloudy, 69 Degrees	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1102'										
		TOPSOIL	0.3'							
		Brown randomly oriented SANDSTONE FRAGMENTS (GP), few silt, very loose to medium dense, moist		S-1	67	1-1-1 (2)				
		(COLLUVIAL)	5.0	S-2	100	20-16-17 (33)				
1097		Brown and gray DECOMPOSED SANDSTONE sampled as sandstone fragments, little sand, dense, moist		S-3	100	16-23-17 (40)				
		(RESIDUAL)	9.0	S-4	100	20-12-27 (39)				
1092		Brown-gray DECOMPOSED SHALE sampled as shale fragments, few silt, trace clay, medium dense, dry	10.1	S-5	100	30-28-22 (50)				
		(RESIDUAL)	15	S-6	100	50/0.1'				
1087		Orange-brown DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, dense to very dense, dry								
		Boring Terminated at 15.1 feet Boring collapsed at 13.2' after 24 Hours. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.								
1082			20							
1077			25							
1072			30							
1067			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/21/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/21/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Partly sunny, 69 Degrees	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1086'		TOPSOIL	0.4'	S-1	100	1-1-1 (2)				
		Brown sandy SILT (ML), few clay, very soft, moist								
		(COLLUVIAL)	3.0							
1081		Brown and gray randomly oriented SANDSTONE FRAGMENTS (GP), some sand, medium dense, moist	5	S-2	100	18-19-17 (36)				
		(COLLUVIAL)	6.0							
		Brown DECOMPOSED SANDSTONE sampled as sandstone fragments (GP), few sand, medium dense, dry to moist		S-3	100	12-11-11 (22)				
		-moist from 6.0' to 7.5'								
		(COLLUVIAL)	9.0							
1076		Brown DECOMPOSED SANDSTONE, few sand, very dense, dry to moist	10	S-4	100	41-50/0.4'				
		(RESIDUAL)								
		Boring Terminated at 9.9 feet								
		Boring collapsed at 12.8' after 24 Hours. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.								
1071			15							
1066			20							
1061			25							
1056			30							
1051			35							

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Test Boring Record

B-87

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/21/23	▽ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/21/23	▽ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Cloudy, 68 Degrees	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1081'										
		TOPSOIL	0.3'							
		Brown clayey SILT (ML), some sand, very soft, moist (COLLUVIAL)	2.0	S-1	67	1-1-1 (2)				
		Yellow-brown SANDSTONE FRAGMENTS (GP), some sand, trace silt, medium dense, moist		S-2	100	14-11-10 (21)				
1076		(COLLUVIAL)	6.0							
		Orange-brown and gray DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, medium dense to dense, dry		S-3	100	9-14-19 (33)				
1071			10	S-4	100	24-20-23 (43)				
		(POSSIBLE COLLUVIAL)	13.2							
		Black DECOMPOSED carbonaceous SHALE sampled as carbonaceous shale fragments, loose, dry (POSSIBLE COLLUVIAL)	13.4	S-5	100	6-3-12 (15)				
1066		Brown and orange-brown DECOMPOSED medium to coarse-grained SANDSTONE sampled as sandstone fragments, few sand, medium to very dense, dry, some carbonaceous inclusions (RESIDUAL)	15	S-6	100	36-16-9 (25)				
		Boring Terminated at 18.2 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	20	S-7	100	50/0.2'				
1061										
			25							
1056										
			30							
1051										
			35							
1046										

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/21/23	▽ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/21/23	▽ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Cloudy, 76 Degrees	▽ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1089'										
		TOPSOIL	0.3'							
		Brown SANDSTONE FRAGMENTS (GP), few sand, trace clay, very loose, moist		S-1	67	1-1-1 (2)				
		(COLLUVIAL)	3.0							
1084		Brown SANDSTONE FRAGMENTS (GP), few to little sand, medium dense, dry	5	S-2	100	8-15-11 (26)				
				S-3	100	6-6-9 (15)				
		(RESIDUAL)	9.0							
1079		Brown DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, very dense, dry	10	S-4	100	50/0.3'				
		(RESIDUAL)								
		Boring Terminated at 9.3 feet								
		Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.								
1074			15							
1069			20							
1064			25							
1059			30							
1054			35							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/19/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/19/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 70's, Cloudy	▼ Water Level Upon Completion: 3.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1116'										
		Brown and gray ROCK FRAGMENTS (GP) (sandstone), little sand, few silt, medium dense, dry		S-1	80	7-9-12 (21)				
		(RESIDUAL)	3.0							
		▼ Brown clayey SILT (ML), trace sand, stiff, dry		S-2	80	16-7-6 (13)				
1111		(RESIDUAL)	6.0							
		Brown to orange-brown SAND (SM), some silt, few rock fragments, dense, dry		S-3	100	30-14-19 (33)				
		(RESIDUAL)	9.0							
1106		Gray-brown DECOMPOSED SANDSTONE sampled as sandstone fragments, little to few sand, few to trace silt, very dense, dry		S-4	100	20-37-50/0.3'				
				S-5	100	17-50/0.3'				
1101		(RESIDUAL)	15.2							
		Gray and brown medium- to coarse-grained SANDSTONE, moderately to highly weathered, very broken to massive (generally very broken to moderately broken), medium hard to hard, few carbonaceous laminations, some water staining, vuggy -MOHs 6.5 at 16.5'		S-6	100	50/0.2'				
1096		-clay seam from 20.3' to 20.4'		R-1	90 (0)					
		-MOHs 7.5 at 22'		R-2	100 (16)					
1091				R-3	100 (0)					
		Dark gray and brown-gray CARBONACEOUS SHALE, highly weathered, very broken and fractured, very soft to soft -MOHs 3.5 at 27'		R-4	167 (53)					
1086		Gray fine-grained SANDSTONE, slightly weathered, very broken to massive, medium hard to hard, many carbonaceous laminations -MOHs 7.5 at 32'								
		Boring Terminated at 33.2 feet								
1081			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/19/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/19/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Partly cloudy, 75 to 80 Degrees	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1114.2'										
		FILL sampled as brown sandstone fragments, few sand, medium dense, dry		S-1	93	7-9-9 (18)				
		(FILL)	3.0							
1109		Brown DECOMPOSED micaceous SANDSTONE sampled as sandstone fragments, trace sand, dense to very dense, dry	5	S-2	100	5-19-20 (39)				
		(RESIDUAL)	6.8							
1104		Brown to gray fine to medium-grained micaceous SANDSTONE, moderately to slightly weathered, thickly laminated to thinly bedded, very broken to blocky, hard -few shaley zones from 6.8' to 15.0'	10	R-1	78 (0)					
		-MOHs 7.5 at 8'		R-2	80 (0)					
1099		-lost water return at 14.0'	15							
		-highly weathered, soft from 15.5' to 16.3'		R-3	100 (26)					
1094		-MOHs 8.5 at 18'	20							
		Orange-brown medium to coarse-grained SANDSTONE, moderately weathered, medium bedded, moderately broken to blocky, hard, few carbonaceous laminations and inclusions	20.7							
		-MOHs 8.5 at 23'	23.2	R-4	94 (24)					
1089		Brown to gray INTERBEDDED fine-grained SANDSTONE and SHALE, slightly to moderately weathered, thinly to thickly laminated, very broken to massive, medium hard to hard, few carbonaceous laminations, few vugs	25							
		-MOHs 8.5 at 29'	30	R-5	100 (0)					
1084										
		-MOHs 7.5 at 32'		R-6	100 (64)					
1079			35.0							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/19/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/19/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Partly cloudy, 75 to 80 Degrees	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1074		Brown and gray fine to medium-grained micaceous SANDSTONE, fresh to moderately weathered, thickly laminated to medium bedded, moderately broken to massive, hard -MOHs 7.5 at 37'	40	R-7	100 (52)					
1069		-few shale and carbonaceous laminations from 39.0' to 40.0'	45	R-8	98 (74)					
1064		-MOHs 8.5 at 42' -few shale and carbonaceous laminations from 42.0' to 43.5'	50	R-9	98 (76)					
1059		-few shale and carbonaceous laminations from 47.5' to 49.5'	55	R-10	100 (70)					
1054		-few vugs from 52.0' to 52.5'	60							
1049		-0.1" thick coal lamination at 52.3'	65							
1044		-MOHs 8.5 at 53'	70							
		-few shale and carbonaceous laminations from 51.5' to 54.0'								
		Boring Terminated at 54.0 feet Boring collapsed at 15.6' after 24 Hours								

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/19/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/20/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Partly cloudy, 80 Degrees	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 38.5'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1110.5'										
		FILL sampled as brown sand, some gravel (sandstone fragments), little to some silt, loose to firm, moist		S-1	80	2-3-3 (6)		8.2		
				S-2	100	2-4-3 (7)		10.4		
1106			5				28.61			
				S-3	100	3-4-4 (8)		18.1		
1101			10	S-4	100	7-6-7 (13)		7.8		
		(FILL)	12.0							
		Brown decomposed SANDSTONE sampled as sandstone fragments, few sand, very dense, dry		S-5	100	50/0.2'				
1096			15							
		(RESIDUAL)	15.9	S-6	100	33-50/0.4'				
		Brown fine to medium-grained SANDSTONE, micaceous, moderately weathered, thickly laminated to thinly bedded, broken to blocky, hard -lost drill water return at 16.0' -MOHs 7.5 at 17'	18.8	R-1	100 (8)					
1091		Orange-brown to brown medium to coarse-grained SANDSTONE, moderately weathered, thickly to medium bedded, very broken to broken, hard -MOHs 7.5 at 20' -dark gray shale interbed from 21.3' to 22.6' -vuggy from 22.6' to 26.4'	20							
			25	R-2	96 (0)					
1086			26.3							
		Dark gray SHALE, slightly weathered, thinly laminated, broken to blocky, medium hard -MOHs 5.5 at 28'	30	R-3	96 (18)					
1081			30.9							
		-carbonaceous from 30.6' to 30.9'								
		Brown to gray fine to medium-grained SANDSTONE, few shale laminations, moderately weathered, broken, medium hard -MOHs 7.5 at 31.5'	32.8							
1076		Brown-gray medium to coarse-grained SANDSTONE, completely to moderately weathered, very broken to blocky, very soft to hard	35	R-4	68 (22)					

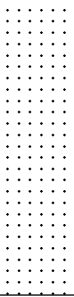
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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/19/23	▽ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/20/23	▽ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Partly cloudy, 80 Degrees	▽ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▽ Water Level After 24 Hours: 38.5'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1071		VOID -MOHs >9 at 34'	35.9 40							
1066		Brown to gray fine- to medium-grained SANDSTONE, micaceous, thickly laminated to thinly bedded, very broken to massive, very soft to hard -very soft, vertical fracture from 43.0' to 44.7' -MOHs 6.5 at 42.5'	42.2 45	R-5	92 (0)					
1061		-carbonaceous laminations and inclusions from 47.5' to 50.0' -MOHs 8.5 at 49'	50	R-6	100 (68)					
1056		Boring Terminated at 50.0 feet	55							
1051			60							
1046			65							
1041			70							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/20/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/20/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: 75-80°, Partly Cloudy	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1097'		TOPSOIL	0.5							
		Brown SANDSTONE FRAGMENTS (GP), little sand, medium dense, dry	2.0	S-1	67	2-6-9 (15)				
		(RESIDUAL)								
		Brown DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, firm to very dense, dry		S-2	87	14-10-8 (18)				
1092			5							
				S-3	87	10-6-6 (12)				
		(RESIDUAL)								
1087			9.6	S-4	100	32-50/0.1'				
		Brown and orange-brown medium- to coarse-grained SANDSTONE, moderately weathered, thinly to medium bedded, few vugs, broken to massive, very hard	10							
		-MOHs 8.5 at 10.5'		R-1	100 (74)					
1082			15							
				R-2	100 (58)					
1077		-MOHs 8.5 at 19'	20							
				R-3	94 (28)					
1072		Dark gray to gray INTERBEDDED fine-grained SANDSTONE and SHALE, highly to slightly weathered, thinly to thickly laminated, very broken, very soft to medium hard	22.5							
		-MOHs 2.5 at 23.5'	23.6							
		Brown and gray fine to medium-grained micaceous SANDSTONE, micaceous, slightly to moderately weathered, thickly laminated to thinly bedded, very broken to massive, medium hard to hard, siltstone and carbonaceous inclusions	25							
		-some vugs from 27.0' to 29.2'		R-4	98 (0)					
1067		-MOHs 4.5 at 30.8'	30							
		-MOHs 5.5 at 33'		R-5	100 (16)					
1062			35							

(Continued Next Page)

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-92

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/20/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/20/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: 75-80°, Partly Cloudy	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
		-vertical fracture from 35.0' to 37.0'								
		-MOHs 6.5 at 37'								
1057		Boring Terminated at 38.0 feet Collapsed at 13.6' after 24 Hours. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	40	R-6	100 (26)					
1052			45							
1047			50							
1042			55							
1037			60							
1032			65							
1027			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-93

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/20/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/20/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: 82°, Partly Sunny	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1080'										
		Brown and gray randomly oriented SANDSTONE FRAGMENTS (GP), few to little sand, few silt, loose to medium dense, dry		S-1	67	1-2-5 (7)				
1075			5	S-2	100	12-11-8 (19)				
				S-3	100	9-7-6 (13)				
		(COLLUVIAL) 9.0								
1070		Brown DECOMPOSED micaceous SANDSTONE sampled as sandstone fragments, trace sand, very dense, dry	10	S-4	100	50/0.3'				
		(RESIDUAL)		S-5	100	49-50/0.3'				
1065		Boring Terminated at 12.8 feet Boring Collapsed at 10.3' after 24 Hours. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	15							
1060			20							
1055			25							
1050			30							
1045			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-94

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/19/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/19/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 80's, Sunny	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▼ Water Level After 24 Hours: 16.4'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1047'										
		Brown and gray rock fragments, some sand, little silt, loose, dry		▲ S-1	53	1-2-4 (6)		12.3		
		(COLLUVIAL) 3.0								
1042		Brown SAND (SM), some silt, few rock fragments (generally small and coarse sand-sized sandstone and shale), loose, moist	5	▲ S-2	80	2-3-4 (7)		7.1		
		(COLLUVIAL) 6.0								
		Brown-gray and brown SANDSTONE FRAGMENTS, little to some sand, few silt, medium dense to dense, dry		▲ S-3	47	9-9-16 (25)		5.2		
1037			10	▲ S-4	100	8-8-13 (21)		6.7		
				▲ S-5	100	40-31-12 (43)		9.7		
1032		(COLLUVIAL) 15.0	15							
		Gray and orange-brown mottled CLAY to silty CLAY (CL/ML), very stiff, moist, (completely decomposed claystone)		▲ S-6	100	5-7-11 (18)		21.4		
1027			20	▲ S-7	100	13-16-15 (31)		19.9		
				▲ S-8	80	7-12-17 (29)		18.1		
		(RESIDUAL) 24.0								
1022		Gray and light brown DECOMPOSED shaley CLAYSTONE, sampled as clay, little to some sand, trace gravel (claystone fragments), extremely stiff, dry	25	▲ S-9	100	49-50/0.4'		11.5		
		(RESIDUAL)					73.17		36	22
				▲ S-10	100	37-50/0.1'		8.5		
1017		Boring Terminated at 27.6 feet Bench was cut into slope for rig. Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	30							
1012			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-95

Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: W. Ewing (Test Boring Services, Inc.) Drilling Rig: Acker Rebel Track Mounted Rig Drilling Method: 3 1/4-inch HSA	Project Name: Proposed QVSD High School Start Date: 7/20/23 Completion Date: 7/20/23 Weather: Cloudy, 70's Logged By: L. Barnes, E.I.T.	Sheet: 1 of 1 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1066'										
		Light brown clayey SILT (ML), few rock fragments (shale, pink shale, orange-brown sandstone), stiff, moist		S-1	67	1-4-5 (9)				
		(COLLUVIAL) 3.0								
1061		Orange-brown and light brown SANDSTONE FRAGMENTS (GP), little sand, few silt, loose, moist, micaceous	5	S-2	100	7-4-5 (9)				
		(POSSIBLE COLLUVIAL/RESIDUAL) 6.0								
		Orange-brown and light brown DECOMPOSED SANDSTONE sampled as sandstone fragments, few to little sand, few silt, very dense, moist, micaceous		S-3	100	5-20-50/0.4'				
1056		(RESIDUAL)		S-4	100	50/0.2'				
		Boring Terminated at 9.2 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project. Boring collapsed at 3.8' after 24 Hours	10							
1051			15							
1046			20							
1041			25							
1036			30							
1031			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-96

Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: W. Ewing (Test Boring Services, Inc.) Drilling Rig: Acker Rebel Track Mounted Rig Drilling Method: 3 1/4-inch HSA	Project Name: Proposed QVSD High School Start Date: 7/20/23 Completion Date: 7/20/23 Weather: Cloudy, 70's Logged By: L. Barnes, E.I.T.	Sheet: 1 of 1 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1067'										
		Brown SAND (SM), some silt, little rock fragments (shale, orange sandstone, red sandstone), loose to medium dense, moist		S-1	53	1-4-5 (9)				
				S-2	67	9-11-9 (20)				
1062			5							
				S-3	100	26-8-9 (17)				
		(COLLUVIAL)	9.0							
1057		Reddish-brown and brown to gray-brown DECOMPOSED SANDSTONE sampled as sandstone fragments, few sand, few silt, very dense, dry	10	S-4	100	50/0.3'				
		(RESIDUAL)								
		Boring Terminated at 12.2 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project. Boring collapsed at 4.2' after 24 Hours		S-5	100	50/0.2'				
1052			15							
1047			20							
1042			25							
1037			30							
1032			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-97

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/20/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/20/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Cloudy, 70's	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: L. Barnes, E.I.T.	▼ Water Level After 24 Hours: 11.7'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1067.3'										
		Light brown SILT (ML), little sand, trace small rock fragments (orange sandstone, shale), medium, dry		S-1	80	1-2-3 (5)				
		(COLLUVIAL)	3.0							
1062		Orange-brown and brown SANDSTONE FRAGMENTS (GP), little to some sand, few silt, micaceous, loose to very dense, dry	5	S-2	100	13-12-8 (20)				
				S-3	100	11-7-7 (14)				
		(COLLUVIAL)	9.0							
1057		Orange-brown and brown DECOMPOSED SANDSTONE sampled as sandstone fragments, little to some sand, few silt, micaceous, loose to very dense, dry	10	S-4	100	16-50/0.4'				
				S-5	53	33-18-22 (40)				
1052			15	S-6	100	11-13-15 (28)				
				S-7	100	9-7-3 (10)				
1047		(COLLUVIAL)	22.0	S-8	100	8-20-20 (40)				
		Orange-brown and brown DECOMPOSED SANDSTONE sampled as sandstone fragments, little to some sand, few silt, micaceous, dense to very dense, dry								
1042		(RESIDUAL)		S-9	100	50/0.3'				
		Boring Terminated at 24.3 feet	25							
1037			30							
1032			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/20/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/20/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Cloudy, 80's	▼ Water Level Upon Completion:
Drilling Method: 3 1/4-inch HSA	Logged By: L. Barnes, E.I.T.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1064'										
		Light brown SILT (ML), some sand, few small rock fragments (orange-brown shale, shale, sandstone), very soft, moist		▲ S-1	40	1-1-1 (2)		11.6		
		(COLLUVIAL) 3.0								
1059		Light orange-brown SAND (SM), little silt, little rock fragments (sandstone), medium dense, moist	5	▲ S-2	100	19-10-9 (19)		7.8		
							20.1			
				▲ S-3	100	16-9-9 (18)		6.9		
		(POSSIBLE COLLUVIAL/RESIDUAL) 9.0								
1054		Brown and orange-brown DECOMPOSED SANDSTONE sampled as sandstone fragments, little sand, medium dense to very dense, dry	10	▲ S-4	100	13-13-17 (30)				
				▲ S-5	80	9-13-20 (33)				
1049		(RESIDUAL)	15	▲ S-6	100	37-50/0.4'				
		Boring Terminated at 15.9 feet Boring collapsed at 4.5' after 24 Hours								
1044			20							
1039			25							
1034			30							
1029			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 15:59 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

B-99

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 3
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/17/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/17/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 70's	▼ Water Level Upon Completion: 20.4'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
889.9'										
		Light brown SILT (ML), some sand, trace rock fragments, stiff to very stiff, dry		S-1	100	2-6-8 (14)				
				S-2	100	18-12-8 (20)				
885		(COLLUVIAL)	6.0							
		Brown SILT (ML), some sand, little sandstone fragments, iron staining, very stiff, dry		S-3	100	20-13-9 (22)				
		(RESIDUAL)	9.0							
880		Light gray to brown clayey SILT to silty CLAY (CL/ML), some shale fragments, orange mottling, iron staining, very stiff, dry		S-4	100	13-10-20 (30)				
		(RESIDUAL)	12.0							
		Light gray to brown SANDY SHALE SAPROLITE, relic bedding, iron stained		S-5	100	31-26-50/0.4'				
875		(RESIDUAL)	16.4							
		Gray SANDSTONE, slightly to moderately weathered, hard, extensive iron staining, moderately broken, thinly to medium bedded, occasional clay filled fractures		R-1	70 (8)					
870			21.2							
		Gray SILTSTONE, slightly weathered, hard, some iron staining, slightly to moderately broken, medium bedded to massive		R-2	98 (8)					
865				R-3	100 (0)					
860		-vertical fracture from 30.4' to 31.8'		R-4	100 (0)					
855			35							

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Test Boring Record

B-100

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/11/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/11/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 80's	▼ Water Level Upon Completion: 4.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1022'										
		Light brown SAND (SM), some silt, little sandstone fragments, loose, dry (COLLUVIAL)	1.0	S-1	67	1-2-4 (6)				
		Red clayey SILT to silty CLAY (CL/ML), trace rock fragments, stiff, dry (COLLUVIAL)	3.0	S-2	53	5-6-4 (10)				
1017		Light brown clayey SILT to silty CLAY (CL/ML), iron staining, stiff to extremely stiff, dry (COLLUVIAL)	5	S-3	100	14-6-5 (11)				
				S-4	100	10-8-13 (21)				
				S-5	100	13-14-20 (34)				
1012		Red clayey SILT to silty CLAY (CL/ML), trace rock fragments, extremely stiff, dry (COLLUVIAL)	7.5	S-6	100	18-18-23 (41)				
				S-7	100	15-28-28 (56)				
				S-8	100	12-21-24 (45)				
				S-9	100	12-25-33 (58)				
1007		Gray clayey SILT to silty CLAY (CL/ML), some iron staining, extremely stiff, moist (RESIDUAL)	14.0	S-10	100	17-24-30 (54)				
		Red CLAYSTONE SAPROLITE, relic bedding, dry (RESIDUAL)	16.4	S-11	100	16-31-50/0.4'				
		Red CLAYSTONE, slightly weathered, very soft, massive bedded, slightly broken		R-1	100 (0)					
1002				R-2	71 (0)					
				R-3	167 (0)					
997		Gray sandy CLAYSTONE, fresh, very soft to soft, medium bedded, red from 25.0' to 27.0'	23.4							
				R-4	100 (32)					
		Gray-red SILTSTONE, fresh, soft, massive, slightly broken	25.3							
992				R-5	100 (0)					
		Medium gray shaley SILTSTONE, slightly weathered, soft to medium hard, iron stained, moderately broken, thin to medium bedded, interbedded with claystone seams	28.2							
987										

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Test Boring Record

B-101

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/13/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/13/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 60's	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
968.5'										
		Light brown clayey SILT to silty CLAY (CL/ML), little sand and sandstone fragments, stiff, moist (COLLUVIAL)	1.5	S-1	53	1-5-10 (15)				
		Red clayey SILT to silty CLAY (CL/ML), very stiff, dry (COLLUVIAL)	5.0	S-2	87	13-10-8 (18)				
964		Light brown clayey SILT to silty CLAY (CL/ML), some sandstone fragments, little sand, very stiff, dry (COLLUVIAL)	6.0	S-3	87	13-12-9 (21)				
		Red clayey SILT to silty CLAY (CL/ML), trace rock fragments, very stiff, dry (COLLUVIAL)	7.5							
959		Light brown clayey SILT to silty CLAY (CL/ML), iron and manganese stained, extremely stiff, dry (POSSIBLE COLLUVIAL/RESIDUAL)	14.0	S-4	100	9-13-24 (37)				
		Gray SILTSTONE FRAGMENTS (GM), some silt, relic bedding, iron and manganese stained, dense, dry (RESIDUAL)	18.5	S-5	100	19-15-19 (34)				
954		Red clayey SILT to silty CLAY (CL/ML), some brown-gray, iron stained, extremely stiff, dry (RESIDUAL)	26.0	S-6	100	10-16-16 (32)				
949		Light gray SILTSTONE SAPROLITE, relic bedding, dry (RESIDUAL)	27.7	S-7	100	23-28-46 (74)				
944		Light gray sandy SILTSTONE, slightly weathered, medium hard, highly broken to 28.2', iron stained to 29.6', massive (RESIDUAL)	30	S-8	100	20-22-13 (35)				
939			35	S-9	100	21-29-50/0.4'				
934				S-10	100	31-50/0.2'				
				R-1	100 (42)					
		-high angle fracture from 34.4' to 34.6'								

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/24/24	Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/24/24	Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 70s	Water Level Upon Completion: 9.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
899'		ASPHALTIC CONCRETE	1.0							
		AGGREGATE	1.5							
		FILL sampled as brown silt, clay, sandstone fragments, stiff, moist (FILL)	3.5	S-1	53	2-5-3 (8)				
894		Yellow, some red clayey SILT to silty CLAY (CL/ML), stiff to extremely stiff, dry to moist (RESIDUAL)	5	S-2	100	3-4-4 (8)				
		Light brown clayey SILT to silty CLAY (CL/ML), little sandstone fragments, iron stained, stiff, dry (RESIDUAL)	6.0	S-3	93	5-8-23 (31)				
		Light brown SANDSTONE SAPROLITE, relic bedding, iron stained, dry (RESIDUAL)	7.0	S-4	100	14-12-10 (22)				
889		Gray sandy SILTSTONE, slightly weathered, medium hard, extensive iron staining, slightly to moderately broken, thinly bedded	8.2	S-5	100	45-50/0.2'				
			10	R-1	75 (0)					
				R-2	88 (0)					
884			15	R-3	100 (0)					
		Gray to red CLAYSTONE, slightly weathered to fresh, very soft, slightly broken, medium bedded	17.5							
879			20	R-4	100 (0)					
874		Gray SILTSTONE, slightly weathered to fresh, medium hard, calcareous, slightly broken, slickensides, medium bedded, iron stained	24.5	R-5	100 (0)					
			28.0							
869		Gray SANDSTONE, fresh, medium hard, medium bedded, slightly broken -high angle fracture at 30.1'	30	R-6	100 (0)					
864			35	R-7	100 (26)					

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 9/16/24	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 9/16/24	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Sunny, 60s	▼ Water Level Upon Completion: 2.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours: 2.7'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
890.5'										
		FILL sampled as slag, sand, sandstone fragments, silt, some clay, loose to dense, moist		S-1	27	2-5-5 (10)				
				S-2	100	7-5-8 (13)				
886			5	S-3	40	17-8-5 (13)				
				S-4	93	5-5-4 (9)				
				S-5	100	6-11-13 (24)				
881			10	S-6	33	14-19-20 (39)				
				S-7	100	17-15-16 (31)				
		(FILL) 12.0		S-8	100	13-9-8 (17)				
		Dark gray-brown clayey SILT to silty CLAY (CL/ML), trace organics and sticks, stiff, moist (COLLUVIAL) 14.0		S-9	100	5-4-5 (9)				
876		Brown clayey SILT to silty CLAY (CL/ML), little shale fragments, iron stained, medium, moist (COLLUVIAL) 16.0	15	S-10	100	4-3-3 (6)				
		Light brown sandy SHALE SAPROLITE (GP), relic bedding, extensive iron staining, dry (RESIDUAL) 18.8		S-11	100	4-6-24 (30)				
				S-12	100	23-37-50/0.3'				
871		Gray SANDSTONE, slightly to moderately weathered, hard, extensive iron staining, some clay filled fractures to 22.5'	20	S-13	100	17-50/0.3'				
				R-1	100 (0)					
				R-2	98 (0)					
866			25							
				R-3	100 (0)					
861			30							
				R-4	100 (0)					
856		Gray SILTSTONE, fresh, hard, medium bedded	30.4							
			35							

(Continued Next Page)

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:00 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

SB-1

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/14/23	▽ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/14/23	▽ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 80's, Sunny	▽ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1084.1'		TOPSOIL	0.3'	S-1	67	1-1-5 (6)		10.3		
		(RESIDUAL)	3.5	S-2	100	4-14-17 (31)		9.0		
1079		Yellow-brown SAND (SM), some silt, little gravel, iron staining, relic bedding, medium dense, dry	5				32.42			
		(RESIDUAL)	7.5	S-3	100	13-12-8 (20)		7.2		
1074		Brown-gray DECOMPOSED SANDSTONE; sampled as sandstone fragments, some sand, very dense, dry to moist	9.4	S-4	100	50/0.4'				
		(RESIDUAL)	10							
		Brown-gray medium-grained SANDSTONE, moderately weathered, extensive iron staining, medium bedded, moderately broken, medium hard	10	R-1	58 (0)					
		-MOHs 7.5 at 11'								
		-lost water return at 12.0'								
1069			15	R-2	80 (14)					
		-few 0.5" to 1.0" vugs from 18.0' to 22.0'								
1064			20	R-3	84 (32)					
		-MOHs 7.5 at 23.5'								
1059		Boring Terminated at 24.4 feet Boring collapsed at 4.9' after 24 Hours	25							
1054			30							
1049			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:00 - 1/10/87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

SB-2

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/17/23	Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/17/23	Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 70's, Hazy	Water Level Upon Completion: 9.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	Water Level After 24 Hours: 5.2'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1095.1'										
		FILL: sampled as brown silty sand, little rock and brick fragments, loose, moist		S-1	80	1-2-4 (6)				
		(FILL)	3.0							
		Brown DECOMPOSED SHALE; sampled as shale fragments (GP), few silt, few clay, medium dense, moist		S-2	100	10-10-9 (19)				
1090		(RESIDUAL)	6.0							
		Brown DECOMPOSED sandy SHALE; sampled as shale fragments (GP), medium to very dense, dry		S-3	80	7-7-8 (15)				
		(RESIDUAL)	10.1							
1085		Brown fine- to medium-grained micaceous SANDSTONE, moderately weathered, medium bedded, very broken to massive, medium hard to hard		S-4	100	16-32-50/0.1'				
		-vugs from 12.4' to 13.4'		R-1	100 (46)					
1080		-MOHs 8.5 at 16'		R-2	98 (66)					
1075				R-3	96 (46)					
		Brown and gray medium- to coarse-grained SANDSTONE, moderately weathered, medium to thickly bedded, broken to massive, hard								
1070		-MOHs 8.5 at 24'								
		Boring Terminated at 25.1 feet								
1065										
1060										

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Test Boring Record

SB-3

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/18/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/19/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Partly sunny, 77 Degrees	▼ Water Level Upon Completion: 4.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G./L. Barnes, E.I.T.	▼ Water Level After 24 Hours: 7.5'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1100'										
		FILL: sampled as brown silty sand, few yellow-brown rock fragments (sandstone, shale), dry -trace organics from 0.0' to 1.5'		S-1	53	1-2-2 (4)				
				S-2	100	5-7-11 (18)				
1095		(FILL)	6.0							
		Light gray and orange-brown DECOMPOSED medium to coarse-grained SANDSTONE; sampled as sandstone fragments, little sand, medium dense, dry (RESIDUAL)	7.0	S-3	100	11-18-21 (39)				
		Dark gray DECOMPOSED SANDSTONE; sampled as sandstone fragments, little sand, medium dense, dry (RESIDUAL)	9.0	S-4	100	20-32-38 (70)				
1090		Brown-gray DECOMPOSED SHALE; sampled as shale fragments, very dense, dry (RESIDUAL)	12.0	S-5	100	50/0.4'				
		Brown DECOMPOSED fine-grained SANDSTONE; sampled as sandstone fragments, trace sand, very dense, dry (RESIDUAL)	15.2	S-6	100	50/0.2'				
1085		Brown medium to coarse-grained SANDSTONE, moderately weathered, very broken to massive (generally massive), medium to hard (generally hard) -MOHs 6.5 at 16'	15	R-1	100 (68)					
1080			20	R-2	100 (88)					
1075		-MOHs 7.5 at 26' -vertical fracture from 26.8' to 26.9' -high angle fracture from 28.5' to 28.7'	25	R-3	82 (26)					
1070		-very broken to blocky from 26.6' to 30.2' with water stained fractures Boring Terminated at 30.2 feet Offset Appox. 7' downslope. Ground Surface Elevation Estimated Based On Ground Surface Elevation At Originally-Staked Location & The Topographic Mapping Provided For Project.	30							
1065			35							

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Test Boring Record

SB-4

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/17/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/17/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Hazy, 74 to 78 Degrees	▼ Water Level Upon Completion: 44.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1115'										
		FILL: sampled as brown and gray rock fragments (sandstone, shale), few sand, few silt, very loose, moist		S-1	53	3-2-2 (4)				
		(FILL) 3.0								
1110		FILL: sampled as brown rock fragments (sandstone, red shale), little to some sand, loose to firm, dry to wet	5	S-2	80	4-6-7 (13)				
				S-3	100	11-6-5 (11)				
1105			10	S-4	100	9-7-5 (12)				
				S-5	100	3-4-7 (11)				
1100			15	S-6	100	10-4-5 (9)				
				S-7	100	6-3-2 (5)				
1095		-wet from 21.0' to 22.0' (FILL) 22.0	20	S-8	80	3-3-5 (8)				
		Brown coarse-grained SANDSTONE FRAGMENTS (GP), some sand, firm, dry (RESIDUAL) 24.7								
1090		Brown-gray clayey SILT (ML), trace shale fragments, stiff, moist (RESIDUAL) 27.0	25	S-9	100	11-8-8 (16)				
		Gray-brown DECOMPOSED SHALE; sampled as soft shale fragments, little silt, few clay, medium dense, moist (RESIDUAL) 28.3		S-10	100	11-12-17 (29)				
1085		Gray and brown-orange DECOMPOSED SANDSTONE; sampled as sandstone fragments, some sand, very dense, dry (RESIDUAL) 30.4	30	S-11	100	50/0.4'				
		Brown fine to medium-grained SANDSTONE, highly weathered, thickly laminated, very broken, soft -MOHs <2 at 31' -no drill water return from 30.4' to 45.4' 33.0		R-1	54 (0)					
1080		Brown INTERBEDDED fine-grained SANDSTONE and SHALE, moderately weathered, thinly to thickly laminated, very broken to 34.5	35							

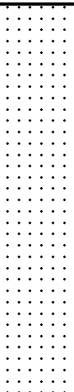
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Test Boring Record

SB-4

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/17/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/17/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Hazy, 74 to 78 Degrees	▼ Water Level Upon Completion: 44.3'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1075		moderately broken, medium hard -MOHs 3.5 at 33.5'								
		Brown fine to medium-grained SANDSTONE, moderately weathered, medium bedded, moderately broken to massive, hard -MOHs 8.5 at 37.5'	40	R-2	82 (40)					
1070		-soft, highly weathered shale 40.4' to 40.7'	45	R-3	100 (50)					
		▼ -MOHs >9 at 45'								
1065		Boring Terminated at 45.4 feet Offset 15' Uphill. Ground Surface Elevation Estimated Based On Ground Surface Elevation At Originally-Staked Location & The Topographic Mapping Provided For Project. Boring collapsed at 4.2' after 24 Hours	50							
1060			55							
1055			60							
1050			65							
1045			70							

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Test Boring Record

SB-5

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/18/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/18/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Cloudy, 70's	▼ Water Level Upon Completion: 28'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1079.1'										
		Light brown SILT (ML), little to some sand, few to little gravel, trace roots, medium, moist		S-1	100	1-2-3 (5)	58.05	12.8		
		(COLLUVIAL)	3.0							
1074		Orange-brown SAND (SM), little silt, some gravel, firm to medium dense, moist	5	S-2	100	14-17-13 (30)		9.4		
				S-3	100	9-8-6 (14)	16.06	12.5		
1069			10	S-4	100	10-8-7 (15)		12.7		
		(POSSIBLE COLLUVIAL/RESIDUAL)	12.0							
1064		Orange-brown and gray-brown mottled silty CLAY (CL/ML), relic bedding, hard, dry		S-5	100	15-23-48 (71)				
		(RESIDUAL)	15.0							
		Orange-brown SAND (SM), some silt, little rock fragments, moist	15.8	S-6	100	17-50/0.3'				
		(RESIDUAL)								
1059		Orange-brown medium to coarse-grained SANDSTONE, moderately to highly weathered, very broken to massive, soft to hard, vuggy in places, micaceous -MOHs 2.5 at 16' -vertical fracture from 17.0' to 17.7'	20	R-1	88 (26)					
		-very soft silty sand seam from 20.0' to 20.2'								
		-grading to brown at 20.0'								
1054		-MOHs 6.5 at 22'	25	R-2	94 (26)					
		-vertical fracture from 24.7' to 25.5'								
		-grading to gray and brown at 26.4', water stained, few low angle fractures								
1049		-MOHs 7.5 at 26'	30	R-3	100 (56)					
		Boring Terminated at 30.8 feet Boring collapsed at 15.2' after 24 Hours								
1044			35							

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Test Boring Record

SB-6

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/14/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/14/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Overcast, 80's	▼ Water Level Upon Completion: 31.6'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1103.1'										
		TOPSOIL	0.4'	S-1	80	1-1-2 (3)				
		Orange brown SAND (SP), medium-grained, loose, moist								
		(RESIDUAL)	3.5'	S-2	93	6-12-10 (22)				
1098		Brown-gray DECOMPOSED SANDSTONE; sampled as sandstone fragments (GP), some gray sand, dense to very dense, moist	5	S-3	100	12-11-11 (22)				
		(RESIDUAL)	9.8'	S-4	100	34-50/0.3'				
1093		Brown gray SANDSTONE, slightly weathered to moderately weathered, medium to coarse-grained, moderately broken, medium hard, extensive iron staining, micaceous, medium bedded to massive	10	R-1	46 (26)					
		-MOHs >9 at 11'	15	R-2	72 (10)					
1088				R-3	100 (56)					
		-MOHs 7.5 at 22'	25	R-4	100 (46)					
1083				R-5	100 (47)					
		-vertical fracture from 29.7' to 30.5'	30							
1078										
		-MOHs 8.5 at 31'								
1073										
		Boring Terminated at 32.8 feet								
1068			35							

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Test Boring Record

SB-7

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/13/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/13/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Partly sunny, 85 Degrees	▼ Water Level Upon Completion: 36.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 42.1'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1115.7'										
		Brown micaceous SANDSTONE FRAGMENTS (GP), few to little sand, loose, dry		S-1	67	2-3-5 (8)				
1111		(RESIDUAL)	5	S-2	87	7-6-4 (10)				
			6.0							
		Brown DECOMPOSED SANDSTONE; sampled as micaceous sandstone fragments, few sand, trace silt, medium dense to very dense, dry		S-3	100	5-6-12 (18)				
1106		(RESIDUAL)	10.0	S-4	100	50/0.2'				
		Brown fine to medium-grained micaceous SANDSTONE, moderately weathered, thinly bedded, moderately broken to blocky, hard -no drill water return from 10.0' to 44.0' -medium to coarse-grained from 11.6' to 15.0' -MOHs 8.5 at 12'	10	R-1	76 (30)					
1101			15							
		Brown SHALE, completely weathered, very broken, very soft -MOHs <2 at 17.5'	17.0	R-2	76 (0)					
		Black CARBONACEOUS SHALE, highly weathered, thinly laminated, very broken, very soft -MOHs 2.5 at 18.2'	18.0							
1096		Gray DECOMPOSED SHALE, highly weathered, thinly laminated, very soft -MOHs <2 at 22'	20.0	R-3	100 (32)					
		Brown fine to medium-grained SANDSTONE, highly to moderately weathered, thinly to medium bedded, very broken to massive, medium hard to hard -MOHs 4.5 at 22.6' -MOHs 6.5 at 24'	22.4							
1091			24.8	R-4	92 (22)					
		Brown medium to coarse-grained SANDSTONE, moderately weathered, moderately broken to blocky, hard -heavily water stained, high angle fracture from 25.4' to 26.0' -MOHs 7.5 at 29'	25							
1086		-few vugs from 32.0' to 35.0'	30	R-5	68 (18)					
		-MOHs 8.5 at 34'								
1081			35.0							

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Test Boring Record

SB-7

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/13/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/13/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Partly sunny, 85 Degrees	▼ Water Level Upon Completion: 36.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 42.1'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1076		▼ Brown fine to medium-grained SANDSTONE, moderately weathered, thinly to medium bedded, moderately broken to massive, hard -MOHs 7.5 at 37'	40	R-6	94 (52)					
1071		▼ Boring Terminated at 44.0 feet	45	R-7	80 (100)					
1066			50							
1061			55							
1056			60							
1051			65							
1046			70							

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Test Boring Record

SB-8

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/13/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/13/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 80's, Sunny	▼ Water Level Upon Completion: 17.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1115'										
		TOPSOIL	0.4'	S-1	80	1-3-5 (8)				
		Orange-brown medium-grained SAND (SP), trace silt, loose, moist								
		(RESIDUAL)	3.0							
1110		Orange-brown SAND (SM), little silt, few gravel gravel (sandstone fragments), firm to medium dense, moist	5	S-2	100	8-8-8 (16)		9.4		
		(RESIDUAL)	8.0	S-3	80	8-6-6 (12)	21.08	9.5		
1105		Gray DECOMPOSED SANDSTONE; sampled as sandstone fragments (GP), some sand, medium dense to very dense, moist	10	S-4	100	9-11-12 (23)				
		(RESIDUAL)	15.3	S-5	100	8-50/0.4'				
1100		Brown-gray medium-grained SANDSTONE, moderately weathered, micaceous, medium bedded, soft to medium hard	15.8	S-6	100	50/0.3'				
		▼ Gray CLAYSTONE, slightly weathered, micaceous, medium bedded, very soft		R-1	50 (0)					
1095		-MOHs <2 at 17'	20							
		-lost water return at 21.0'	21.8	R-2	86 (0)					
1090		Medium-gray clayey SHALE, slightly weathered, micaceous, thinly to medium bedded, soft	24.7	R-3	100 (0)					
		-MOHs 3.5 at 24'								
1085		Gray SANDSTONE, slightly weathered, thinly to medium bedded, carbonaceous laminations, some iron staining, slightly broken, medium hard	30	R-4	80 (22)					
		-MOHs 7.5 at 27'								
1080		-moderately weathered, broken, and extensive iron staining from 30.5' to 32.8'	35							
		-MOHs 8.5 at 34'								

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Test Boring Record

SB-8

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/13/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/13/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 80's, Sunny	▼ Water Level Upon Completion: 17.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1075		-MOHs 8.5 at 41'	40	R-5	100 (56)					
1070		Boring Terminated at 43.3 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.	45	R-6	58 (8)					
1065			50							
1060			55							
1055			60							
1050			65							
1045			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:00 - 1/10/87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\201616123A QVSD.GPJ

Test Boring Record

SB-9

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/17/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/17/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 80's, Hazy	▼ Water Level Upon Completion: 45.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1117.5'										
		Fill: sampled as brown rock fragments, (sandstone, shale), little to some sand, loose, moist		S-1	27	3-5-4 (9)				
1113			5	S-2	80	4-4-4 (8)				
				S-3	80	9-6-5 (11)				
1108			10	S-4	40	4-4-3 (7)				
		(FILL)	12.0							
1103		Brown SANDSTONE FRAGMENTS (GP), little sand, loose to firm, moist		S-5	100	5-7-11 (18)				
		(RESIDUAL)	15.0							
		Brown and gray DECOMPOSED SANDSTONE; sampled as sandstone fragments (GP), little sand, medium dense to very dense, moist		S-6	100	12-10-11 (21)				
1098			20	S-7	100	7-9-11 (20)				
				S-8	100	23-50/0.4'				
1093		(RESIDUAL)	24.8	S-9	100	35-50/0.3'				
		Brown SANDSTONE, completely weathered, very soft	25.0							
		Brown-gray SHALE, completely to highly weathered, thinly laminated, very broken to broken, very soft to soft		R-1	100 (0)					
		-completely weathered, very soft from 25.0' to 27.3'								
1088		-MOHs 2.5 at 26'	30							
			31.0	R-2	100 (8)					
1083		Brown and gray interbedded fine-grained SANDSTONE and SHALE, slightly to moderately weathered, thinly to thickly laminated, very broken to blocky, few carbonaceous laminations, medium hard to hard								
		-MOHs 4.5 at 31.5'								
		-MOHs 7.5 at 34'	35							

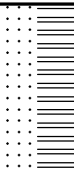
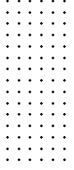
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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:00 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

SB-9

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/17/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/17/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 80's, Hazy	▼ Water Level Upon Completion: 45.8'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1078		-vertical fracture and soft from 37.5' to 41.0' -lost drill water return at 37'	39.5	R-3	50 (20)					
1073		Brown fine- to medium-grained SANDSTONE, moderately weathered, medium bedded, broken to massive, soft to medium hard, few coarse-grained zones -few carbonaceous laminations -MOHs >9 at 41'	40	R-4	84 (46)					
	▼	-soft from 45.5' to 45.7'	45	R-5	100 (58)					
1068		Boring Terminated at 46.0 feet Boring collapsed at 21.9' after 24 Hours	50							
1063			55							
1058			60							
1053			65							
1048			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:00 - 1/10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/18/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/18/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Cloudy, 70's	▼ Water Level Upon Completion: 24.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1096'		TOPSOIL	0.3'							
		Light brown SAND (SM), some silt, trace fine roots, loose to firm, moist		S-1	87	2-2-3 (5)				
1091		(COLLUVIAL)	5	S-2	100	9-7-7 (14)				
		Light brown and gray silty CLAY (CL/ML), few rock fragments (sandstone, shale), trace roots, very stiff, moist	6.0	S-3	100	8-9-16 (25)				
		(RESIDUAL)	9.0							
1086		Brown and orange-brown silty CLAY (CL/ML), trace fine sand, relic bedding, hard, dry	10	S-4	100	13-18-19 (37)				
		(RESIDUAL)	12.1							
1081		Gray-brown shaley SANDSTONE, moderately weathered, very broken to moderately broken, medium hard to hard -MOHs 7,5 at 14'	14.6	S-5	100	50/0.1'				
		Brown medium to coarse-grained SANDSTONE, moderately to highly weathered, very broken to blocky, vuggy, medium hard to hard	15	R-1	97 (0)					
1076		-MOHs 8.5 at 18.5' -several 0.5"-1.0"-diameter vugs from 18.0' to 22.0'	20	R-2	100 (34)					
1071		-very broken and fractured from 22.0' to 24.0'	25	R-3	72 (0)					
		Boring Terminated at 25.1 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project. Boring collapsed at 7.2' after 24 Hours								
1066			30							
1061			35							

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/18/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/18/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Partly cloudy, 75 to 77 Degrees	▼ Water Level Upon Completion: 22.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1105.2'		ASPHALTIC CONCRETE	0.2'	S-1	53	1-4-9 (13)				
		Orange-brown SANDSTONE FRAGMENTS (GP), few sand, firm, dry								
		(RESIDUAL)	3.0							
1100		Brown DECOMPOSED SANDSTONE; sampled as sandstone fragments, few sand, medium dense to very dense, dry	5	S-2	80	21-9-7 (16)				
				S-3	100	26-15-23 (38)				
1095		(RESIDUAL)	9.9	S-4	100	36-50/0.4'				
		Orange-brown medium to coarse-grained SANDSTONE, moderately weathered, thinly bedded, very broken to moderately broken, soft to medium hard	10							
		-MOHs 8.5 at 10.2'		R-1	42 (0)					
1090			15.0							
		Gray and orange-brown fine to medium-grained micaceous SANDSTONE, highly to moderately weathered, thickly laminated to thinly bedded, moderately broken to blocky, soft to hard								
		-highly weathered, soft from 15.0' to 17.6'		R-2	56 (10)					
		-MOHs 5.5 at 17'	17.6							
1085		Brown medium to coarse-grained SANDSTONE, moderately weathered, medium bedded, very broken to massive, hard	20							
		-MOHs >9 at 20.5'								
		▼ -lost drill water return at 21'		R-3	82 (14)					
1080			25							
		-MOHs >9 at 25'		R-4	100 (26)					
1075		-vuggy zones from 31' to 33'	30							
		-MOHs >9 at 32'		R-5	94 (16)					
		Boring Terminated at 33.0 feet								
1070			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:01 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/13/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/13/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: 78°-84°, Partly Sunny	▼ Water Level Upon Completion: 29.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1114'		TOPSOIL	0.5	S-1	67	2-2-3 (5)				
		Orange-brown micaceous SANDSTONE FRAGMENTS (GP), few sand, trace silt, loose, dry								
		(RESIDUAL)	3.0							
1109		Orange-brown SAND (SM), little silt, few gravel (sandstone fragments), medium dense, dry	5	S-2	100	12-12-12 (24)		5.4		
							24.47			
				S-3	100	14-11-10 (21)		5.3		
		(RESIDUAL)	9.0							
1104		Orange-brown micaceous DECOMPOSED SANDSTONE; sampled as sandstone fragments, few sand, trace silt, medium dense to very dense, dry	10	S-4	100	50/0.4'				
		(RESIDUAL)	12.2							
		Brown and gray medium- to coarse-grained SANDSTONE, moderately to completely weathered, thinly to medium bedded, very broken to broken, very soft to medium hard		S-5	100	50/0.2'				
1099		-vertical fracture from 13.0' to 13.5'	15	R-1	71 (0)					
		-MOHs 5.5 at 13.6'								
		-no drill water return from 12.2' to 42.0'								
		-very soft, completely weathered from 16.0' to 16.5'	16.5							
1094		Brown interbedded fine-grained SANDSTONE and SHALE, highly weathered, thinly to thickly laminated, very broken, soft	20	R-2	80 (0)					
		-MOHs <2 at 17'								
			21.0							
1089		Brown medium- to coarse-grained SANDSTONE, moderately weathered, thinly to medium bedded, very broken to massive, hard, some cross bedding	25	R-3	84 (0)					
		-highly weathered from 21.0' to 30.0'								
		-vugs from 22.0' to 23.0'								
		-MOHs >9 at 24'								
1084		-vugs from 27.0' to 27.3'	30	R-4	100 (60)					
		-MOHs 8.5 at 28'								
1079		-vugs from 34.0' to 34.7'	35	R-5	100 (64)					

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Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/13/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/13/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: 78°-84°, Partly Sunny	▼ Water Level Upon Completion: 29.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1074		-MOHs 8.5 at 38'	40	R-6	100 (56)					
				R-7	30 (25)					
1069		Boring Terminated at 42.0 feet Offset Approx. 11.5' North. Ground Surface Elevation Estimated Based On Ground Surface Elevation At Originally-Staked Location & The Topographic Mapping Provided For Project. Boring collapsed at 32.9' after 24 Hours	45							
1064			50							
1059			55							
1054			60							
1049			65							
1044			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:01 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/18/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/18/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Partly cloudy, 70 to 74 Degrees	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

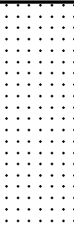
Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1113.1'										
		Brown DECOMPOSED SANDSTONE; sampled as sandstone fragments, few sand, medium to very dense, dry		S-1	67	1-7-20 (27)				
				S-2	100	17-50/0.1'				
1108		(RESIDUAL)	5							
			6.2	S-3	100	50/0.2'				
		Brown fine to medium-grained micaceous SANDSTONE, highly to moderately weathered, thinly bedded, very broken to blocky, soft to hard								
		-lost water return at 7.0'		R-1	80 (10)					
1103		-soft from 8.0' to 8.7'	10							
		-MOHs 6.5 at 10'								
			11.3							
		Brown medium to coarse-grained micaceous SANDSTONE, moderately weathered, very broken to blocky, hard		R-2	92 (16)					
1098		-few fractured zones	15							
		-MOHS 6.5 at 14'								
			17.4							
		Brown fine to medium-grained SANDSTONE, highly to moderately weathered, thinly bedded, very broken to moderately broken, soft to medium hard		R-3	90 (0)					
1093		-soft, highly weathered from 19.4' to 19.9'	20							
			20.8							
		Black CARBONACEOUS SHALE, highly weathered, thinly laminated, very broken, soft, possible pyrite								
		-MOHs 2.5 at 21'	21.5							
		Gray-brown SHALE, highly to completely weathered, thinly laminated, very broken to moderately broken, soft		R-4	100 (0)					
1088		-MOHs <2 at 22'	24.0							
		Brown fine to medium-grained SANDSTONE, moderately weathered, moderately broken, medium hard to hard	25							
		-MOHs 8.5 at 25'	26.2							
		-vuggy from 25.5' to 26.0'	27.0							
		Dark gray SHALE, moderately weathered, thinly laminated, very broken, soft		R-5	100 (12)					
1083		Brown medium to coarse-grained SANDSTONE, moderately weathered, medium bedded, moderately broken to massive, hard, few vertical fractures	30							
		-many vugs and carbonaceous inclusions from 31.3' to 34.5'		R-6	100 (16)					
		-MOHs >9 at 31.5'								
1078			35							

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Test Boring Record

SB-13

Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: W. Ewing (Test Boring Services, Inc.) Drilling Rig: Acker Rebel Track Mounted Rig Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Proposed QVSD High School Start Date: 7/18/23 Completion Date: 7/18/23 Weather: Partly cloudy, 70 to 74 Degrees Logged By: K. Thiry, P.G.	Sheet: 2 of 2 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1073		-MOHs 8.5 at 38'	40	R-7	96 (0)					
1068		Boring Terminated at 41.0 feet Boring collapsed at 15' after 24 Hours	45							
1063			50							
1058			55							
1053			60							
1048			65							
1043			70							

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Test Boring Record

SB-14

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/18/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/18/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: Partly cloudy, 67 to 70 Degrees	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1113.4'										
		Brown DECOMPOSED micaceous SANDSTONE; sampled as sandstone fragments, few sand, medium dense to very dense, dry		S-1	80	1-4-17 (21)				
				S-2	100	16-40-50/0.3'				
1108		(RESIDUAL)	5							
			6.3	S-3	100	50/0.3'				
		Brown fine to medium-grained micaceous SANDSTONE, moderately weathered, thinly bedded, very broken to blocky, medium hard								
		-MOHs 4.5 at 8.5'		R-1	82 (8)					
1103			10							
		Brown SHALE, completely to highly weathered, thinly laminated, very broken, very soft	11.1							
			13.0							
		Brown fine to medium-grained SANDSTONE, moderately weathered, thinly bedded, very broken to blocky, hard		R-2	74 (0)					
1098		-few vugs, medium to coarse-grained from 14.0' to 15.0'	15							
		-MOHs 7.5 at 19'		R-3	100 (0)					
1093			20							
		Brown to dark gray SHALE, highly weathered, thinly laminated, very broken, soft	20.4							
		-MOHs <2 at 21.2'	21.5							
		Brown INTERBEDDED fine-grained SANDSTONE and SHALE, moderately weathered, thinly to thickly laminated, very broken to massive, medium hard, some carbonaceous laminations		R-4	100 (10)					
1088		-MOHs 2.5 at 22.3'	25							
		-few vertically fractured zones								
		-MOHs 6.5 at 24'								
			27.0							
		Brown medium to coarse-grained SANDSTONE, moderately weathered, moderately broken to massive, hard, few carbonaceous laminations		R-5	92 (28)					
1083			30							
		-MOHs 8.5 at 31'								
1078			35	R-6	100 (32)					

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Test Boring Record

SB-14

Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: W. Ewing (Test Boring Services, Inc.) Drilling Rig: Acker Rebel Track Mounted Rig Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Proposed QVSD High School Start Date: 7/18/23 Completion Date: 7/18/23 Weather: Partly cloudy, 67 to 70 Degrees Logged By: K. Thiry, P.G.	Sheet: 2 of 2 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1073		-MOHs 8.5 at 41'	40	R-7	74 (46)					
1068		Boring Terminated at 41.3 feet Boring collapsed at 4.2' after 24 Hours	45							
1063			50							
1058			55							
1053			60							
1048			65							
1043			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:01 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/14/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/14/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 80's, Sunny	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1114.3'		TOPSOIL	0.4'	S-1	67	1-2-6 (8)				
		Orange-brown medium-grained SAND (SP), loose, moist								
		(RESIDUAL)	3.0							
1109		Gray DECOMPOSED SANDSTONE; sampled as sandstone fragments, some sand, medium dense to very dense, iron stained, moist	5	S-2	100	3-11-13 (24)				
				S-3	100	11-17-14 (31)				
1104			10	S-4	100	34-44-33 (77)				
				S-5	100	50/0.4'				
1099		(RESIDUAL)	15	S-6	100	50/0.4'				
		Brown-gray medium- to coarse-grained SANDSTONE, moderately weathered, medium bedded, micaceous, iron stained, slightly broken, medium hard								
1094		-MOHs 5.5 at 16'	20	R-1	80 (30)					
		Medium gray CLAYSTONE, fresh, medium bedded, very soft	22.3							
			23.2	R-2	100 (14)					
1089		Medium gray SILTSTONE, slightly weathered to fresh, medium bedded, slightly broken, medium hard	25							
		-shaley zone from 24.3' to 24.4'								
		-MOHs 6.5 at 25'								
			27.6							
1084		Gray fine- to medium-grained SANDSTONE, moderately weathered to fresh, iron stained, highly broken and weathered, hard	30	R-3	100 (36)					
		-MOHs 8.5 at 29'								
		-iron stained, vertical fracture, microlaminated from 34.8' to 35.9'		R-4	100 (0)					
1079			35							

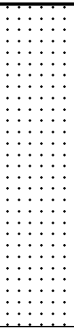
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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:01 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

SB-15

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/14/23	▽ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/14/23	▽ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 80's, Sunny	▽ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1074		-coarse-grained, highly broken, vuggy, and fractured from 35.0' to 37.0'	40	R-5	46 (0)					
		-MOHs >9 at 36'								
		-vertical fracture from 41.9' to 42.5'		R-6	100 (0)					
1069		Boring Terminated at 43.4 feet	45							
1064			50							
1059			55							
1054			60							
1049			65							
1044			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:01 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/17/23	▽ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/17/23	▽ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: 70's, Hazy	▽ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▽ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1109'										
		Brown and orange-brown SAND (SM), some silt, little rock fragments (sandstone), loose, dry		S-1	67	2-3-4 (7)				
		(RESIDUAL)	3.0							
1104		Gray-brown DECOMPOSED SANDSTONE; sampled as medium- to coarse-grained sandstone fragments, little to some sand, little to few silt, dense to very dense, dry	5	S-2	100	11-21-36 (57)				
				S-3	100	28-23-15 (38)				
		(RESIDUAL)	9.4							
1099		Orange-brown coarse-grained SANDSTONE, highly weathered, very broken to moderately broken, medium hard to hard, vuggy -MOHs >9 at 10'	10	S-4	100	50/0.4'				
		Gray and brown CARBONACEOUS fine sandy SHALE, moderately to highly weathered, very broken to moderately broken, very soft to medium hard		R-1	68 (0)					
		-clay seam from 10.6' to 10.8'								
1094		-MOHs 7.5 at 14.5'	15	R-2	100 (0)					
1089		Medium gray CARBONACEOUS fine- to medium-grained shaley SANDSTONE, moderately weathered, very broken to blocky, medium hard to hard	20							
		-MOHs >9 at 20'								
			21.9	R-3	82 (0)					
1084		Gray and brown fine- to medium-grained SANDSTONE, few to many carbonaceous laminations, moderately to highly weathered, very broken to moderately broken, soft to hard (generally medium hard), shaley in zones	25							
		-MOHs 3.5 at 22.2'								
		-MOHs 7.5 at 25'		R-4	94 (38)					
1079			30							
		Orange-brown medium- to coarse-grained SANDSTONE, highly weathered, very broken to massive, medium hard to hard	30.6							
		-MOHs >9 at 31'		R-5	80 (36)					
		-highly weathered, driller noted soft zones while coring R-5								
1074		-vuggy from 31.0' to 34.0'	35							

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Test Boring Record

SB-17

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/17/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/17/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: 70's, Hazy	▼ Water Level Upon Completion: 31.5'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1102.6'		TOPSOIL	0.4'	S-1	67	1-2-3 (5)				
		Gray-brown SAND (SM), some silt, few rock fragments (brown and red sandstone, coal), loose, dry (COLLUVIAL)	3.0							
1098		Light brown to orange-brown SAND (SM), some silt, few rock fragments (sandstone), firm, dry (RESIDUAL)	6.0	S-2	100	10-7-7 (14)				
		Gray and rust-brown decomposed CARBONACEOUS SHALE; sampled as very thinly laminated shale fragments, little silt, few sand, micaceous, medium dense to very dense, dry to moist (RESIDUAL)	12.4	S-3	87	12-11-10 (21)				
1093		Gray-brown CARBONACEOUS SHALE, moderately to highly weathered, very broken, soft to medium hard, fine sandy	15	S-4	100	22-43-50/0.4'				
		-MOHs 2.5 at 13.5'		S-5	100	50/0.4'				
1088		-MOHs 2.5 at 19'	20	R-1	96 (0)					
1083		Gray fine- to medium-grained SANDSTONE, moderately weathered, very broken to moderately broken, medium hard to hard, few to many carbonaceous laminations -MOHs 6.5 at 22'	25	R-2	100 (8)					
1078		Brown medium-grained SANDSTONE, moderately to slightly weathered, very broken to massive, medium hard to hard, trace carbonaceous laminations, some water staining -high angle water stained fracture from 25.5' to 25.8' -lost water ~26.0' -MOHs 5.5 at 26' -clay seam at 30.4'	30	R-3	100 (0)					
1073		Brown medium- to coarse-grained SANDSTONE, moderately weathered, very broken to massive, medium hard to hard, vuggy -MOHs 7.5 at 31'	35	R-4	92 (18)					
1068		Boring Terminated at 32.5 feet Boring collapsed at 28.8' after 24 Hours		R-5	50 (26)					

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:01 - \\10.87.1.5\SHARED\DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/18/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/18/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Cloudy, 70's	▼ Water Level Upon Completion: 31.6'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▼ Water Level After 24 Hours: 28'

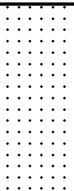
Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1078'										
		Light brown SAND (SM), some silt, trace rock fragments (red sandstone, brown sandstone), loose, moist		S-1	100	1-5-5 (10)				
		(COLLUVIAL)	3.0							
1073		Brown, grayish-brown, and orange-brown silty CLAY (CL/ML), trace fine sand, relic bedding, stiff, dry	5	S-2	100	11-7-7 (14)				
		(RESIDUAL)	6.0							
		Reddish-brown and orange-brown SANDSTONE FRAGMENTS (GP), little sand, trace silt, loose, dry		S-3	100	6-4-4 (8)				
		(RESIDUAL)	9.0							
1068		Orange-brown DECOMPOSED SANDSTONE sampled as sandstone fragments, little sand, very dense, dry	9.3	S-4	100	50/0.3'				
		(RESIDUAL)		R-1	80 (0)					
		Brown and orange-brown medium to coarse-grained SANDSTONE, moderately to highly weathered, very broken to moderately broken, medium hard to hard, vuggy		R-2	98 (0)					
1063		-no water return -MOHs 7.5 at 11' -vertical fracture from 15.3' to 15.5' -completely weathered from 15.7' to 16.0' -black clay seam at 16.0'	15							
			16.3							
		Gray and brown medium-grained SANDSTONE, moderately weathered, very broken to massive, medium hard to hard, some water staining, micaceous, few low angle fractures		R-3	98 (50)					
1058		-MOHs 7.5 at 21'	20							
		-clay seam at 23.0'		R-4	96 (0)					
		-clay seam at 24.0'								
1053			24.5							
		Gray fine- to medium-grained SANDSTONE, moderately to slightly weathered, very broken to massive, medium hard to hard, some water staining, micaceous, few carbonaceous laminations	25	R-5	100 (58)					
1048		-MOHs 8.5 at 28'	30							
				R-6	100 (58)					
1043			35							

(Continued Next Page)

Test Boring Record

SB-18

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/18/23	▽ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/18/23	▽ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Cloudy, 70's	▽ Water Level Upon Completion: 31.6'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▽ Water Level After 24 Hours: 28'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1038		-MOHs 8.5 at 40'	40	R-7	100 (86)					
1033		Medium gray fine sandy SILTSTONE, slightly weathered to fresh, very broken to blocky, medium hard to hard -clay seam at 41.5' -MOHs 6.5 at 41.6'	41.4	R-8	100 (77)					
1028		Boring Terminated at 42.8 feet Offset Approximately 5' South (downslope). Ground Surface Elevation Estimated Based On Ground Surface Elevation At Originally-Staked Location & The Topographic Mapping Provided For Project.	45							
1023			50							
1018			55							
1013			60							
1008			65							
			70							

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Test Boring Record

SB-19

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/13/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/13/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: 70's. Partly Sunny	▼ Water Level Upon Completion: 25.6'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1122'		TOPSOIL	0.3'	S-1	73	2-5-4 (9)				
		FILL: sampled as orange-brown rock fragments (shale, sandstone), few gravel, trace clay, loose, moist (FILL)	3.0							
1117		Brown SAND (SM), little silt, little gravel (sandstone fragments), medium dense, moist -moist from 3.0' to 7.5'	5	S-2	100	16-15-14 (29)	21.53	8.6		
		(RESIDUAL)	9.0	S-3	100	10-8-8 (16)		9.1		
1112		Brown micaceous DECOMPOSED SANDSTONE; sampled as sandstone fragments, few sand, trace silt, medium to very dense, dry (RESIDUAL)	12.4	S-4	100	50/0.3'				
1107		Brown fine- to medium-grained micaceous SANDSTONE, moderately weathered, thickly laminated to medium bedded, very broken to massive, medium hard to hard, few soft seams	15	R-1	81 (0)					
		-MOHs 7.5 at 16.5'		R-2	100 (0)					
1102		-very water stained, medium to coarse-grained, thinly bedded, massive, hard from 20.0' to 30.8'	20	R-3	96 (54)					
1097		-MOHs 7.5 at 25'	25	R-4	92 (38)					
1092		-MOHs 6.5 at 32'	30	R-5	94 (12)					
1087		Brown and gray fine- to medium-grained SANDSTONE and SHALE, moderately weathered, thinly laminated to thinly bedded, very broken to moderately broken, medium hard, some	32.7							
			35							

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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:01 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 2 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/13/23	▽ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/13/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: 70's. Partly Sunny	▼ Water Level Upon Completion: 25.6'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1082		carbonaceous laminations, possible pyrite -MOHs 5.5 at 35' Boring Terminated at 36.0 feet Boring Collapsed at 22.7' after 24 Hours	40	R-6	100 (0)					
1077			45							
1072			50							
1067			55							
1062			60							
1057			65							
1052			70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:01 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\201616123A QVSD.GPJ

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 2
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/13/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/13/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 80's, Sunny	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1116.8'		TOPSOIL	0.4'	S-1	67	1-1-2 (3)				
		Yellow-brown SAND (SP), little angular sandstone fragments, very loose to firm, moist		S-2	100	8-5-6 (11)				
1112		(RESIDUAL)	7.0	S-3	100	6-7-8 (15)				
		Brown-orange-gray DECOMPOSED SANDSTONE (GP); sampled as sandstone fragments, little sand, loose to very dense, moist		S-4	100	15-27-50/0.4'				
1107		(RESIDUAL)	12.1	S-5	100	50/0.1'				
		Gray medium-grained SANDSTONE, moderately weathered, thinly bedded, moderately broken, medium hard to hard, iron stained		R-1	76 (0)					
1102		-MOHs 7.5 at 13'	15.0	R-2	66 (0)					
		Light gray CLAYSTONE, slightly weathered, medium bedded, very soft		R-3	100 (26)					
		-MOHs <2 at 16'								
		-lost water return at 17.0'	17.5	R-4	100 (8)					
1097		Brown-gray SANDSTONE, medium-grained, micaceous, moderately broken, iron stained, carbonaceous streaks, hard								
		-MOHs 7.5 at 19'	22.3							
		Dark gray sandy CLAYSTONE, moderately weathered, thinly bedded, very soft	22.7							
1092		Gray medium-grained SANDSTONE, slightly weathered, iron stained, slightly broken, soft to hard	25.2							
		-MOHs 2.5 at 23'	26.4							
		-MOHs 7.5 at 24'	28.4							
		Gray sandy SHALE, slightly weathered, thinly bedded, iron stained, slightly broken, soft								
		-MOHs <2 at 25.5'	30.0							
1087		Gray medium-grained SANDSTONE, slightly weathered, thinly bedded, slightly broken, soft to medium hard		R-5	(20)					
		-MOHs 5.5 at 27'								
		-iron stained vertical fracture from 28.3' to 28.5'								
		Medium gray SILTSTONE, slightly to moderately weathered, iron stained, vertically fractured, slightly broken, medium hard								
		-MOHs 4.5 at 29'								
1082		Gray medium-grained SANDSTONE, slightly weathered to fresh, micaceous, carbonaceous laminations, sub-vertical fracture, moderately broken, hard								
		-MOHs 8.5 at 31'	35							

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BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:01 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Project Number: 16123A Project Location: Edgeworth, Leet Twp., Leetsdale, PA Drilled By: W. Ewing (Test Boring Services, Inc.) Drilling Rig: Acker Rebel Track Mounted Rig Drilling Method: 3 1/4 HSA & NQ2 Core	Project Name: Proposed QVSD High School Start Date: 7/13/23 Completion Date: 7/13/23 Weather: 80's, Sunny Logged By: C. Ledney	Sheet: 2 of 2 Water Level During Drilling: Water Level Before Coring: Water Level Upon Completion: Water Level After 24 Hours:
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Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1077		Boring Terminated at 32.0 feet Boring collapsed at 7' after 24 Hours	40							
1072		Boring Terminated at 32.0 feet Boring collapsed at 7' after 24 Hours	45							
1067		Boring Terminated at 32.0 feet Boring collapsed at 7' after 24 Hours	50							
1062		Boring Terminated at 32.0 feet Boring collapsed at 7' after 24 Hours	55							
1057		Boring Terminated at 32.0 feet Boring collapsed at 7' after 24 Hours	60							
1052		Boring Terminated at 32.0 feet Boring collapsed at 7' after 24 Hours	65							
1047		Boring Terminated at 32.0 feet Boring collapsed at 7' after 24 Hours	70							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:01 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\201616123A QVSD.GPJ

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/13/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/13/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 80's, Sunny	▼ Water Level Upon Completion: 3.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: C. Ledney	▼ Water Level After 24 Hours: 2.3'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1107.1'										
		TOPSOIL	0.4'	S-1	67	1-1-1 (2)				
		Brown-orange medium-grained SAND (SM), little silt, trace sandstone fragments, very loose, moist (COLLUVIAL)	3.0'							
1102		Yellow-brown SAND (SP), some sandstone fragments, loose, moist (COLLUVIAL)	5.0'	S-2	100	4-3-5 (8)				
			6.0'							
		Gray DECOMPOSED SANDSTONE; sampled as sandstone fragments (GP), little sand, medium dense, moist (COLLUVIAL)	10.0'	S-3	100	18-12-9 (21)				
1097		Gray DECOMPOSED SANDSTONE, little sand, very dense, moist (RESIDUAL)	12.4'	S-4	100	20-35-50/0.4'				
			15.0'	S-5	100	50/0.4'				
1092		Gray medium-grained SANDSTONE, moderately weathered, thinly to medium bedded, micaceous, moderately broken, medium hard -MOHs 4.5 at 13.3'	16.4'	R-1	100 (0)					
		Gray CLAYSTONE, slightly weathered to fresh, medium bedded, very soft -MOHs <2 at 17.5'	18.0'	R-2	100 (0)					
1087		Gray sandy SHALE, slightly weathered, iron stained, thinly bedded, slightly broken, very soft to soft Gray with dark gray streaked shaley SANDSTONE, slightly weathered, microlaminated, thinly to medium bedded, moderately broken, medium hard -MOHs 5.5 at 20' Boring Terminated at 21.0 feet	19.4'	R-3	100 (25)					
1082			25.0'							
1077			30.0'							
1072			35.0'							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:01 - 1/10/87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

SB-22

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/14/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/14/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Partly sunny, 74 to 77 Degrees	▼ Water Level Upon Completion:
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1113.6'										
		Brown DECOMPOSED micaceous SANDSTONE; sampled as sandstone fragments, few sand, medium to very dense, dry		S-1	100	3-6-10 (16)				
				S-2	100	17-29-38 (67)				
1109			5							
				S-3	100	33-20-19 (39)				
		(RESIDUAL)	9.1							
1104		Brown to light gray fine to medium-grained SANDSTONE, moderately weathered, thinly bedded, very broken to blocky, hard	10	S-4 R-1	100 44 (0)	50/0.1'				
		-MOHs >9 at 12'		R-2	90 (8)					
1099			15							
		-light gray/brown, soft vertical fracture from 16.0' to 17.0'		R-3	96 (0)					
1094		-MOHs 8.5 at 20.6'	20							
		-vertical fracture from 20.0' to 20.5'								
		-few vertical fractures from 21.4' to 24.7'	22.0							
1089		Brown and gray INTERBEDDED fine-grained SANDSTONE and SHALE, moderately weathered, thinly laminated, very broken to moderately broken, medium hard, numerous carbonaceous laminations	25	R-4	98 (16)					
		-MOHs 6.5 at 26'		R-5	93 (0)					
1084		Boring Terminated at 28.0 feet	30							
1079			35							

BORING LOG - DOUG BEITKO - GARVIN.GDT - 1/16/26 16:01 - \\10.87.1.5\SHARED DOCUMENTS\GINT (NEW)\PROJECTS\2016123A QVSD.GPJ

Test Boring Record

SB-23

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/19/23	▼ Water Level During Drilling:
Drilled By: W. Ewing (Test Boring Services, Inc.)	Completion Date: 7/19/23	▼ Water Level Before Coring:
Drilling Rig: Acker Rebel Track Mounted Rig	Weather: 70's, Cloudy	▼ Water Level Upon Completion: 15.9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1103.3'										
		Brown clayey SILT (ML), trace fine sand, medium, moist		S-1	67	1-1-4 (5)				
		(RESIDUAL)	3.0							
1098		Gray and brown SANDSTONE FRAGMENTS (GP), some sand, little silt, medium dense, moist, micaceous	5	S-2	80	5-7-8 (15)				
		(RESIDUAL)	6.5							
		Gray and brown DECOMPOSED SANDSTONE; sampled as sandstone fragments, some sand, little silt, dense to very dense, moist, micaceous		S-3	80	7-30-10 (40)				
		(RESIDUAL)	9.4							
1093		Brown medium- to coarse-grained micaceous SANDSTONE, moderately to highly weathered, very broken to moderately broken, medium hard -vertical fracture from 10.6' to 11.6' -MOHs 6.5 at 11'	10	S-4	100	50/0.4'				
				R-1	60 (0)					
1088		Gray and orange-brown SHALE, highly weathered, very soft -MOHs <2 at 15.5'	14.2							
			15	R-2	100 (10)					
		Gray and brown shaley fine- to medium-grained SANDSTONE, highly weathered, very broken to massive (generally very broken to moderately broken), very soft to hard (generally medium hard) -MOHs 6.5 at 18' Boring Terminated at 19.4 feet	17.7							
1083			20							
1078			25							
1073			30							
1068			35							

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/17/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/17/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: 80's, Hazy	▼ Water Level Upon Completion: 25.7'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: L. Barnes, E.I.T.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1113.7'										
		Brown CLAY (CL) with gray mottling, stiff, dry		S-1	87	9-5-9 (14)				
		(RESIDUAL)	3.0							
		Gray and brown DECOMPOSED SANDSTONE; sampled as sandstone fragments, little sand, few silt, very dense, dry		S-2	100	50/0.4'				
1109		(RESIDUAL)	6.1							
		Gray and brown medium- to coarse-grained SANDSTONE, moderately to highly weathered, very broken to moderately broken, medium hard to hard, some water staining, few low angle fractures, vuggy in places -MOHs 5.5 at 8'		S-3	100	50/0.1'				
1104				R-1	94 (0)					
				R-2	100 (0)					
1099				R-3	72 (0)					
		-MOHs 8.5 at 16.8' -clay seam at 17.3' -gray and brown claystone and clayshale interbeds from 17.7' to 21.1'								
1094				R-4	88 (0)					
		Medium gray and brown CARBONACEOUS fine sandy SHALE, moderately to highly weathered, very broken and fractured, very soft to medium hard -MOHs 5.5 at 24.5'								
1089				R-5	100 (30)					
		Gray fine- to medium-grained SANDSTONE, slightly weathered, very broken to massive (generally moderately broken to blocky), medium hard to hard, vuggy, many carbonaceous laminations -MOHs 8.5 at 27' -water stained from 29.6' to 29.8'								
1084										
		Boring Terminated at 30.1 feet								
1079										

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/19/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/19/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Partly cloudy, 71 Degrees	▼ Water Level Upon Completion: 16.9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1103'										
		TOPSOIL Tan sandy SILT (ML), medium, dry	0.3'	S-1	87	1-3-4 (7)				
		(COLLUVIAL)	3.0							
1098		Brown SANDSTONE FRAGMENTS (GP), some sand, loose to firm, dry	5	S-2	100	9-9-5 (14)				
		(COLLUVIAL)	9.0	S-3	100	6-5-4 (9)				
1093		Brown DECOMPOSED SANDSTONE, LITTLE sand, very dense dry	9.3'	S-4	100	50/0.3'				
		(RESIDUAL)	13.3	R-1	98 (40)					
1088		Brown fine to medium-grained micaceous SANDSTONE, moderately weathered, thinly bedded, very broken to massive, hard, few carbonaceous laminations -MOHs 8.5 at 10.5	15	R-2	100 (0)					
		Gray INTERBEDDED fine-grained micaceous SANDSTONE and SHALE, slightly weathered, moderately broken to hard, some carbonaceous laminations -lost drill water at 14'								
		-MOHs 8.5 at 17.5'								
1083		Boring Terminated at 18.0 feet Offset Approx. 9' NE. Ground Surface Elevation Estimated Based On Ground Surface Elevation At Originally-Staked Location & The Topographic Mapping Provided For Project.	20							
1078			25							
1073			30							
1068			35							

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Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/18/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/19/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Cloudy, 69 Degrees	▼ Water Level Upon Completion: 19.2'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry/L. Barnes	▼ Water Level After 24 Hours:

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1110'										
		Light brown SILT (ML), little sand, few rock fragments, trace roots, stiff, dry		S-1	87	1-4-8 (12)		4.4		
		(POSSIBLE COLLUVIAL/RESIDUAL)	3.0							
1105		Gray and brown SAND (SM), little silt, little to some gravel (sandstone fragments), medium dense, dry	5	S-2	100	13-12-13 (25)		4.4		
							21.88			
				S-3	100	10-9-7 (16)		5.2		
		(RESIDUAL)	9.0							
1100		Gray to gray and brown DECOMPOSED SANDSTONE; sampled as sandstone fragments, few sand, few silt, very dense, dry (RESIDUAL)	9.8	S-4	38	32-50/0.3'				
		Brown and gray medium to coarse-grained SANDSTONE, slightly to moderately weathered, medium bedded, very broken to massive, hard		R-1	94 (48)					
1095		-MOHs >9 at 15'	15							
			16.5							
		Brown and gray fine to medium-grained micaceous SANDSTONE, slightly weathered, thinly laminated to very thinly bedded, very broken to massive, hard		R-2	96 (44)					
1090		-MOHs >9 at 21'	20							
			22.0							
1085		Gray INTERBEDDED fine-grained SANDSTONE and SHALE, slightly weathered, thinly to thickly laminated, moderately broken to massive, hard, few carbonaceous laminations		R-3	100 (60)					
		-MOHs 8.5 at 24'	25							
		Boring Terminated at 24.8 feet								
		Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.								
1080			30							
1075			35							

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Test Boring Record

SB-27

Project Number: 16123A	Project Name: Proposed QVSD High School	Sheet: 1 of 1
Project Location: Edgeworth, Leet Twp., Leetsdale, PA	Start Date: 7/14/23	▼ Water Level During Drilling:
Drilled By: J. Powell (Test Boring Services, Inc.)	Completion Date: 7/14/23	▼ Water Level Before Coring:
Drilling Rig: Diedrich D-50 Track Mount	Weather: Partly sunny, 78 to 80 Degrees	▼ Water Level Upon Completion: 27.9'
Drilling Method: 3 1/4 HSA & NQ2 Core	Logged By: K. Thiry, P.G.	▼ Water Level After 24 Hours: 19.8'

Ground Elevation (ft)	Graphic Log	Material Description	Depth (ft)	Sample Type Number	Recovery % (RQD)	Blow Counts (N Value)	% < #200 Sieve	Water Content (%)	Liquid Limit	Plastic Limit
1115'										
		Brown micaceous SANDSTONE FRAGMENTS (GP), few sand, trace silt, firm, dry (RESIDUAL) 2.0		S-1	27	3-7-5 (12)				
1110		Brown DECOMPOSED SANDSTONE sampled as fine- to medium-grained sandstone fragments, few sand, trace silt, dense to very dense, dry	5	S-2	100	18-22-21 (43)				
				S-3	100	20-41-44 (85)				
1105		(RESIDUAL) 10.1	10	S-4	136	38-40-50/0.1'				
		Brown fine to medium-grained micaceous SANDSTONE, highly to moderately weathered, thinly laminated, very broken to moderately broken, soft to medium hard -soft, highly weathered from 10.2' to 10.4' -MOHs 5.5 at 12'		R-1	90 (0)					
1100		14.9	15							
		Brown and orange-brown medium to coarse-grained SANDSTONE, moderately weathered, thinly bedded, moderately broken to blocky, medium hard to hard, few carbonaceous laminations, vertical fractures throughout -MOHs 6.5 at 16'		R-2	94 (12)					
1095		▼ 19.8	20							
		Brown to gray INTERBEDDED fine-grained SANDSTONE and SILTSTONE, highly to slightly weathered, thinly to thickly laminated, very broken to massive, medium hard -soft, highly weathered from 21.0' to 22.0'		R-3	100 (20)					
1090		=MOHs 6.5 at 23'	25							
		-gray to dark gray from 22.0' to 27.0'								
		▼ -light gray from 27.0' to 30.1'		R-4	100 (0)					
1085		-MOHs 7.5 at 29'	30							
		Boring Terminated at 30.1 feet Ground surface estimated based on ground surface elevation at originally-staked location and the topographic mapping provided for the project.								
1080			35							

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