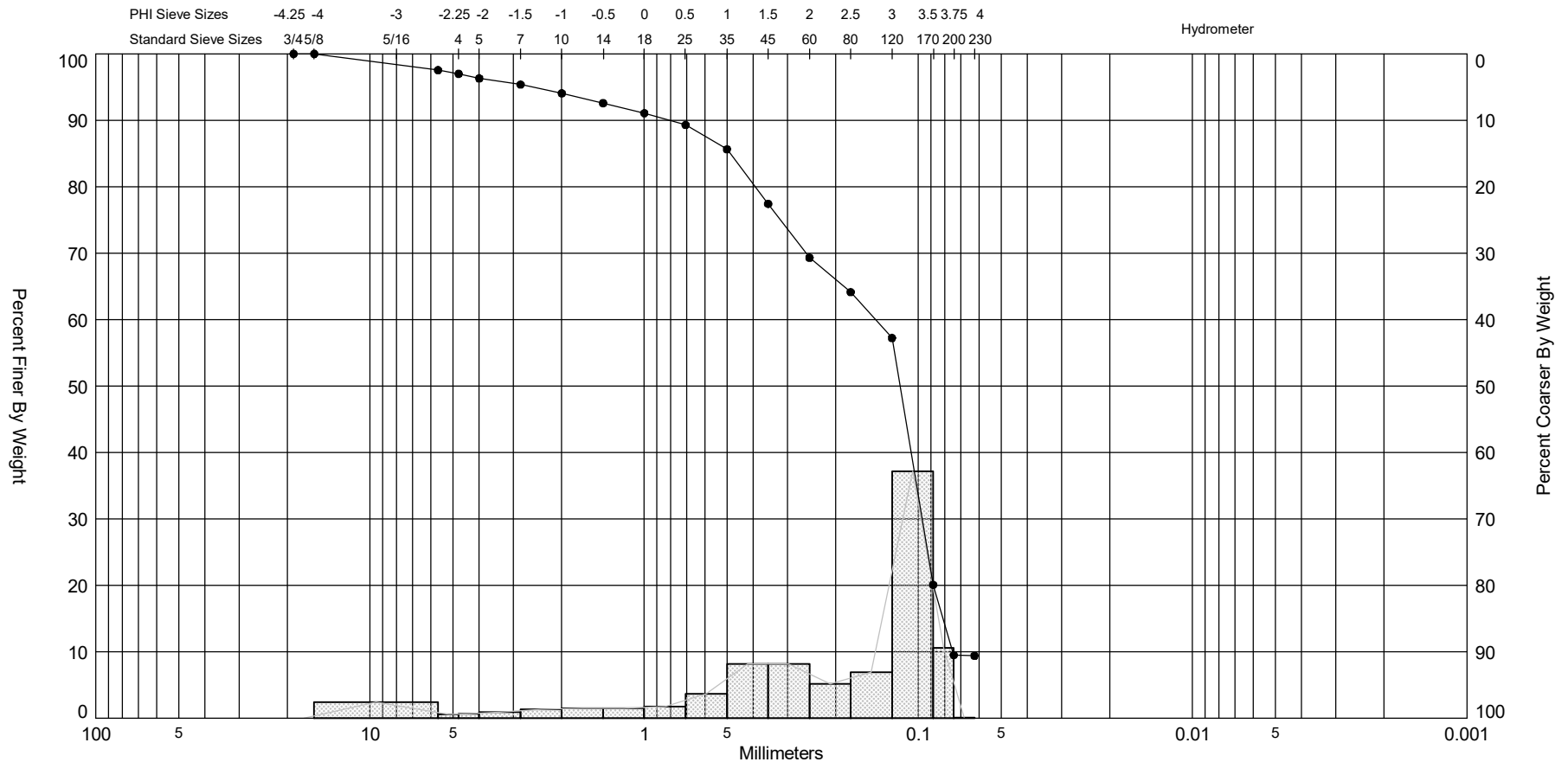



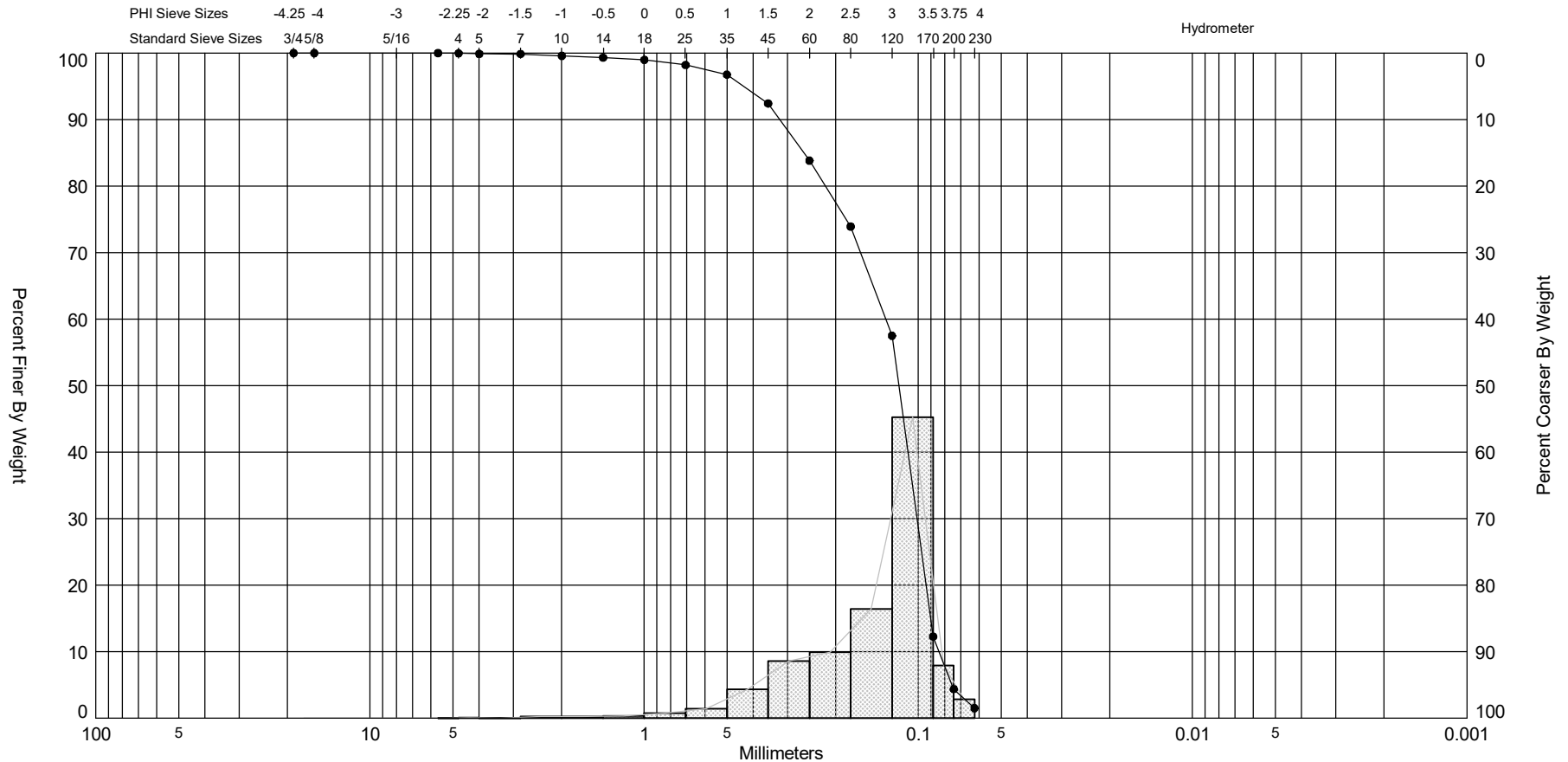
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-11	—●—		SW-SM	#200 - 9.48 #230 - 9.39			3.1	2.23	-1.71	5.53	1.62	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-31-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,132,890
												Northing (Y, ft):	2,114,645
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

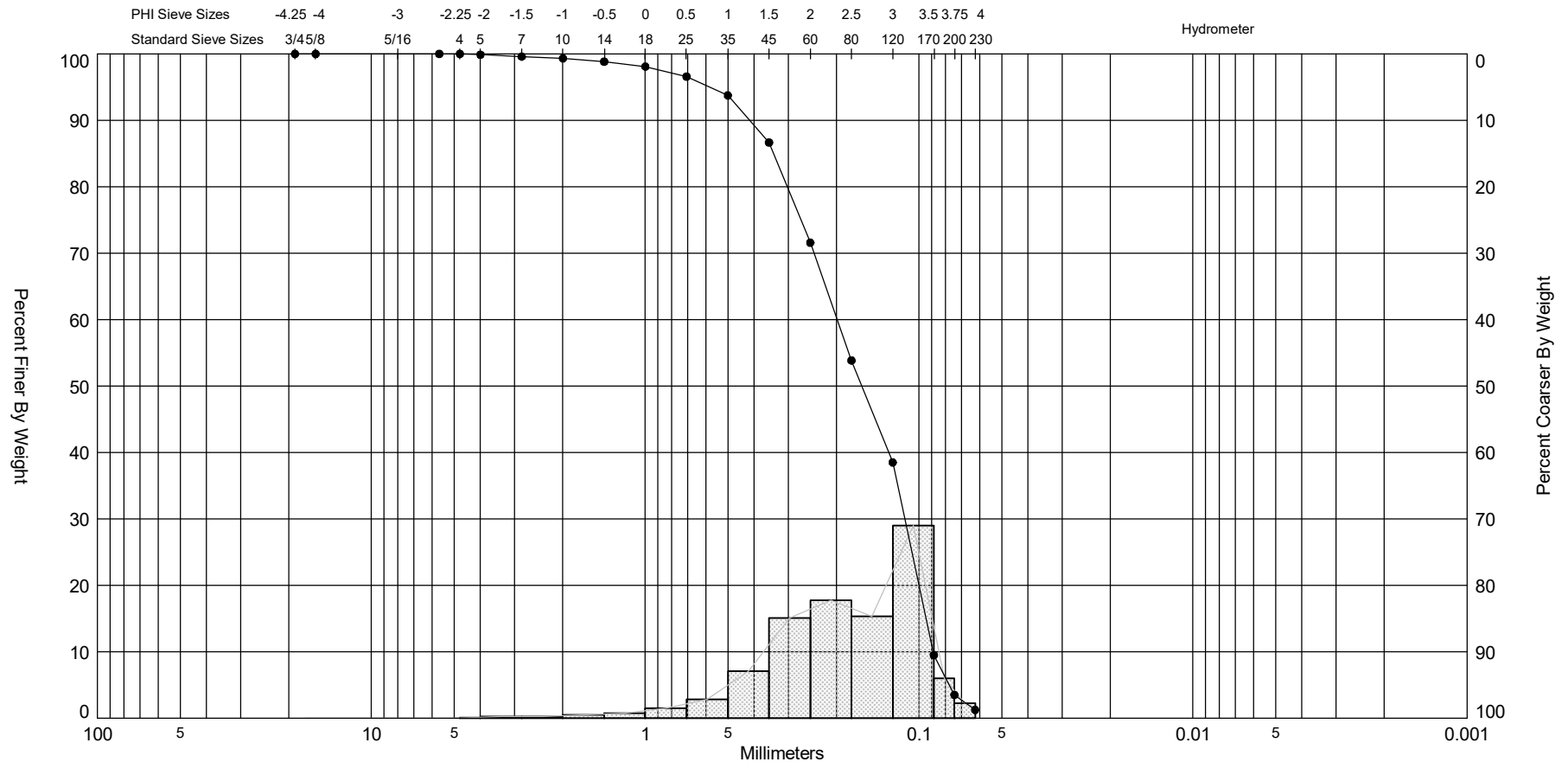
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-15	—●—		SP	#200 - 4.37 #230 - 1.50			3.08	2.79	-1.76	7.33	0.82	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-24-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,131,511
												Northing (Y, ft):	2,112,641
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

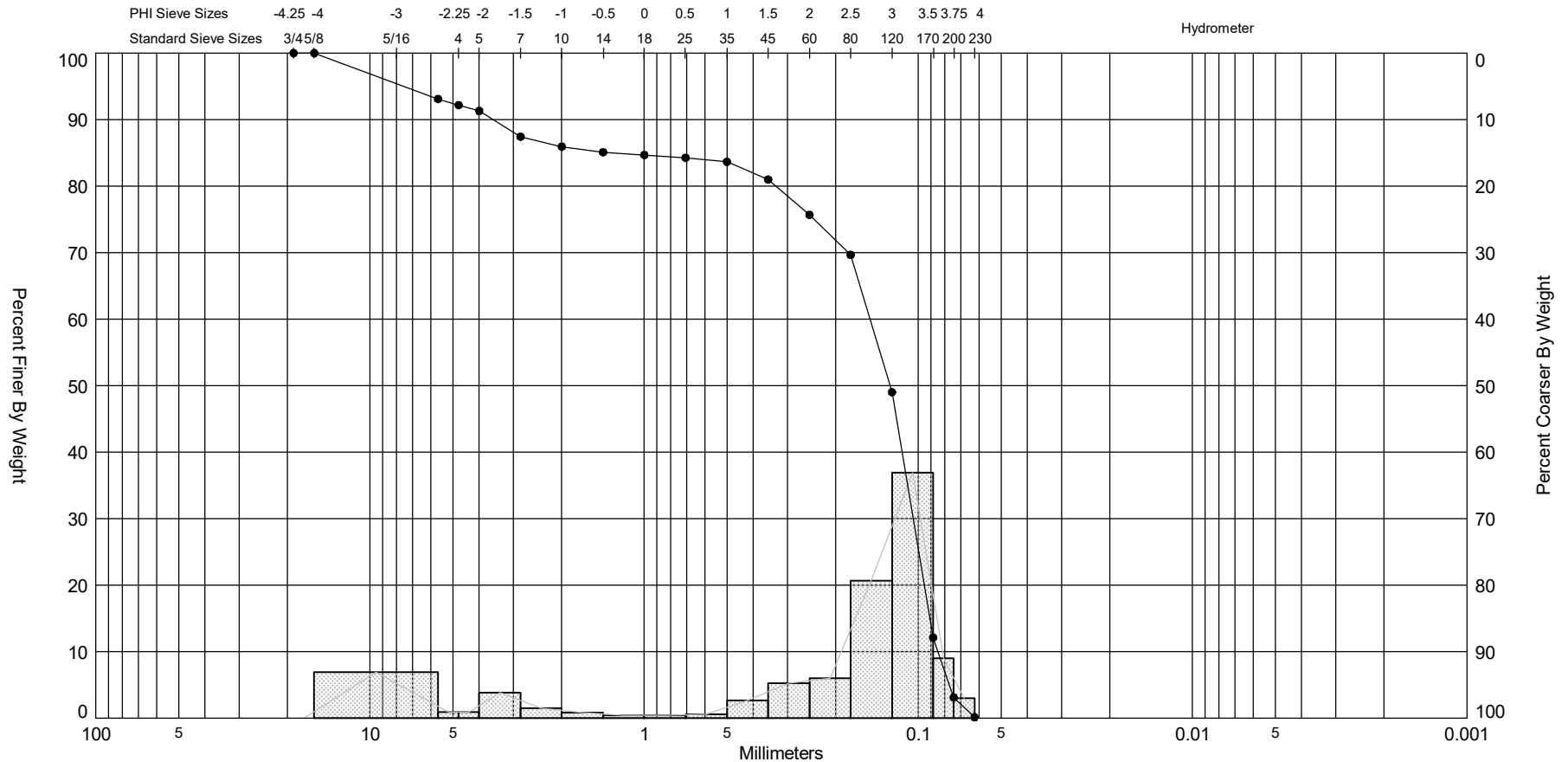
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-16	—●—		SW	#200 - 3.50 #230 - 1.26			2.63	2.46	-1.15	5.02	0.94	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-24-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,133,306
												Northing (Y, ft):	2,112,655
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

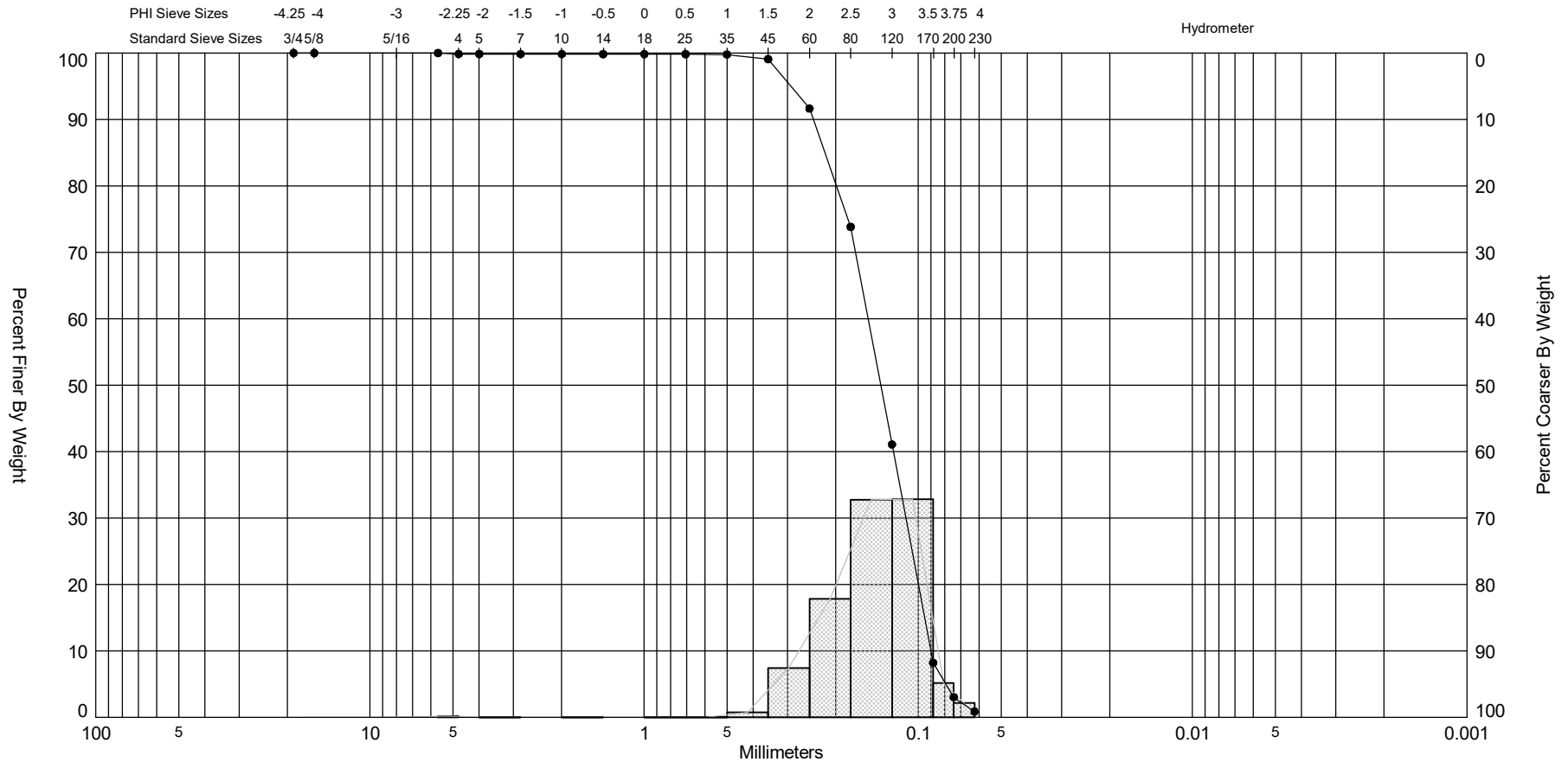
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-17	—●—		SW	#200 - 3.11 #230 - 0.14			2.98	2.12	-1.73	4.61	2.02	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-24-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,133,172
												Northing (Y, ft):	2,110,646
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

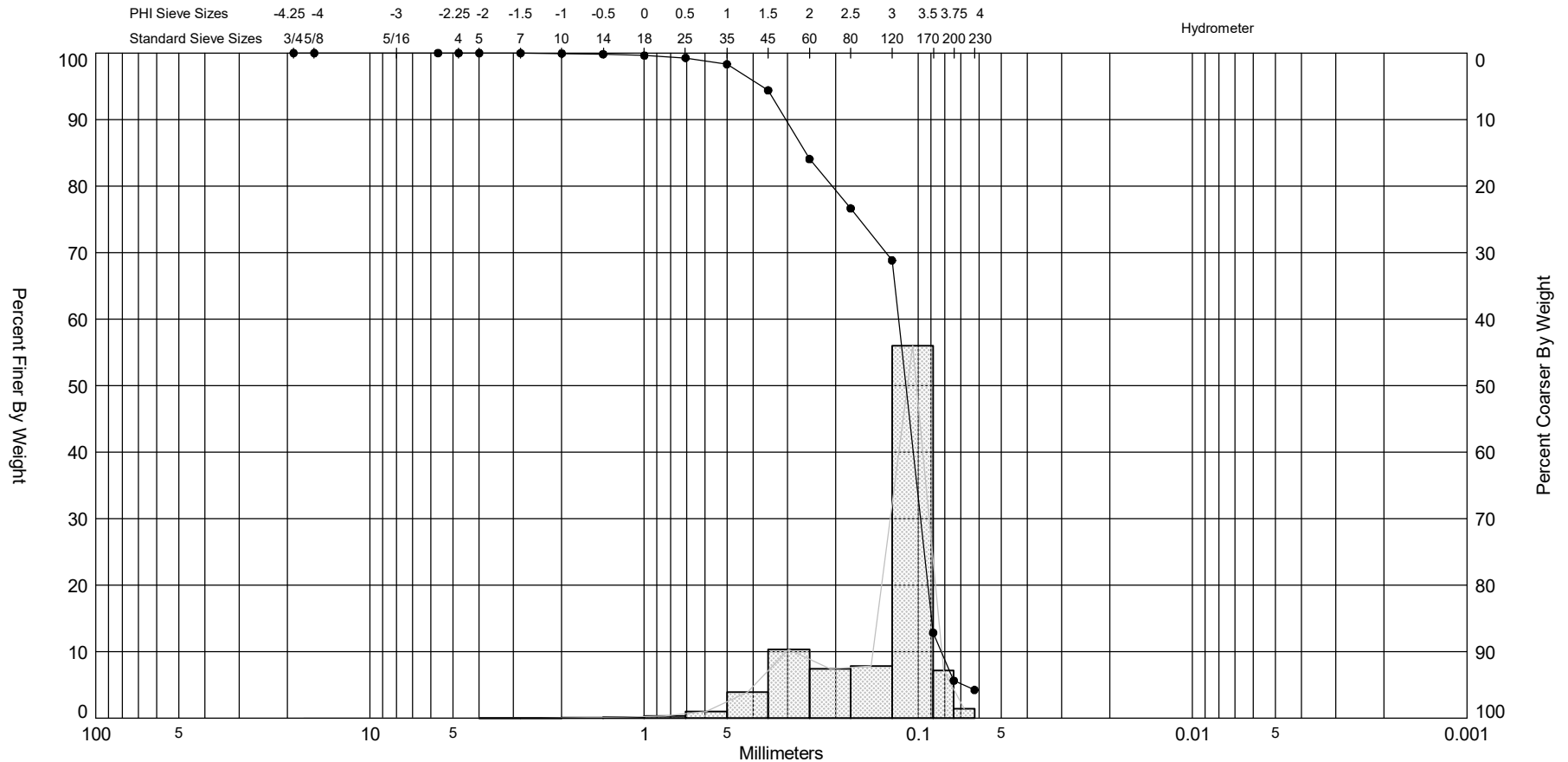
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-18	—●—		SP	#200 - 3.04 #230 - 0.87			2.86	2.8	-1.45	12.07	0.57	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-24-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,131,619
												Northing (Y, ft):	2,110,646
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

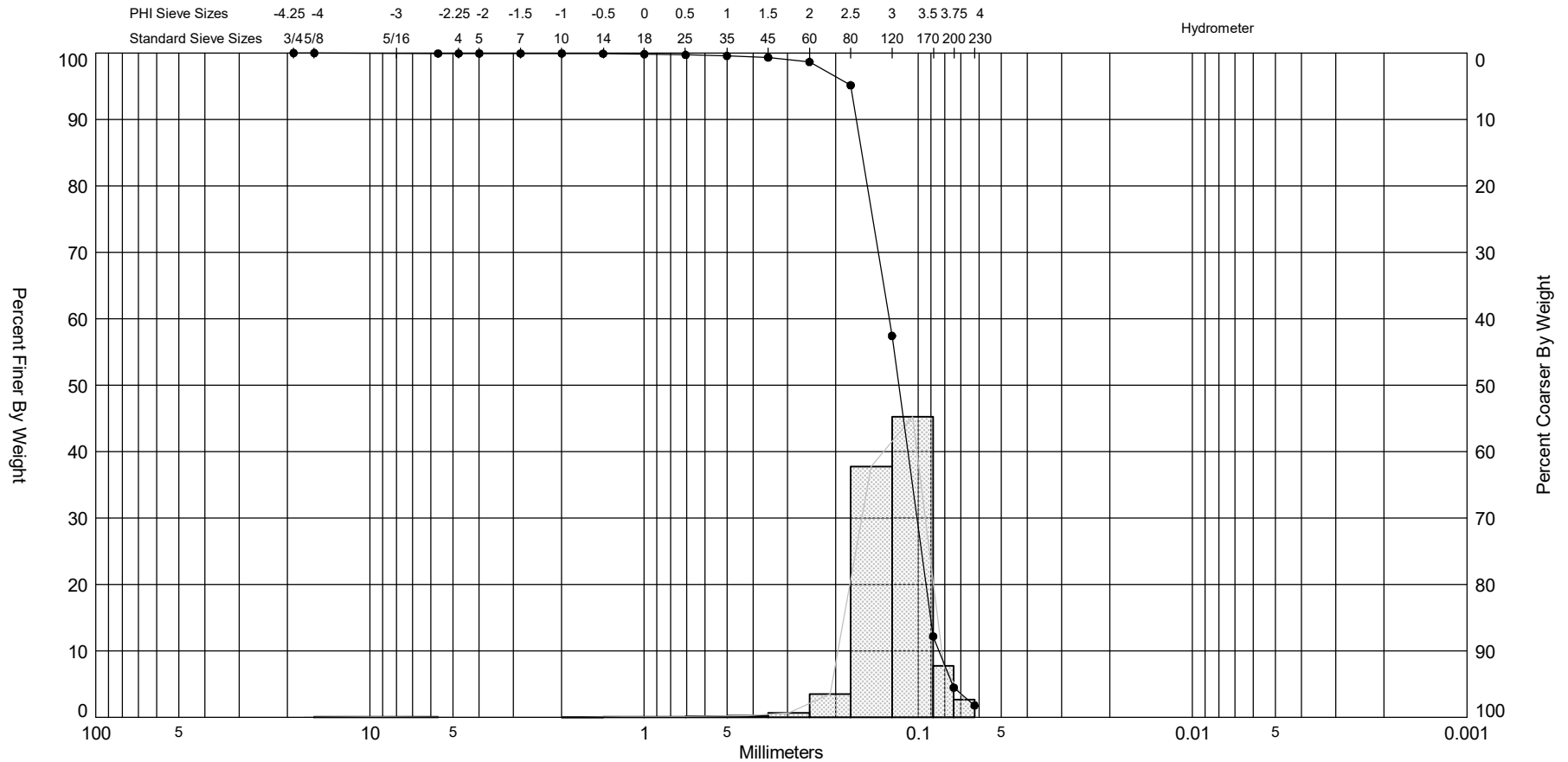
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-21	—●—		SP-SM	#200 - 5.63 #230 - 4.23			3.17	2.87	-1.54	5.25	0.73	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-31-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,131,605
												Northing (Y, ft):	2,108,639
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

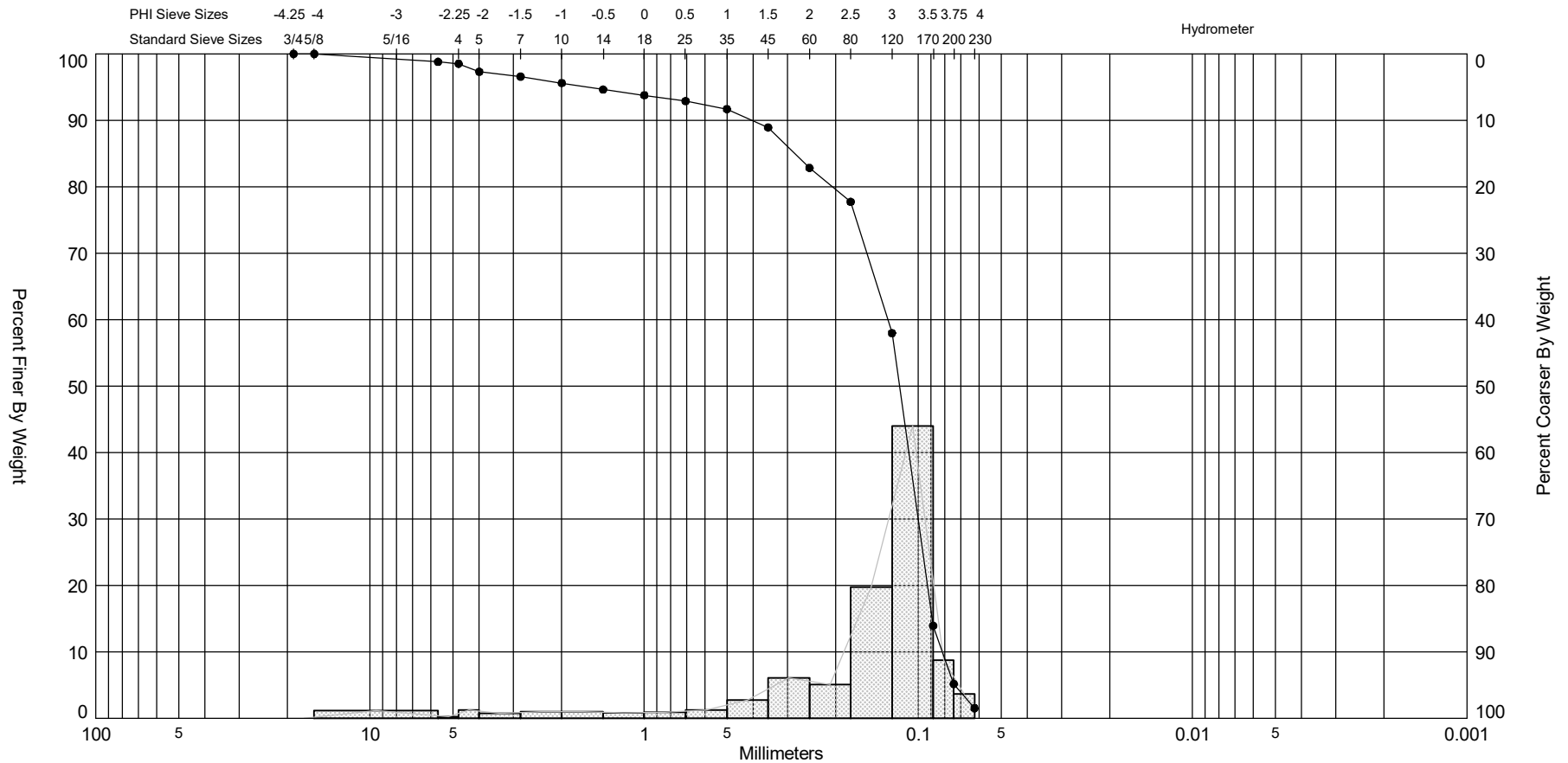
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-26	—●—		SP	#200 - 4.46 #230 - 1.79			3.08	3.04	-3.06	35.13	0.44	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-24-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,135,686
												Northing (Y, ft):	2,103,165
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

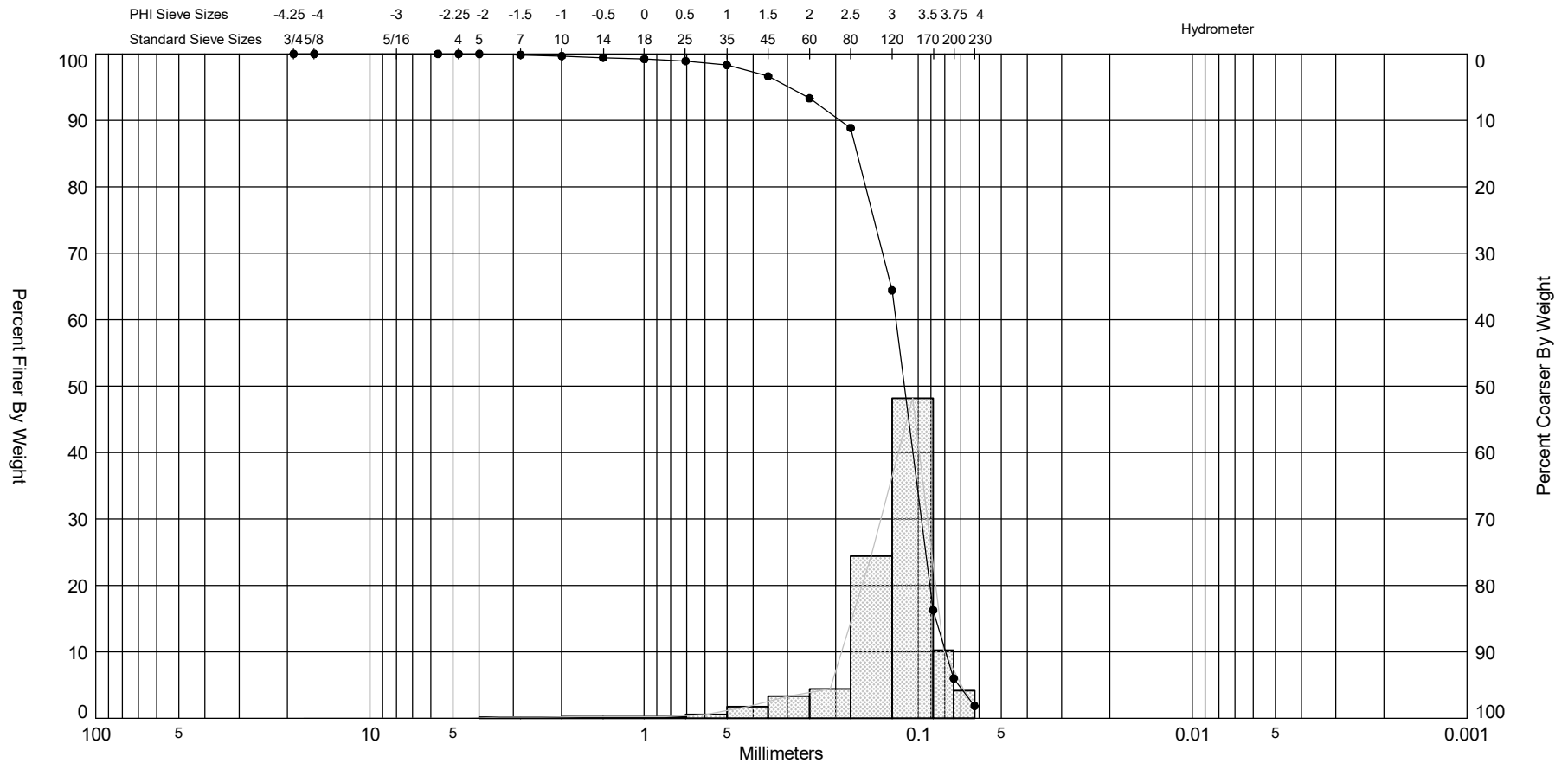
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

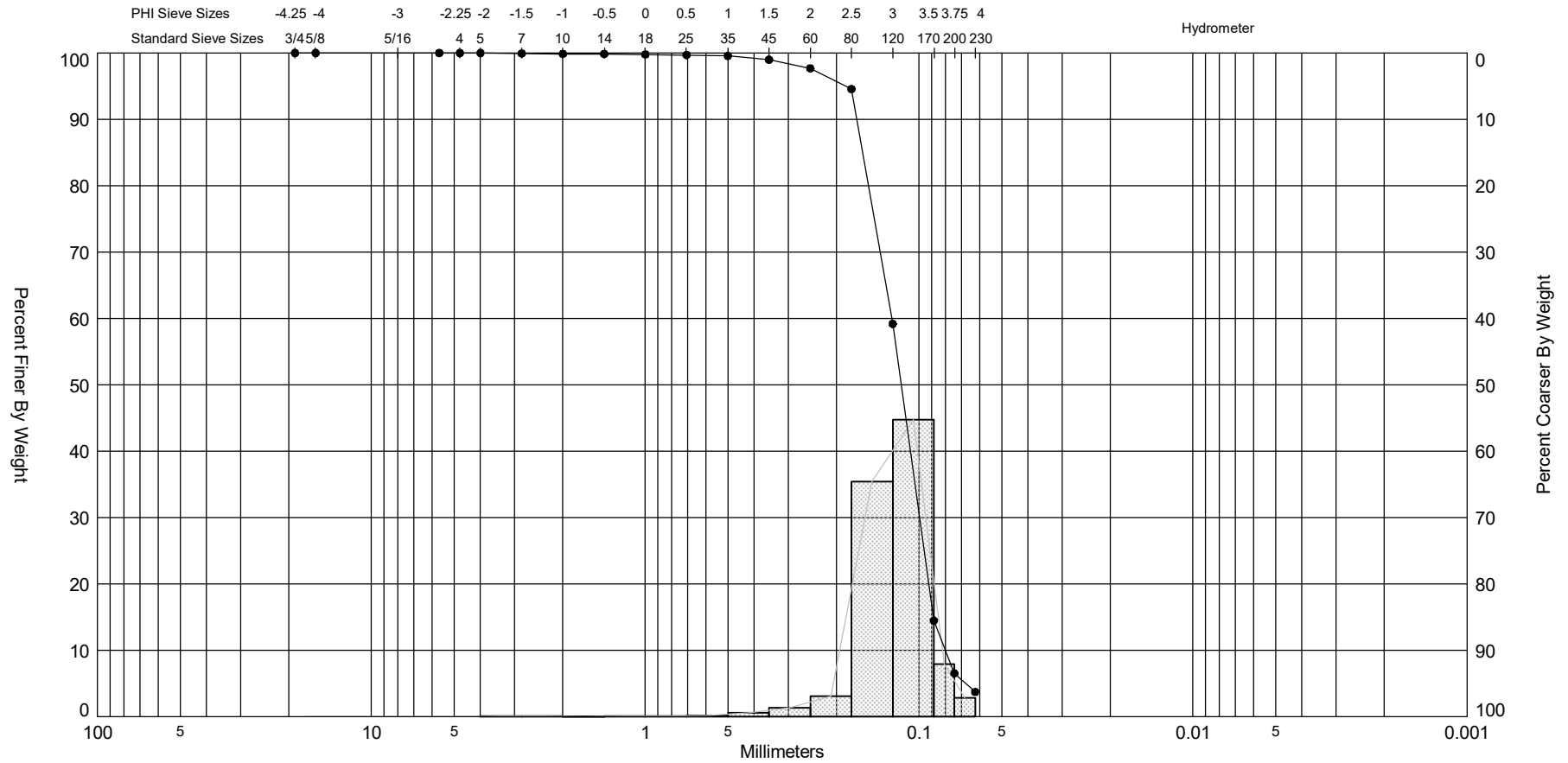
Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-27	—●—		SW-SM	#200 - 5.16 #230 - 1.53			3.09	2.64	-2.56	9.73	1.33	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-24-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,131,918
												Northing (Y, ft):	2,103,151
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-30	—●—		SP-SM	#200 - 6.00 #230 - 1.86			3.15	3	-2.7	14.76	0.65	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-24-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,131,915
												Northing (Y, ft):	2,101,144
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

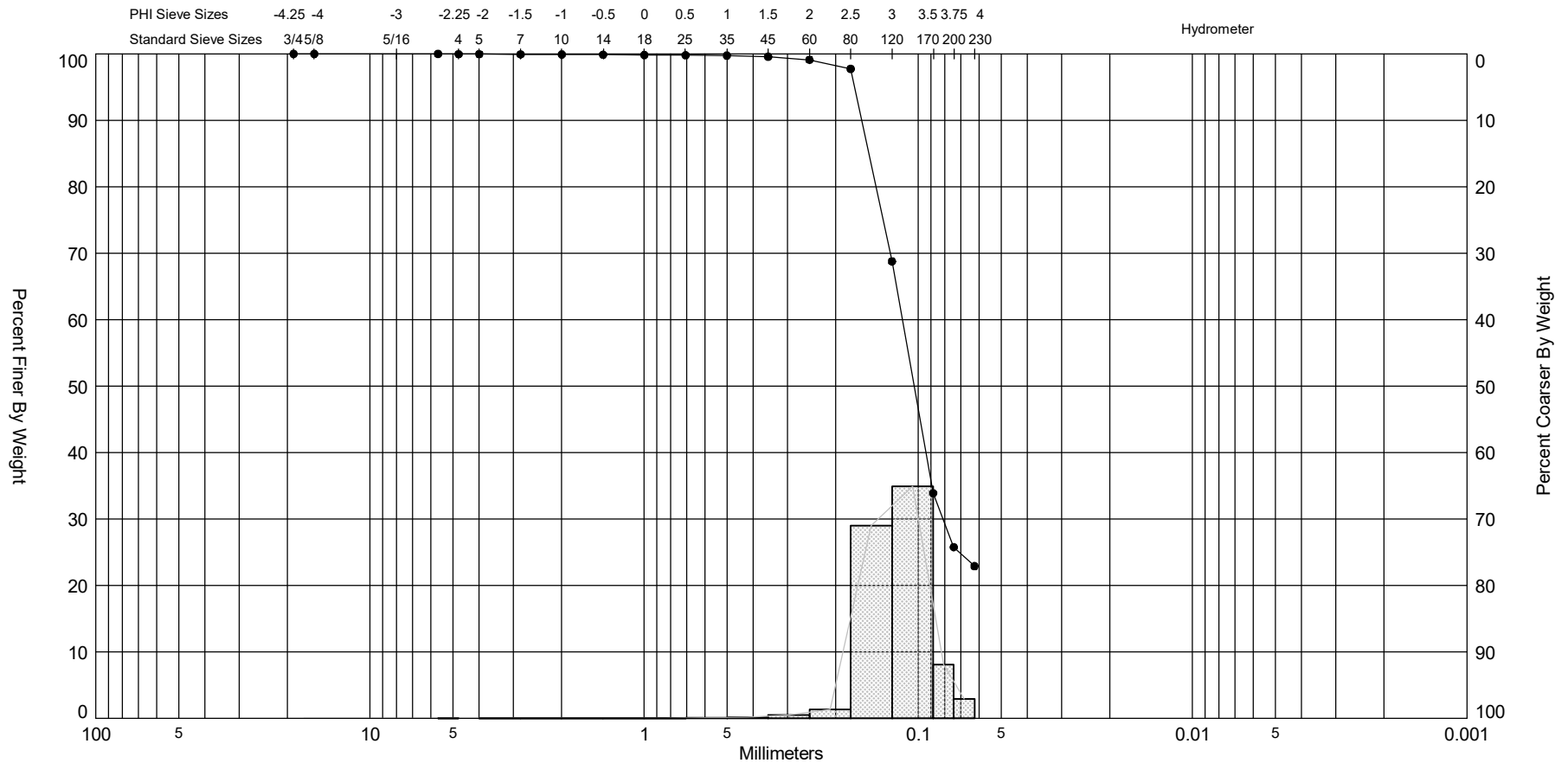


Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	


Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information		
GS-31	—●—		SP-SM	#200 - 6.52 #230 - 3.71			3.1	3.04	-2.45	19.89	0.46	Project Name:	IBSP Sand Source Survey	
Comments:												Analysis Date:	08-31-20	
Depths and elevations based on measured values												Analyzed By:	DCJ	
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216						Easting (X, ft):	1,135,267
													Northing (Y, ft):	2,101,166
													Horizontal System:	NAD 1983
													Vertical System:	IGLD MLW

SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20

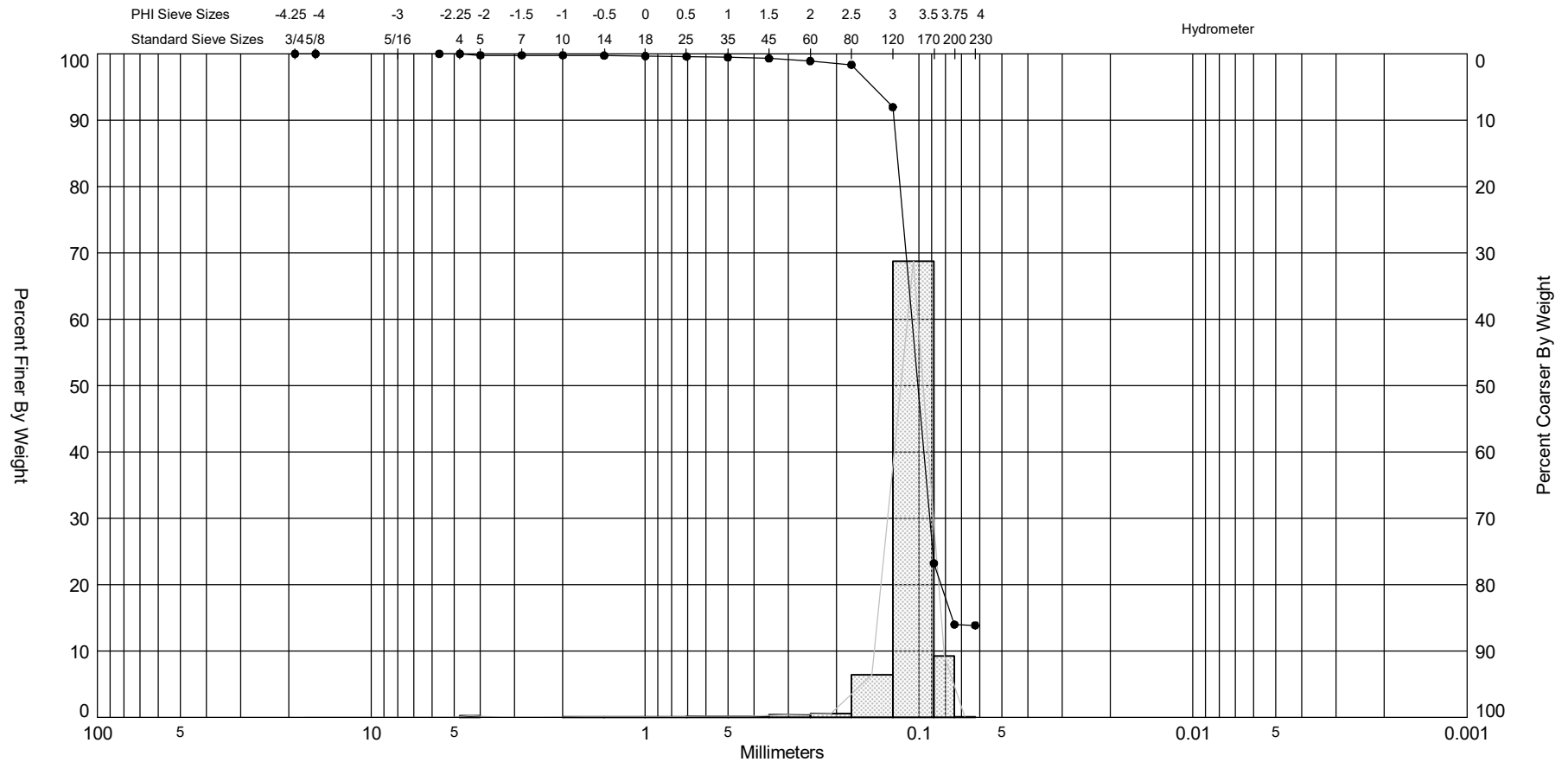
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-36	—●—		SM	#200 - 25.77 #230 - 22.89			3.27	3.08	-2.77	29.86	0.43	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-31-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,132,078
												Northing (Y, ft):	2,097,146
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

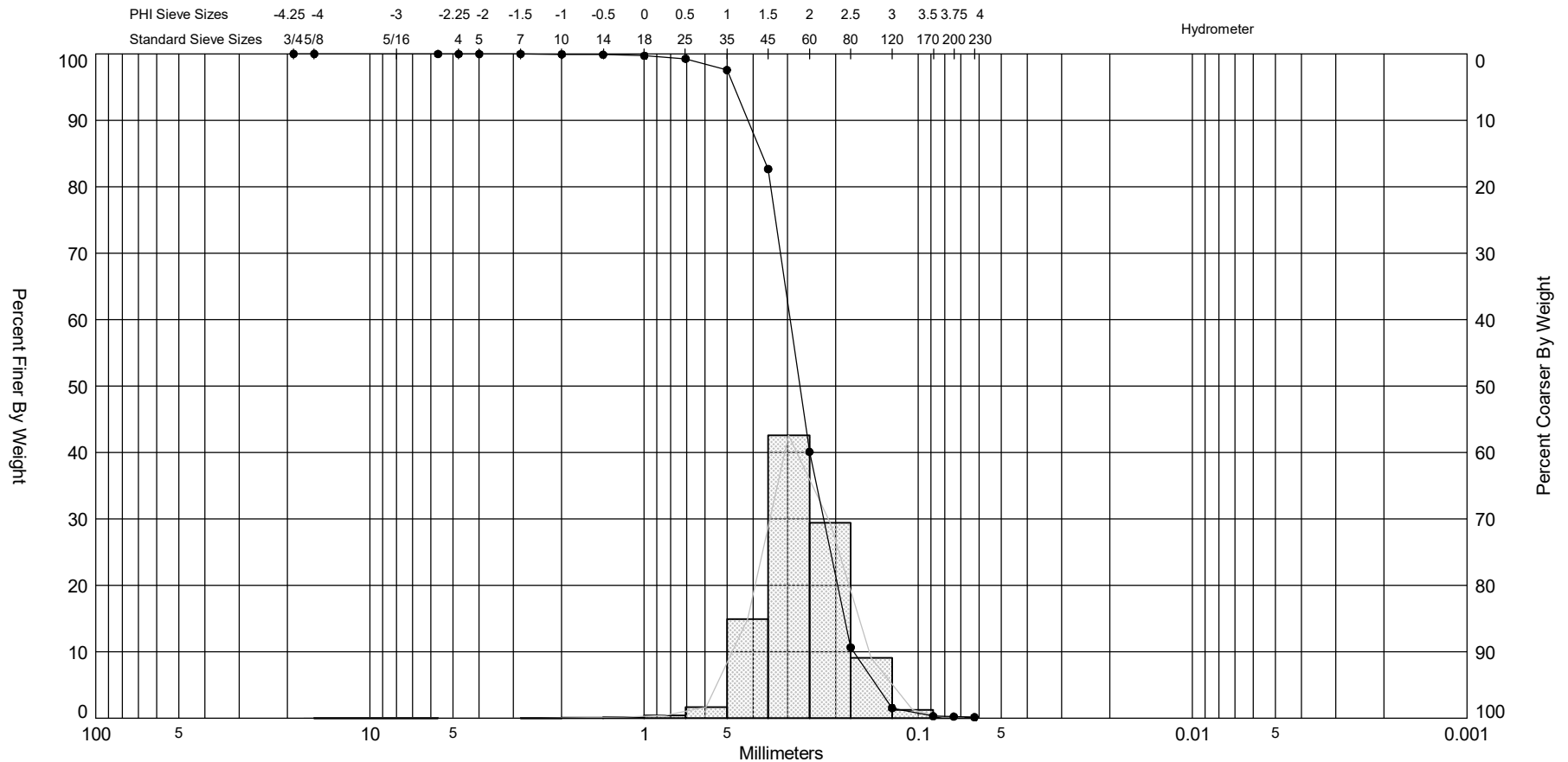
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-38	—●—		SM	#200 - 13.98 #230 - 13.87			3.31	3.21	-7.82	90.14	0.4	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-31-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,134,177
												Northing (Y, ft):	2,095,171
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

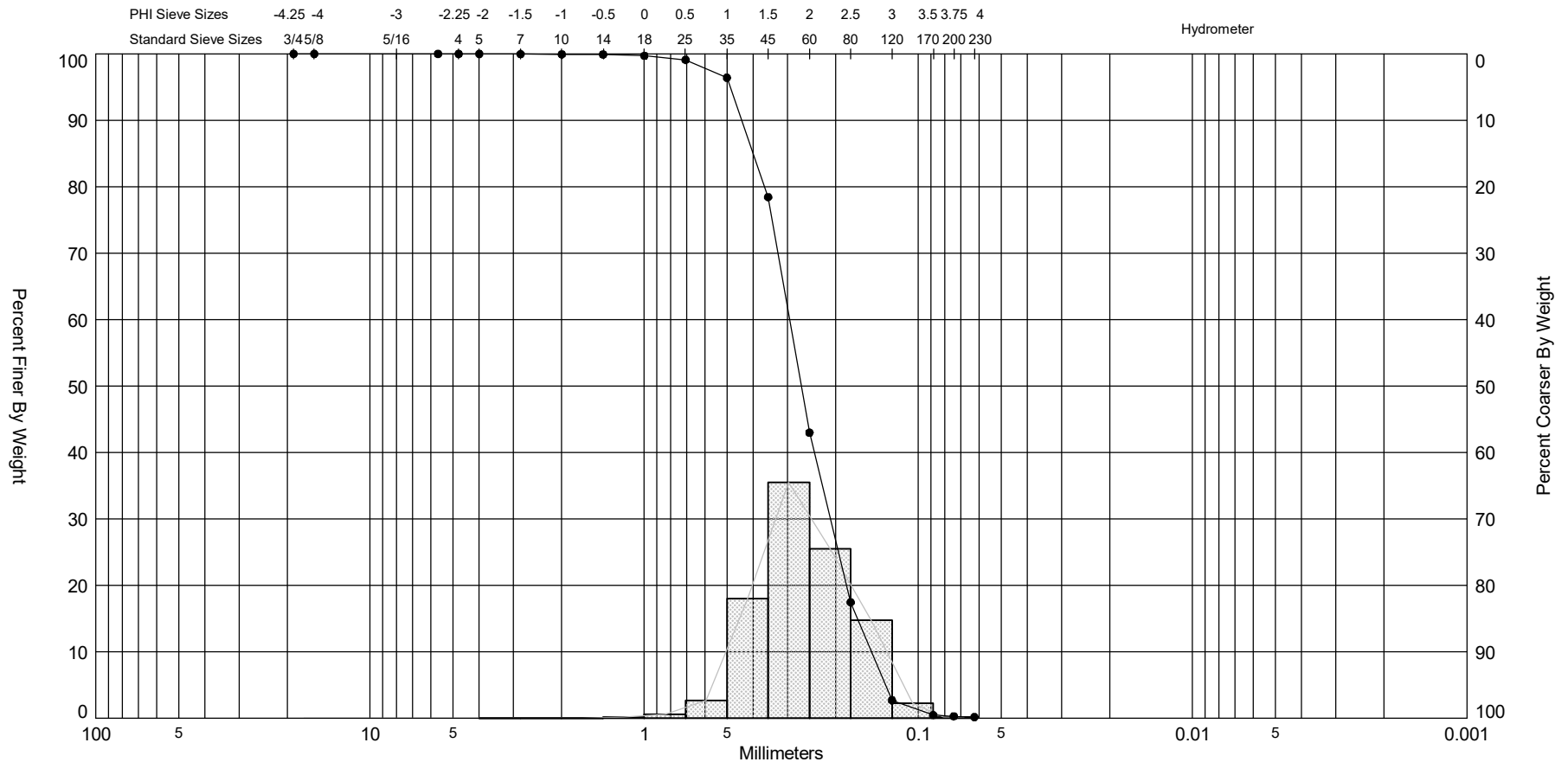
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-45	—●—		SP	#200 - 0.23 #230 - 0.14			1.88	1.91	-0.38	6.67	0.51	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-21-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,139,973
												Northing (Y, ft):	2,114,314
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

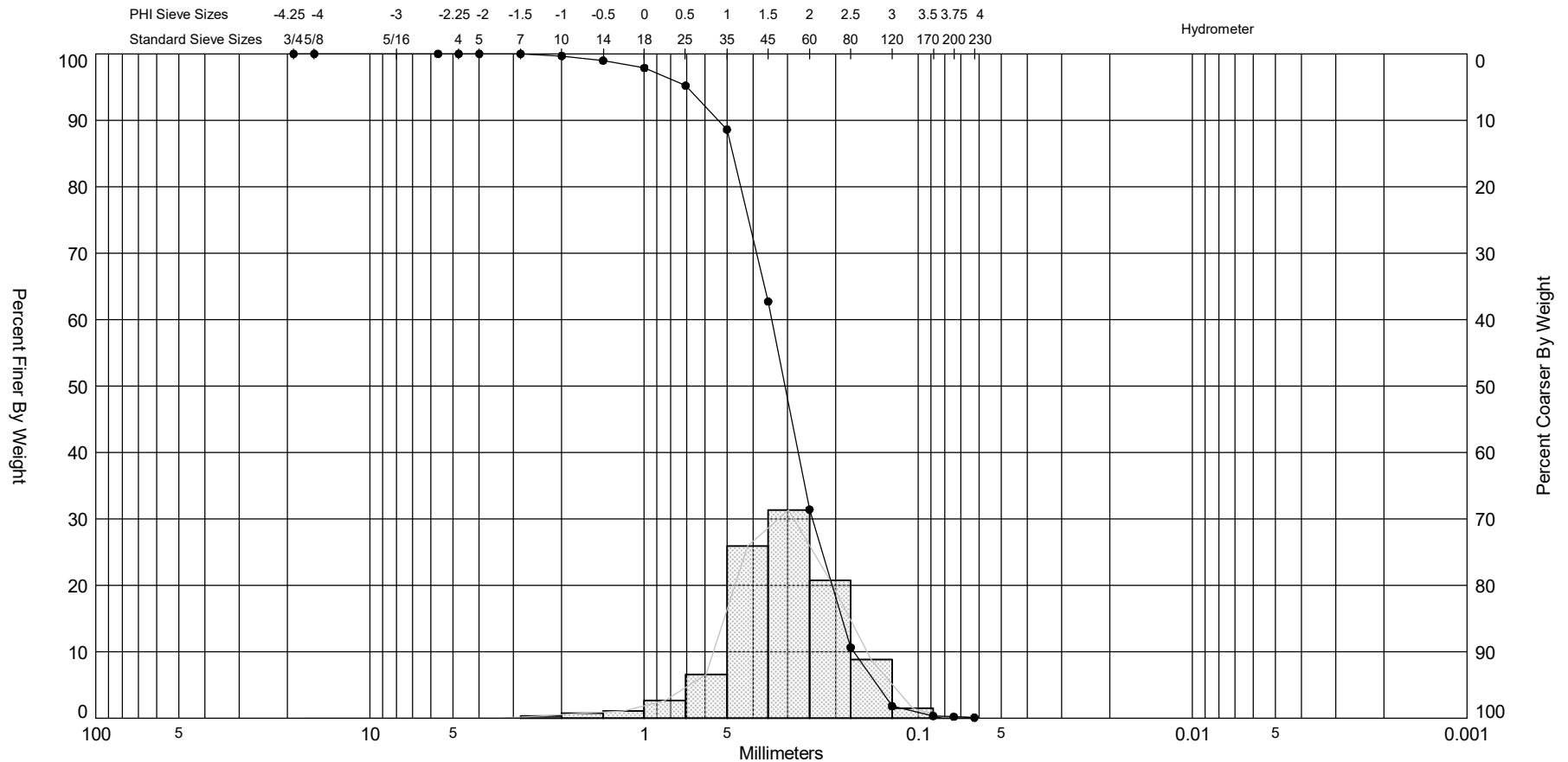
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-46	—●—		SP	#200 - 0.29 #230 - 0.16			1.9	1.93	-0.13	3.86	0.59	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-21-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,140,222
												Northing (Y, ft):	2,114,299
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

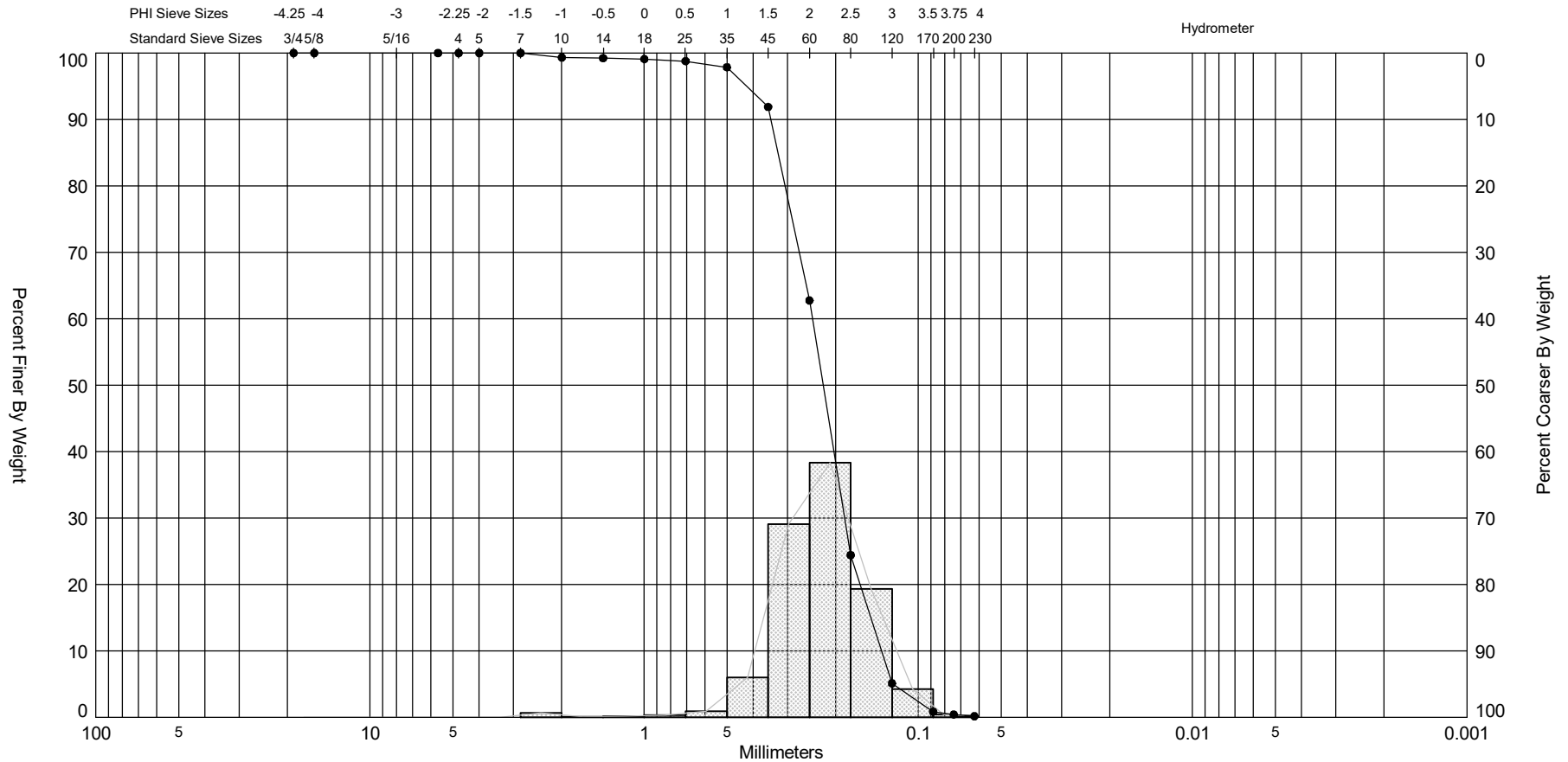
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-47	—●—		SP	#200 - 0.21 #230 - 0.09			1.7	1.68	-0.56	4.54	0.7	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-21-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,140,085
												Northing (Y, ft):	2,114,478
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

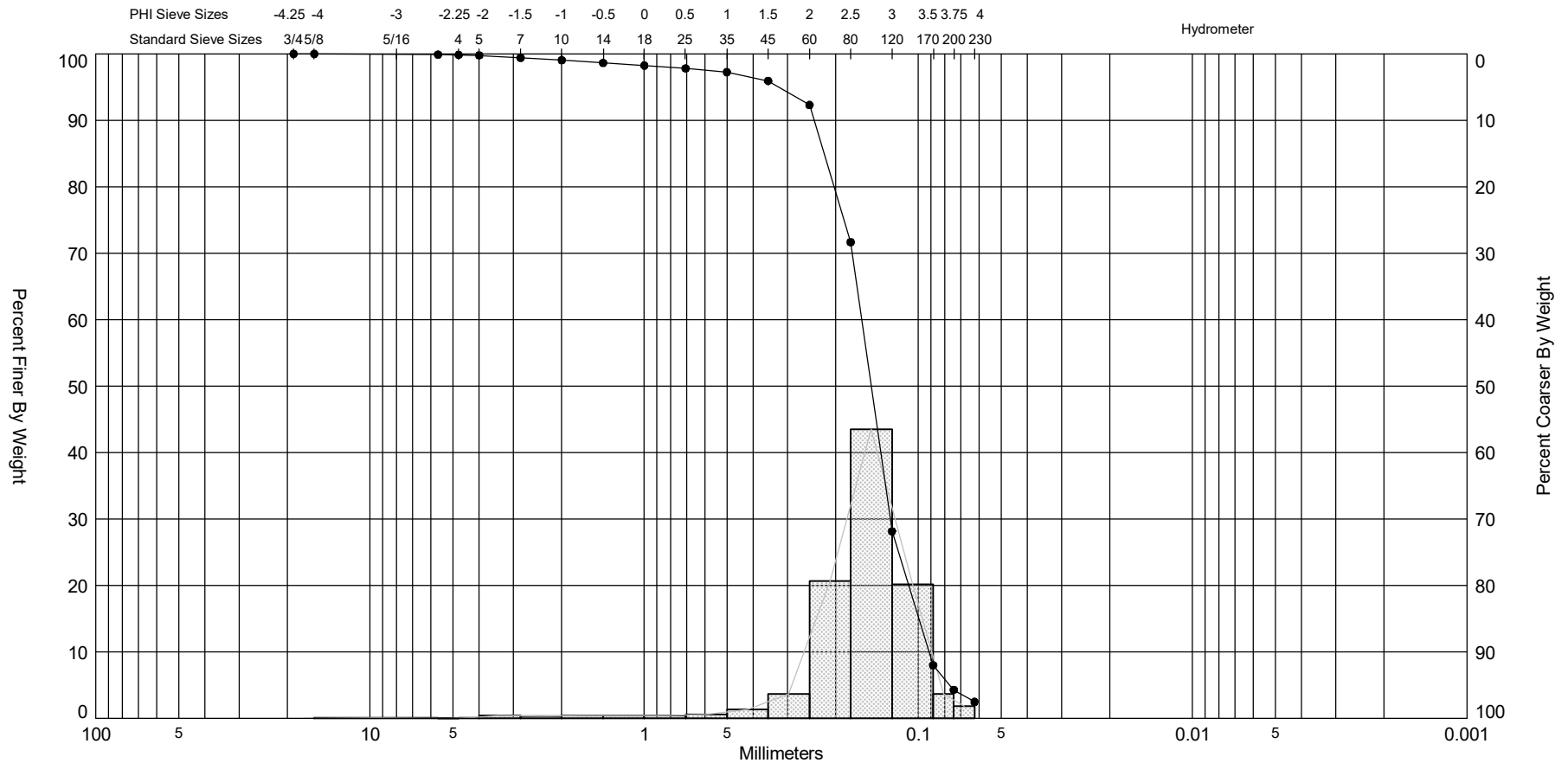
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-48	—●—		SP	#200 - 0.43 #230 - 0.16			2.17	2.14	-1.3	9.65	0.6	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-21-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,139,737
												Northing (Y, ft):	2,114,187
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

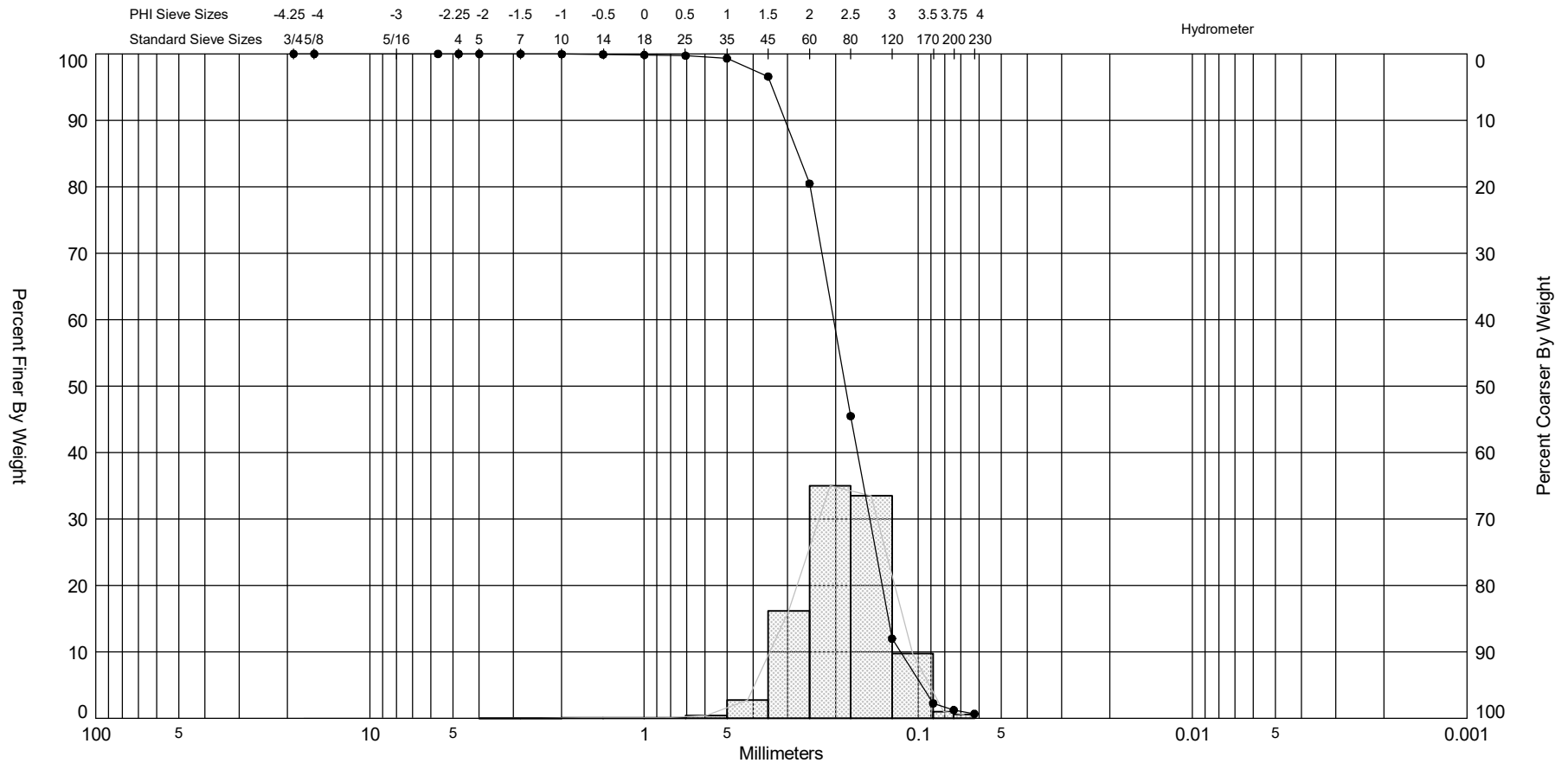
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-49	—●—		SP	#200 - 4.29 #230 - 2.47			2.75	2.65	-2.96	17.79	0.75	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-21-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,138,710
												Northing (Y, ft):	2,114,704
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

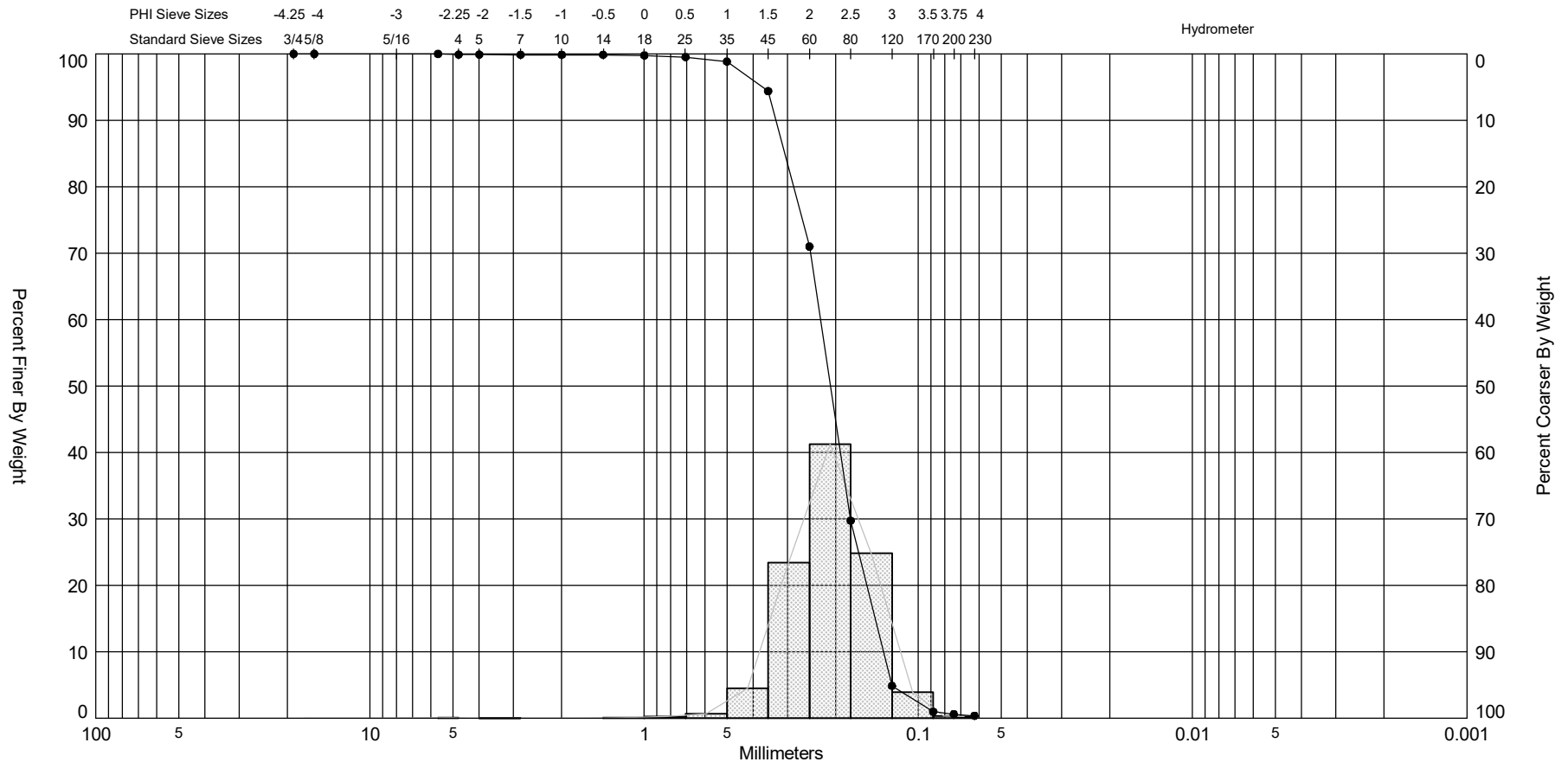
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-50	—●—		SP	#200 - 1.24 #230 - 0.66			2.44	2.42	-0.46	5	0.53	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-21-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,139,892
												Northing (Y, ft):	2,113,701
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

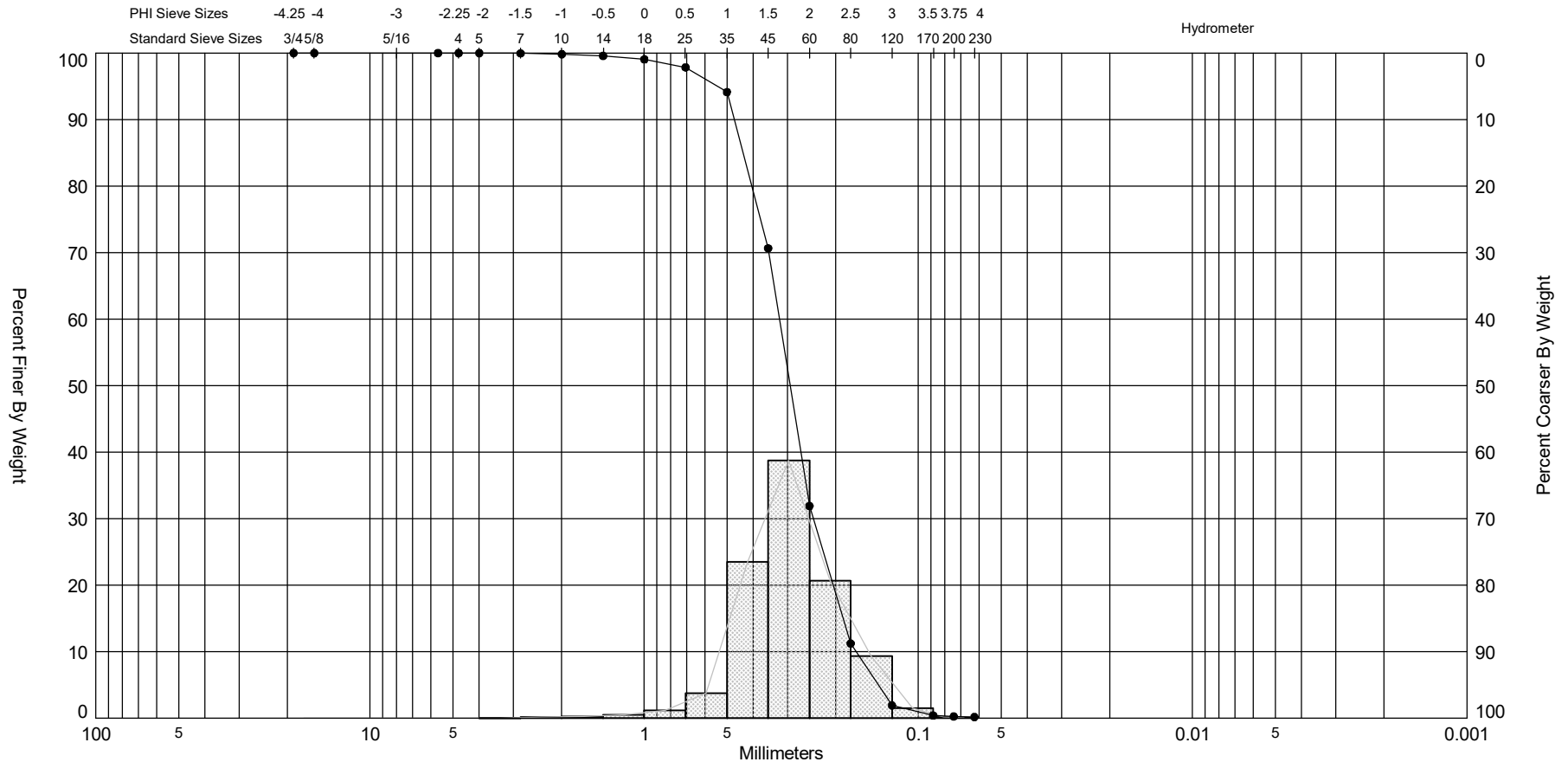
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-51	—●—		SP	#200 - 0.61 #230 - 0.37			2.25	2.24	-1.05	10.43	0.53	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-21-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,140,207
												Northing (Y, ft):	2,115,694
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

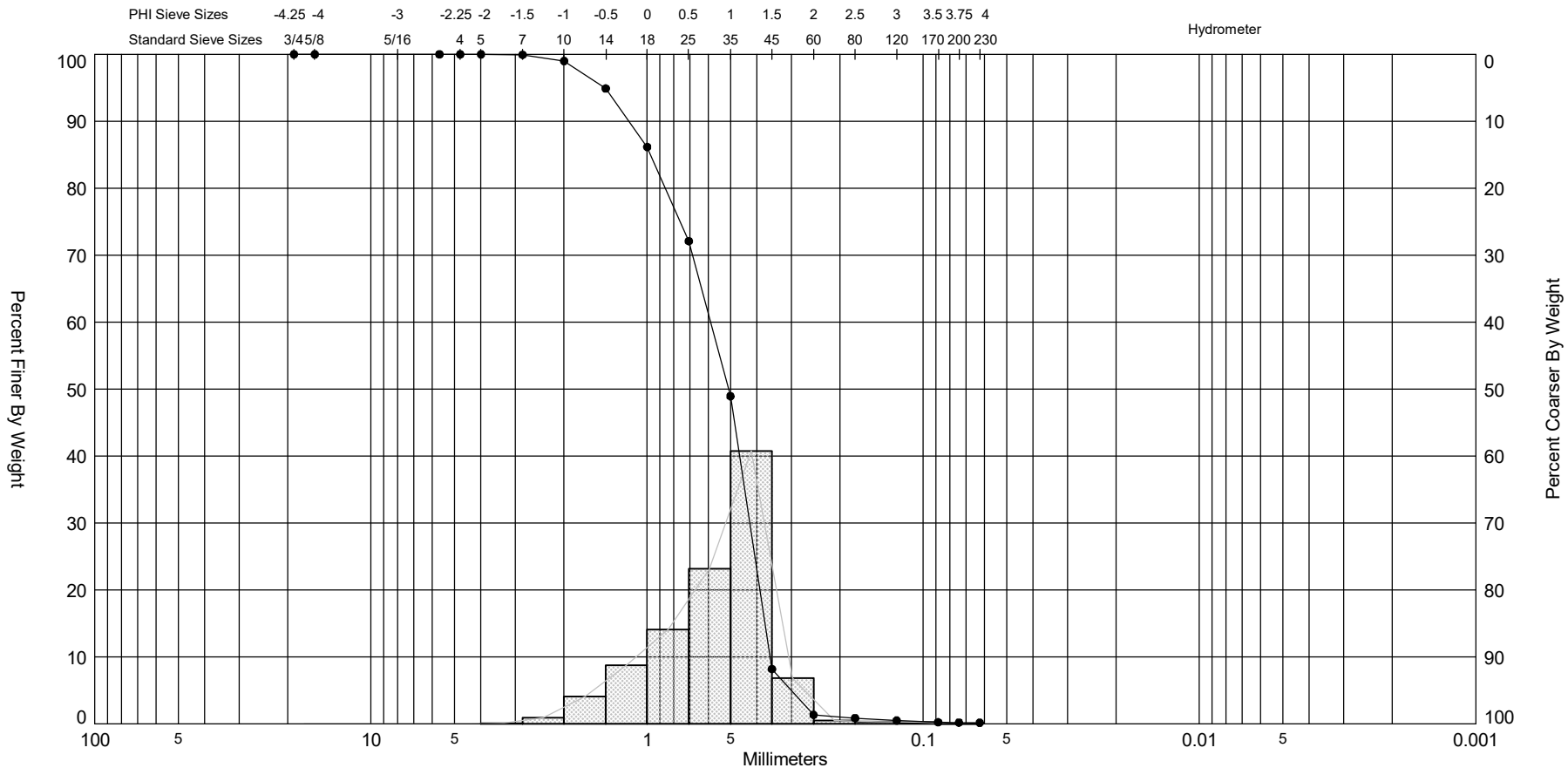
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-52	—●—		SP	#200 - 0.25 #230 - 0.16			1.77	1.78	-0.38	5.19	0.6	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-21-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,139,975
												Northing (Y, ft):	2,115,191
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

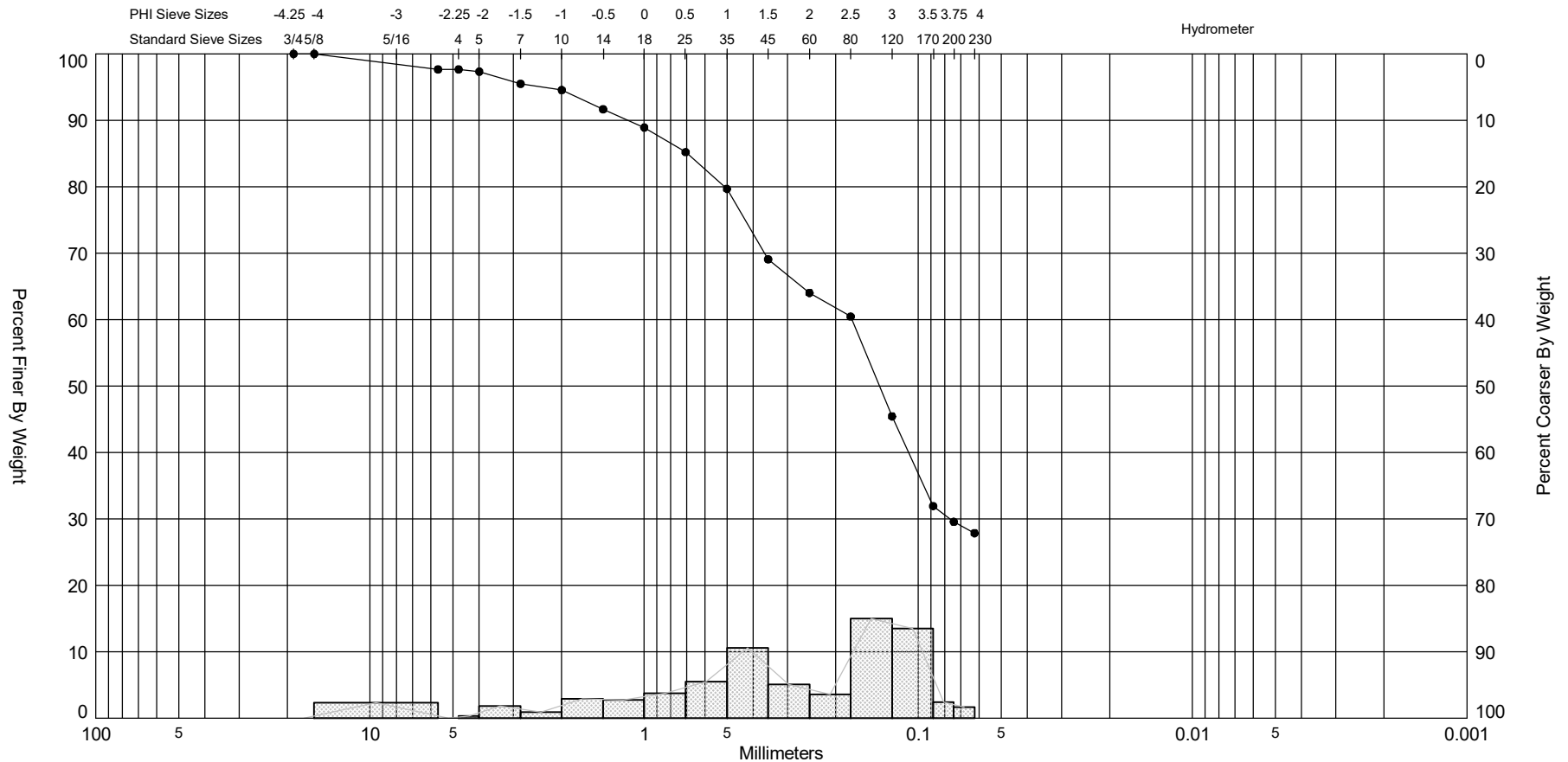
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-53	—●—		SP	#200 - 0.20 #230 - 0.17			0.98	0.81	-0.58	3.77	0.69	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-21-20
Depths and elevations based on measured values												Analyzed By:	DCJ
						Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216						Easting (X, ft):	1,139,392
												Northing (Y, ft):	2,114,691
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

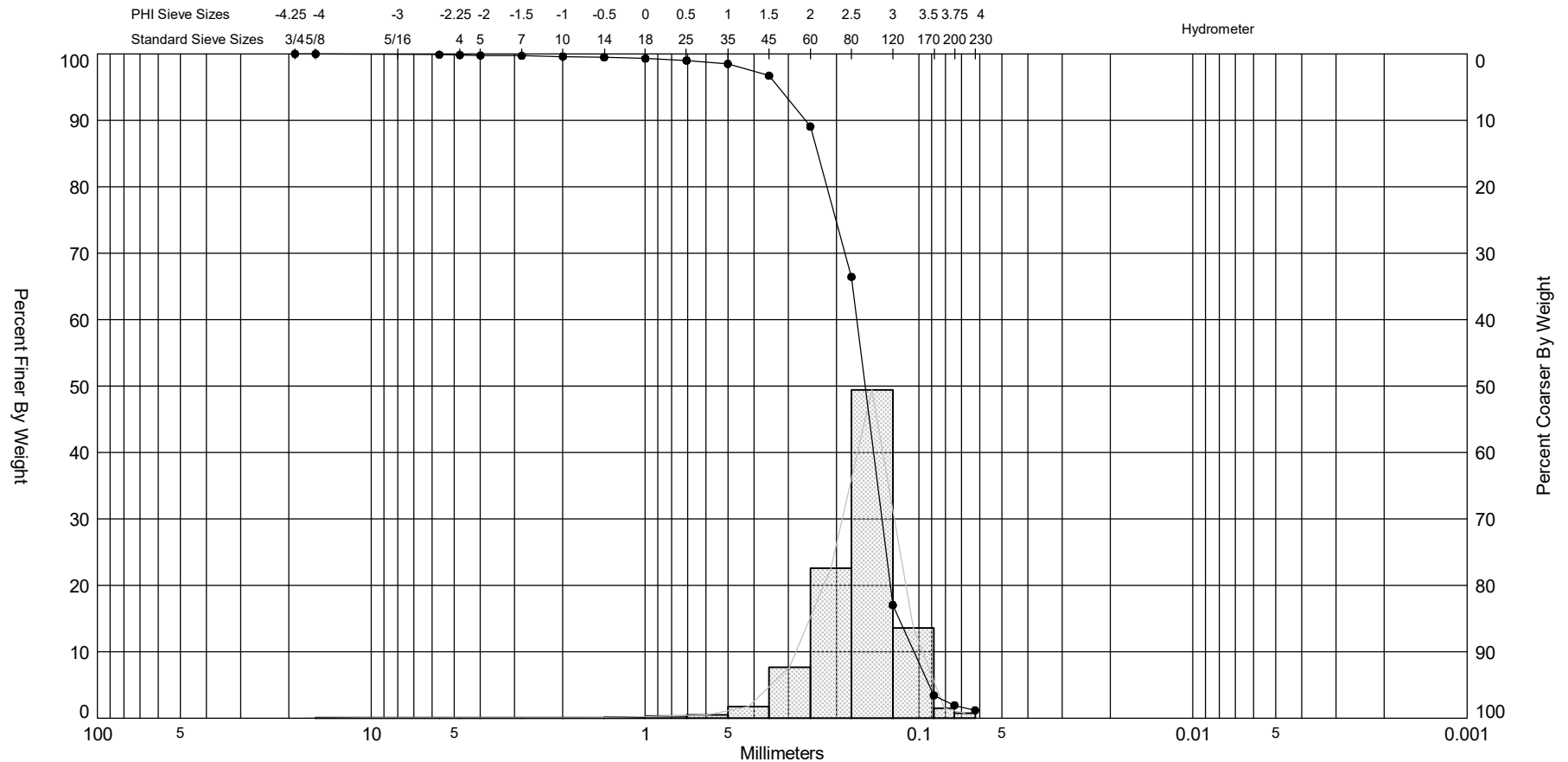
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-54	—●—		SM	#200 - 29.55 #230 - 27.86			2.85	1.66	-1.06	3.7	1.67	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-31-20
Depths and elevations based on measured values												Analyzed By:	DCJ
						Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216						Easting (X, ft):	1,139,264
												Northing (Y, ft):	2,115,177
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

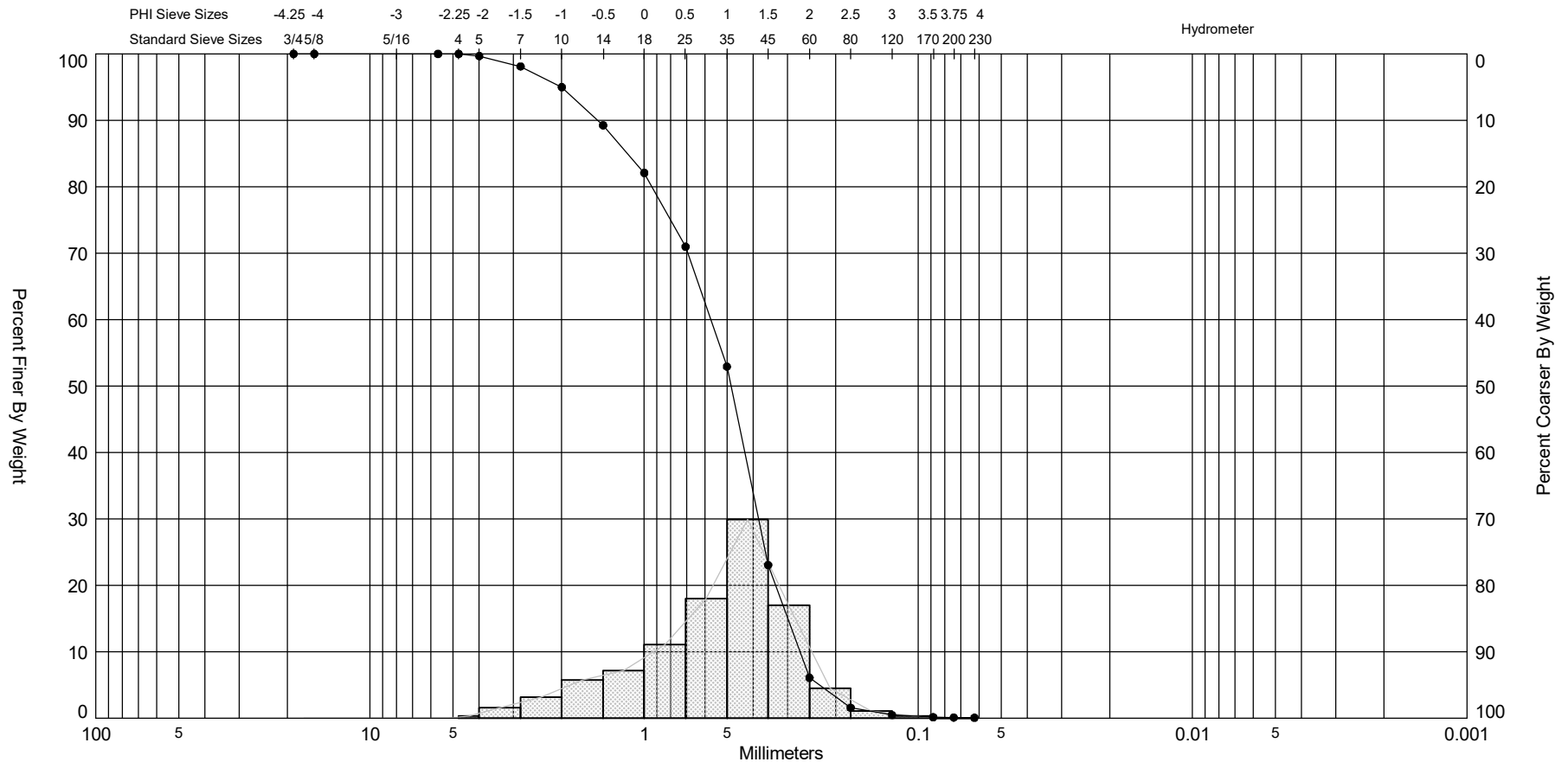
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-55	—●—		SP	#200 - 1.94 #230 - 1.18			2.67	2.57	-2.82	21.68	0.61	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-21-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,139,779
												Northing (Y, ft):	2,114,686
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

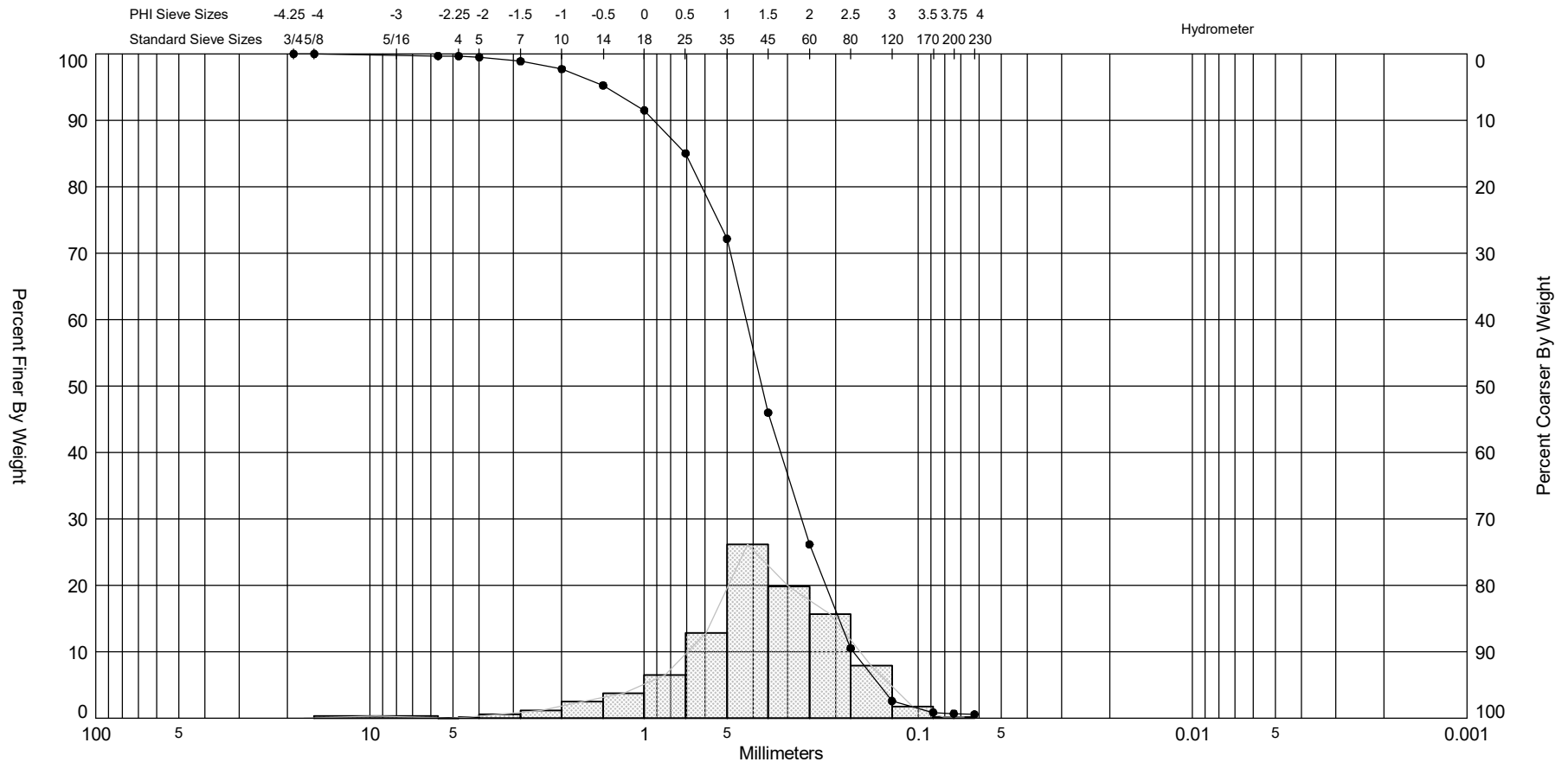
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-56	—●—		SW	#200 - 0.10 #230 - 0.06			1.05	0.85	-0.7	3.38	0.94	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-21-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,140,394
												Northing (Y, ft):	2,115,197
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

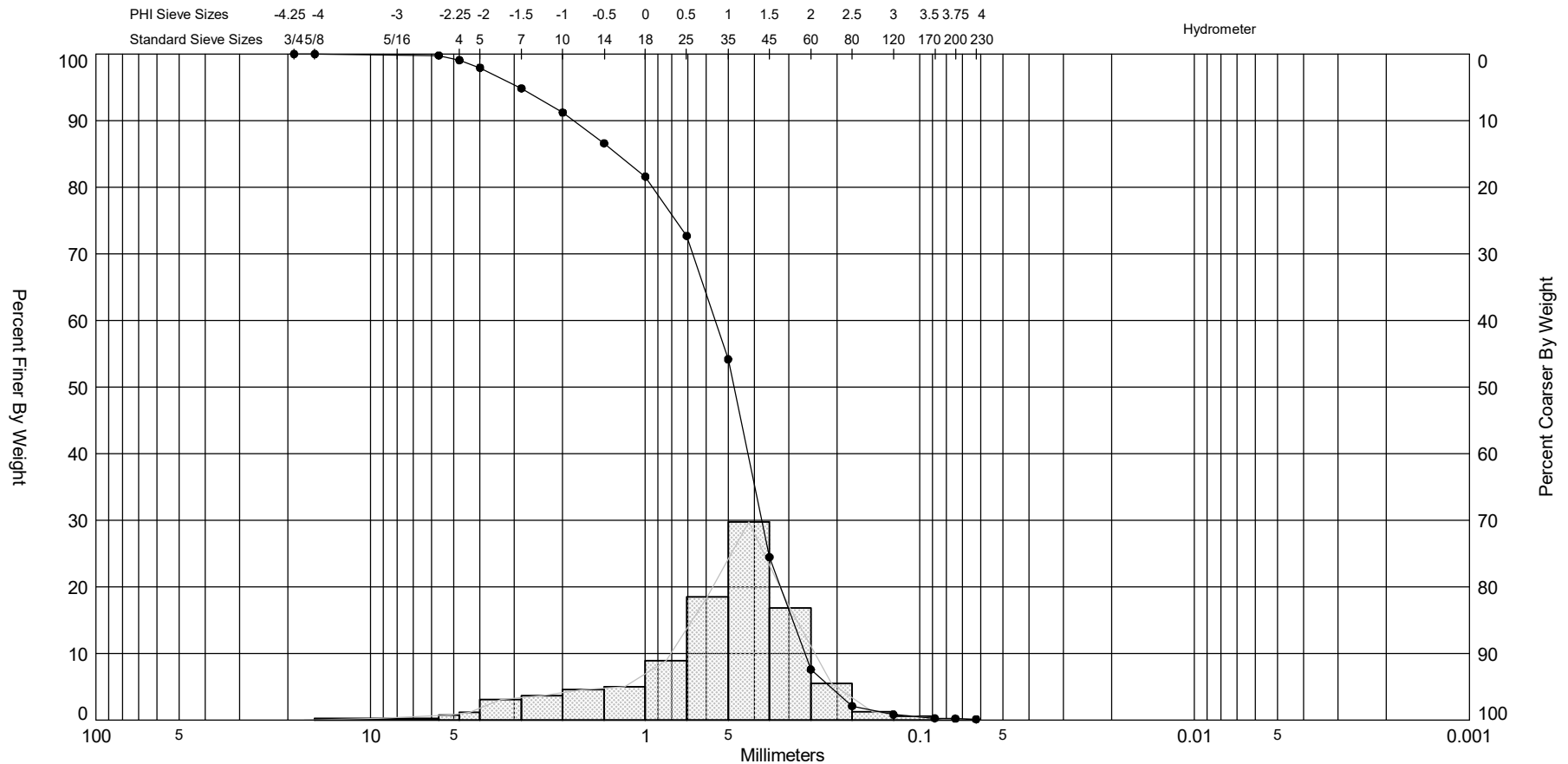
SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20




Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-65	—●—		SW	#200 - 0.70 #230 - 0.56			1.42	1.36	-0.86	4.81	0.98	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-21-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,139,976
												Northing (Y, ft):	2,112,682
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

SIEVE ANALYSIS IBSP.GPJ FL DEP ROSS.GDT 11/10/20



Gravel		Sand			Silt and Clay
Coarse	Fine	Coarse	Medium	Fine	

Sample	Symbol	Elev. (ft)	USCS	% Fines	% Organics	% Carbonates	Median	Mean	Skew	Kurt	Sort	Sample Information	
GS-66	—●—		SW	#200 - 0.21 #230 - 0.12			1.07	0.82	-0.96	3.9	1.08	Project Name:	IBSP Sand Source Survey
Comments:												Analysis Date:	08-21-20
Depths and elevations based on measured values												Analyzed By:	DCJ
							Gahagan and Bryant Associates 3802 W Bay to Bay Blvd. Suite B-22 Tampa, FL 33629 Telephone: 813-831-4408 Fax: 813-831-4216					Easting (X, ft):	1,140,030
												Northing (Y, ft):	2,113,199
												Horizontal System:	NAD 1983
												Vertical System:	IGLD MLW

Granularmetric Report

Depths and elevations based on measured values



Gahagan and Bryant Associates
 3802 W Bay to Bay Blvd. Suite B-22
 Tampa, FL 33629
 Telephone: 813-831-4408
 Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-11

Analysis Date: 08-31-20

Analyzed By: DCJ

Easting (ft): 1,132,890	Northing (ft): 2,114,645	Coordinate System: State Plane	Elevation (ft):
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USCS: SW-SM	Munsell: Dry - 10YR-6/3	Comments:
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Dry Weight (g): 142.31	Wash Weight (g): 135.35	Pan Retained (g): 6.40	Sieve Loss (%): 0.01	Fines (%): #200 - 9.48 #230 - 9.39	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	3.48	2.45	3.48	2.45
4	-2.25	4.76	0.79	0.56	4.27	3.00
5	-2.00	4.00	1.00	0.70	5.27	3.70
7	-1.50	2.83	1.31	0.92	6.58	4.62
10	-1.00	2.00	1.87	1.31	8.45	5.94
14	-0.50	1.41	2.09	1.47	10.54	7.41
18	0.00	1.00	2.17	1.52	12.71	8.93
25	0.50	0.71	2.52	1.77	15.23	10.70
35	1.00	0.50	5.22	3.67	20.45	14.37
45	1.50	0.35	11.66	8.19	32.11	22.56
60	2.00	0.25	11.58	8.14	43.69	30.70
80	2.50	0.18	7.35	5.16	51.04	35.87
120	3.00	0.13	9.84	6.91	60.88	42.78
170	3.50	0.09	52.87	37.15	113.75	79.93
200	3.75	0.07	15.07	10.59	128.82	90.52
230	4.00	0.06	0.12	0.08	128.94	90.61

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
	3.60	3.43	3.10	1.65	1.10	-1.36

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	2.23	0.21	1.62	-1.71	5.53

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



Gahagan and Bryant Associates
3802 W Bay to Bay Blvd. Suite B-22
Tampa, FL 33629
Telephone: 813-831-4408
Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-15

Analysis Date: 08-24-20

Analyzed By: DCJ

Easting (ft): 1,131,511	Northing (ft): 2,112,641	Coordinate System: State Plane	Elevation (ft):
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USCS: SP	Munsell: Dry - 10YR-6/2	Comments:
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Dry Weight (g): 149.69	Wash Weight (g): 149.69	Pan Retained (g): 2.24	Sieve Loss (%): 0.01	Fines (%): #200 - 4.37 #230 - 1.50	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.04	0.03	0.04	0.03
5	-2.00	4.00	0.12	0.08	0.16	0.11
7	-1.50	2.83	0.04	0.03	0.20	0.13
10	-1.00	2.00	0.41	0.27	0.61	0.41
14	-0.50	1.41	0.42	0.28	1.03	0.69
18	0.00	1.00	0.50	0.33	1.53	1.02
25	0.50	0.71	1.15	0.77	2.68	1.79
35	1.00	0.50	2.16	1.44	4.84	3.23
45	1.50	0.35	6.47	4.32	11.31	7.56
60	2.00	0.25	12.88	8.60	24.19	16.16
80	2.50	0.18	14.86	9.93	39.05	26.09
120	3.00	0.13	24.56	16.41	63.61	42.49
170	3.50	0.09	67.72	45.24	131.33	87.73
200	3.75	0.07	11.82	7.90	143.15	95.63
230	4.00	0.06	4.29	2.87	147.44	98.50

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.73	3.46	3.36	3.08	2.45	1.99	1.20

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	2.79	0.14	0.82	-1.76	7.33

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



Gahagan and Bryant Associates
 3802 W Bay to Bay Blvd. Suite B-22
 Tampa, FL 33629
 Telephone: 813-831-4408
 Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-16

Analysis Date: 08-24-20

Analyzed By: DCJ

Easting (ft): 1,133,306	Northing (ft): 2,112,655	Coordinate System: State Plane	Elevation (ft):
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USCS: SW	Munsell: Dry - 10YR-7/2	Comments:
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Dry Weight (g): 138.75	Wash Weight (g): 138.75	Pan Retained (g): 1.72	Sieve Loss (%): 0.02	Fines (%): #200 - 3.50 #230 - 1.26	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.17	0.12	0.17	0.12
7	-1.50	2.83	0.38	0.27	0.55	0.40
10	-1.00	2.00	0.38	0.27	0.93	0.67
14	-0.50	1.41	0.69	0.50	1.62	1.17
18	0.00	1.00	1.01	0.73	2.63	1.90
25	0.50	0.71	2.10	1.51	4.73	3.41
35	1.00	0.50	3.93	2.83	8.66	6.24
45	1.50	0.35	9.83	7.08	18.49	13.33
60	2.00	0.25	20.94	15.09	39.43	28.42
80	2.50	0.18	24.59	17.72	64.02	46.14
120	3.00	0.13	21.30	15.35	85.32	61.49
170	3.50	0.09	40.26	29.02	125.58	90.51
200	3.75	0.07	8.32	6.00	133.90	96.50
230	4.00	0.06	3.10	2.23	137.00	98.74

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.69	3.39	3.23	2.63	1.89	1.59	0.78

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	2.46	0.18	0.94	-1.15	5.02

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



Gahagan and Bryant Associates
3802 W Bay to Bay Blvd. Suite B-22
Tampa, FL 33629
Telephone: 813-831-4408
Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-17

Analysis Date: 08-24-20

Analyzed By: DCJ

Easting (ft): 1,133,172	Northing (ft): 2,110,646	Coordinate System: State Plane	Elevation (ft):
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USCS: SW	Munsell: Dry - 10YR-7/2	Comments:
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Dry Weight (g): 145.83	Wash Weight (g): 145.83	Pan Retained (g): 3.07	Sieve Loss (%): -1.97	Fines (%): #200 - 3.11 #230 - 0.14	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	10.05	6.89	10.05	6.89
4	-2.25	4.76	1.35	0.93	11.40	7.82
5	-2.00	4.00	1.29	0.88	12.69	8.70
7	-1.50	2.83	5.62	3.85	18.31	12.56
10	-1.00	2.00	2.19	1.50	20.50	14.06
14	-0.50	1.41	1.23	0.84	21.73	14.90
18	0.00	1.00	0.60	0.41	22.33	15.31
25	0.50	0.71	0.62	0.43	22.95	15.74
35	1.00	0.50	0.90	0.62	23.85	16.35
45	1.50	0.35	3.88	2.66	27.73	19.02
60	2.00	0.25	7.72	5.29	35.45	24.31
80	2.50	0.18	8.79	6.03	44.24	30.34
120	3.00	0.13	30.10	20.64	74.34	50.98
170	3.50	0.09	53.82	36.91	128.16	87.88
200	3.75	0.07	13.14	9.01	141.30	96.89
230	4.00	0.06	4.33	2.97	145.63	99.86

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.70	3.45	3.33	2.98	2.06	0.71	-2.98

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	2.12	0.23	2.02	-1.73	4.61

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



Gahagan and Bryant Associates
 3802 W Bay to Bay Blvd. Suite B-22
 Tampa, FL 33629
 Telephone: 813-831-4408
 Fax: 813-831-4216

Project Name: IBSP Sand Source Survey
 Sample Name: GS-18
 Analysis Date: 08-24-20
 Analyzed By: DCJ

Easting (ft): 1,131,619	Northing (ft): 2,110,646	Coordinate System: State Plane	Elevation (ft):
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USCS: SP	Munsell: Dry - 10YR-7/2	Comments:
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Dry Weight (g): 158.43	Wash Weight (g): 158.43	Pan Retained (g): 1.32	Sieve Loss (%): 0.04	Fines (%): #200 - 3.04 #230 - 0.87	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.22	0.14	0.22	0.14
5	-2.00	4.00	0.00	0.00	0.22	0.14
7	-1.50	2.83	0.01	0.01	0.23	0.15
10	-1.00	2.00	0.00	0.00	0.23	0.15
14	-0.50	1.41	0.02	0.01	0.25	0.16
18	0.00	1.00	0.00	0.00	0.25	0.16
25	0.50	0.71	0.02	0.01	0.27	0.17
35	1.00	0.50	0.07	0.04	0.34	0.21
45	1.50	0.35	1.11	0.70	1.45	0.92
60	2.00	0.25	11.79	7.44	13.24	8.36
80	2.50	0.18	28.22	17.81	41.46	26.17
120	3.00	0.13	51.90	32.76	93.36	58.93
170	3.50	0.09	52.06	32.86	145.42	91.79
200	3.75	0.07	8.20	5.18	153.62	96.96
230	4.00	0.06	3.43	2.16	157.05	99.13

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.66	3.38	3.24	2.86	2.47	2.21	1.77

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	2.8	0.14	0.57	-1.45	12.07

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



Gahagan and Bryant Associates
 3802 W Bay to Bay Blvd. Suite B-22
 Tampa, FL 33629
 Telephone: 813-831-4408
 Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-21

Analysis Date: 08-31-20

Analyzed By: DCJ

Easting (ft): 1,131,605	Northing (ft): 2,108,639	Coordinate System: State Plane	Elevation (ft):
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USCS: SP-SM	Munsell: Dry - 10YR-6/2	Comments:
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Dry Weight (g): 97.27	Wash Weight (g): 94.97	Pan Retained (g): 1.79	Sieve Loss (%): 0.02	Fines (%): #200 - 5.63 #230 - 4.23	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.01	0.01	0.01	0.01
10	-1.00	2.00	0.04	0.04	0.05	0.05
14	-0.50	1.41	0.12	0.12	0.17	0.17
18	0.00	1.00	0.19	0.20	0.36	0.37
25	0.50	0.71	0.34	0.35	0.70	0.72
35	1.00	0.50	0.93	0.96	1.63	1.68
45	1.50	0.35	3.83	3.94	5.46	5.61
60	2.00	0.25	10.05	10.33	15.51	15.95
80	2.50	0.18	7.21	7.41	22.72	23.36
120	3.00	0.13	7.59	7.80	30.31	31.16
170	3.50	0.09	54.48	56.01	84.79	87.17
200	3.75	0.07	7.00	7.20	91.79	94.37
230	4.00	0.06	1.37	1.41	93.16	95.77

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.86	3.47	3.39	3.17	2.61	2.00	1.42

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	2.87	0.14	0.73	-1.54	5.25

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



Gahagan and Bryant Associates
 3802 W Bay to Bay Blvd. Suite B-22
 Tampa, FL 33629
 Telephone: 813-831-4408
 Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-26

Analysis Date: 08-24-20

Analyzed By: DCJ

Easting (ft): 1,135,686	Northing (ft): 2,103,165	Coordinate System: State Plane	Elevation (ft):
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USCS: SP	Munsell: Dry - 10YR-7/3	Comments:
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Dry Weight (g): 130.38	Wash Weight (g): 130.38	Pan Retained (g): 2.11	Sieve Loss (%): 0.18	Fines (%): #200 - 4.46 #230 - 1.79	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.08	0.06	0.08	0.06
4	-2.25	4.76	0.00	0.00	0.08	0.06
5	-2.00	4.00	0.00	0.00	0.08	0.06
7	-1.50	2.83	0.00	0.00	0.08	0.06
10	-1.00	2.00	0.00	0.00	0.08	0.06
14	-0.50	1.41	0.05	0.04	0.13	0.10
18	0.00	1.00	0.09	0.07	0.22	0.17
25	0.50	0.71	0.14	0.11	0.36	0.28
35	1.00	0.50	0.20	0.15	0.56	0.43
45	1.50	0.35	0.32	0.25	0.88	0.67
60	2.00	0.25	0.88	0.67	1.76	1.35
80	2.50	0.18	4.57	3.51	6.33	4.86
120	3.00	0.13	49.18	37.72	55.51	42.58
170	3.50	0.09	58.99	45.24	114.50	87.82
200	3.75	0.07	10.07	7.72	124.57	95.54
230	4.00	0.06	3.47	2.66	128.04	98.21

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.73	3.46	3.36	3.08	2.77	2.65	2.50

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	3.04	0.12	0.44	-3.06	35.13

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-27

Analysis Date: 08-24-20

Analyzed By: DCJ

Easting (ft): 1,131,918	Northing (ft): 2,103,151	Coordinate System: State Plane	Elevation (ft):
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USCS: SW-SM	Munsell: Dry - 10YR-6/3	Comments:
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Dry Weight (g): 133.60	Wash Weight (g): 133.60	Pan Retained (g): 1.98	Sieve Loss (%): 0.05	Fines (%): #200 - 5.16 #230 - 1.53	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	1.60	1.20	1.60	1.20
4	-2.25	4.76	0.36	0.27	1.96	1.47
5	-2.00	4.00	1.63	1.22	3.59	2.69
7	-1.50	2.83	0.97	0.73	4.56	3.41
10	-1.00	2.00	1.29	0.97	5.85	4.38
14	-0.50	1.41	1.33	1.00	7.18	5.37
18	0.00	1.00	1.11	0.83	8.29	6.21
25	0.50	0.71	1.20	0.90	9.49	7.10
35	1.00	0.50	1.61	1.21	11.10	8.31
45	1.50	0.35	3.68	2.75	14.78	11.06
60	2.00	0.25	8.13	6.09	22.91	17.15
80	2.50	0.18	6.84	5.12	29.75	22.27
120	3.00	0.13	26.41	19.77	56.16	42.04
170	3.50	0.09	58.83	44.03	114.99	86.07
200	3.75	0.07	11.72	8.77	126.71	94.84
230	4.00	0.06	4.84	3.62	131.55	98.47

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.76	3.48	3.37	3.09	2.57	1.91	-0.69

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	2.64	0.16	1.33	-2.56	9.73

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-30

Analysis Date: 08-24-20

Analyzed By: DCJ

Easting (ft): 1,131,915	Northing (ft): 2,101,144	Coordinate System: State Plane	Elevation (ft):
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USCS: SP-SM	Munsell: Dry - 10YR-7/2	Comments:
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Dry Weight (g): 145.11	Wash Weight (g): 145.11	Pan Retained (g): 2.59	Sieve Loss (%): 0.08	Fines (%): #200 - 6.00 #230 - 1.86	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.20	0.14	0.20	0.14
10	-1.00	2.00	0.27	0.19	0.47	0.32
14	-0.50	1.41	0.34	0.23	0.81	0.56
18	0.00	1.00	0.33	0.23	1.14	0.79
25	0.50	0.71	0.40	0.28	1.54	1.06
35	1.00	0.50	0.87	0.60	2.41	1.66
45	1.50	0.35	2.48	1.71	4.89	3.37
60	2.00	0.25	4.82	3.32	9.71	6.69
80	2.50	0.18	6.46	4.45	16.17	11.14
120	3.00	0.13	35.48	24.45	51.65	35.59
170	3.50	0.09	69.87	48.15	121.52	83.74
200	3.75	0.07	14.88	10.25	136.40	94.00
230	4.00	0.06	6.01	4.14	142.41	98.14

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.81	3.51	3.41	3.15	2.78	2.60	1.75

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	3	0.13	0.65	-2.7	14.76

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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 Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-31

Analysis Date: 08-31-20

Analyzed By: DCJ

Easting (ft): 1,135,267	Northing (ft): 2,101,166	Coordinate System: State Plane	Elevation (ft):
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USCS: SP-SM	Munsell: Dry - 10YR-7/3	Comments:
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Dry Weight (g): 124.17	Wash Weight (g): 120.49	Pan Retained (g): 0.91	Sieve Loss (%): 0.02	Fines (%): #200 - 6.52 #230 - 3.71	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.07	0.06	0.07	0.06
10	-1.00	2.00	0.09	0.07	0.16	0.13
14	-0.50	1.41	0.02	0.02	0.18	0.14
18	0.00	1.00	0.08	0.06	0.26	0.21
25	0.50	0.71	0.11	0.09	0.37	0.30
35	1.00	0.50	0.18	0.14	0.55	0.44
45	1.50	0.35	0.70	0.56	1.25	1.01
60	2.00	0.25	1.62	1.30	2.87	2.31
80	2.50	0.18	3.87	3.12	6.74	5.43
120	3.00	0.13	43.93	35.38	50.67	40.81
170	3.50	0.09	55.53	44.72	106.20	85.53
200	3.75	0.07	9.88	7.96	116.08	93.48
230	4.00	0.06	3.48	2.80	119.56	96.29

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.89	3.48	3.38	3.10	2.78	2.65	2.43

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	3.04	0.12	0.46	-2.45	19.89

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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 Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-36

Analysis Date: 08-31-20

Analyzed By: DCJ

Easting (ft): 1,132,078	Northing (ft): 2,097,146	Coordinate System: State Plane	Elevation (ft):
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USCS: SM	Munsell: Dry - 10YR-7/3	Comments:
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Dry Weight (g): 169.47	Wash Weight (g): 132.37	Pan Retained (g): 1.68	Sieve Loss (%): 0.01	Fines (%): #200 - 25.77 #230 - 22.89	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.07	0.04	0.07	0.04
5	-2.00	4.00	0.00	0.00	0.07	0.04
7	-1.50	2.83	0.05	0.03	0.12	0.07
10	-1.00	2.00	0.03	0.02	0.15	0.09
14	-0.50	1.41	0.06	0.04	0.21	0.12
18	0.00	1.00	0.06	0.04	0.27	0.16
25	0.50	0.71	0.07	0.04	0.34	0.20
35	1.00	0.50	0.09	0.05	0.43	0.25
45	1.50	0.35	0.29	0.17	0.72	0.42
60	2.00	0.25	0.77	0.45	1.49	0.88
80	2.50	0.18	2.33	1.37	3.82	2.25
120	3.00	0.13	49.09	28.97	52.91	31.22
170	3.50	0.09	59.14	34.90	112.05	66.12
200	3.75	0.07	13.75	8.11	125.80	74.23
230	4.00	0.06	4.87	2.87	130.67	77.11

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
		3.82	3.27	2.89	2.74	2.55

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	3.08	0.12	0.43	-2.77	29.86

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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 Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-38

Analysis Date: 08-31-20

Analyzed By: DCJ

Easting (ft): 1,134,177	Northing (ft): 2,095,171	Coordinate System: State Plane	Elevation (ft):
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USCS: SM	Munsell: Dry - 10YR-6/2	Comments:
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Dry Weight (g): 146.10	Wash Weight (g): 132.70	Pan Retained (g): 7.08	Sieve Loss (%): -0.15	Fines (%): #200 - 13.98 #230 - 13.87	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.30	0.21	0.30	0.21
7	-1.50	2.83	0.00	0.00	0.30	0.21
10	-1.00	2.00	0.00	0.00	0.30	0.21
14	-0.50	1.41	0.08	0.05	0.38	0.26
18	0.00	1.00	0.10	0.07	0.48	0.33
25	0.50	0.71	0.11	0.08	0.59	0.40
35	1.00	0.50	0.18	0.12	0.77	0.53
45	1.50	0.35	0.25	0.17	1.02	0.70
60	2.00	0.25	0.56	0.38	1.58	1.08
80	2.50	0.18	0.81	0.55	2.39	1.64
120	3.00	0.13	9.35	6.40	11.74	8.04
170	3.50	0.09	100.44	68.75	112.18	76.78
200	3.75	0.07	13.49	9.23	125.67	86.02
230	4.00	0.06	0.17	0.12	125.84	86.13

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
	3.70	3.49	3.31	3.12	3.06	2.76

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	3.21	0.11	0.4	-7.82	90.14

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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Project Name: IBSP Sand Source Survey

Sample Name: GS-45

Analysis Date: 08-21-20

Analyzed By: DCJ

Easting (ft): 1,139,973	Northing (ft): 2,114,314	Coordinate System: State Plane	Elevation (ft):
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USCS: SP	Munsell: Dry - 10YR-7/3	Comments:
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Dry Weight (g): 153.31	Wash Weight (g): 153.31	Pan Retained (g): 0.14	Sieve Loss (%): 0.05	Fines (%): #200 - 0.23 #230 - 0.14	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.03	0.02	0.03	0.02
4	-2.25	4.76	0.00	0.00	0.03	0.02
5	-2.00	4.00	0.00	0.00	0.03	0.02
7	-1.50	2.83	0.00	0.00	0.03	0.02
10	-1.00	2.00	0.06	0.04	0.09	0.06
14	-0.50	1.41	0.09	0.06	0.18	0.12
18	0.00	1.00	0.27	0.18	0.45	0.29
25	0.50	0.71	0.67	0.44	1.12	0.73
35	1.00	0.50	2.61	1.70	3.73	2.43
45	1.50	0.35	22.84	14.90	26.57	17.33
60	2.00	0.25	65.26	42.57	91.83	59.90
80	2.50	0.18	45.15	29.45	136.98	89.35
120	3.00	0.13	13.98	9.12	150.96	98.47
170	3.50	0.09	1.89	1.23	152.85	99.70
200	3.75	0.07	0.11	0.07	152.96	99.77
230	4.00	0.06	0.14	0.09	153.10	99.86

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.81	2.41	2.26	1.88	1.59	1.46	1.09

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.91	0.27	0.51	-0.38	6.67

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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Project Name: IBSP Sand Source Survey

Sample Name: GS-46

Analysis Date: 08-21-20

Analyzed By: DCJ

Easting (ft): 1,140,222	Northing (ft): 2,114,299	Coordinate System: State Plane	Elevation (ft):
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USCS: SP	Munsell: Dry - 10YR-7/3	Comments:
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Dry Weight (g): 158.06	Wash Weight (g): 158.06	Pan Retained (g): 0.19	Sieve Loss (%): 0.04	Fines (%): #200 - 0.29 #230 - 0.16	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.04	0.03	0.04	0.03
10	-1.00	2.00	0.05	0.03	0.09	0.06
14	-0.50	1.41	0.06	0.04	0.15	0.09
18	0.00	1.00	0.31	0.20	0.46	0.29
25	0.50	0.71	0.95	0.60	1.41	0.89
35	1.00	0.50	4.26	2.70	5.67	3.59
45	1.50	0.35	28.39	17.96	34.06	21.55
60	2.00	0.25	56.08	35.48	90.14	57.03
80	2.50	0.18	40.34	25.52	130.48	82.55
120	3.00	0.13	23.32	14.75	153.80	97.30
170	3.50	0.09	3.52	2.23	157.32	99.53
200	3.75	0.07	0.28	0.18	157.60	99.71
230	4.00	0.06	0.20	0.13	157.80	99.84

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.92	2.55	2.35	1.90	1.55	1.35	1.04

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.93	0.26	0.59	-0.13	3.86

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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Project Name: IBSP Sand Source Survey

Sample Name: GS-47

Analysis Date: 08-21-20

Analyzed By: DCJ

Easting (ft): 1,140,085	Northing (ft): 2,114,478	Coordinate System: State Plane	Elevation (ft):
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USCS: SP	Munsell: Dry - 10YR-7/3	Comments:
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Dry Weight (g): 154.86	Wash Weight (g): 154.86	Pan Retained (g): 0.11	Sieve Loss (%): 0.02	Fines (%): #200 - 0.21 #230 - 0.09	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.00	0.00	0.00	0.00
10	-1.00	2.00	0.47	0.30	0.47	0.30
14	-0.50	1.41	1.10	0.71	1.57	1.01
18	0.00	1.00	1.71	1.10	3.28	2.12
25	0.50	0.71	4.13	2.67	7.41	4.78
35	1.00	0.50	10.23	6.61	17.64	11.39
45	1.50	0.35	40.09	25.89	57.73	37.28
60	2.00	0.25	48.50	31.32	106.23	68.60
80	2.50	0.18	32.16	20.77	138.39	89.36
120	3.00	0.13	13.69	8.84	152.08	98.20
170	3.50	0.09	2.27	1.47	154.35	99.67
200	3.75	0.07	0.19	0.12	154.54	99.79
230	4.00	0.06	0.18	0.12	154.72	99.91

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.82	2.37	2.15	1.70	1.26	1.09	0.52

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.68	0.31	0.7	-0.56	4.54

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



Gahagan and Bryant Associates
3802 W Bay to Bay Blvd. Suite B-22
Tampa, FL 33629
Telephone: 813-831-4408
Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-48

Analysis Date: 08-21-20

Analyzed By: DCJ

Easting (ft): 1,139,737	Northing (ft): 2,114,187	Coordinate System: State Plane	Elevation (ft):
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USCS: SP	Munsell: Dry - 10YR-7/3	Comments:
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Dry Weight (g): 136.88	Wash Weight (g): 136.88	Pan Retained (g): 0.19	Sieve Loss (%): 0.02	Fines (%): #200 - 0.43 #230 - 0.16	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.00	0.00	0.00	0.00
10	-1.00	2.00	0.90	0.66	0.90	0.66
14	-0.50	1.41	0.15	0.11	1.05	0.77
18	0.00	1.00	0.18	0.13	1.23	0.90
25	0.50	0.71	0.43	0.31	1.66	1.21
35	1.00	0.50	1.25	0.91	2.91	2.13
45	1.50	0.35	8.20	5.99	11.11	8.12
60	2.00	0.25	39.87	29.13	50.98	37.24
80	2.50	0.18	52.47	38.33	103.45	75.58
120	3.00	0.13	26.44	19.32	129.89	94.89
170	3.50	0.09	5.83	4.26	135.72	99.15
200	3.75	0.07	0.57	0.42	136.29	99.57
230	4.00	0.06	0.37	0.27	136.66	99.84

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.01	2.72	2.49	2.17	1.79	1.64	1.24

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	2.14	0.23	0.6	-1.3	9.65

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-49

Analysis Date: 08-21-20

Analyzed By: DCJ

Easting (ft):	Northing (ft):	Coordinate System:	Elevation (ft):
1,138,710	2,114,704	State Plane	

USCS:	Munsell:	Comments:
SP	Dry - 10YR-6/3	

Dry Weight (g):	Wash Weight (g):	Pan Retained (g):	Sieve Loss (%):	Fines (%):	Organics (%):	Carbonates (%):	Shells (%):
151.06	151.06	3.54	0.13	#200 - 4.29 #230 - 2.47			

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.17	0.11	0.17	0.11
4	-2.25	4.76	0.04	0.03	0.21	0.14
5	-2.00	4.00	0.11	0.07	0.32	0.21
7	-1.50	2.83	0.57	0.38	0.89	0.59
10	-1.00	2.00	0.54	0.36	1.43	0.95
14	-0.50	1.41	0.62	0.41	2.05	1.36
18	0.00	1.00	0.58	0.38	2.63	1.74
25	0.50	0.71	0.66	0.44	3.29	2.18
35	1.00	0.50	0.87	0.58	4.16	2.75
45	1.50	0.35	1.96	1.30	6.12	4.05
60	2.00	0.25	5.51	3.65	11.63	7.70
80	2.50	0.18	31.18	20.64	42.81	28.34
120	3.00	0.13	65.75	43.53	108.56	71.87
170	3.50	0.09	30.45	20.16	139.01	92.02
200	3.75	0.07	5.57	3.69	144.58	95.71
230	4.00	0.06	2.75	1.82	147.33	97.53

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.70	3.30	3.08	2.75	2.42	2.20	1.63
Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis	
Statistics	2.65	0.16	0.75	-2.96	17.79	

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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 Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-50

Analysis Date: 08-21-20

Analyzed By: DCJ

Easting (ft): 1,139,892	Northing (ft): 2,113,701	Coordinate System: State Plane	Elevation (ft):
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USCS: SP	Munsell: Dry - 10YR-7/3	Comments:
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Dry Weight (g): 123.40	Wash Weight (g): 123.40	Pan Retained (g): 0.72	Sieve Loss (%): 0.08	Fines (%): #200 - 1.24 #230 - 0.66	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.01	0.01	0.01	0.01
10	-1.00	2.00	0.04	0.03	0.05	0.04
14	-0.50	1.41	0.06	0.05	0.11	0.09
18	0.00	1.00	0.07	0.06	0.18	0.15
25	0.50	0.71	0.15	0.12	0.33	0.27
35	1.00	0.50	0.50	0.41	0.83	0.67
45	1.50	0.35	3.37	2.73	4.20	3.40
60	2.00	0.25	19.91	16.13	24.11	19.54
80	2.50	0.18	43.17	34.98	67.28	54.52
120	3.00	0.13	41.34	33.50	108.62	88.02
170	3.50	0.09	12.00	9.72	120.62	97.75
200	3.75	0.07	1.25	1.01	121.87	98.76
230	4.00	0.06	0.71	0.58	122.58	99.34

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.36	2.94	2.81	2.44	2.08	1.89	1.55

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	2.42	0.19	0.53	-0.46	5

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-51

Analysis Date: 08-21-20

Analyzed By: DCJ

Easting (ft): 1,140,207	Northing (ft): 2,115,694	Coordinate System: State Plane	Elevation (ft):
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USCS: SP	Munsell: Dry - 10YR-7/3	Comments:
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Dry Weight (g): 148.56	Wash Weight (g): 148.56	Pan Retained (g): 0.36	Sieve Loss (%): 0.13	Fines (%): #200 - 0.61 #230 - 0.37	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.15	0.10	0.15	0.10
5	-2.00	4.00	0.00	0.00	0.15	0.10
7	-1.50	2.83	0.05	0.03	0.20	0.13
10	-1.00	2.00	0.00	0.00	0.20	0.13
14	-0.50	1.41	0.00	0.00	0.20	0.13
18	0.00	1.00	0.12	0.08	0.32	0.22
25	0.50	0.71	0.38	0.26	0.70	0.47
35	1.00	0.50	1.01	0.68	1.71	1.15
45	1.50	0.35	6.63	4.46	8.34	5.61
60	2.00	0.25	34.74	23.38	43.08	29.00
80	2.50	0.18	61.31	41.27	104.39	70.27
120	3.00	0.13	36.94	24.87	141.33	95.13
170	3.50	0.09	5.77	3.88	147.10	99.02
200	3.75	0.07	0.56	0.38	147.66	99.39
230	4.00	0.06	0.35	0.24	148.01	99.63

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.00	2.78	2.60	2.25	1.91	1.72	1.43

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	2.24	0.21	0.53	-1.05	10.43

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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 Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-52

Analysis Date: 08-21-20

Analyzed By: DCJ

Easting (ft): 1,139,975	Northing (ft): 2,115,191	Coordinate System: State Plane	Elevation (ft):
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USCS: SP	Munsell: Dry - 10YR-7/3	Comments:
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Dry Weight (g): 137.35	Wash Weight (g): 137.35	Pan Retained (g): 0.14	Sieve Loss (%): 0.06	Fines (%): #200 - 0.25 #230 - 0.16	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.06	0.04	0.06	0.04
10	-1.00	2.00	0.17	0.12	0.23	0.17
14	-0.50	1.41	0.33	0.24	0.56	0.41
18	0.00	1.00	0.75	0.55	1.31	0.95
25	0.50	0.71	1.63	1.19	2.94	2.14
35	1.00	0.50	5.12	3.73	8.06	5.87
45	1.50	0.35	32.25	23.48	40.31	29.35
60	2.00	0.25	53.24	38.76	93.55	68.11
80	2.50	0.18	28.39	20.67	121.94	88.78
120	3.00	0.13	12.78	9.30	134.72	98.09
170	3.50	0.09	2.09	1.52	136.81	99.61
200	3.75	0.07	0.19	0.14	137.00	99.75
230	4.00	0.06	0.13	0.09	137.13	99.84

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.83	2.38	2.17	1.77	1.41	1.22	0.88

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.78	0.29	0.6	-0.38	5.19

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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3802 W Bay to Bay Blvd. Suite B-22
Tampa, FL 33629
Telephone: 813-831-4408
Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-53

Analysis Date: 08-21-20

Analyzed By: DCJ

Easting (ft): 1,139,392	Northing (ft): 2,114,691	Coordinate System: State Plane	Elevation (ft):
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USCS: SP	Munsell: Dry - 10YR-6/3	Comments:
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Dry Weight (g): 108.59	Wash Weight (g): 108.59	Pan Retained (g): 0.12	Sieve Loss (%): 0.06	Fines (%): #200 - 0.20 #230 - 0.17	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.00	0.00	0.00	0.00
7	-1.50	2.83	0.08	0.07	0.08	0.07
10	-1.00	2.00	0.99	0.91	1.07	0.99
14	-0.50	1.41	4.48	4.13	5.55	5.11
18	0.00	1.00	9.49	8.74	15.04	13.85
25	0.50	0.71	15.26	14.05	30.30	27.90
35	1.00	0.50	25.15	23.16	55.45	51.06
45	1.50	0.35	44.25	40.75	99.70	91.81
60	2.00	0.25	7.42	6.83	107.12	98.65
80	2.50	0.18	0.54	0.50	107.66	99.14
120	3.00	0.13	0.40	0.37	108.06	99.51
170	3.50	0.09	0.28	0.26	108.34	99.77
200	3.75	0.07	0.03	0.03	108.37	99.80
230	4.00	0.06	0.03	0.03	108.40	99.83

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
1.73	1.40	1.29	0.98	0.40	0.08	-0.51

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	0.81	0.57	0.69	-0.58	3.77

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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Project Name: IBSP Sand Source Survey

Sample Name: GS-54

Analysis Date: 08-31-20

Analyzed By: DCJ

Easting (ft): 1,139,264	Northing (ft): 2,115,177	Coordinate System: State Plane	Elevation (ft):
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USCS: SM	Munsell:	Comments:
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Dry Weight (g): 43.15	Wash Weight (g): 31.54	Pan Retained (g): 0.39	Sieve Loss (%): 0.05	Fines (%): #200 - 29.55 #230 - 27.86	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	1.01	2.34	1.01	2.34
4	-2.25	4.76	0.00	0.00	1.01	2.34
5	-2.00	4.00	0.14	0.32	1.15	2.67
7	-1.50	2.83	0.79	1.83	1.94	4.50
10	-1.00	2.00	0.41	0.95	2.35	5.45
14	-0.50	1.41	1.25	2.90	3.60	8.34
18	0.00	1.00	1.18	2.73	4.78	11.08
25	0.50	0.71	1.60	3.71	6.38	14.79
35	1.00	0.50	2.39	5.54	8.77	20.32
45	1.50	0.35	4.57	10.59	13.34	30.92
60	2.00	0.25	2.18	5.05	15.52	35.97
80	2.50	0.18	1.54	3.57	17.06	39.54
120	3.00	0.13	6.48	15.02	23.54	54.55
170	3.50	0.09	5.83	13.51	29.37	68.06
200	3.75	0.07	1.03	2.39	30.40	70.45
230	4.00	0.06	0.73	1.69	31.13	72.14

Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
			2.85	1.22	0.61	-1.24

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.66	0.32	1.67	-1.06	3.7

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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Project Name: IBSP Sand Source Survey

Sample Name: GS-55

Analysis Date: 08-21-20

Analyzed By: DCJ

Easting (ft): 1,139,779
 Northing (ft): 2,114,686

Coordinate System: State Plane
 Elevation (ft):

USCS: SP
 Munsell: Dry - 10YR-7/3
 Comments:

Dry Weight (g): 149.27
 Wash Weight (g): 149.27
 Pan Retained (g): 1.45
 Sieve Loss (%): 0.21
 Fines (%): #200 - 1.94, #230 - 1.18
 Organics (%):
 Carbonates (%):
 Shells (%):

Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.18	0.12	0.18	0.12
4	-2.25	4.76	0.07	0.05	0.25	0.17
5	-2.00	4.00	0.09	0.06	0.34	0.23
7	-1.50	2.83	0.08	0.05	0.42	0.28
10	-1.00	2.00	0.16	0.11	0.58	0.39
14	-0.50	1.41	0.17	0.11	0.75	0.50
18	0.00	1.00	0.29	0.19	1.04	0.70
25	0.50	0.71	0.45	0.30	1.49	1.00
35	1.00	0.50	0.76	0.51	2.25	1.51
45	1.50	0.35	2.66	1.78	4.91	3.29
60	2.00	0.25	11.44	7.66	16.35	10.95
80	2.50	0.18	33.74	22.60	50.09	33.56
120	3.00	0.13	73.74	49.40	123.83	82.96
170	3.50	0.09	20.30	13.60	144.13	96.56
200	3.75	0.07	2.24	1.50	146.37	98.06
230	4.00	0.06	1.14	0.76	147.51	98.82

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
3.44	3.04	2.92	2.67	2.31	2.11	1.61

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	2.57	0.17	0.61	-2.82	21.68

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



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Project Name: IBSP Sand Source Survey

Sample Name: GS-56

Analysis Date: 08-21-20

Analyzed By: DCJ

Easting (ft): 1,140,394	Northing (ft): 2,115,197	Coordinate System: State Plane	Elevation (ft):
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USCS: SW	Munsell: Dry - 10YR-7/3	Comments:
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Dry Weight (g): 154.48	Wash Weight (g): 154.48	Pan Retained (g): 0.09	Sieve Loss (%): 0.01	Fines (%): #200 - 0.10 #230 - 0.06	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.00	0.00	0.00	0.00
4	-2.25	4.76	0.00	0.00	0.00	0.00
5	-2.00	4.00	0.50	0.32	0.50	0.32
7	-1.50	2.83	2.41	1.56	2.91	1.88
10	-1.00	2.00	4.83	3.13	7.74	5.01
14	-0.50	1.41	8.85	5.73	16.59	10.74
18	0.00	1.00	11.10	7.19	27.69	17.92
25	0.50	0.71	17.16	11.11	44.85	29.03
35	1.00	0.50	27.87	18.04	72.72	47.07
45	1.50	0.35	46.15	29.87	118.87	76.95
60	2.00	0.25	26.21	16.97	145.08	93.92
80	2.50	0.18	6.98	4.52	152.06	98.43
120	3.00	0.13	1.71	1.11	153.77	99.54
170	3.50	0.09	0.50	0.32	154.27	99.86
200	3.75	0.07	0.05	0.03	154.32	99.90
230	4.00	0.06	0.06	0.04	154.38	99.94

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.12	1.71	1.47	1.05	0.32	-0.13	-1.00

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	0.85	0.55	0.94	-0.7	3.38

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



Gahagan and Bryant Associates
 3802 W Bay to Bay Blvd. Suite B-22
 Tampa, FL 33629
 Telephone: 813-831-4408
 Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-65

Analysis Date: 08-21-20

Analyzed By: DCJ

Easting (ft): 1,139,976	Northing (ft): 2,112,682	Coordinate System: State Plane	Elevation (ft):
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USCS: SW	Munsell: Dry - 10YR-7/3	Comments:
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Dry Weight (g): 159.22	Wash Weight (g): 159.22	Pan Retained (g): 0.39	Sieve Loss (%): 0.31	Fines (%): #200 - 0.70 #230 - 0.56	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.48	0.30	0.48	0.30
4	-2.25	4.76	0.06	0.04	0.54	0.34
5	-2.00	4.00	0.26	0.16	0.80	0.50
7	-1.50	2.83	0.96	0.60	1.76	1.11
10	-1.00	2.00	1.89	1.19	3.65	2.29
14	-0.50	1.41	3.91	2.46	7.56	4.75
18	0.00	1.00	5.96	3.74	13.52	8.49
25	0.50	0.71	10.31	6.48	23.83	14.97
35	1.00	0.50	20.48	12.86	44.31	27.83
45	1.50	0.35	41.69	26.18	86.00	54.01
60	2.00	0.25	31.58	19.83	117.58	73.85
80	2.50	0.18	24.89	15.63	142.47	89.48
120	3.00	0.13	12.63	7.93	155.10	97.41
170	3.50	0.09	2.73	1.71	157.83	99.13
200	3.75	0.07	0.28	0.18	158.11	99.30
230	4.00	0.06	0.22	0.14	158.33	99.44

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.85	2.32	2.04	1.42	0.89	0.54	-0.47

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	1.36	0.39	0.98	-0.86	4.81

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20

Granularmetric Report

Depths and elevations based on measured values



Gahagan and Bryant Associates
 3802 W Bay to Bay Blvd. Suite B-22
 Tampa, FL 33629
 Telephone: 813-831-4408
 Fax: 813-831-4216

Project Name: IBSP Sand Source Survey

Sample Name: GS-66

Analysis Date: 08-21-20

Analyzed By: DCJ

Easting (ft): 1,140,030	Northing (ft): 2,113,199	Coordinate System: State Plane	Elevation (ft):
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USCS: SW	Munsell: Dry - 10YR-7/3	Comments:
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Dry Weight (g): 146.00	Wash Weight (g): 146.00	Pan Retained (g): 0.16	Sieve Loss (%): 0.01	Fines (%): #200 - 0.21 #230 - 0.12	Organics (%):	Carbonates (%):	Shells (%):
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Sieve Number	Sieve Size (Phi)	Sieve Size (Millimeters)	Grams Retained	% Weight Retained	Cum. Grams Retained	C. % Weight Retained
3/4"	-4.25	19.03	0.00	0.00	0.00	0.00
5/8"	-4.00	16.00	0.00	0.00	0.00	0.00
3.5	-2.50	5.66	0.31	0.21	0.31	0.21
4	-2.25	4.76	1.04	0.71	1.35	0.92
5	-2.00	4.00	1.65	1.13	3.00	2.05
7	-1.50	2.83	4.52	3.10	7.52	5.15
10	-1.00	2.00	5.32	3.64	12.84	8.79
14	-0.50	1.41	6.72	4.60	19.56	13.40
18	0.00	1.00	7.31	5.01	26.87	18.40
25	0.50	0.71	12.99	8.90	39.86	27.30
35	1.00	0.50	27.05	18.53	66.91	45.83
45	1.50	0.35	43.38	29.71	110.29	75.54
60	2.00	0.25	24.61	16.86	134.90	92.40
80	2.50	0.18	8.03	5.50	142.93	97.90
120	3.00	0.13	1.86	1.27	144.79	99.17
170	3.50	0.09	0.81	0.55	145.60	99.73
200	3.75	0.07	0.10	0.07	145.70	99.79
230	4.00	0.06	0.13	0.09	145.83	99.88

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Phi 5	Phi 16	Phi 25	Phi 50	Phi 75	Phi 84	Phi 95
2.24	1.75	1.49	1.07	0.37	-0.24	-1.52

Moment	Mean Phi	Mean mm	Sorting	Skewness	Kurtosis
Statistics	0.82	0.57	1.08	-0.96	3.9

GRANULARMETRIC REPORT IBSP.GPJ FL DEP ROSS.GDT 11/10/20