Project:	LDW ENR/AC Pilot Study	**Date Received:**	January 25, 2021
Project #:	19S135	**Sampled By:**	Others
Client :	Wood	**Date Tested:**	February 8, 2021
Source:	Multiple	**Tested By:**	B. Goble
MTC Sample#:	Multiple		

CASE NARRATIVE

1. Six samples were submitted for grain size analysis according to Puget Sound Estuary Protocol (PSEP) methodology.
2. The samples were run in a single batch and one sample from this job was chosen for triplicate analysis. The triplicate data is reported on the QA summary.
3. The data is provided in summary tables and plots.
4. There were no other noted anomalies in this project.

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Apparent Grain Size Distribution Summary

Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31.0	15.6	7.8	3.9	2.0	1.0
LDW-Y3-LBS-SU-ENR-C-CORE	100.0	97.5	78.1	63.8	49.8	38.2	30.5	26.2	22.8	20.7	19.6	16.2	12.2	7.7
	100.0	93.9	74.8	61.0	47.3	34.9	29.4	25.7	22.2	20.4	19.0	15.6	12.0	7.5
	100.0	95.8	76.3	62.4	48.4	35.9	30.7	26.6	22.3	20.5	19.3	15.9	12.1	7.6
LDW-Y3-LBS-SU-ENR-A-CORE	100.0	99.4	77.9	57.6	38.7	21.7	15.0	13.1	9.4	8.9	7.2	5.7	4.2	2.6
LDW-Y3-LBS-SU-ENR-B-CORE	100.0	99.3	73.7	53.8	37.3	24.5	19.8	16.5	13.6	12.5	11.4	9.6	6.4	4.4
LDW-Y3-LBS-SU-ENR+AC-A-CORE	100.0	99.2	75.8	54.2	34.5	16.9	10.0	7.3	6.8	5.7	4.7	4.1	2.8	1.8
LDW-Y3-LBS-SU-ENR+AC-B-CORE	100.0	97.6	79.9	66.1	48.3	30.8	23.9	21.1	17.7	15.4	14.0	12.5	9.2	5.2
LDW-Y3-LBS-SU-ENR+AC-C-CORE	100.0	98.7	74.0	57.1	40.4	24.4	16.6	13.6	11.4	9.7	8.0	6.7	4.4	2.4

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Tested by: B. Goble

Apparent Grain Size Distribution Summary

Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	< -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	> 10	> 4
Sieve Size (microns)	> #10 (2000)	10-18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
LDW-Y3-LBS-SU-ENR-C-CORE	21.9	14.3	13.9	11.6	7.8	4.3	3.4	2.1	1.2	3.4	3.9	4.6	7.7	26.2
	25.2	13.7	13.7	12.4	5.6	3.7	3.5	1.7	1.5	3.4	3.6	4.5	7.5	25.7
	23.7	13.8	14.0	12.5	5.2	4.1	4.3	1.8	1.2	3.4	3.9	4.5	7.6	26.6
LDW-Y3-LBS-SU-ENR-A-CORE	22.1	20.3	18.9	16.9	6.8	1.9	3.7	0.6	1.7	1.6	1.5	1.6	2.6	13.1
LDW-Y3-LBS-SU-ENR-B-CORE	26.3	19.9	16.5	12.8	4.7	3.3	2.8	1.1	1.1	1.8	3.2	2.0	4.4	16.5
LDW-Y3-LBS-SU-ENR+AC-A-CORE	24.2	21.6	19.7	17.6	6.8	2.7	0.5	1.1	1.0	0.6	1.3	1.1	1.8	7.3
LDW-Y3-LBS-SU-ENR+AC-B-CORE	20.1	13.9	17.8	17.4	6.9	2.8	3.4	2.3	1.4	1.6	3.3	4.0	5.2	21.1
LDW-Y3-LBS-SU-ENR+AC-C-CORE	26.0	16.9	16.8	16.0	7.8	3.0	2.2	1.7	1.7	1.3	2.3	1.9	2.4	13.6

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Relative Standard Deviation, By Phi Size

Sample ID	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
LDW-Y3-LBS-SU-ENR-C-CORE	100.0	97.5	78.1	63.8	49.8	38.2	30.5	26.2	22.8	20.7	19.6	16.2	12.2	7.7
	100.0	93.9	74.8	61.0	47.3	34.9	29.4	25.7	22.2	20.4	19.0	15.6	12.0	7.5
	100.0	95.8	76.3	62.4	48.4	35.9	30.7	26.6	22.3	20.5	19.3	15.9	12.1	7.6
AVE	100.0	95.7	76.4	62.4	48.5	36.4	30.2	26.2	22.4	20.6	19.3	15.9	12.1	7.6
STDEV	0.0	1.5	1.4	1.1	1.0	1.4	0.6	0.4	0.3	0.1	0.2	0.2	0.1	0.1
%RSD	0.0	1.5	1.8	1.8	2.1	3.8	2.0	1.5	1.2	0.6	1.3	1.5	0.9	1.0

The Triplicate Applies To The Following Samples

Client ID	Date Sampled	Date Extracted	Date Complete	QA Ratio (95-105)	Data Qualifiers	Pipette Portion (5.0-25.0g)
LDW-Y3-LBS-SU-ENR-C-CORE	1/22/2021	1/26/2021	2/8/2021	102.0		7.9
	1/22/2021	1/26/2021	2/8/2021	102.5		7.8
	1/22/2021	1/26/2021	2/8/2021	103.3		8.2
LDW-Y3-LBS-SU-ENR-A-CORE	1/22/2021	1/26/2021	2/8/2021	103.1		14.5
LDW-Y3-LBS-SU-ENR-B-CORE	1/22/2021	1/26/2021	2/8/2021	101.9		16.2
LDW-Y3-LBS-SU-ENR+AC-A-CORE	1/22/2021	1/26/2021	2/8/2021	99.8		9.4
LDW-Y3-LBS-SU-ENR+AC-B-CORE	1/22/2021	1/26/2021	2/8/2021	101.8		15.5
LDW-Y3-LBS-SU-ENR+AC-C-CORE	1/22/2021	1/26/2021	2/8/2021	100.9		10.3

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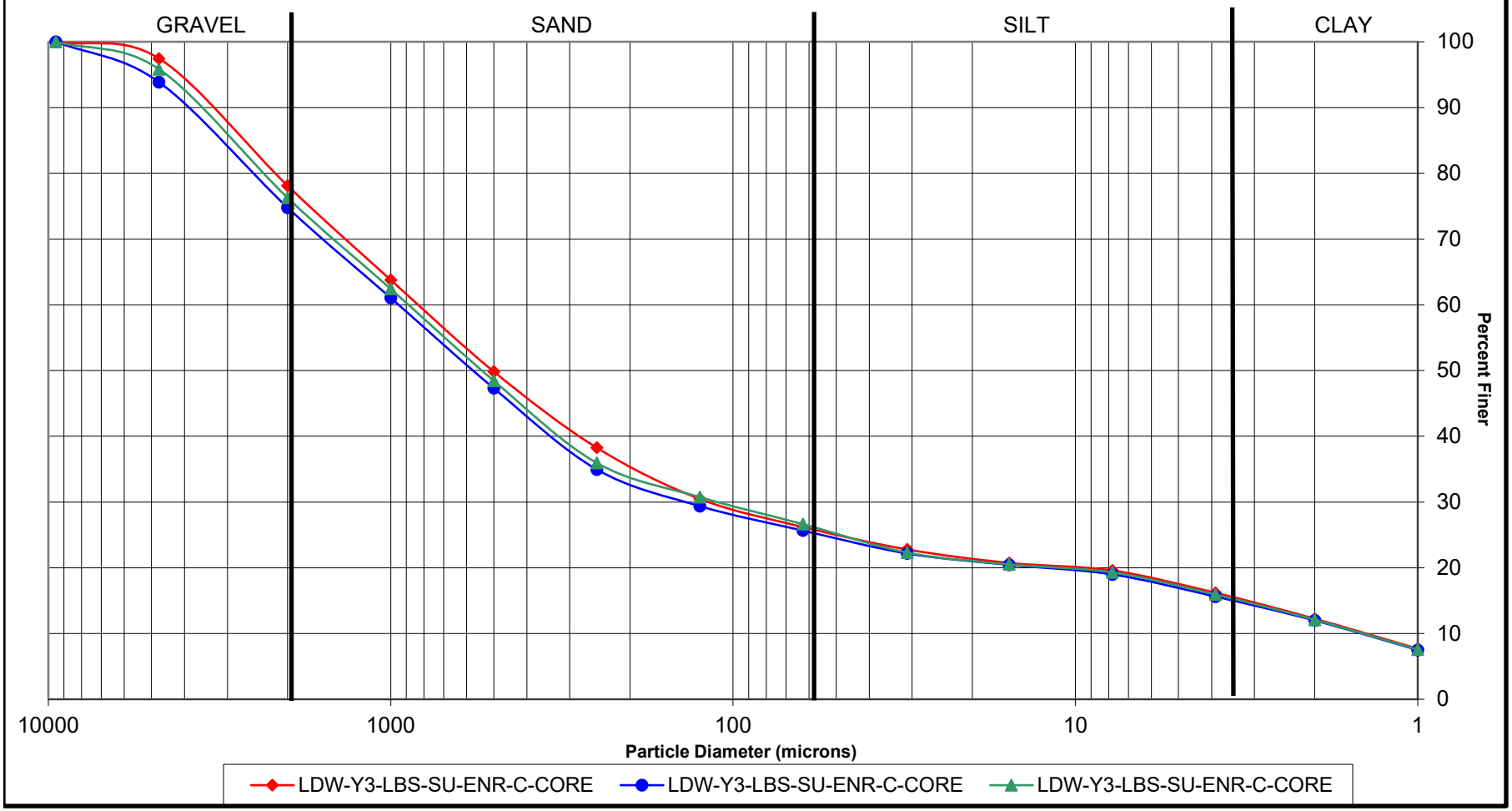
PSEP Grain Size Distribution

Triplicate Sample Plot



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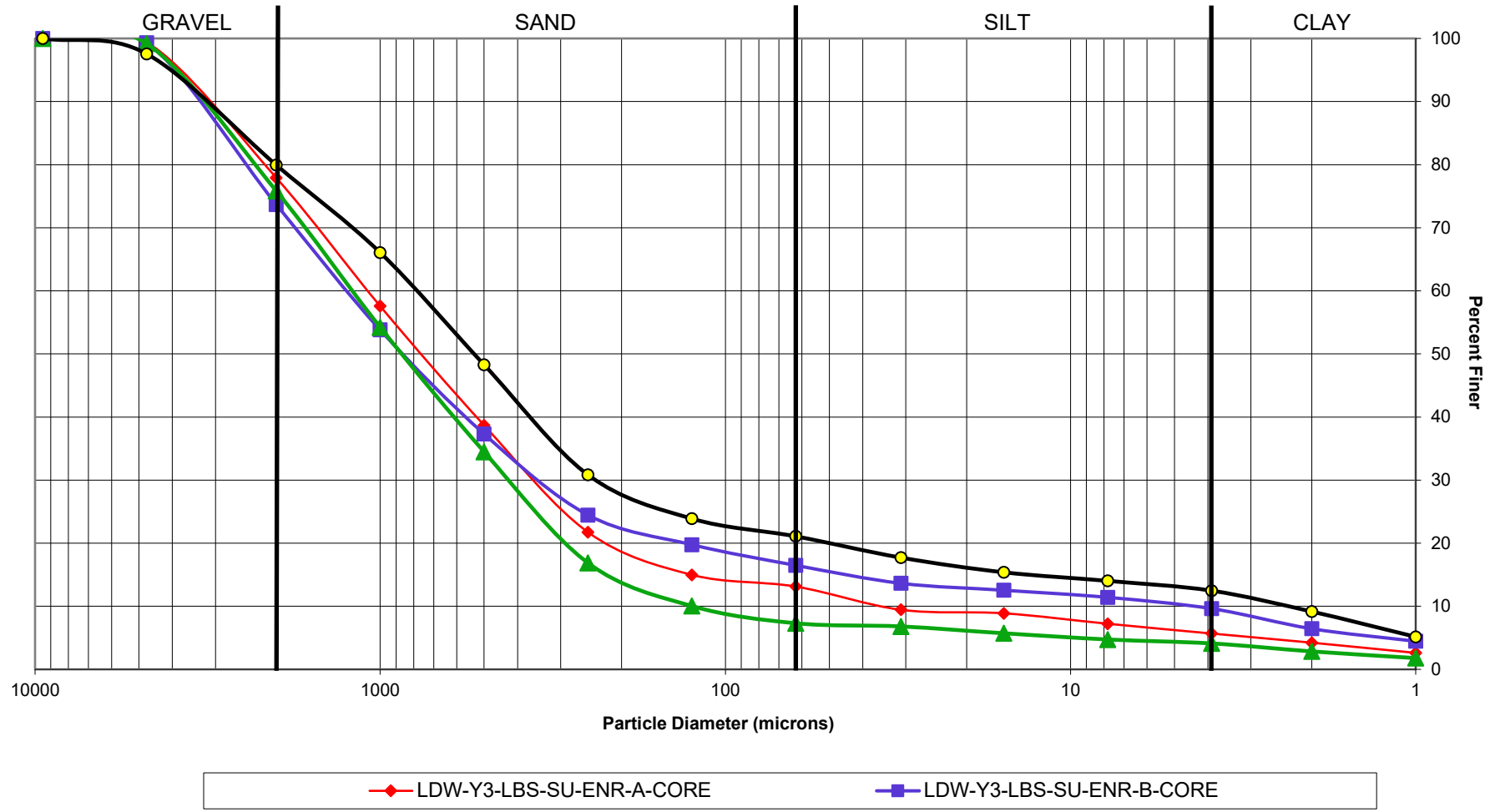
PSEP Grain Size Distribution



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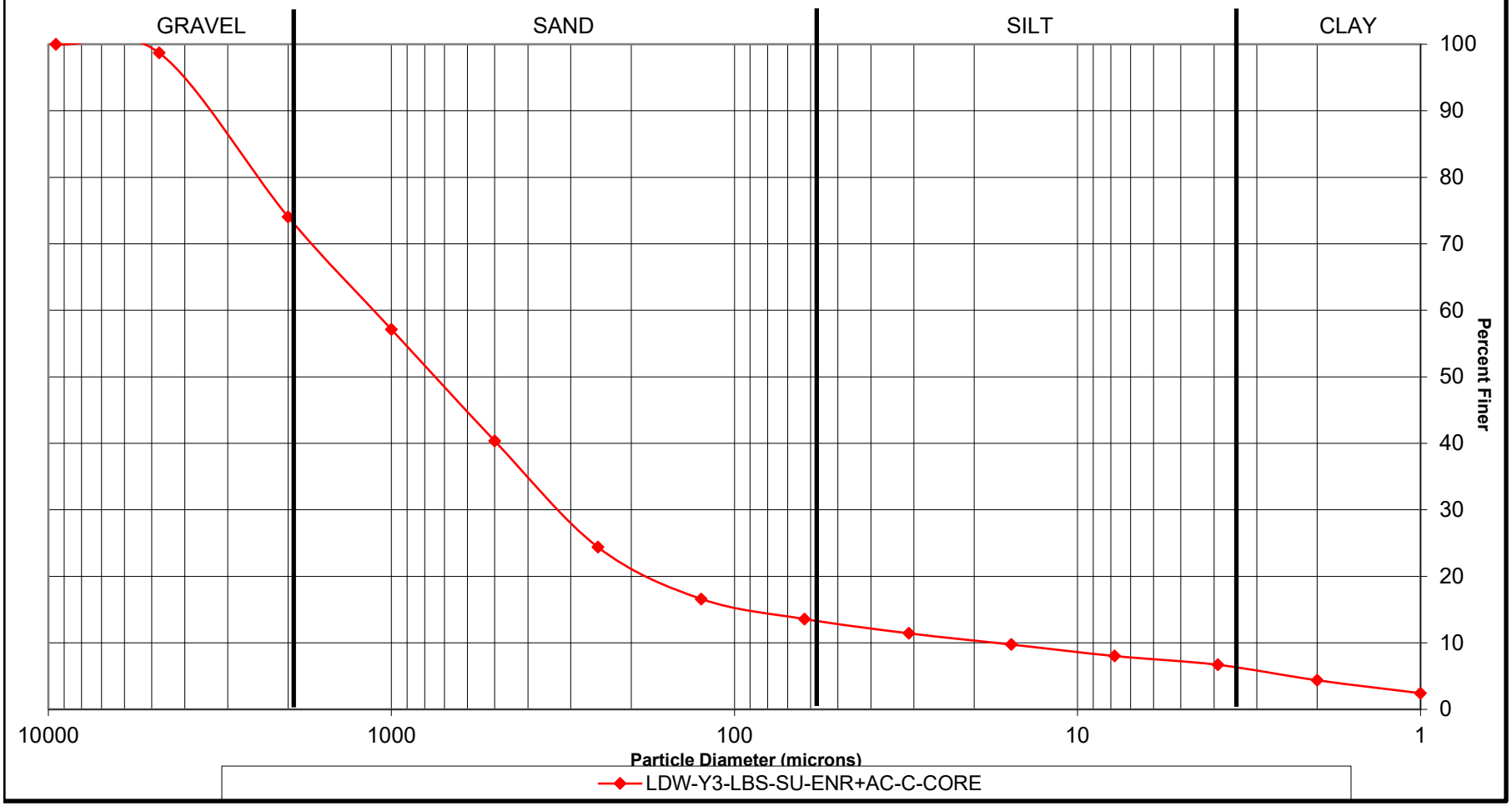
PSEP Grain Size Distribution