Province of British Columbia, Ministry of Transportation and Highways, GEOTECHNICAL AND MATERIALS ENGINEERING

AGGREGATE TEST HOLE SUMMARY SHEET

PIT: QUINSAM **DISTRICT: 3** **EQUIPMENT TYPE: EXCAVATOR**

Testpit Number	Overburden Depth	Soil Bound. (mm)	Soil Classification	Gradation of Materials									Soundness Indicator					Material at Bottom of Hole	Watertable (m)	Remarks
				75/150 (mm)	150/225 (mm)	+ 225 (mm)	Maximum Size (mm)	Gravel	Sand	Fines	Fracture		Degrad.	Micro Duval	Sand Equivalent	MgSO4				
											A (%)	B (%)				CA	FA			
88-1	0.2	0.0/0.2	TS																	FVI
		0.2/0.9	GPGM	10	5		225	75	20	5										FVI
		0.9/1.3	SP						99	1										FVI
		1.3/2.9	GP	10	5		225	71	26	3										WSA
		2.9/3.7	GM3	1			150	50	15	30								GM3		FVI, TILL
88-2	0.2	0.0/0.2	TS																	FVI
		0.2/1.5	SP				50	25	74	1										FVI
		1.5/2.0	GM3					60	5	35								GM3		FVI, TILL
88-3	0.1	0.0/0.1	TS																	FVI
		0.1/3.0	GP	10	5		225	60	37	3										WSA
		3.0/3.4	SP				50	38	60	2										FVI
		3.4/3.8	GM3					50	15	35								GM3		FVI, TILL
88-4	0.2	0.0/0.2	TS																	FVI
		0.2/0.8	SPSM	10			150	30	64	6										FVI
		0.8/2.0	SP				50	4	95	1										FVI
		2.0/2.5	GM3				75	60	5	35								GM3		FVI, TILL

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LVI= Lab Visual Identification

Province of British Columbia, Ministry of Transportation and Highways, GEOTECHNICAL AND MATERIALS ENGINEERING

AGGREGATE TEST HOLE SUMMARY SHEET

PIT: QUINSAM **DISTRICT: 3** **EQUIPMENT TYPE: EXCAVATOR**

Testpit Number	Overburden Depth	Soil Bound. (mm)	Soil Classification	Gradation of Materials									Soundness Indicator					Material at Bottom of Hole	Watertable (m)	Remarks
				75/150 (mm)	150/225 (mm)	+ 225 (mm)	Maximum Size (mm)	Gravel	Sand	Fines	Fracture		Degrad.	Micro Duval	Sand Equivalent	MgSO4				
											A (%)	B (%)				CA	FA			
88-5	0.3	0.0/0.3	TS																	FVI
	0.7	0.3/0.7	SM1					40	48	12										FVI
		0.7/5.7	GP	5	1			57	42	1	25	42	39		89			GP		WSA
88-6	0.2	0.0/0.2	TS																	FVI
		0.2/0.4	SM1					40	48	12										FVI
		0.4/2.0	SP				75	18	81	1										WSA
		2.0/5.8	GP	5			150	64	35	1	26	43	36		81			GP		WSA
88-7	0.1	0.0/0.1	TS																	FVI
		0.1/0.4	SM1					40	48	12										FVI
		0.4/6.0	GP	8	2		225	59	39	2	20	47	42		75			GP		WSA
88-7A	0.2	0.0/0.2	OB																	FVI
		0.2/5.5	GP	2			100	66	33	1								GP		WSA
88-7B	0.2	0.0/0.2	SM1																	FVI
		0.2/1.8	GP				75	50	47	3										FVI
		1.8/4.0	SP				25	30	67	3										FVI
		4.0/5.5	GP	1			100	57	40	3								GP		FVI

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Province of British Columbia, Ministry of Transportation and Highways, GEOTECHNICAL AND MATERIALS ENGINEERING

AGGREGATE TEST HOLE SUMMARY SHEET

PIT: QUINSAM **DISTRICT: 3** **EQUIPMENT TYPE: EXCAVATOR**

Testpit Number	Overburden Depth	Soil Bound. (mm)	Soil Classification	Gradation of Materials									Soundness Indicator					Material at Bottom of Hole	Watertable (m)	Remarks
				75/150 (mm)	150/225 (mm)	+ 225 (mm)	Maximum Size (mm)	Gravel	Sand	Fines	Fracture		Degrad.	Micro Duval	Sand Equivalent	MgSO4				
											A (%)	B (%)				CA	FA			
88-7C	0.2	0.0/0.2	SM1																	FVI
		0.2/5.0	GP				75	53	46	1										WSA
		5.0/5.5	SP				25	10	87	3								SP		FVI
88-8	0.1	0.0/0.1	TS																	FVI
		0.1/0.4	SM1					40	48	12										FVI
		0.4/3.0	SP				75	39	60	1										WSA
		3.0/4.3	SP					9	90	1										FVI
		4.3/6.2	GP				50	56	43	1								GP		WSA
88-9	0.2	0.0/0.2	SM1					20	65	15										FVI
		0.2/5.8	GP	2			150	55	44	1	19	33	32		87			GP		WSA
88-10	0.2	0.0/0.2	SM1					15	70	15										FVI
		0.2/0.5	SP					35	62	3										FVI
		0.5/5.3	GP				75	65	34	1	31	54	40		95			GP		WSA
88-11	0.2	0.0/0.2	SM2					10	70	20										FVI
		0.2/5.8	GP	2			150	60	39	1	25	43	79		85			SP		WSA

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Province of British Columbia, Ministry of Transportation and Highways, GEOTECHNICAL AND MATERIALS ENGINEERING

AGGREGATE TEST HOLE SUMMARY SHEET

PIT: QUINSAM **DISTRICT: 3** **EQUIPMENT TYPE: EXCAVATOR**

Testpit Number	Overburden Depth	Soil Bound. (mm)	Soil Classification	Gradation of Materials									Soundness Indicator					Material at Bottom of Hole	Watertable (m)	Remarks
				75/150 (mm)	150/225 (mm)	+ 225 (mm)	Maximum Size (mm)	Gravel	Sand	Fines	Fracture		Degrad.	Micro Duval	Sand Equivalent	MgSO4				
											A (%)	B (%)				CA	FA			
88-12	0.3	0.0/0.3	SM2					30	50	20										FVI
		0.3/1.0	GPGM				75	65	30	5										FVI
		1.0/1.4	SM2				25	30	50	20								SM2		FVI, TILL
88-13	0.2	0.0/0.2	SM2					10	70	20										FVI
		0.2/1.0	SPSM	2			150	35	60	5										FVI
		1.0/2.0	GP	1			100	50	48	2										FVI
		2.0/2.4	SM3					10	60	30								SM3		FVI, TILL
88-13A	0.2	0.0/0.2	SM2					10	70	30										FVI
		0.2/5.7	GP	1			100	64	44	2								GP		WSA
88-14	0.1	0.0/0.1	TS																	FVI
		0.1/0.7	GPGM				75	60	30	10										FVI
		0.7/6.0	GPGM	10	1		225	67	32	1	30	80	68		80			GP		WSA
88-15	0.2	0.0/0.2	TS																	FVI
		0.2/0.7	GPGM				75	50	45	5										FVI
		0.7/1.2	GP				75	55	43	2										FVI
		1.2/4.6	GPGM					75	20	5										FVI
		4.6/5.1	SM3					50	15	35								SM3		FVI, TILL

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Province of British Columbia, Ministry of Transportation and Highways, GEOTECHNICAL AND MATERIALS ENGINEERING

AGGREGATE TEST HOLE SUMMARY SHEET

PIT: QUINSAM **DISTRICT: 3** **EQUIPMENT TYPE: EXCAVATOR**

Testpit Number	Overburden Depth	Soil Bound. (mm)	Soil Classification	Gradation of Materials									Soundness Indicator					Material at Bottom of Hole	Watertable (m)	Remarks
				75/150 (mm)	150/225 (mm)	+ 225 (mm)	Maximum Size (mm)	Gravel	Sand	Fines	Fracture		Degrad.	Micro Duval	Sand Equivalent	MgSO4				
											A (%)	B (%)				CA	FA			
88-16	0.3	0.0/0.3	TS																	FVI
		0.3/1.6	SP					5	94	1										FVI
		1.6/4.0	GPGM	10			150	60	35	5										FVI
		4.0/4.5	ML							100								ML		FVI
88-17	0.1	0.0/0.1	TS																	FVI
		0.1/0.9	SM1				75	40	48	15										FVI
		0.9/1.2	GP	10	10	2	300	80	18	2										FVI
		1.2/1.4	GM3					50	15	35								GM3		FVI, TILL
88-18	0.1	0.0/0.1	TS																	FVI
		0.1/0.4	SM1				50	40	48	15										FVI
		0.4/1.5	SP				75	10	89	1										FVI
		1.5/1.7	GM3					50	15	35								GM3		FVI, TILL
88-18A	0.2	0.0/0.2	SM2					10	70	20										FVI
		0.2/5.5	GP	1			100	63	36	1	39	62	54		88			GP		WSA
88-19	0.2	0.0/0.2	SM2					10	70	20										FVI
		0.2/0.6	GPGM				75	55	40	5										FVI
		0.6/2.4	SP				50	40	57	3										FVI
		2.4/?	SM3					10	60	30								SM3		FVI, TILL

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Province of British Columbia, Ministry of Transportation and Highways, GEOTECHNICAL AND MATERIALS ENGINEERING

AGGREGATE TEST HOLE SUMMARY SHEET

PIT: QUINSAM **DISTRICT: 3** **EQUIPMENT TYPE: EXCAVATOR**

Testpit Number	Overburden Depth	Soil Bound. (mm)	Soil Classification	Gradation of Materials									Soundness Indicator					Material at Bottom of Hole	Watertable (m)	Remarks
				75/150 (mm)	150/225 (mm)	+ 225 (mm)	Maximum Size (mm)	Gravel	Sand	Fines	Fracture		Degrad.	Micro Duval	Sand Equivalent	MgSO4				
											A (%)	B (%)				CA	FA			
88-20	0.2	0.0/0.2	SM1					10	75	15										FVI
		0.2/1.8	SP	2			150	38	61	1										WSA
		1.8/2.2	SPSM				50	35	55	10										FVI
		2.2/2.5	SM2					10	70	20								SM2		FVI, TILL
88-21	0.2	0.0/0.2	TS																	FVI
		0.2/0.5	SP				50	30	68	2										FVI
		0.5/6.0	GP	10	5		225	63	35	2	38	46						GP		WSA
88-22	0.1	0.0/0.1	TS																	FVI
		0.1/0.5	SM1					40	48	12										FVI
		0.5/1.1	SP				50	20	79	1										FVI
		1.1/6.0	GP	20	10		225	61	37	2	32	54						GP		WSA
88-23	0.2	0.0/0.2	TS																	FVI
		0.2/4.0	GP	1			150	60	39	1	25	44								WSA
		4.0/6.0	SP	2			150	30	69	1								SP		FVI

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AGGREGATE TEST HOLE SUMMARY SHEET

PIT: QUINSAM **DISTRICT: 3** **EQUIPMENT TYPE: EXCAVATOR**

Testpit Number	Overburden Depth	Soil Bound. (mm)	Soil Classification	Gradation of Materials									Soundness Indicator					Material at Bottom of Hole	Watertable (m)	Remarks
				75/150 (mm)	150/225 (mm)	+ 225 (mm)	Maximum Size (mm)	Gravel	Sand	Fines	Fracture		Degrad.	Micro Duval	Sand Equivalent	MgSO4				
											A (%)	B (%)				CA	FA			
88-24	0.2	0.0/0.2	SM2																	FVI
		0.2/2.0	SPSM				50	25	70	5										FVI
		2.0/2.5	SM3						70	30										FVI
		2.5/5.5	GP				50	69	30	1								GP		WSA
88-25	0.2	0.0/0.2	SM2					10	70	20										FVI
		0.2/5.5	GM1				50	52	36	12								GM1		WSA

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Province of British Columbia, Ministry of Transportation and Highways, GEOTECHNICAL AND MATERIALS ENGINEERING

AGGREGATE TEST HOLE SUMMARY SHEET

PIT: QUINSAM **DISTRICT: 3** **EQUIPMENT TYPE: BECKER**

Testpit Number	Overburden	Soil Bound. (mm)	Soil Classification	Gradation of Materials									Soundness Indicator					Material at Bottom of Hole	Watertable (m)	Remarks
				75/150 (mm)	150/225	+ 225 (mm)	Maximum Size (mm)	Gravel	Sand	Fines	Fracture		Degrad.	Micro Duval	Sand Equivalent	MgSO4				
											A (%)	B (%)				CA	FA			
89-26	0.6	0.0/0.6	OB																	FVI
# CONT.		0.6/5.5	GPGM				85	62	33	5	79	75	75		42					WSA
FROM		5.5/9.1	SPSM				100	46	47	7	57	66	78		35					WSA
1988		9.1/12.8	GP				75	60	39	1										FVI
TP'S		12.8/15.2	SPSM				50	32	62	6								SPSM		WSA
89-27	0.6	0.0/0.6	OB																	FVI
		0.6/4.3	GP				75	54	43	3										WSA
		4.3/5.6	GPGM				75	48	43	9										WSA
		5.6/5.7	CL																	FVI
		5.7/6.6	GPGM				75	48	43	9								GPGM		WSA
89-28	0.6	0.0/0.6	OB																	FVI
		0.6/3.0	GPGM				50	60	35	5										FVI
		3.0/4.3	GP				50	65	34	1										FVI
		4.3/9.1	SPSM				60	46	47	7	56	63	81		68					WSA
		9.1/12.8	SP				30	30	69	1										FVI
		12.8/15.2	GPGM				30	47	44	9	68	78	82		46			GPGM		WSA
89-29	0.6	0.0/0.6	OB																	FVI
		0.6/6.7	GP				75	50	46	4										WSA
		6.7/15.2	GPGM				75	51	42	7	39									WSA
		15.2/16.5	SPSM				75	43	52	5								SPSM		WSA

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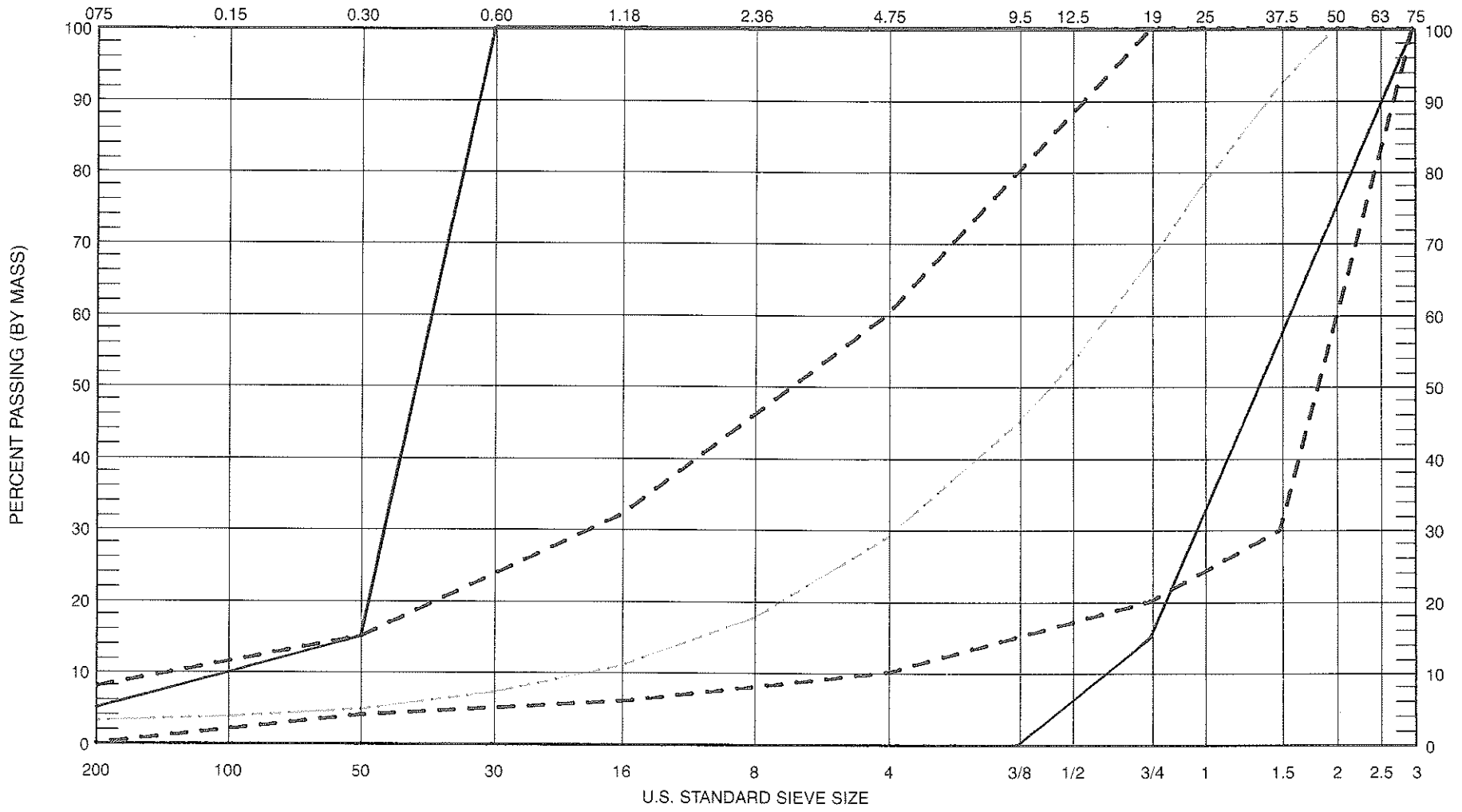
Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X7000	1	TP/98-01	1.5-2.5	PIT RUN	AEB/DAM	EXCAVATOR	98/03/01	NANAIMO LAB/DA	98/07/13

SELECT GRANULAR SUB-BASE

BRIDGE END FILL

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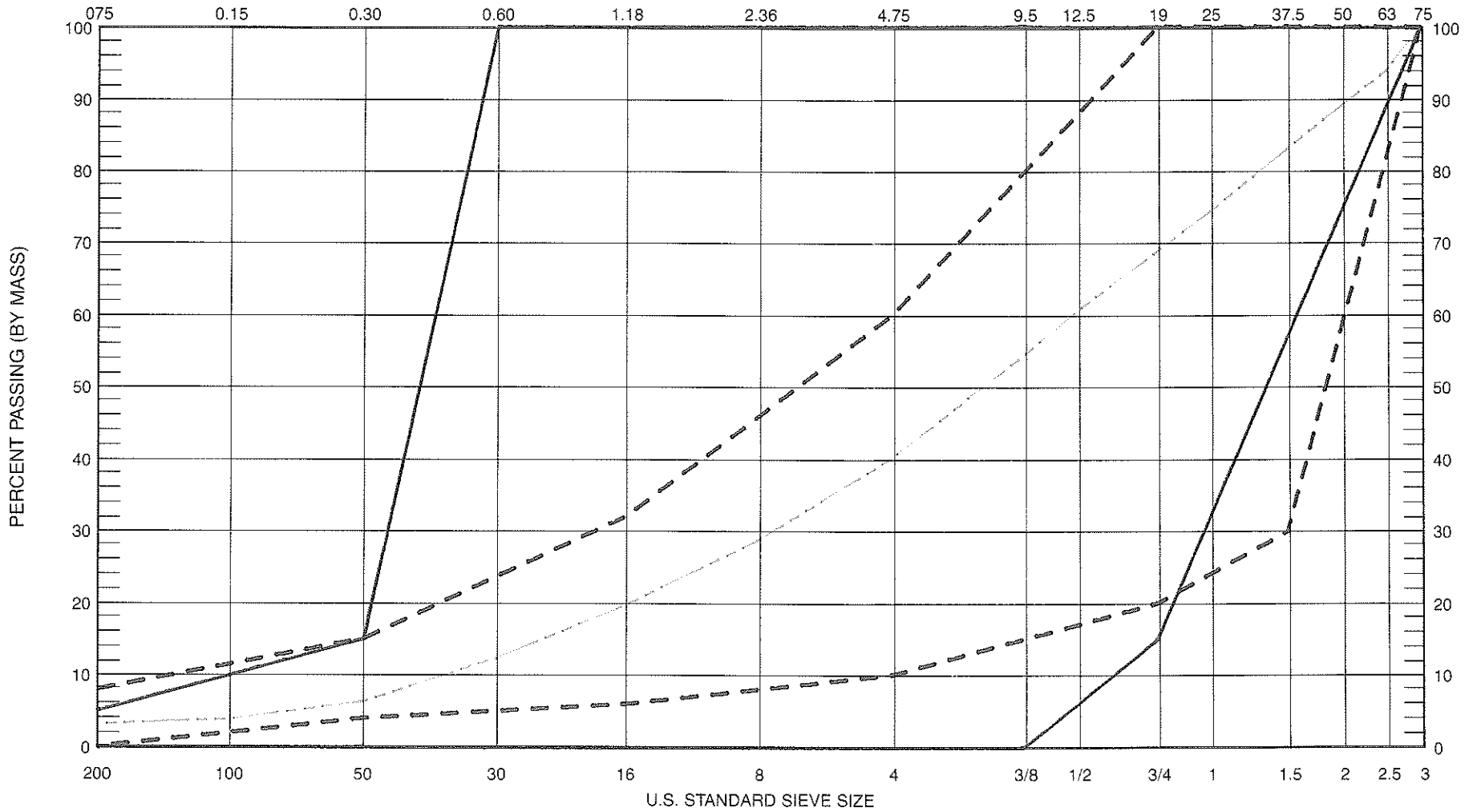
Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X-7002	1	TP/88-03	2.0-3.0m	PIT RUN	AEB/DAM	EXCAVATOR	88/09/01	NANAIMO LAB/DA	88/07/13

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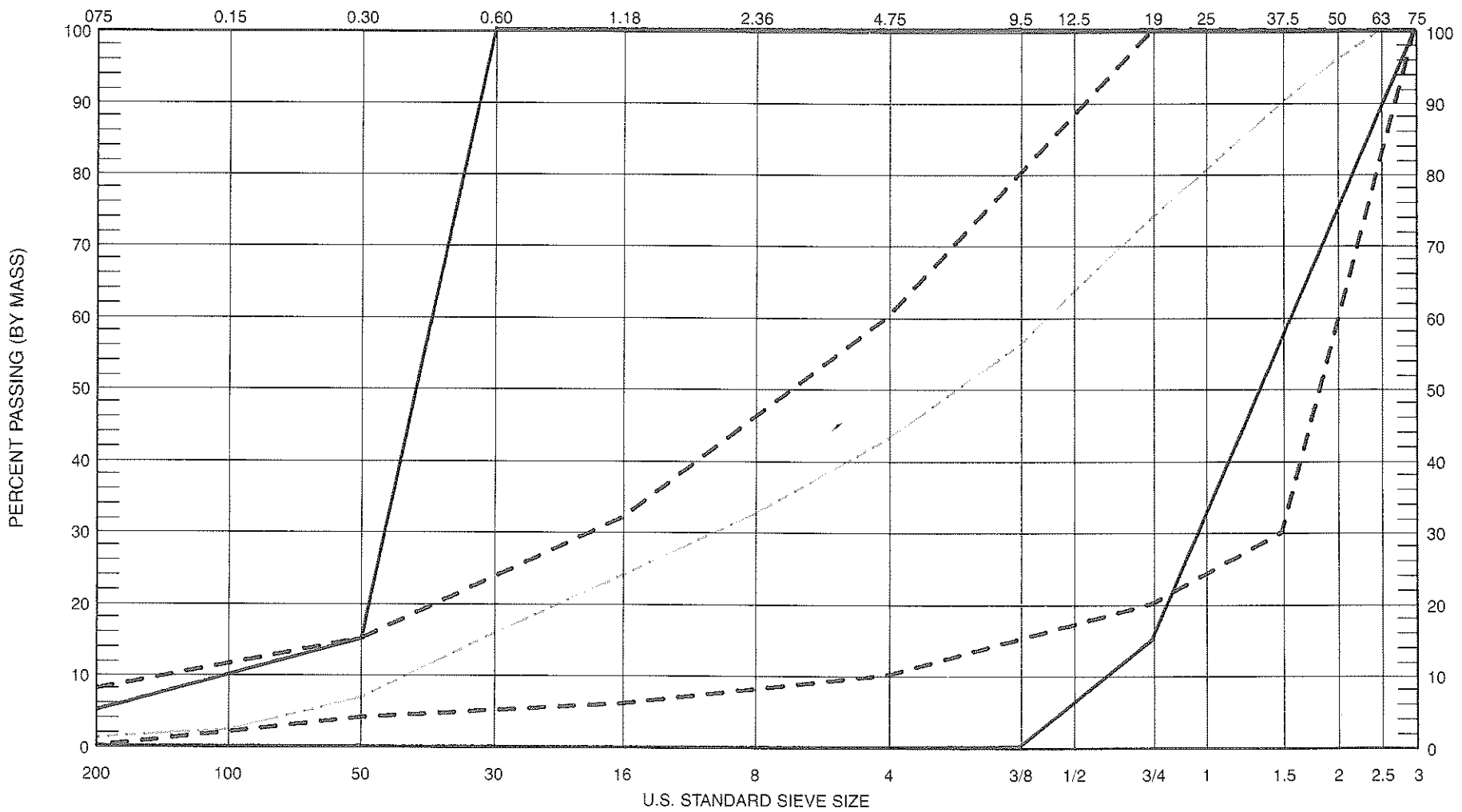
Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X7047/X7030	1	TP/88-05	1.5-5.0m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

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BRIDGE END FILL

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Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

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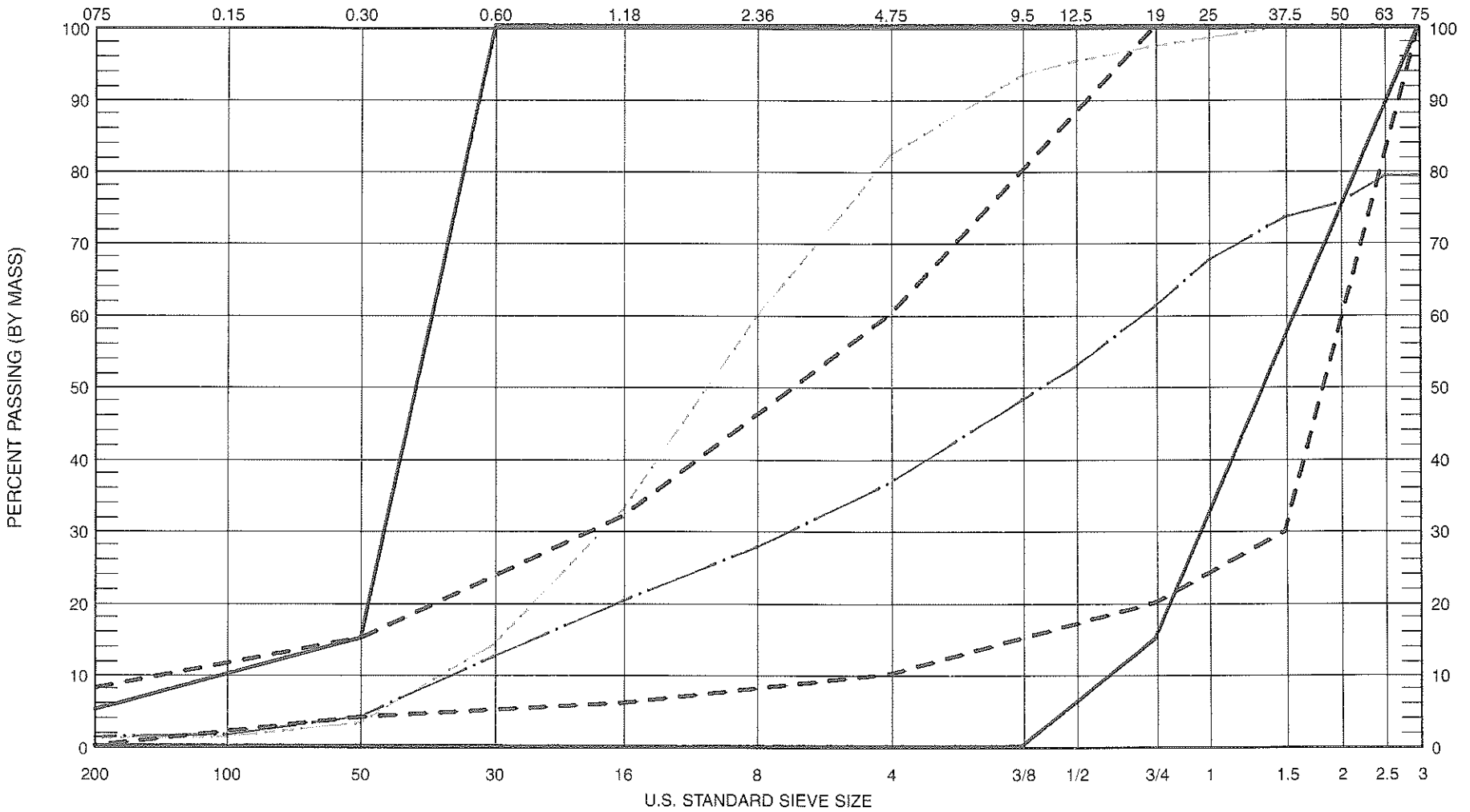
DISTRICT: COURTENAY



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
.....	X7005	1	TP/88-06	1.0-2.0m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13
——— . ———	X-7006	2	TP/88-06	3.0-4.0m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

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Ministry of Transportation and Highways — Geotechnical Branch

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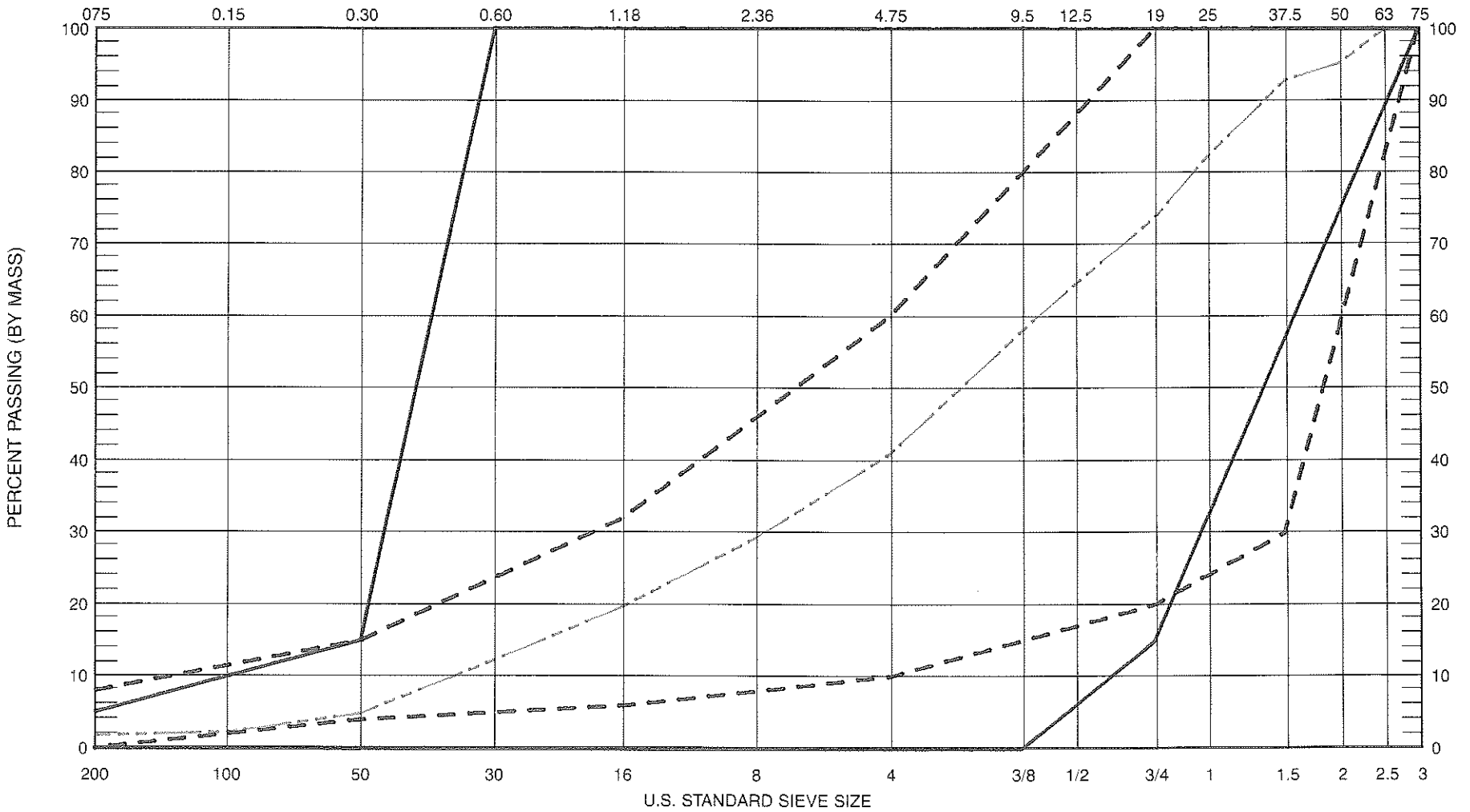

	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
———	X7008/X7009	2	TP/88-07	2.4-5.5m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

——— SELECT GRANULAR SUB-BASE

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Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

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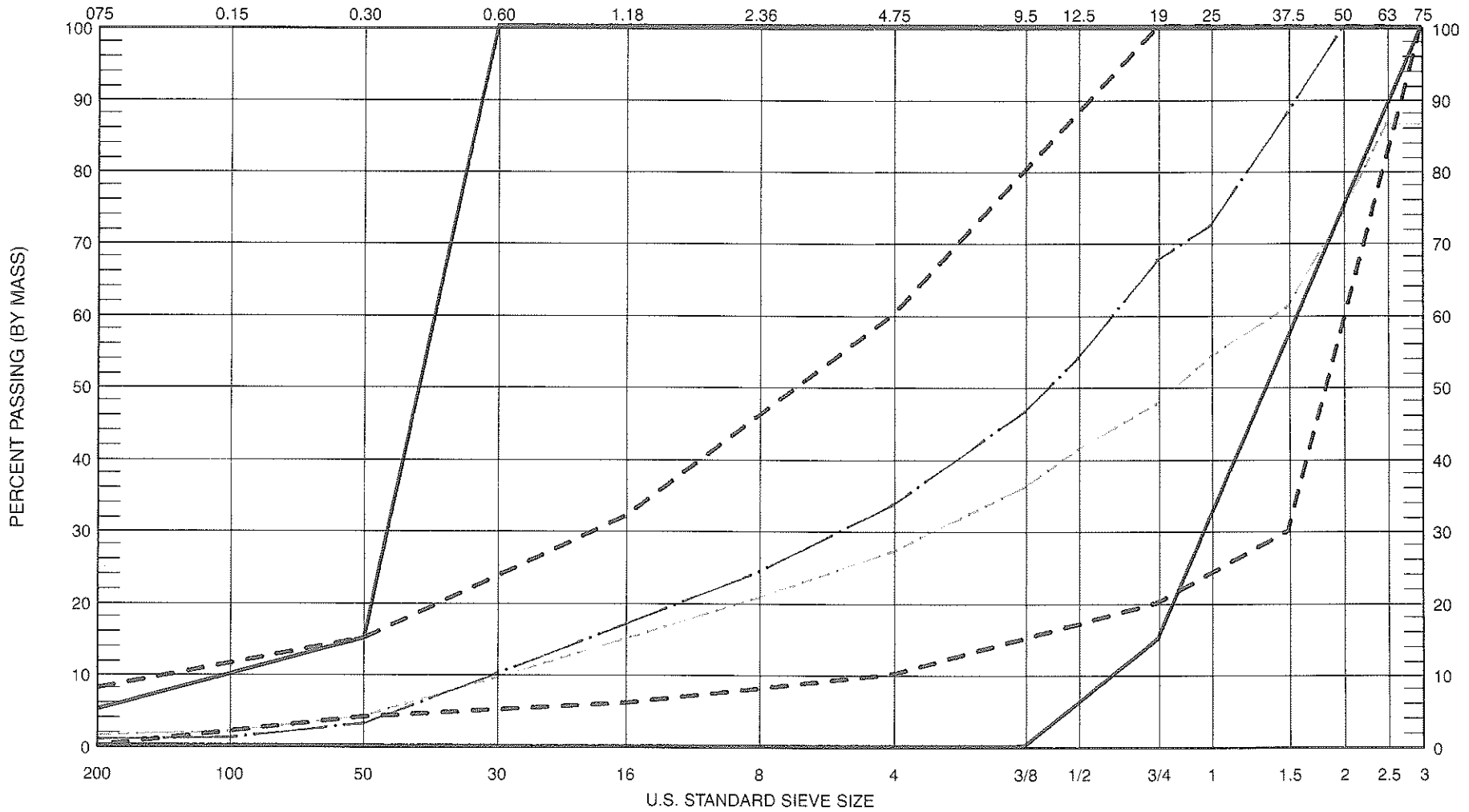

	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
.....	X-6160	1	TP88-07A	2.0-2.5m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13
——.——	X-6161	2	TP88-07A	5.0-5.5m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

——— SELECT GRANULAR SUB-BASE

– – – – – BRIDGE END FILL

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Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

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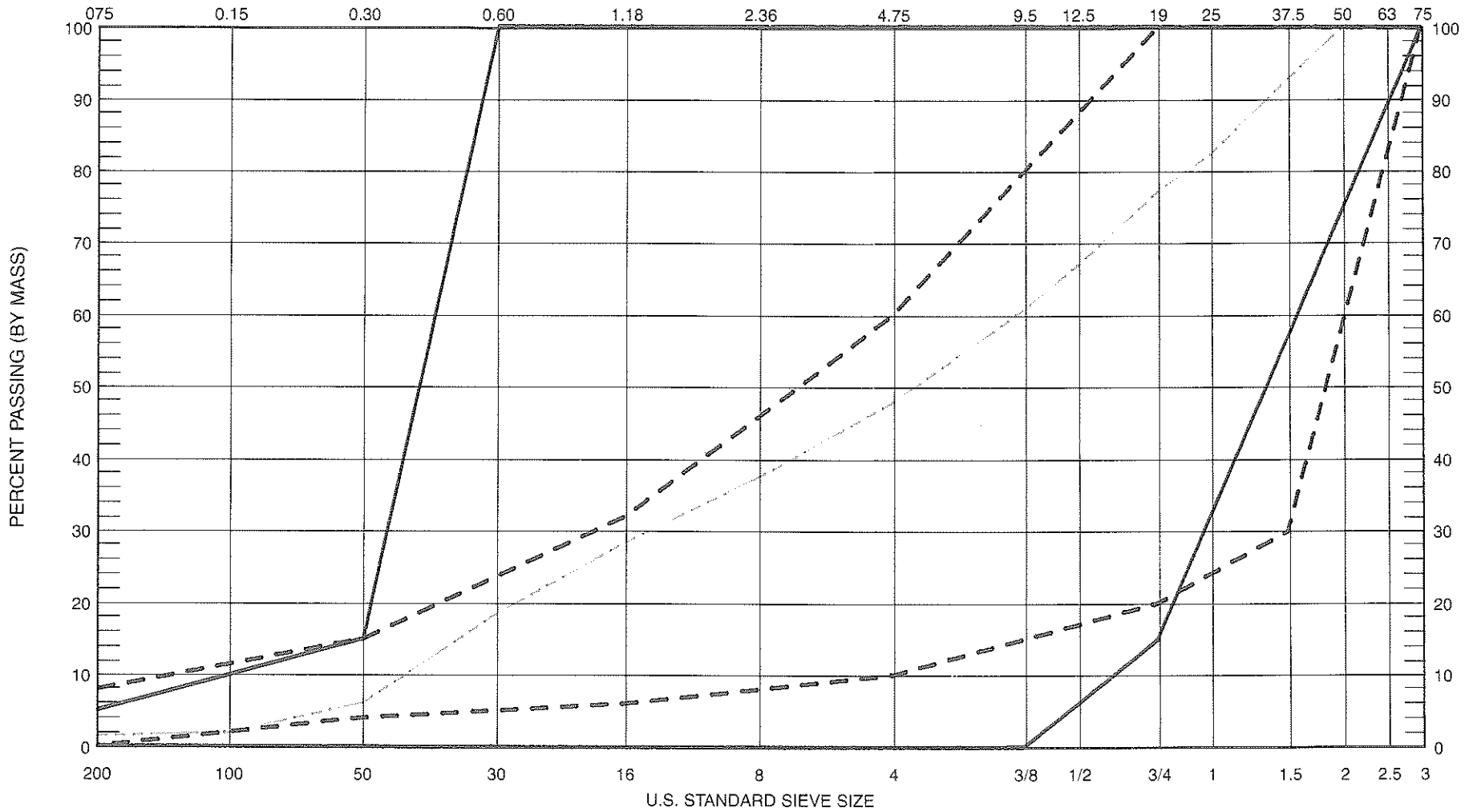

	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
———	X-6158	1	TP88-07C	2.0-2.5m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

——— SELECT GRANULAR SUB-BASE

– – – – – BRIDGE END FILL

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Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

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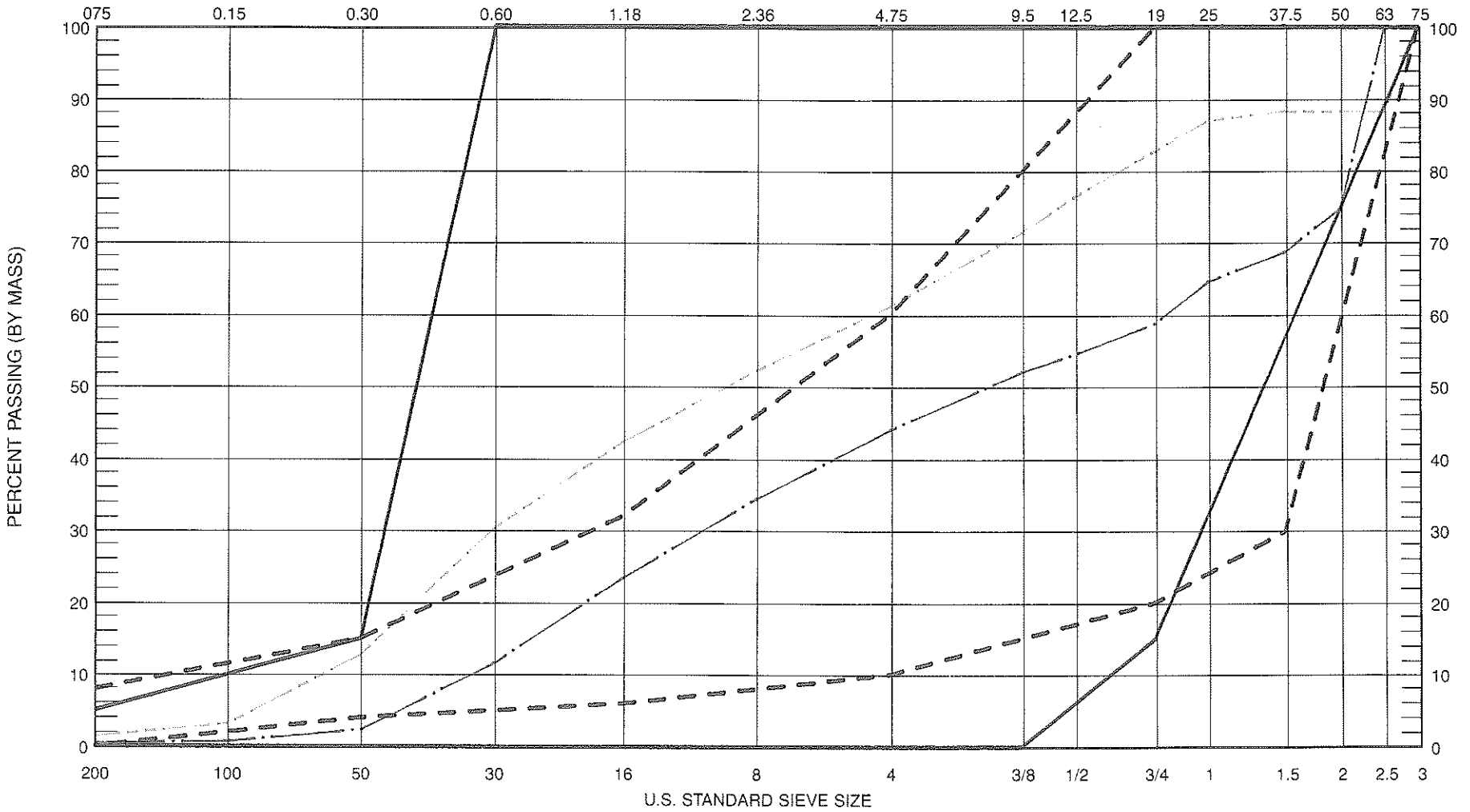
DISTRICT: COURTENAY



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
.....	X-7015	1	TP/88-08	1.0-2.5m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13
——— . ———	X-7017	2	TP/88-08	5.0-5.5m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

——— SELECT GRANULAR SUB-BASE

– – – – – BRIDGE END FILL

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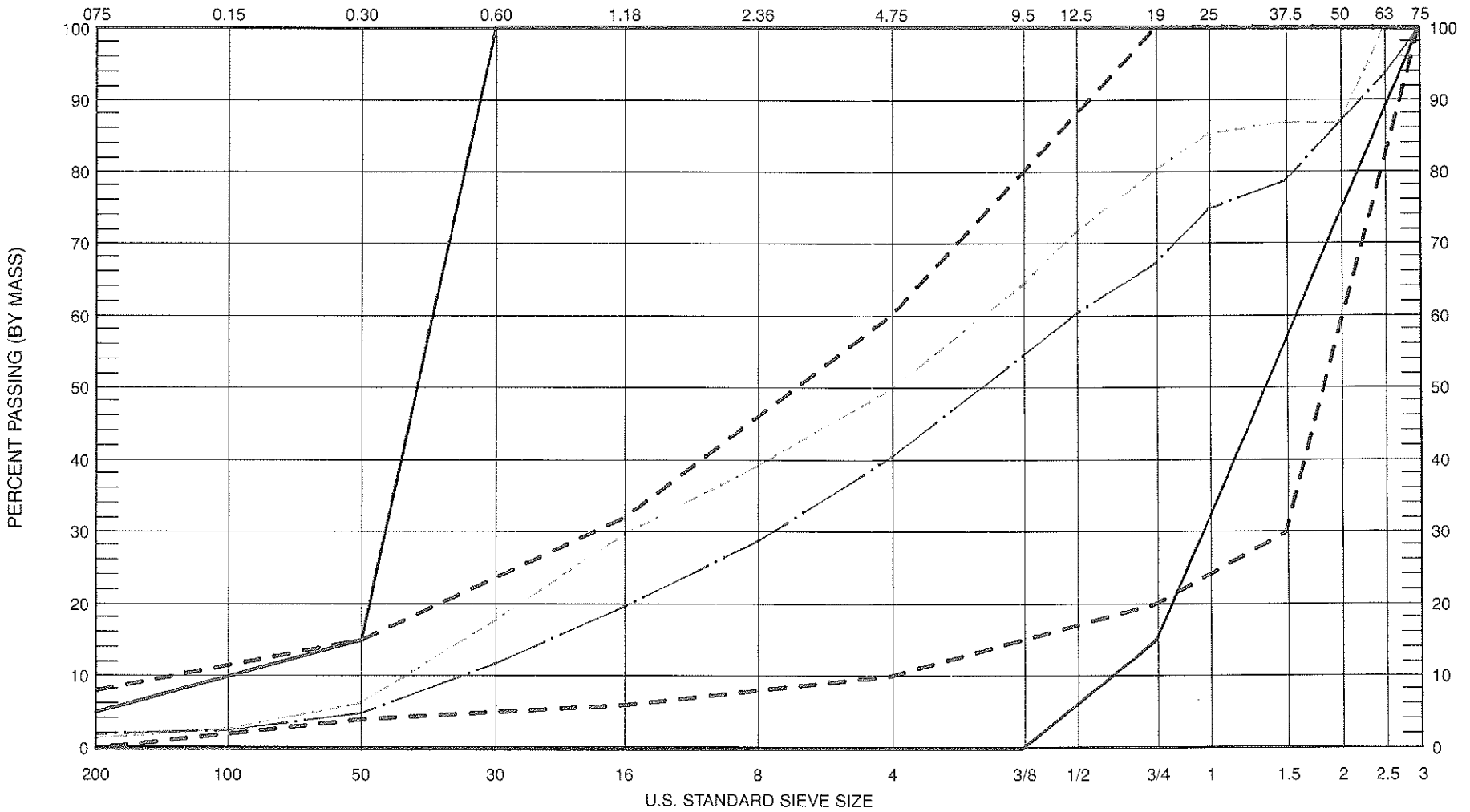
DISTRICT: COURTENAY



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
- - - - - -	X-7019	1	TP/88-09	2.5-3.0m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13
——— . ———	X-7020	2	TP/88-09	4.0-4.5m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

——— SELECT GRANULAR SUB-BASE

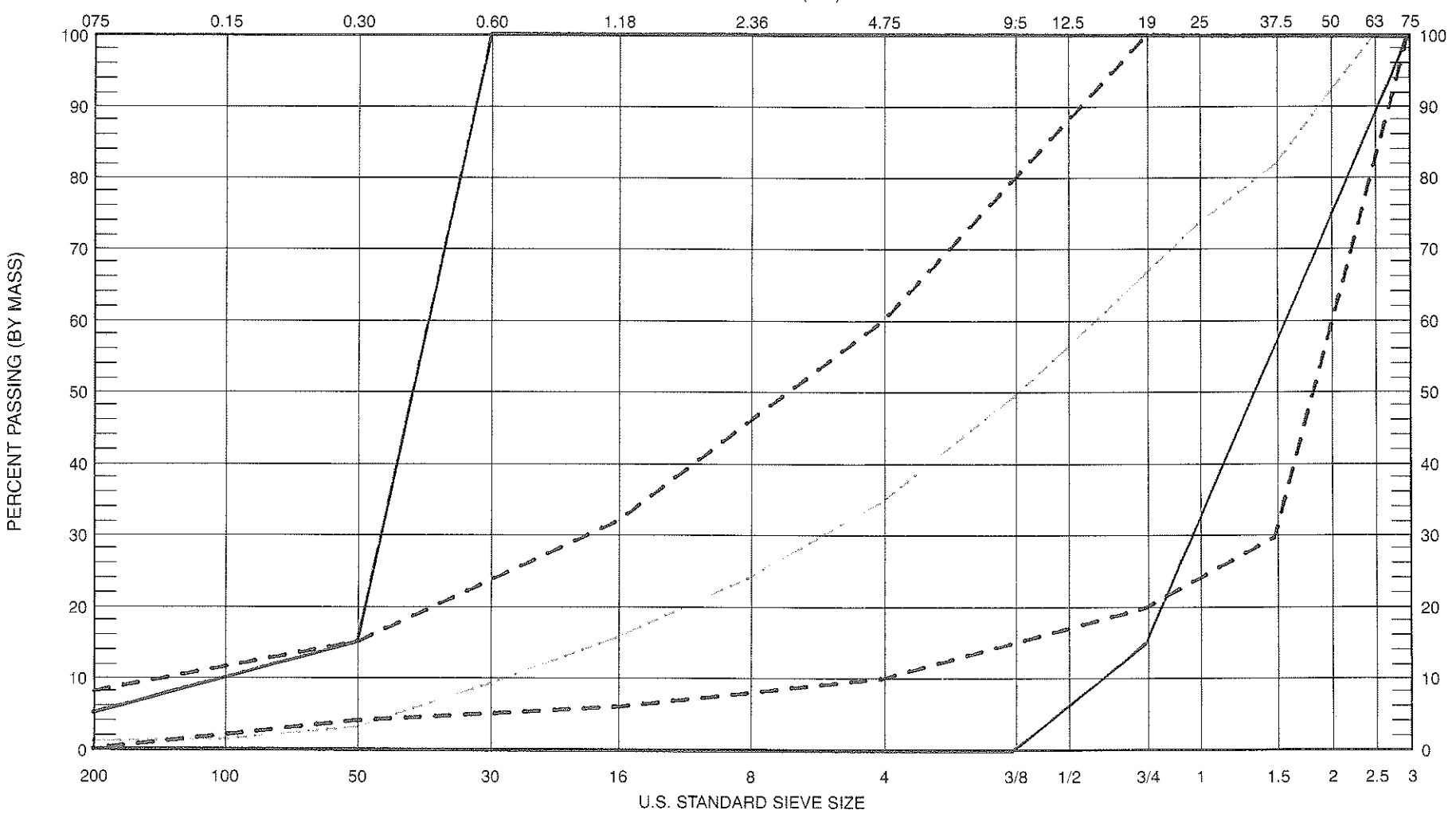
- - - - - - BRIDGE END FILL

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X7021/X7022	1	TP/98-10	2.0-5.0m	PIT RUN	AEB/DAM	EXCAVATOR	98/03/01	NANAIMO LAB/DA	98/07/13

——— SELECT GRANULAR SUB-BASE

– – – – – BRIDGE END FILL

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Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

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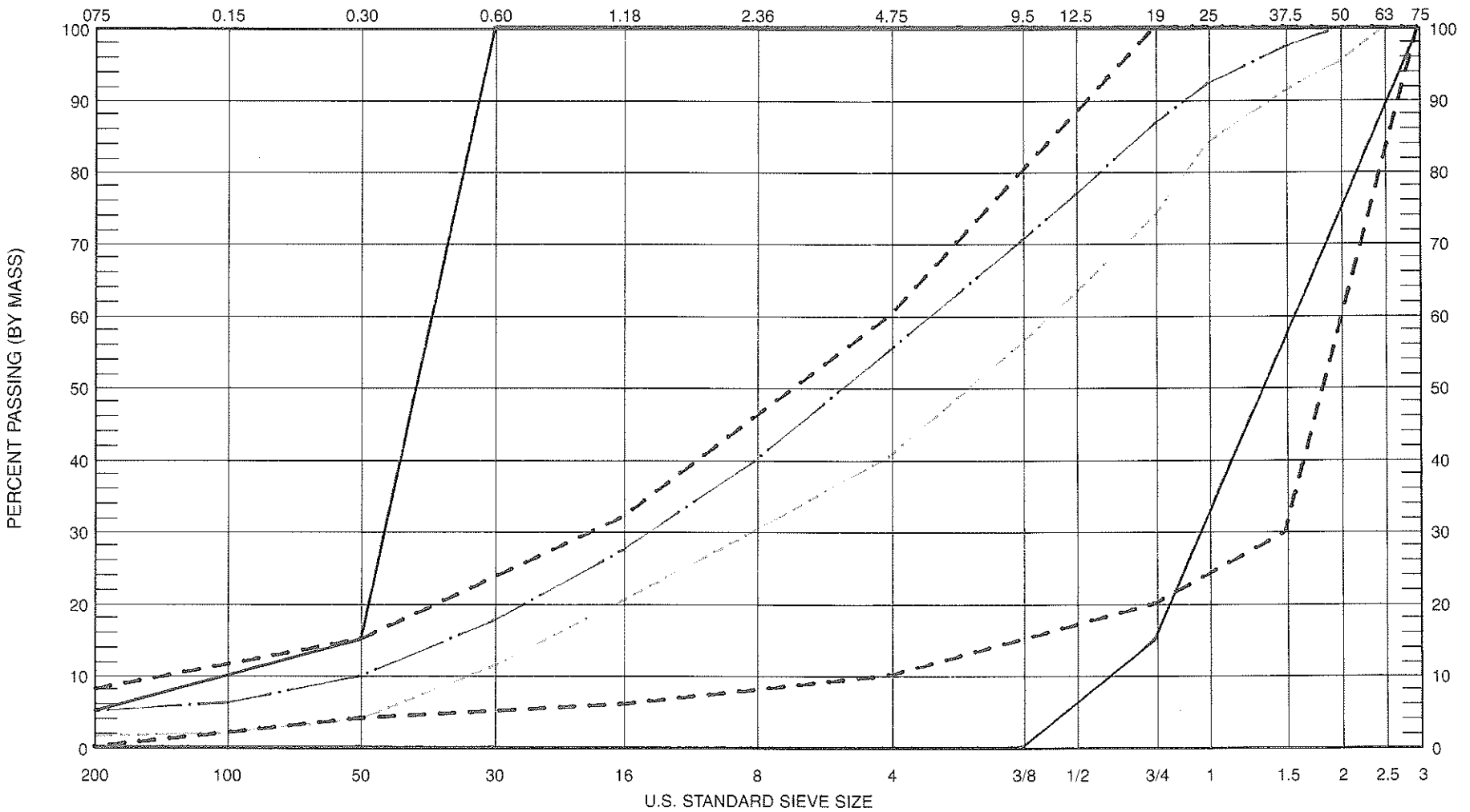
DISTRICT: COURTENAY



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
.....	X7023/X7024	1	TP/88-11	2.0-4.5m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13
——.——	X-7025	2	TP/88-11	5.0-5.5m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

——— SELECT GRANULAR SUB-BASE

– – – – – BRIDGE END FILL

H187F

Ministry of Transportation and Highways — Geotechnical Branch

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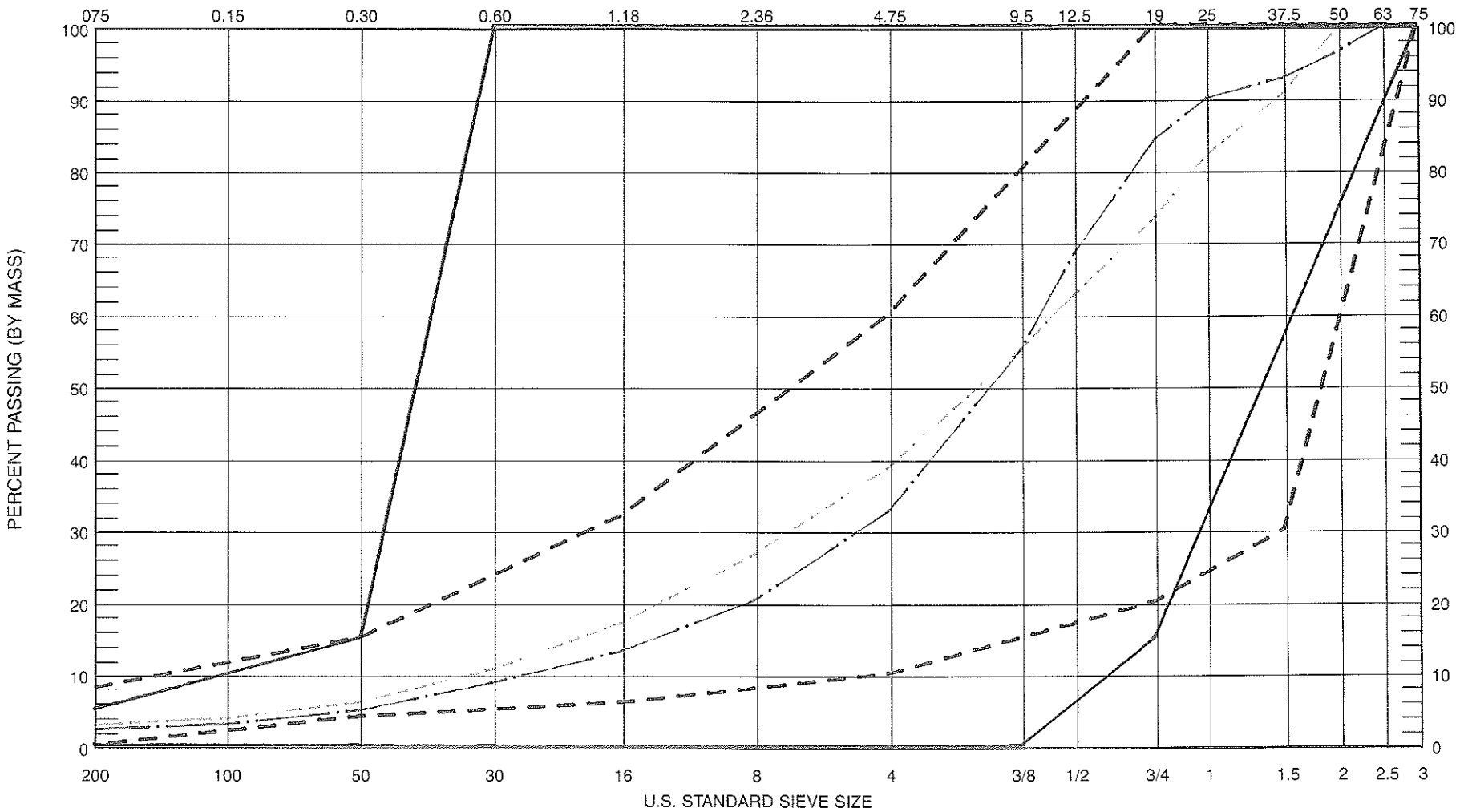

	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
.....	X-7027	1	TP88-13A	2.5-3.0m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13
_____ . _____	X-7026	2	TP88-13A	5.0-5.5m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

_____ SELECT GRANULAR SUB-BASE

- - - - - BRIDGE END FILL

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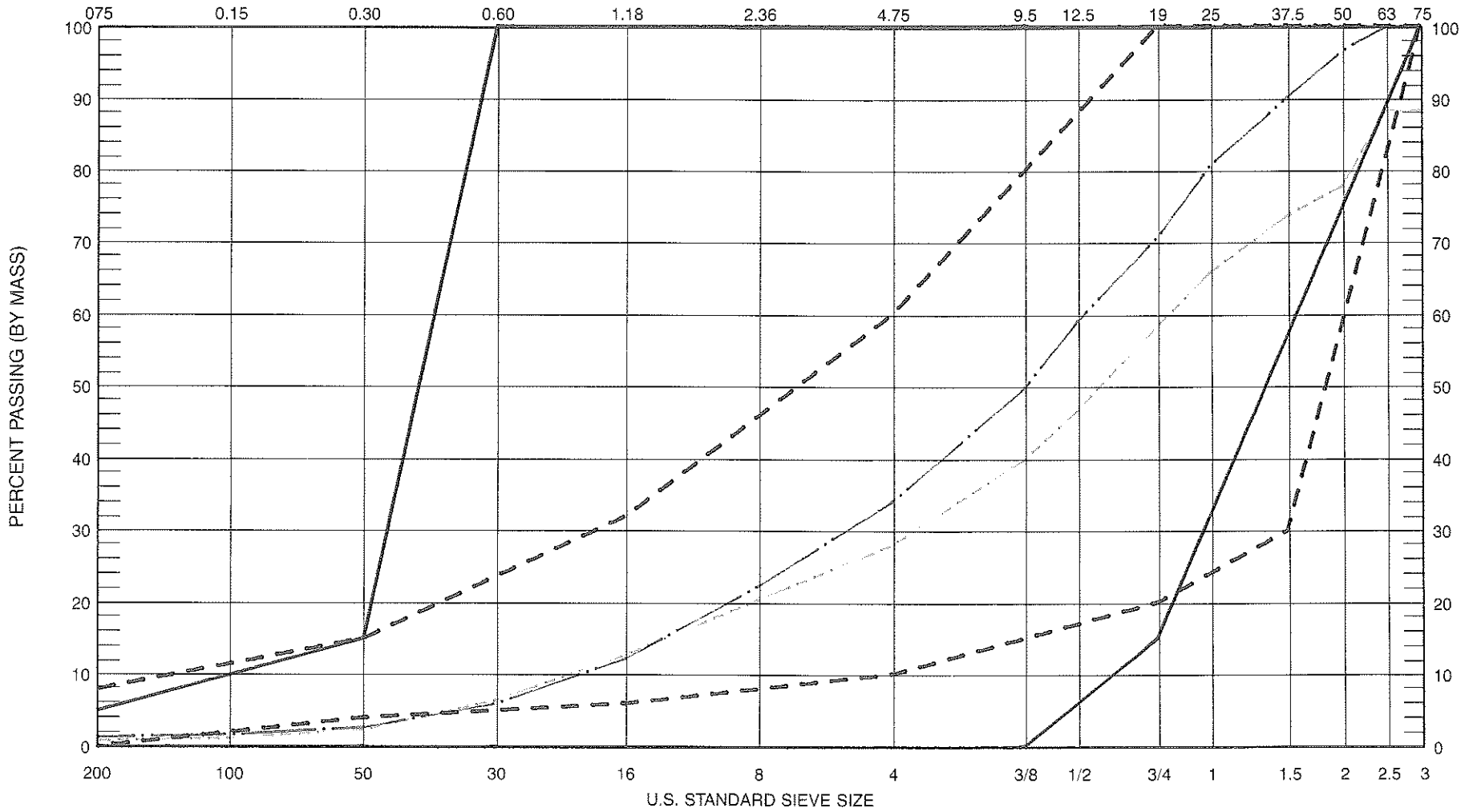
Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: GUINSAM PASS CR.
DISTRICT: COURTENAY



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
.....	X-7015	1	TP/88-14	1.0-2.0m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13
——.——	X-7016	2	TP/88-14	4.0-5.0m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

——— SELECT GRANULAR SUB-BASE

– – – – – BRIDGE END FILL

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Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

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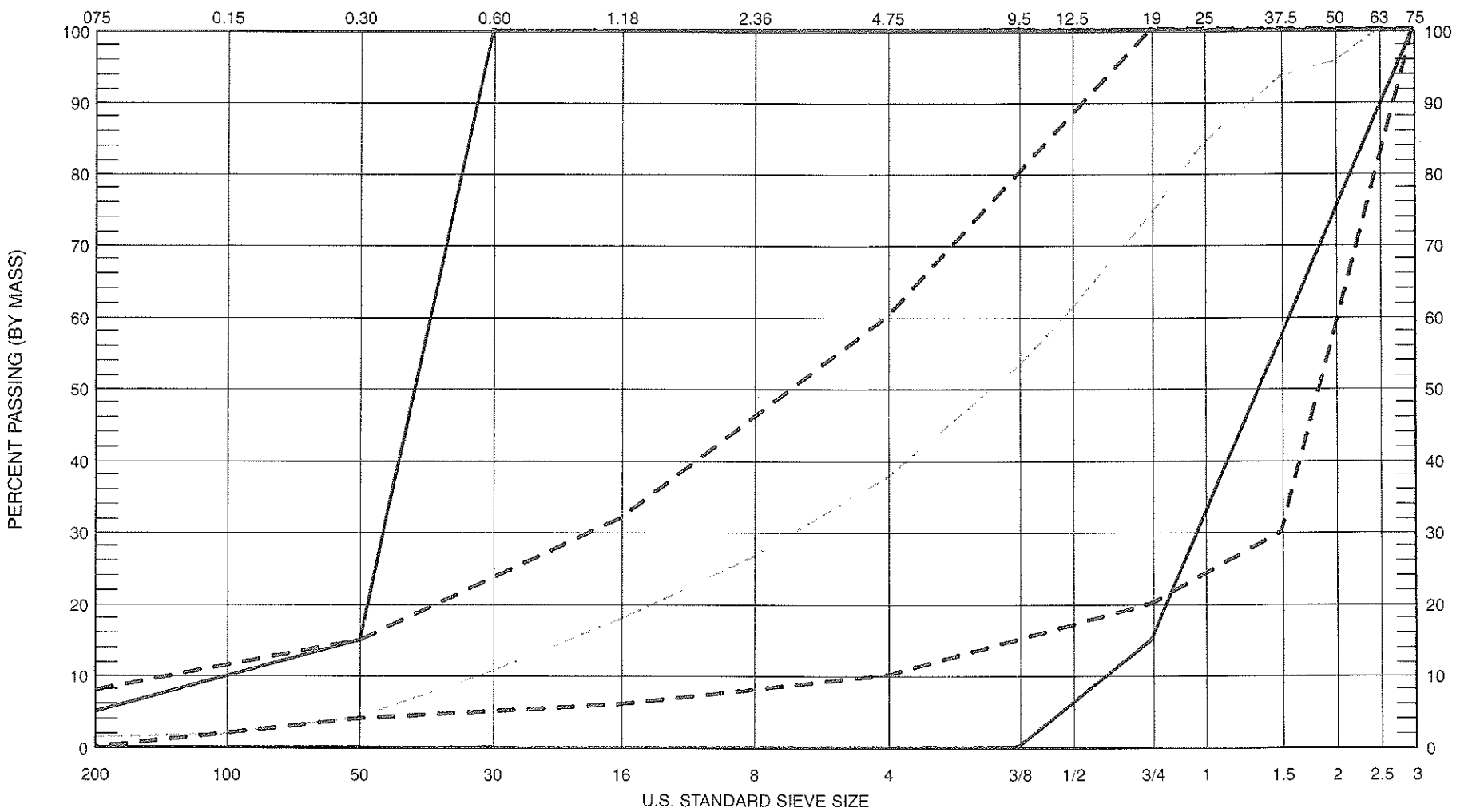


BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
XT9269/X6162	1	TP88-18A	2.0-5.5m	PIT RUN	ACB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

SELECT GRANULAR SUB-BASE

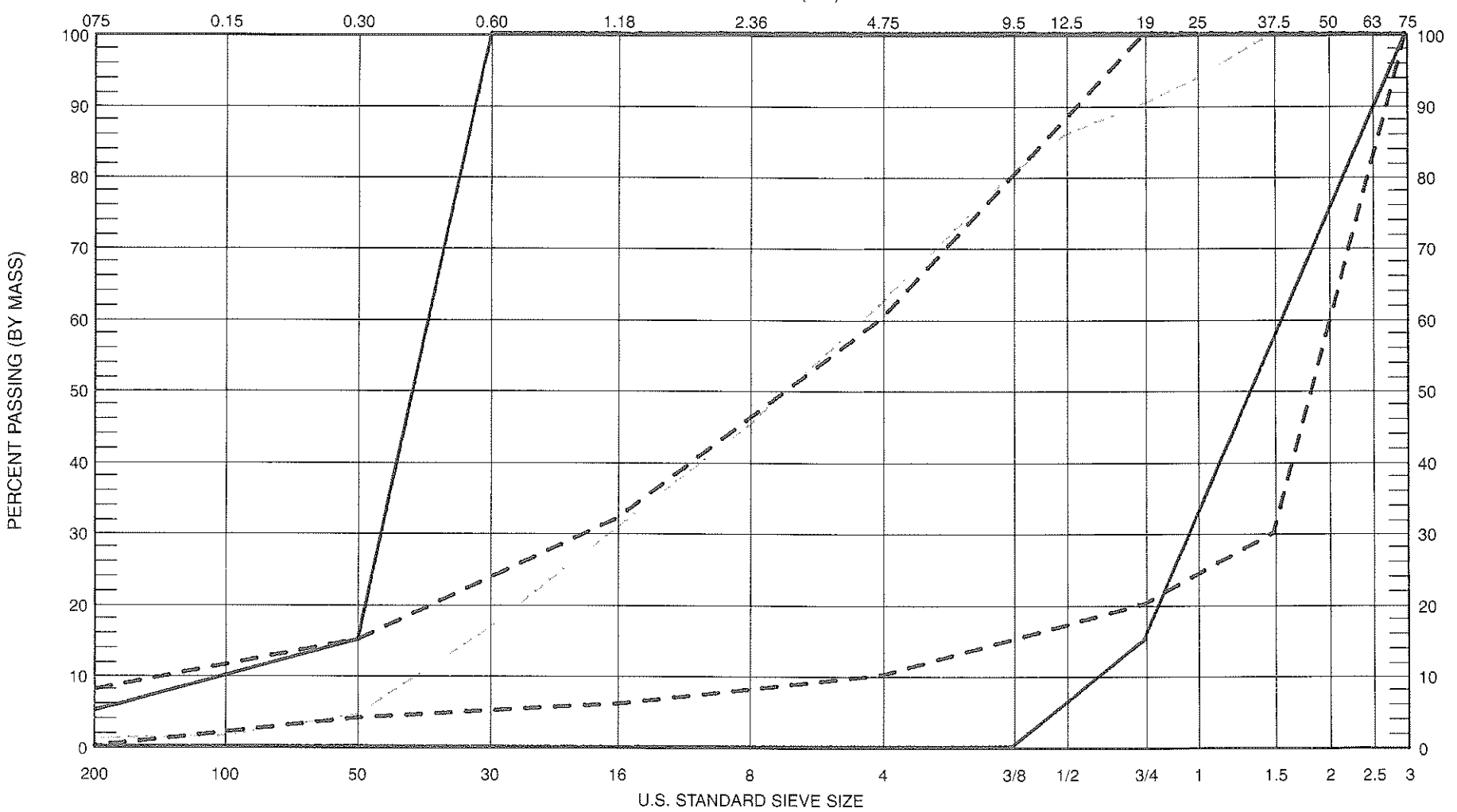
BRIDGE END FILL

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X7068	1	TP/88-20	1.0-1.5	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

——— SELECT GRANULAR SUB-BASE

– – – – – BRIDGE END FILL

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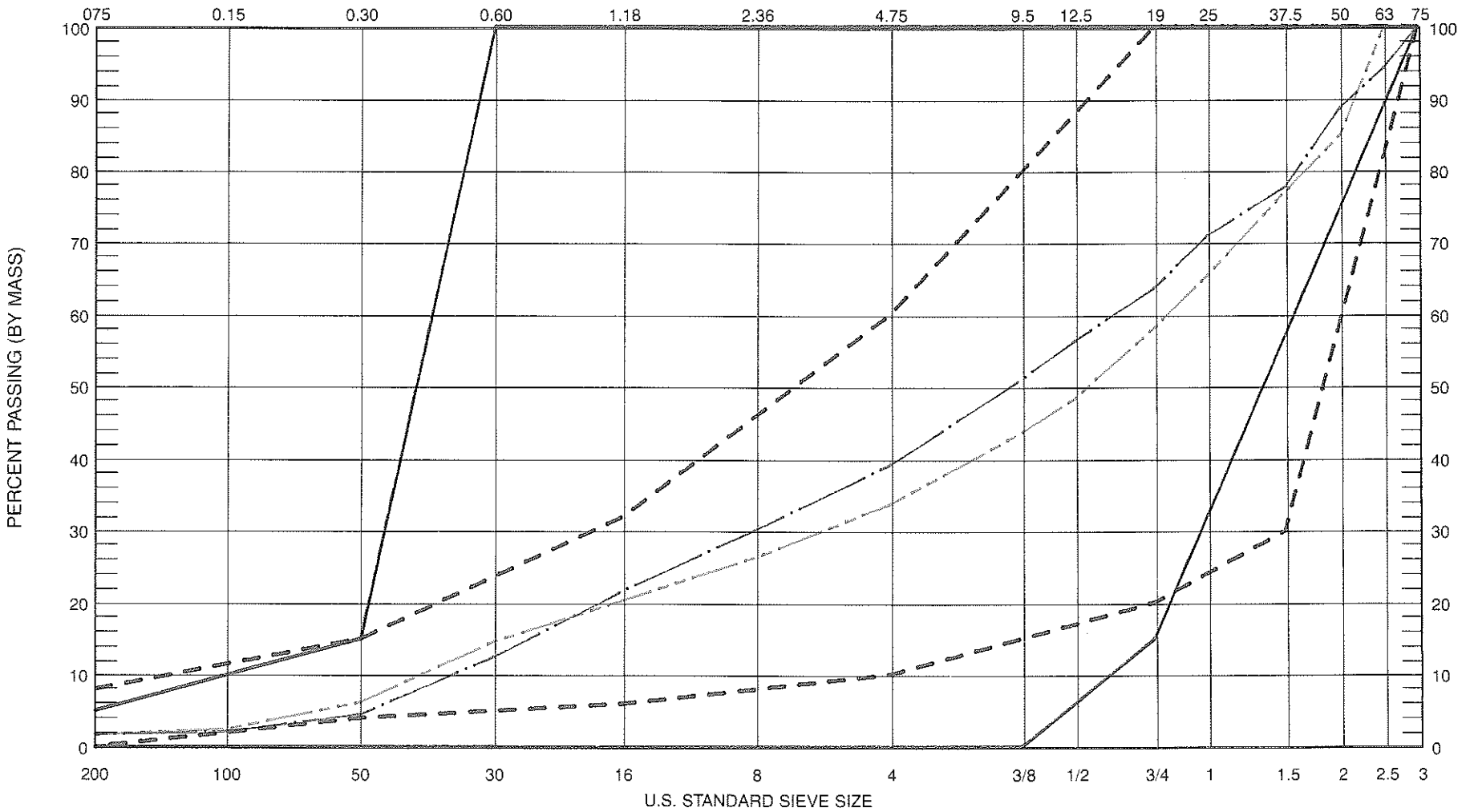
Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
——— . — ———	X-7012	1	TP/88-21	1.0-2.0m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13
——— . ———	X7013/X7014	2	TP/88-21	3.0-5.5m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

——— SELECT GRANULAR SUB-BASE

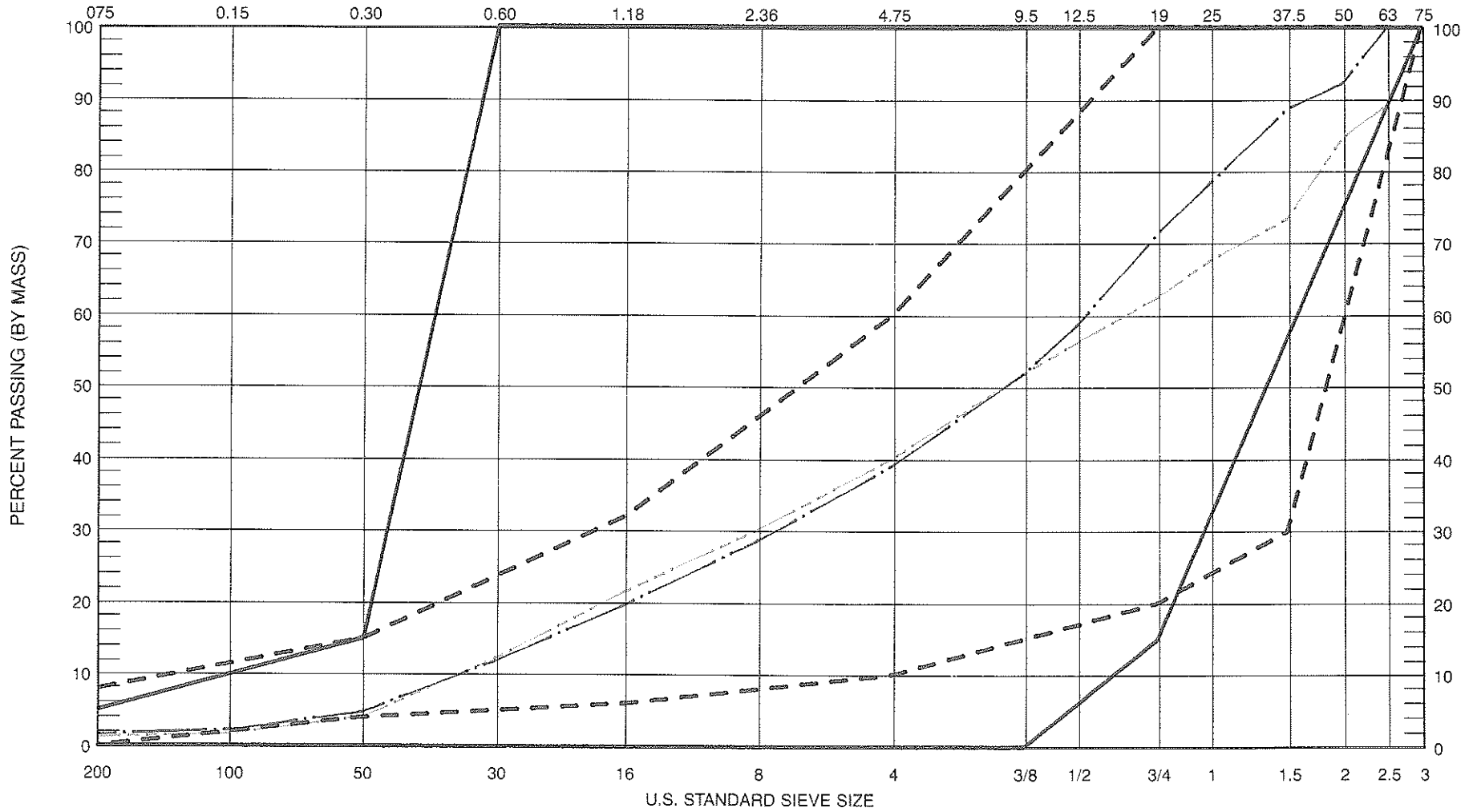
– – – – – BRIDGE END FILL

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
.....	X-7010	1	TP/88-22	1.5-2.0m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13
——.——	X-7011	2	TP/88-22	4.0-5.0m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

——— SELECT GRANULAR SUB-BASE

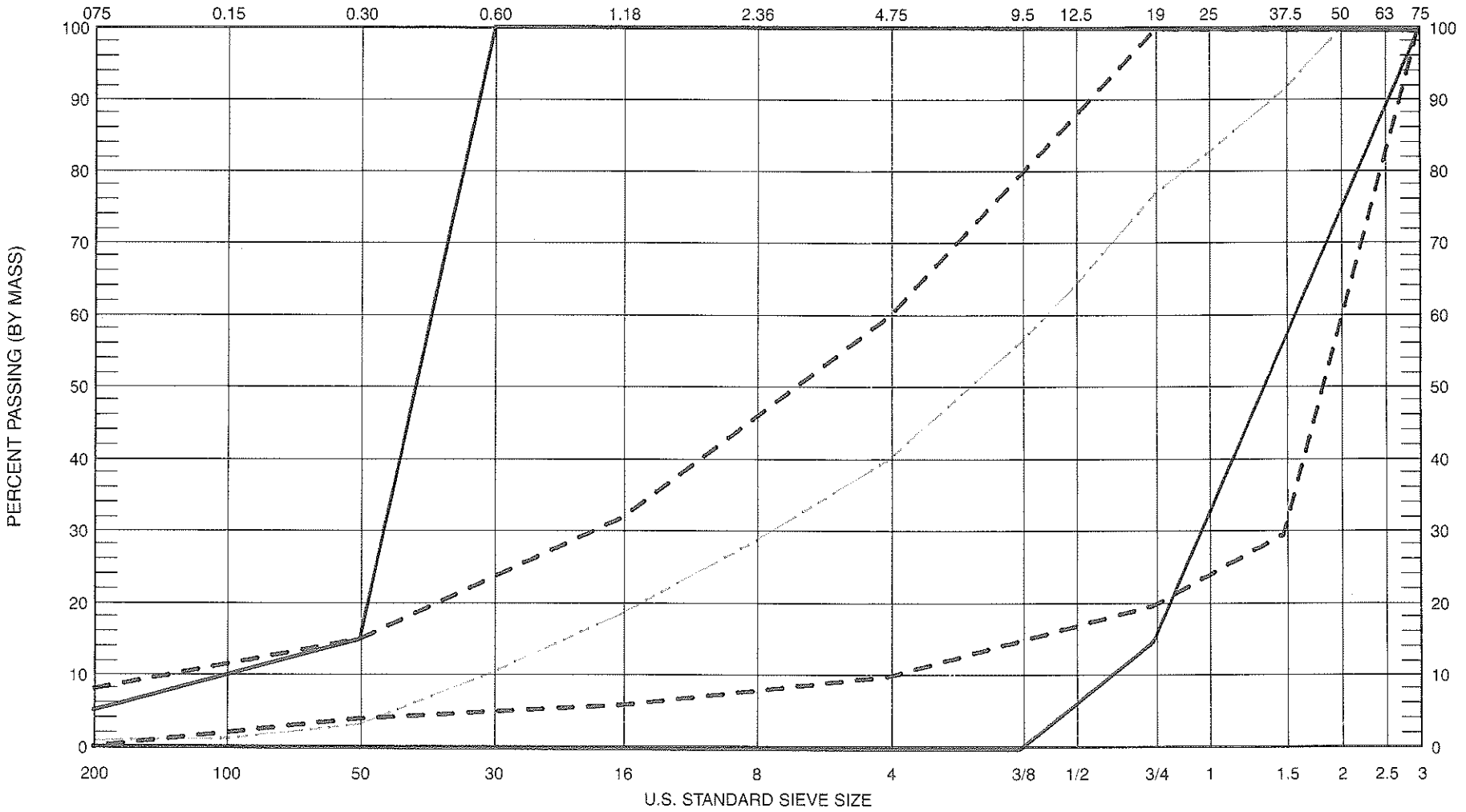
– – – – – BRIDGE END FILL

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
———	X7003/X7004	1	TP/88-23	2.0-4.0m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

——— SELECT GRANULAR SUB-BASE

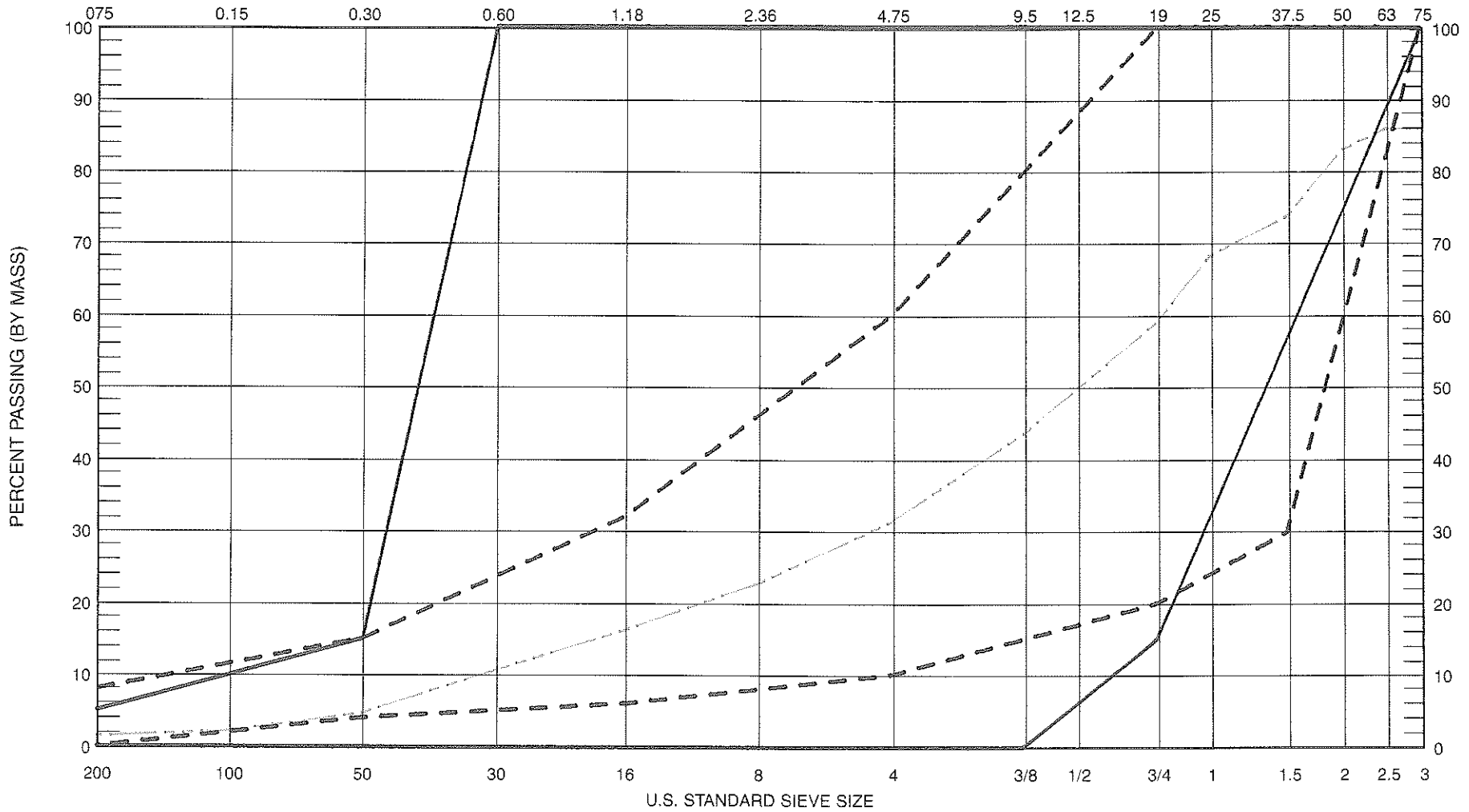
– – – – – BRIDGE END FILL

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X-6157	1	TP/88-24	5.0-5.5m	PIT RUN	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

SELECT GRANULAR SUB-BASE

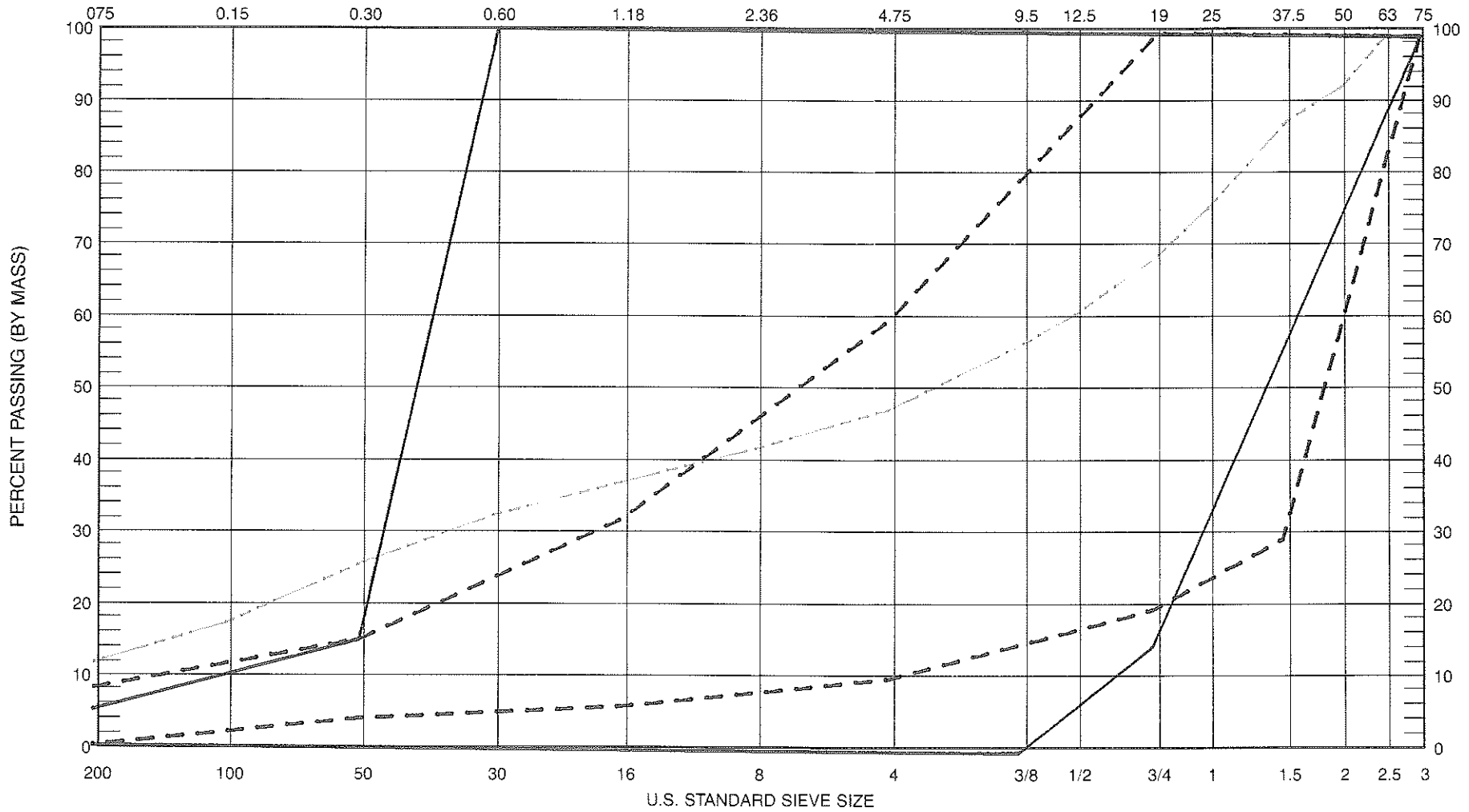
BRIDGE END FILL

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
———	X-6156	1	TP/68-25	4.5-5.0m	PIT RUN	AEM/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

——— SELECT GRANULAR SUB-BASE

– – – – – BRIDGE END FILL

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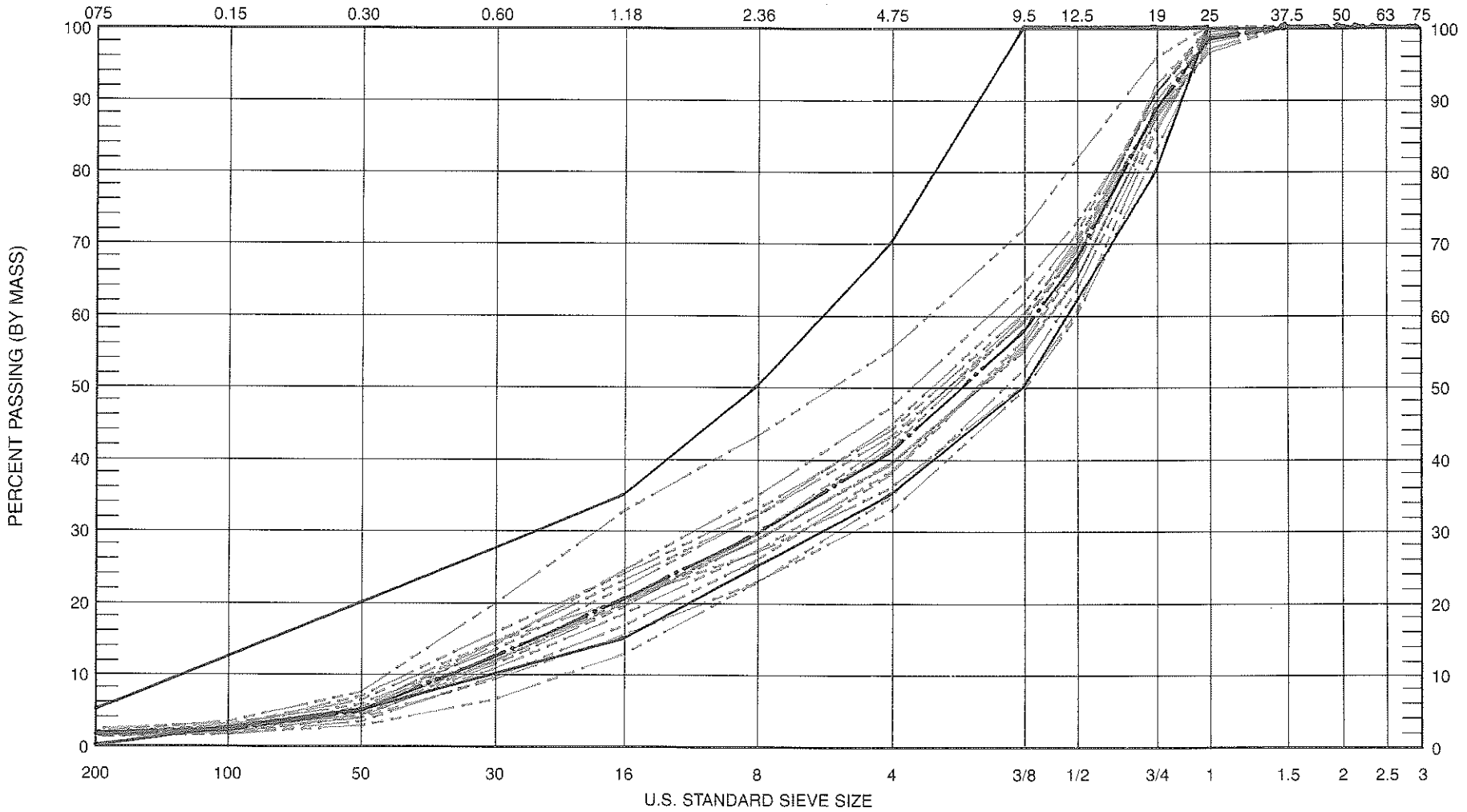
Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE

QUINSAM PASS CREEK 25mm LAB CRUSH

GROUP PLOTTED: 6
MEAN OF GROUP

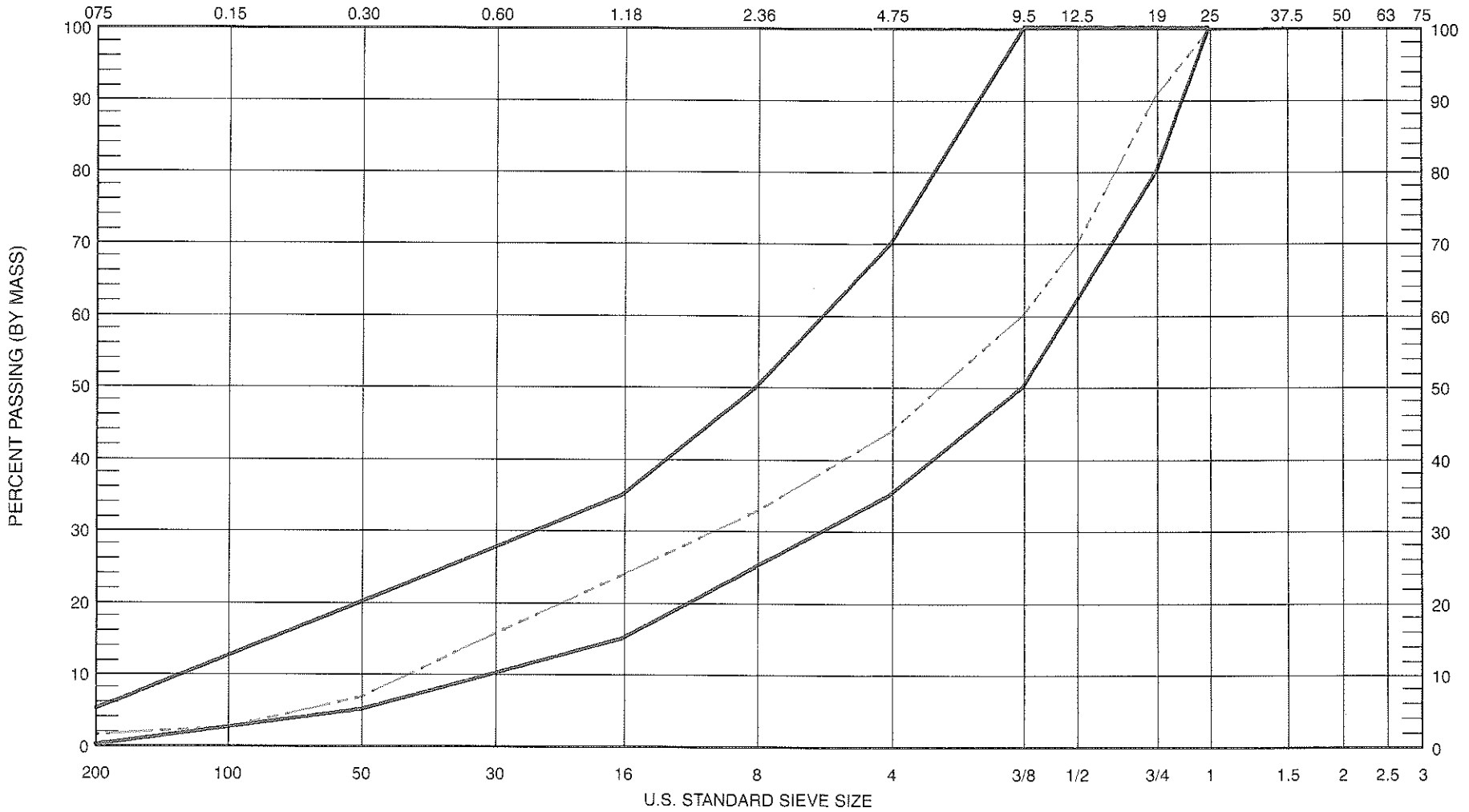
25mm WELL GRADED BASE

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
- - - - -	X7047/X7030	1	TP/88-05	1.5-5.0m	25mm LAB CRUSH	AEB/DAM	EXCAVATOR	88/08/01	NANAIMO LAB/DA	88/07/13

25mm WELL GRADED BASE

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

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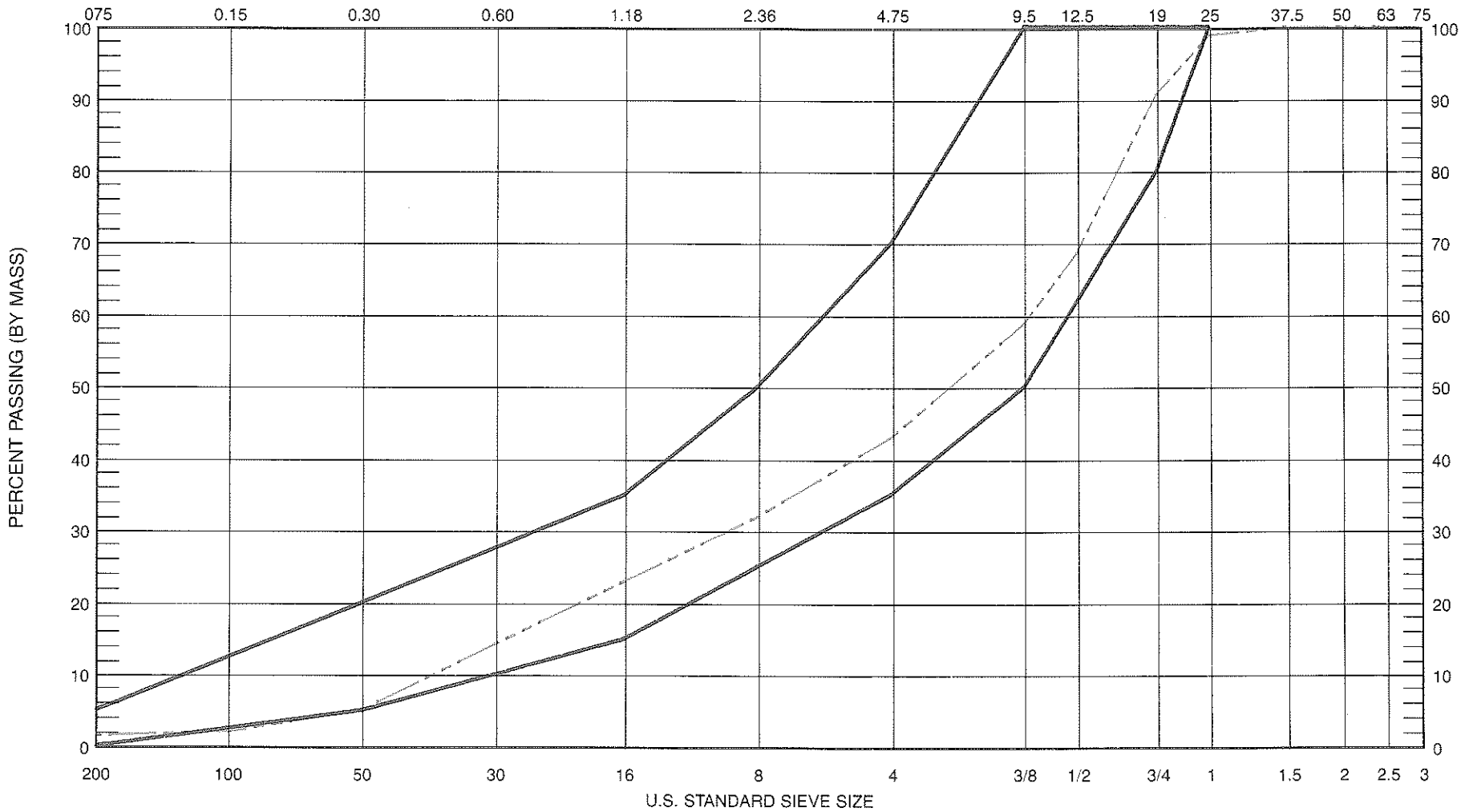
DISTRICT: COURTENAY



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X7006	1	TP/88-06	3.0-4.0m	25mm LAB CRUSH	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

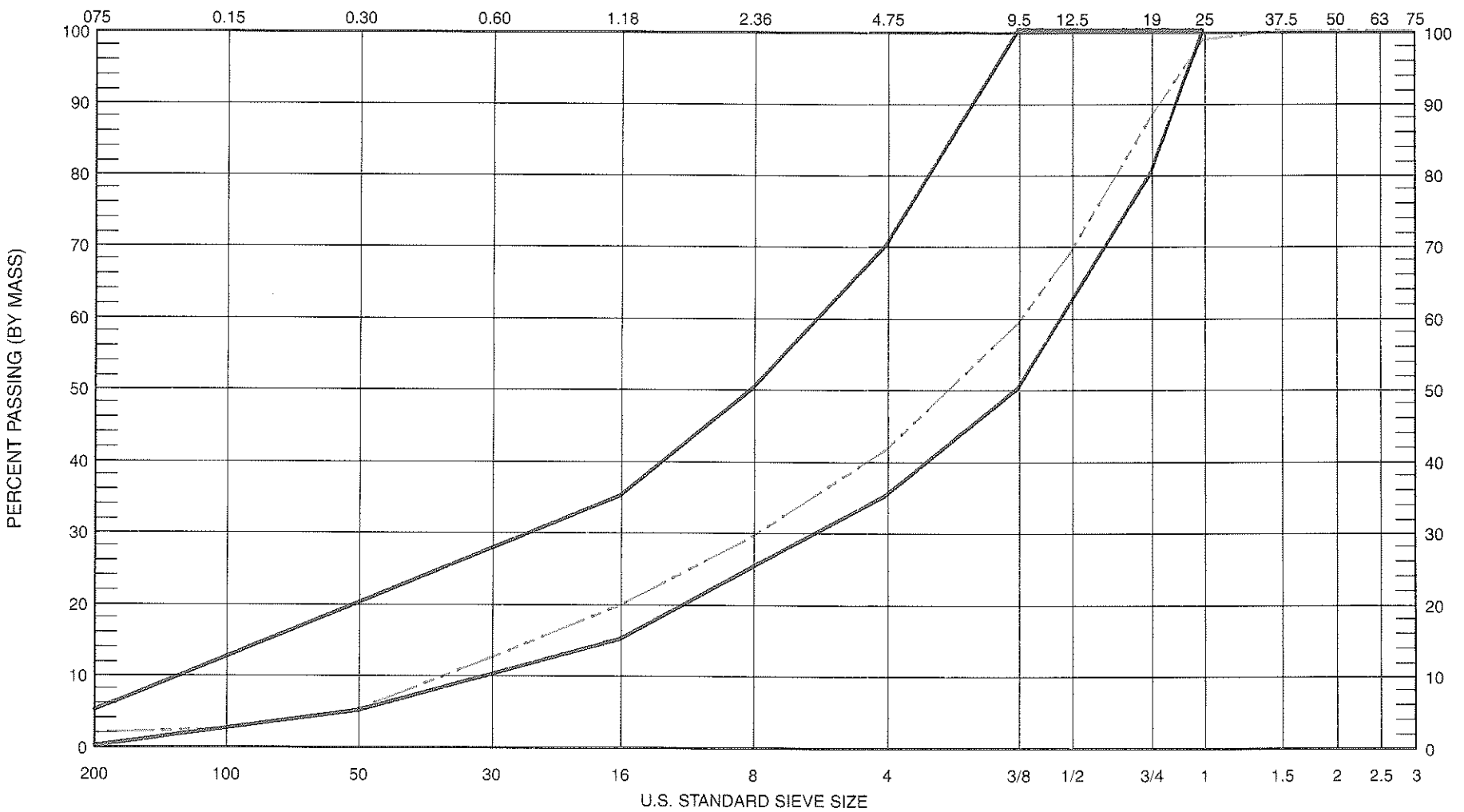
25mm WELL GRADED BASE

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X7005/X7009	2	TP/88-07	2.4-3.5m	25mm LAB CRUSH	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

25mm WELL GRADED BASE

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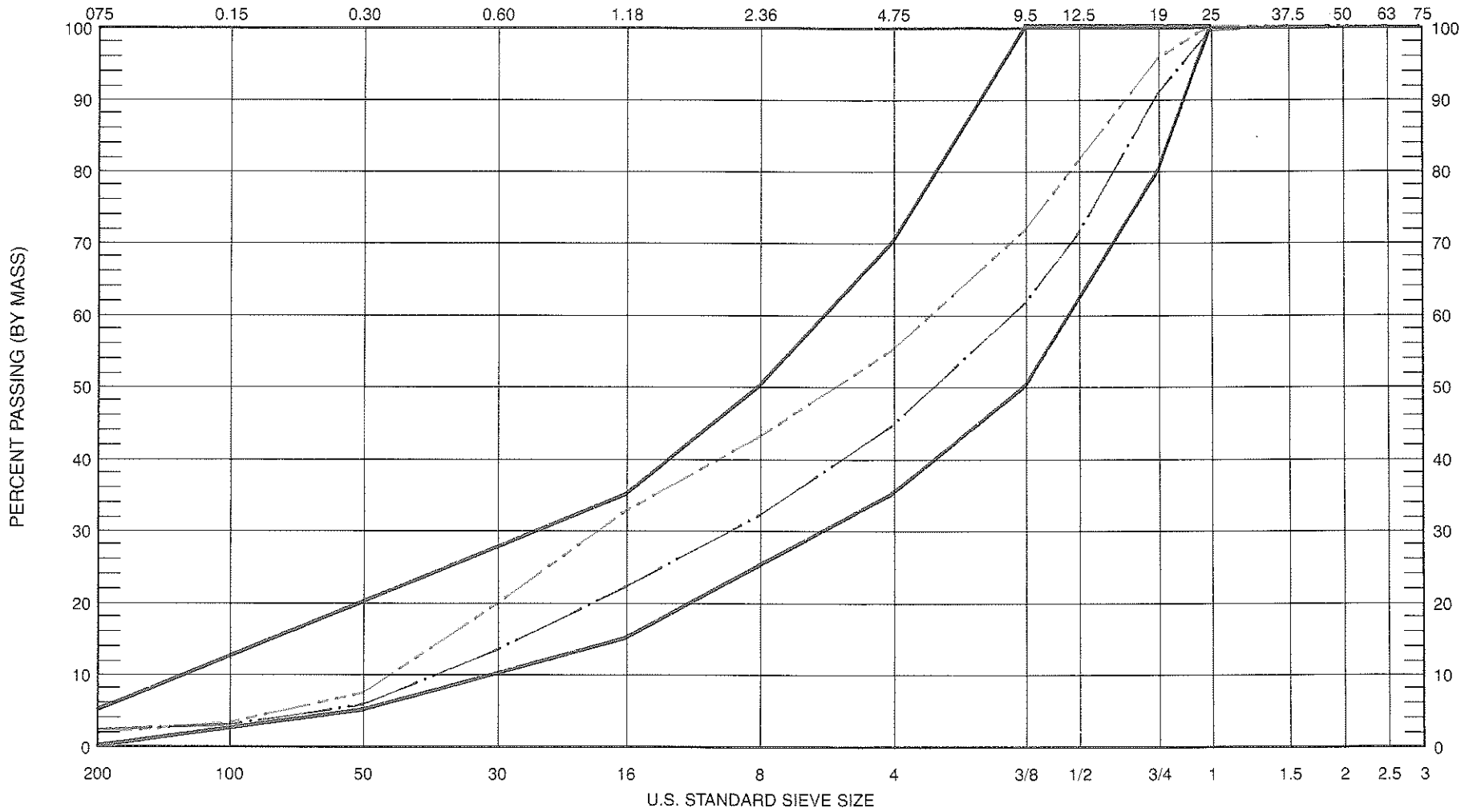
Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
	X-7019	1	TP/88-09	2.5-3.0m	25mm LAB CRUSH	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13
	X-7020	2	TP/88-09	4.0-4.5m	25mm LAB CRUSH	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

25mm WELL GRADED BASE

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

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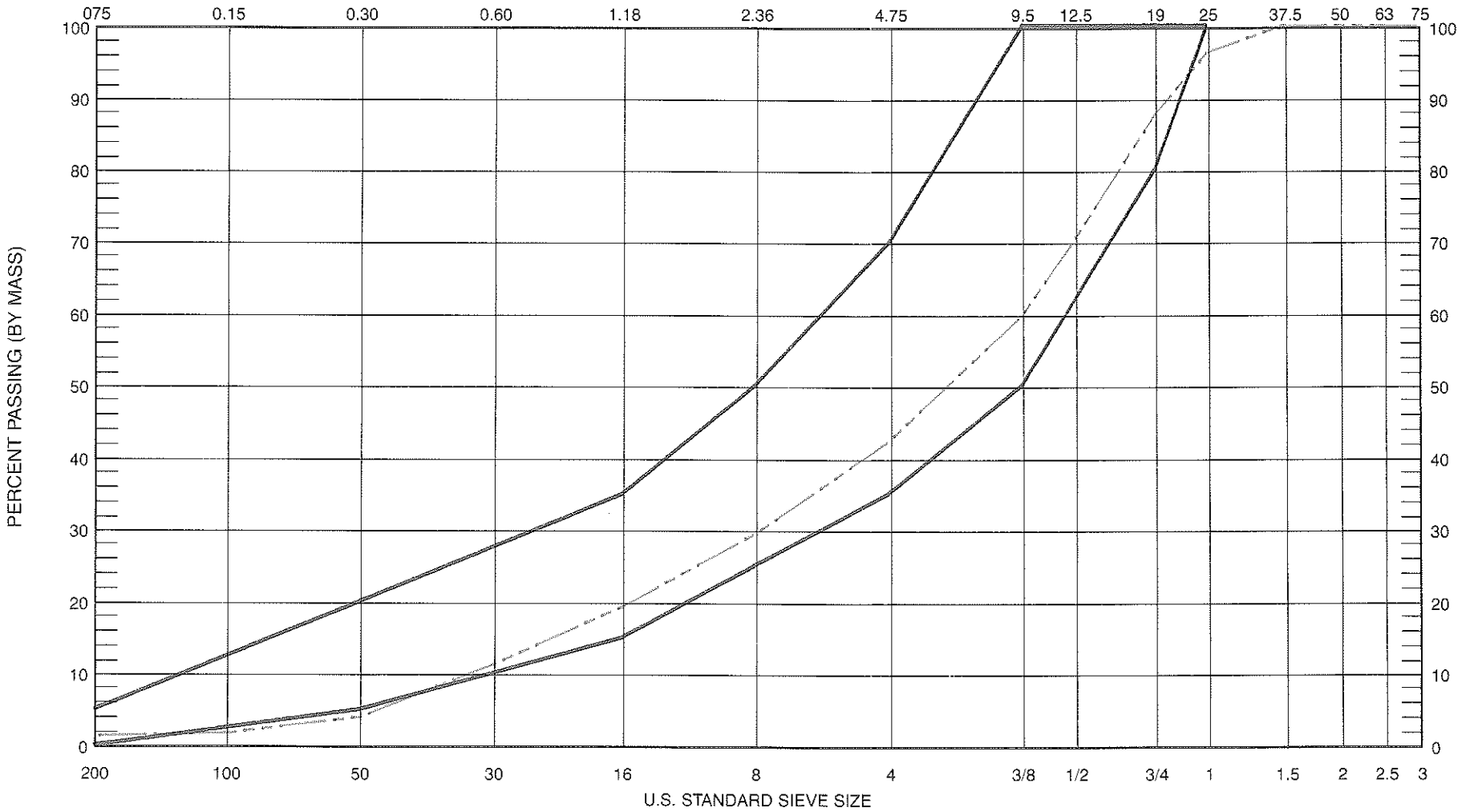
DISTRICT: COURTENAY



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X7022/X7021	1	TP/88-10	2.0-5.0m	25mm LAB CRUSH	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

25mm WELL GRADED BASE

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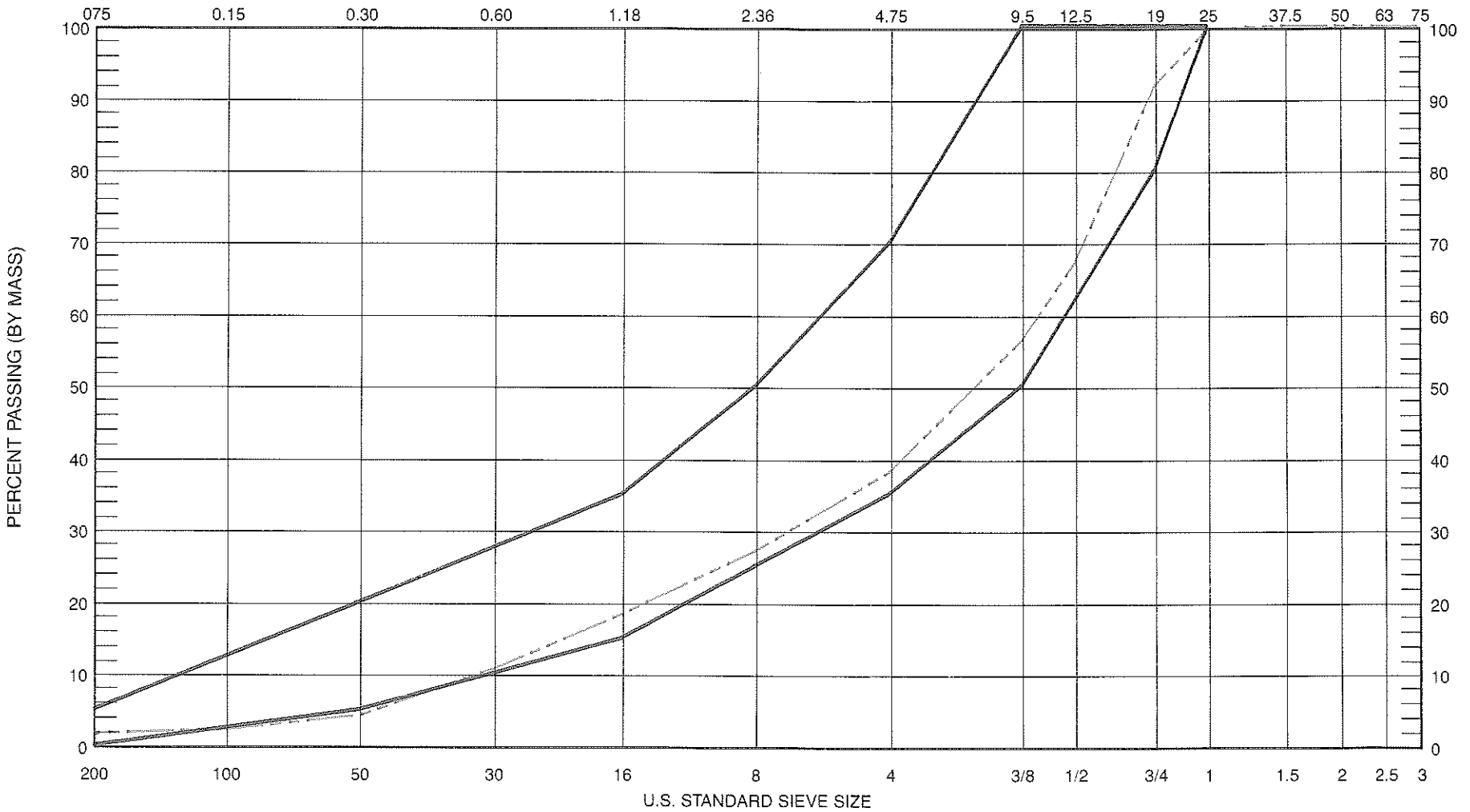
Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: GUINSAM PASS CR.
DISTRICT: COURTENAY



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X7023/X7024	1	TP/88-11	2.0-4.5m	25mm LAB CRUSH	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

25mm WELL GRADED BASE

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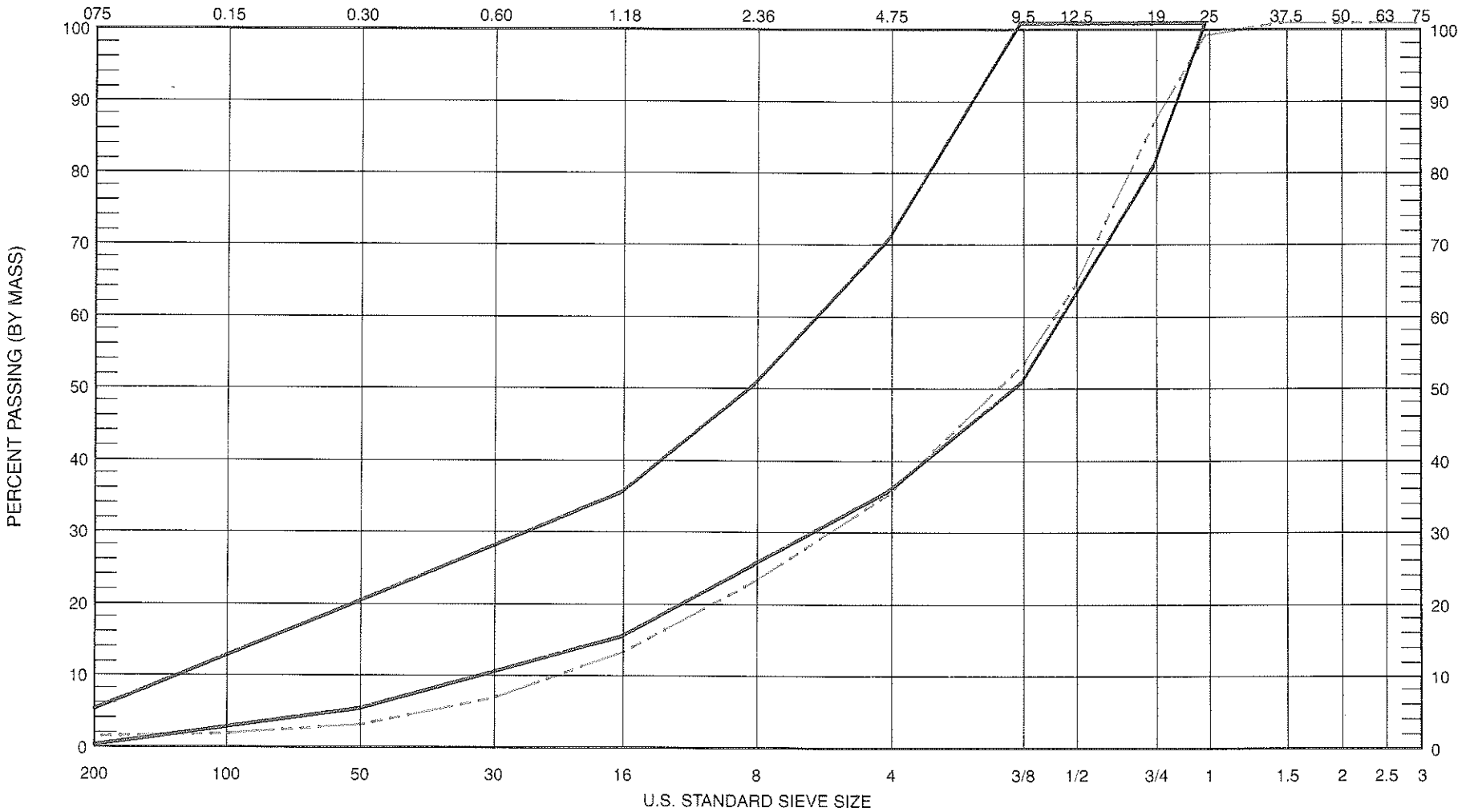
Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X-7016	1	TP/BR-14	4.0-5.0m	25mm LAB CRUSH	AEB/DAM	EXCAVATOR	98/03/01	NANAIMO LAB/DA	98/07/13

25mm WELL GRADED BASE

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Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

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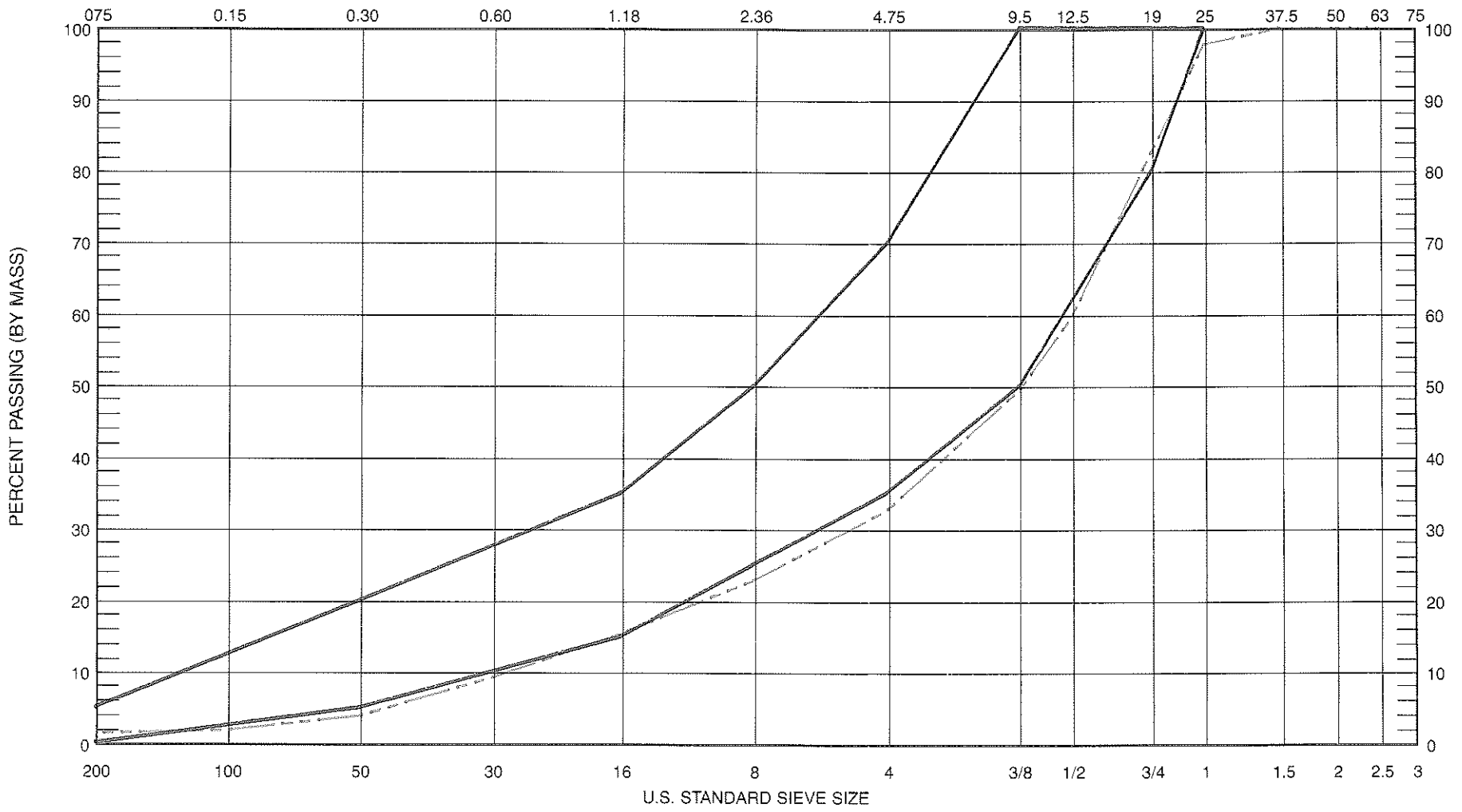
DISTRICT: COURTENAY



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X7029/X6162	1	TP/88-18A	2.0-5.5m	25mm LAB CRUSH	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

25mm WELL GRADED BASE

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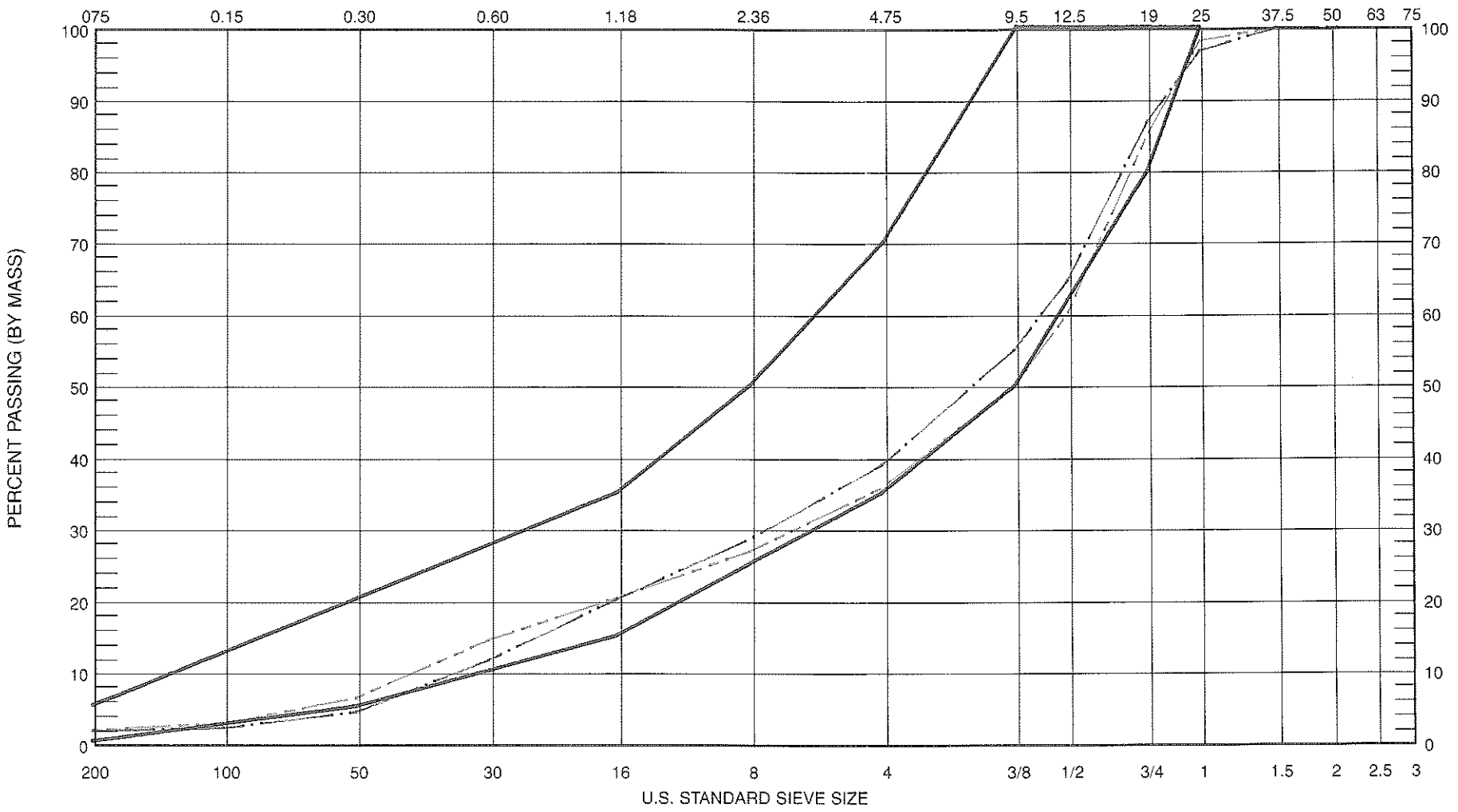
Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: GUINSAM PASS CR.
DISTRICT: COURTENAY



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
	X-7012	1	TP/88-21	1.0-2.0m	25mm LAB CRUSH	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13
	X7013/X7014	2	TP/88-21	3.0-5.5m	25mm LAB CRUSH	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

25mm WELL GRADED BASE

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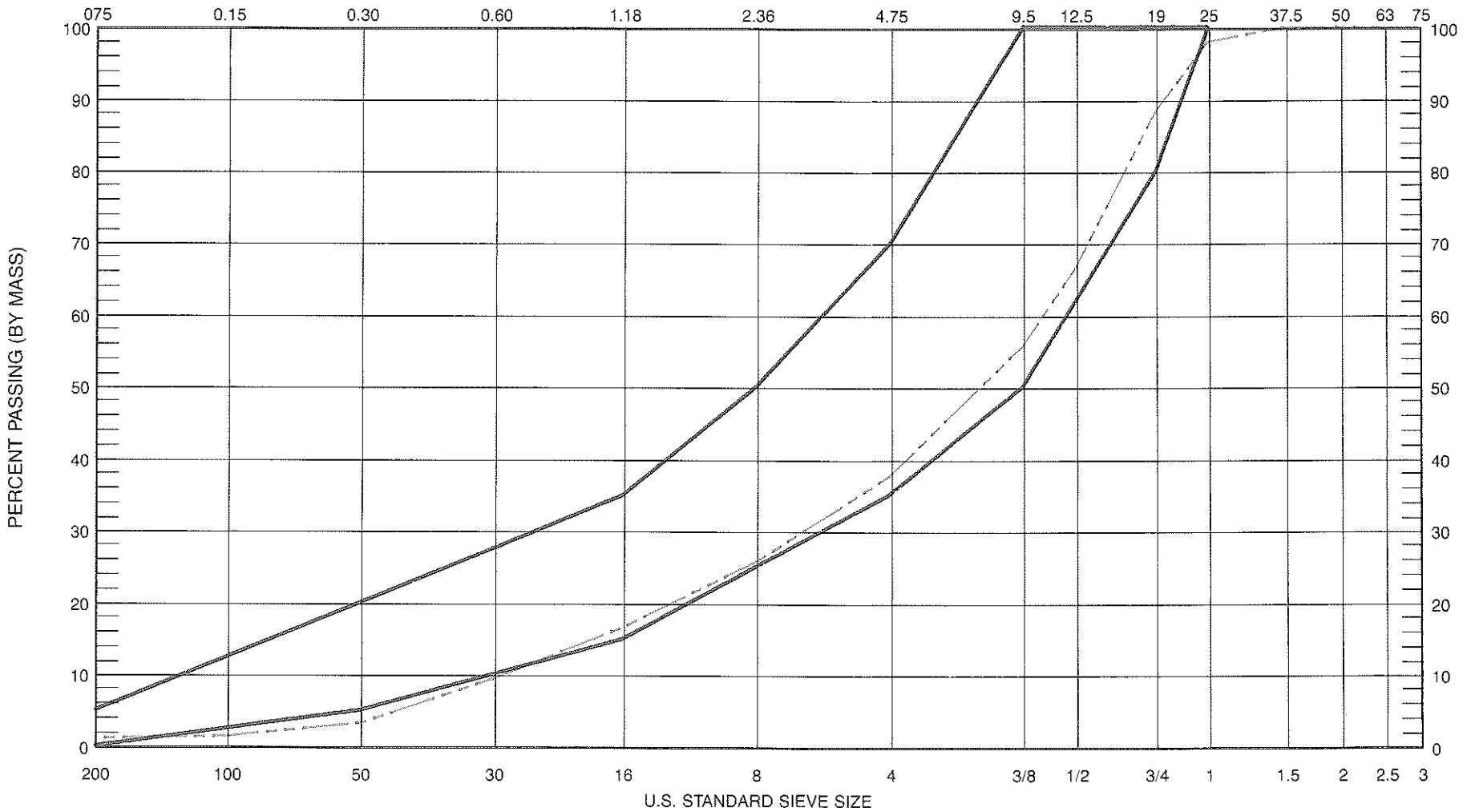
Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X7003/X7004	1	TP/88-23	2.0-4.0m	25mm LAB CRUSH	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

25mm WELL GRADED BASE

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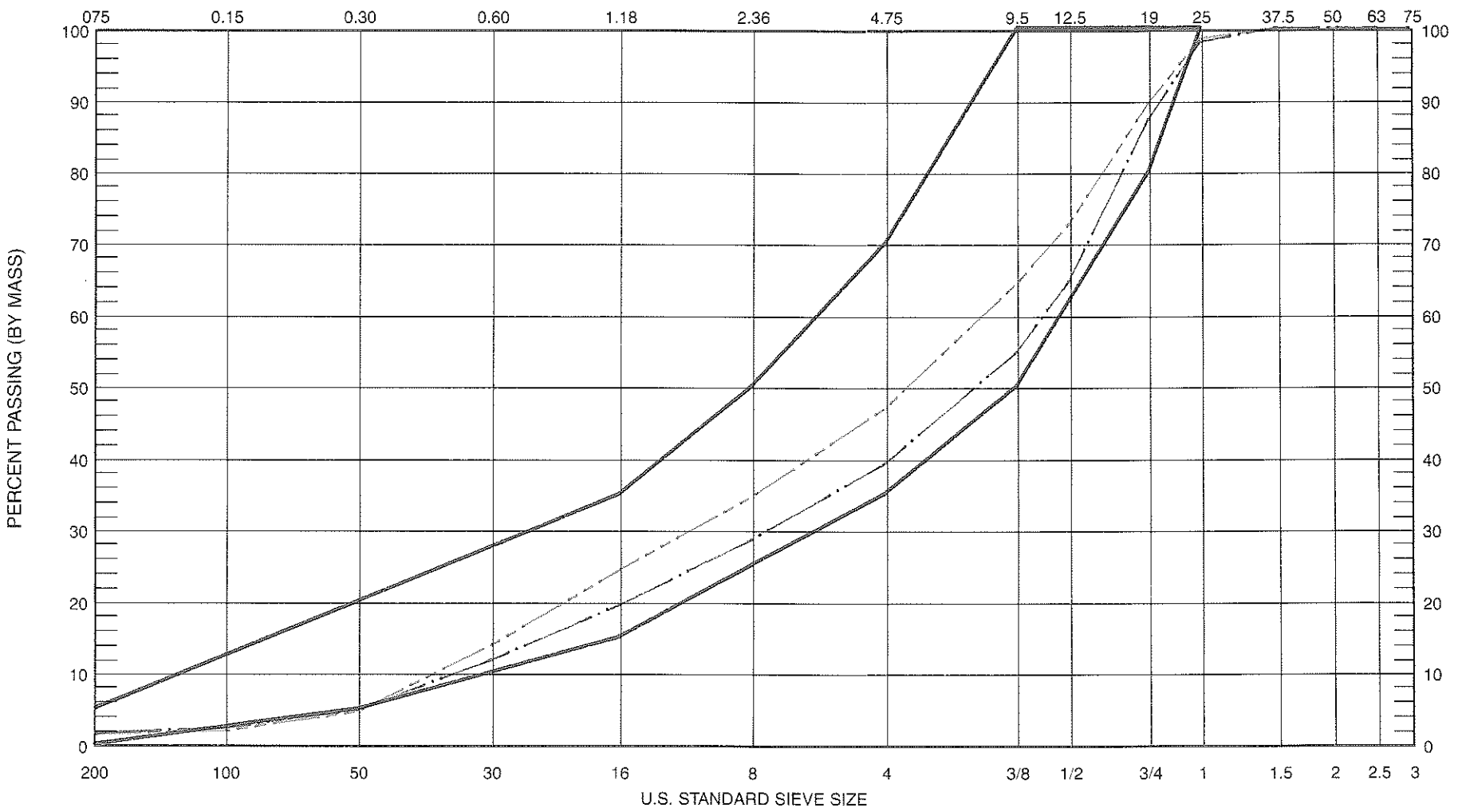
Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PASS CR.
DISTRICT: COURTENAY



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
———	X-7010	1	TP/88-22	1.5-2.0m	25mm LAB CRUSH	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13
———	X-7011	2	TP/88-22	4.0-5.0m	25mm LAB CRUSH	AEB/DAM	EXCAVATOR	88/03/01	NANAIMO LAB/DA	88/07/13

——— 25mm WELL GRADED BASE

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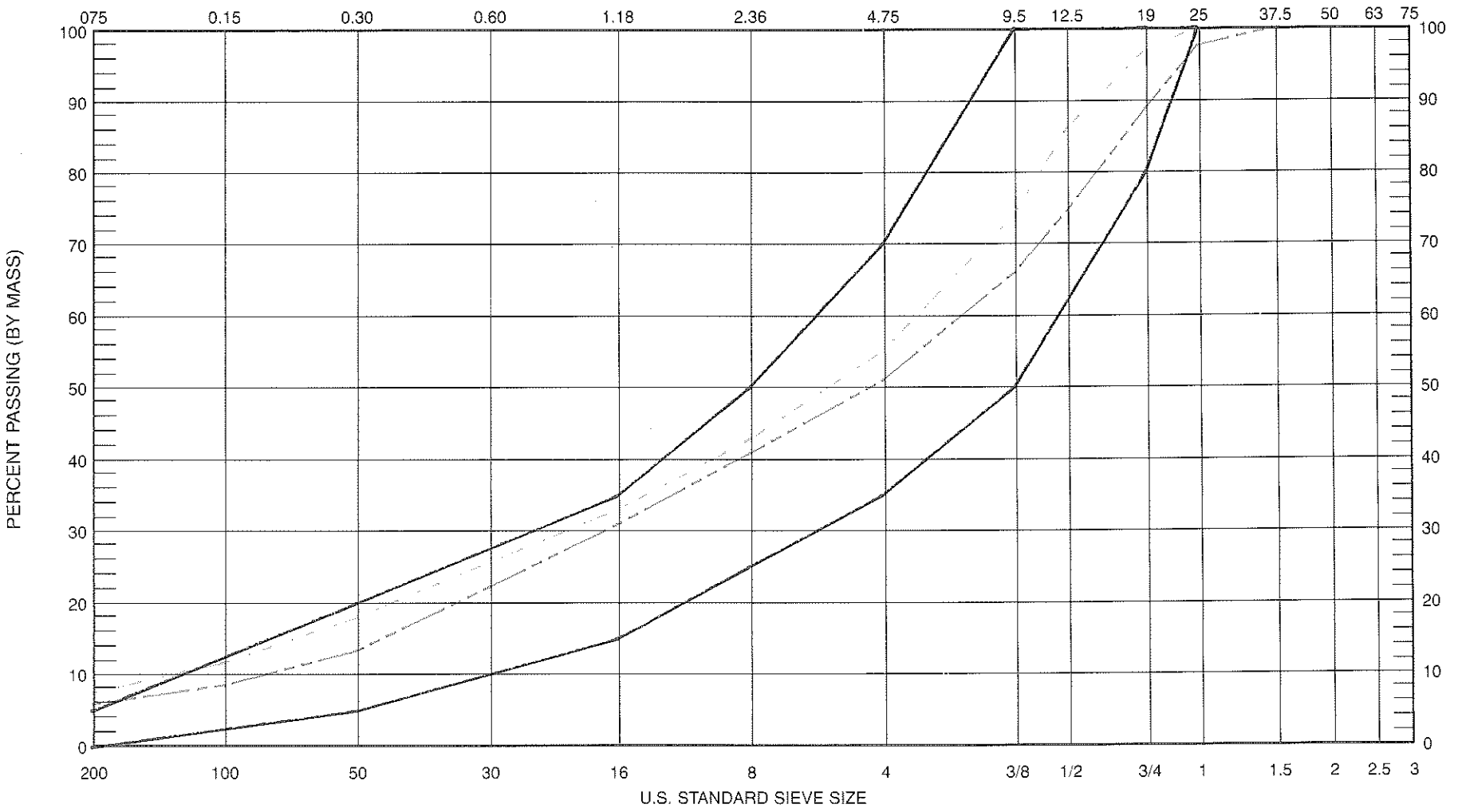
Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PIT 4P013
DISTRICT: NORTH ISLAND



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
	X16324	1	89-28	4.5-5.5m	LAB CRUSH	M. SMALLWOOD	BECKER	89-06-07	A.K.&F.S.	89-08-10
	X16326	3	89-28	14.-15.2m	LAB CRUSH	M. SMALLWOOD	BECKER	89-06-07	A.K.&F.S.	89-08-10

25mm WELL GRADED BASE

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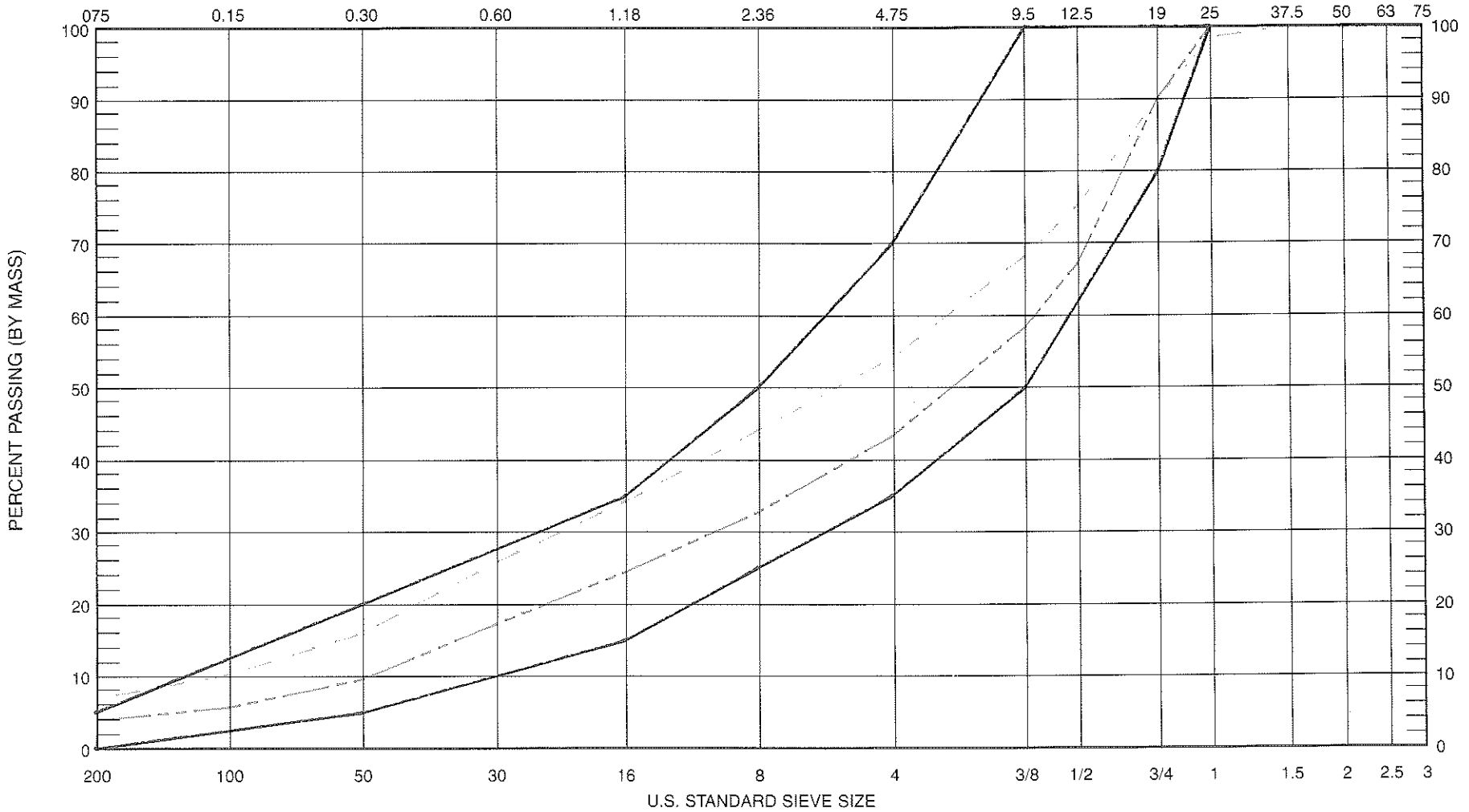
Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PIT 4P013
DISTRICT: NORTH ISLAND



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X16319	1	89-26	3.0-4.3m	LAB CRUSH	K. SMALLWOOD	BECKER	89-06-07	A.K.M.P.S.	89-06-10
X16320	2	89-26	7.9-9.1m	LAB CRUSH	K. SMALLWOOD	BECKER	89-06-07	A.K.M.P.S.	89-06-10

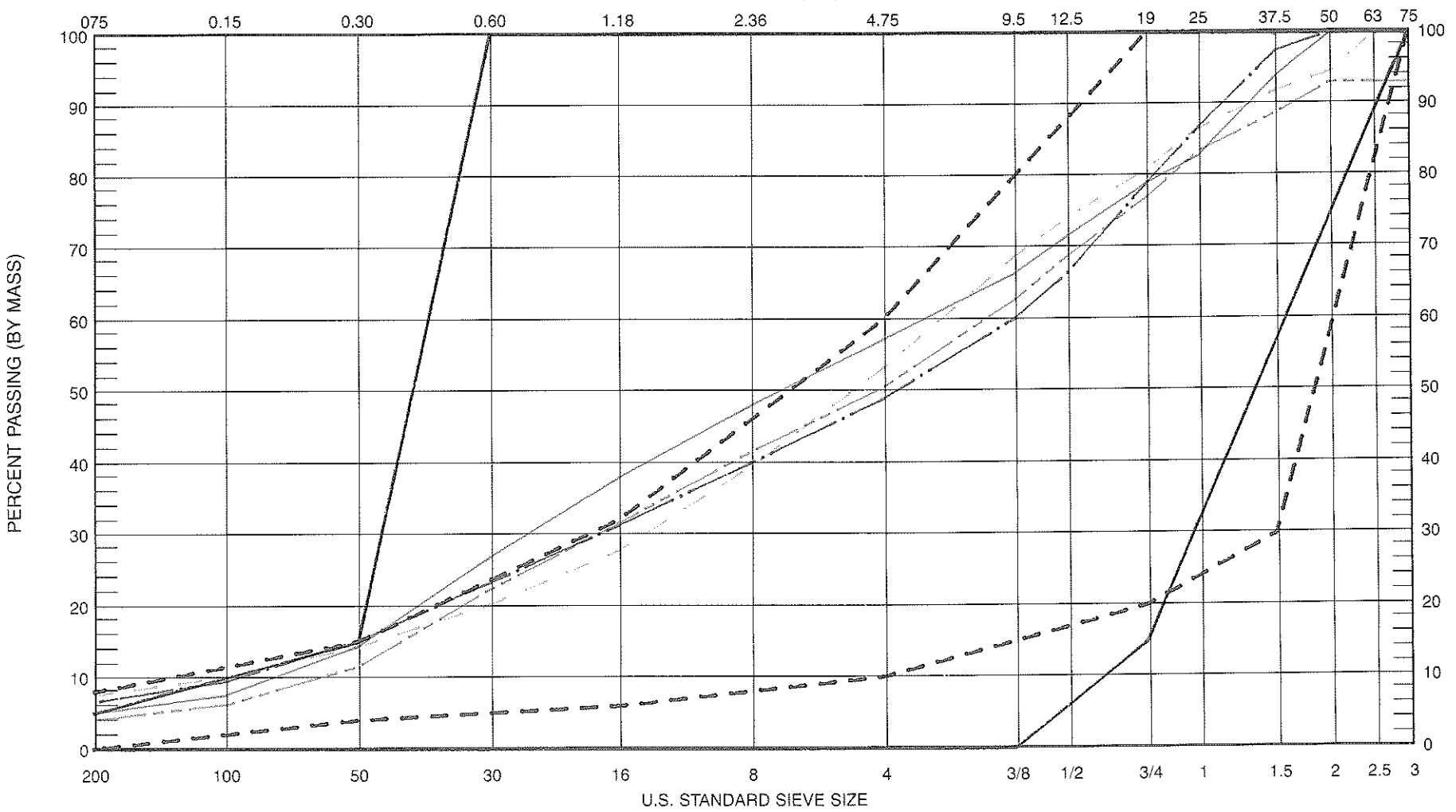
25mm WELL GRADED BASE

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PIT 4P013
DISTRICT: NORTH ISLAND



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X16315	1	89-29	3.0-4.3m	PITRUN	M. SMALLWOOD	BECKER	89-06-07	A.K.&F.S.	89-08-10
X16316	2	89-29	7.9-9.1m	PITRUN	M. SMALLWOOD	BECKER	89-06-07	A.K.&F.S.	89-08-10
X16317	**3**	**89-29**	**12.8-14.0m**	**PITRUN**	**M. SMALLWOOD**	**BECKER**	**89-06-07**	**A.K.&F.S.**	**89-08-10**
X16318	4	89-29	15.2-16.5	PITRUN	M. SMALLWOOD	BECKER	89-06-07	A.K.&F.S.	89-08-10

SELECT GRANULAR SUB-BASE

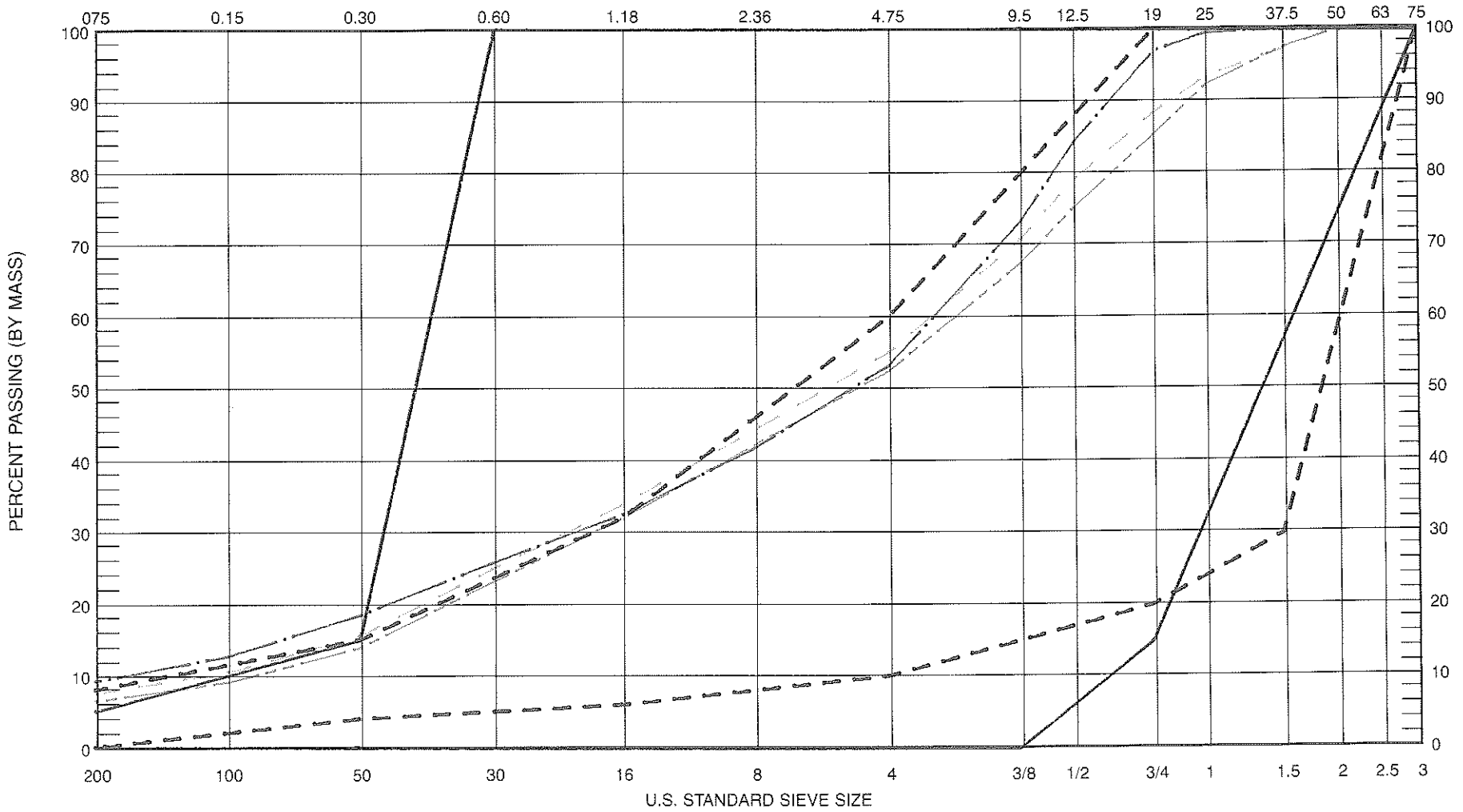
BRIDGE END FILL

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PIT 4P013
DISTRICT: NORTH ISLAND



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X16324	1	89-28	4.3-5.8m	PITRUN	M. SMALLWOOD	BECKER	89-06-07	A.K.&F.S.	89-08-10
X16325	2	89-28	7.9-9.1m	PITRUN	M. SMALLWOOD	BECKER	89-06-07	A.K.&F.S.	89-08-10
X16326	3	89-28	14.-15.2m	PITRUN	M. SMALLWOOD	BECKER	89-06-07	A.K.&F.S.	89-08-10

SELECT GRANULAR SUB-BASE

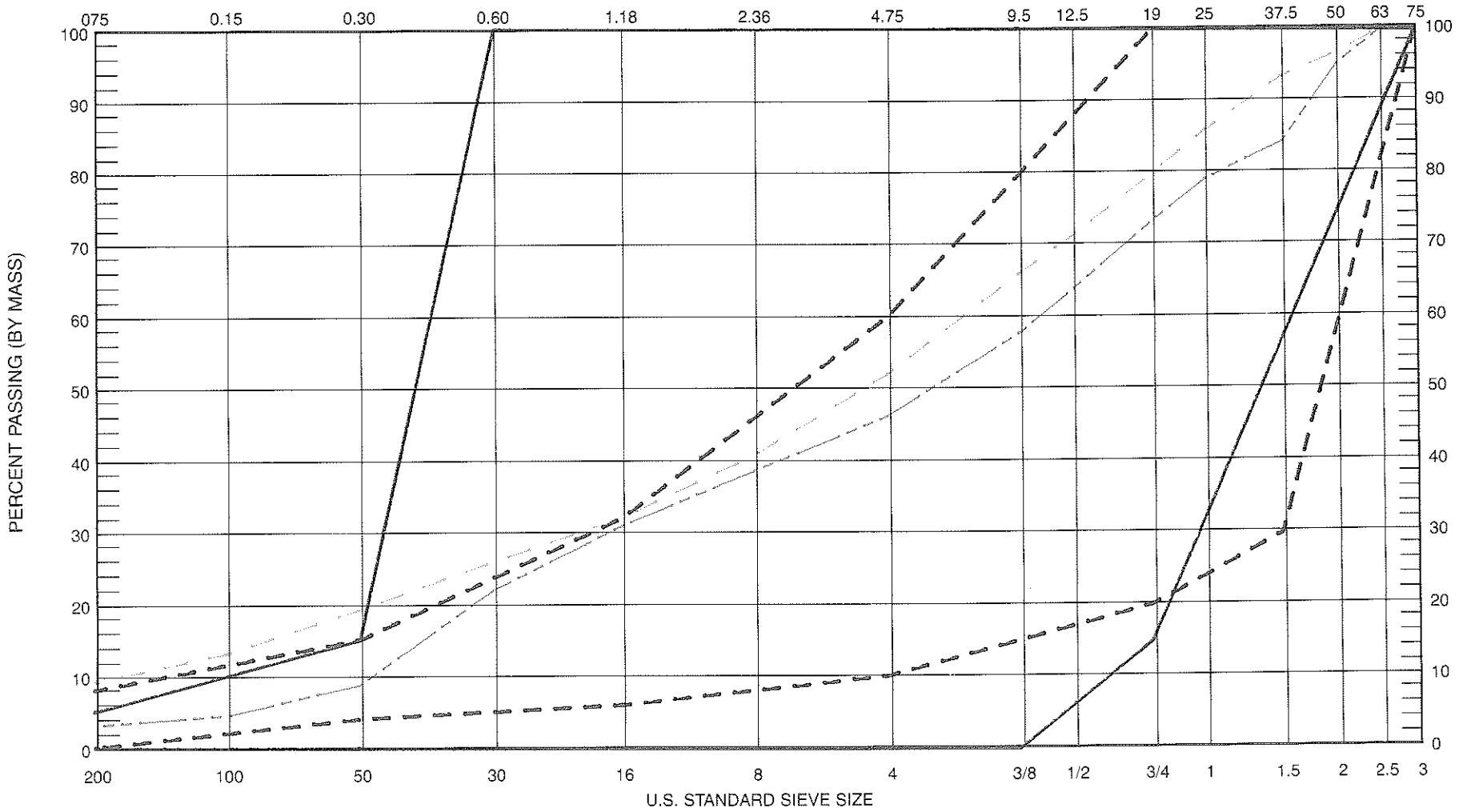
BRIDGE END FILL

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PIT 4P013
DISTRICT: NORTH ISLAND



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
X10522	1	89-27	3.0-4.3m	PITRUN	M. SMALLWOOD	BECKER	89-06-07	A.K.&F.S.	89-08-10
X10574	2	89-27	5.5-6.8m	PITRUN	M. SMALLWOOD	BECKER	89-06-07	A.K.&F.S.	89-08-10

SELECT GRANULAR SUB-BASE

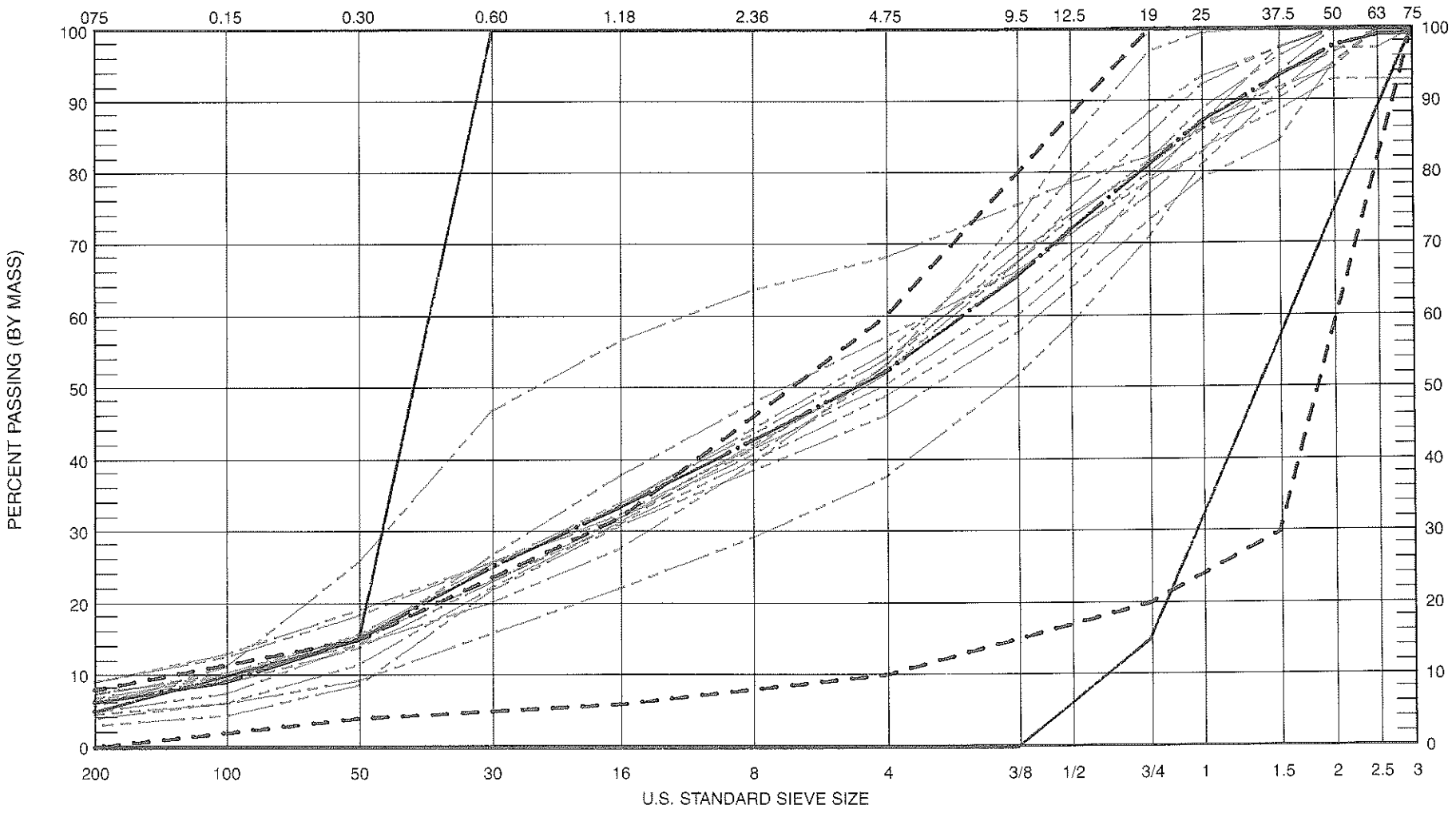
BRIDGE END FILL

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PIT 4P013
DISTRICT: NORTH ISLAND



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE

GROUP PLOTTED: A
MEAN OF GROUP

QUINSAM PIT PITRUN

SELECT GRANULAR SUB-BASE

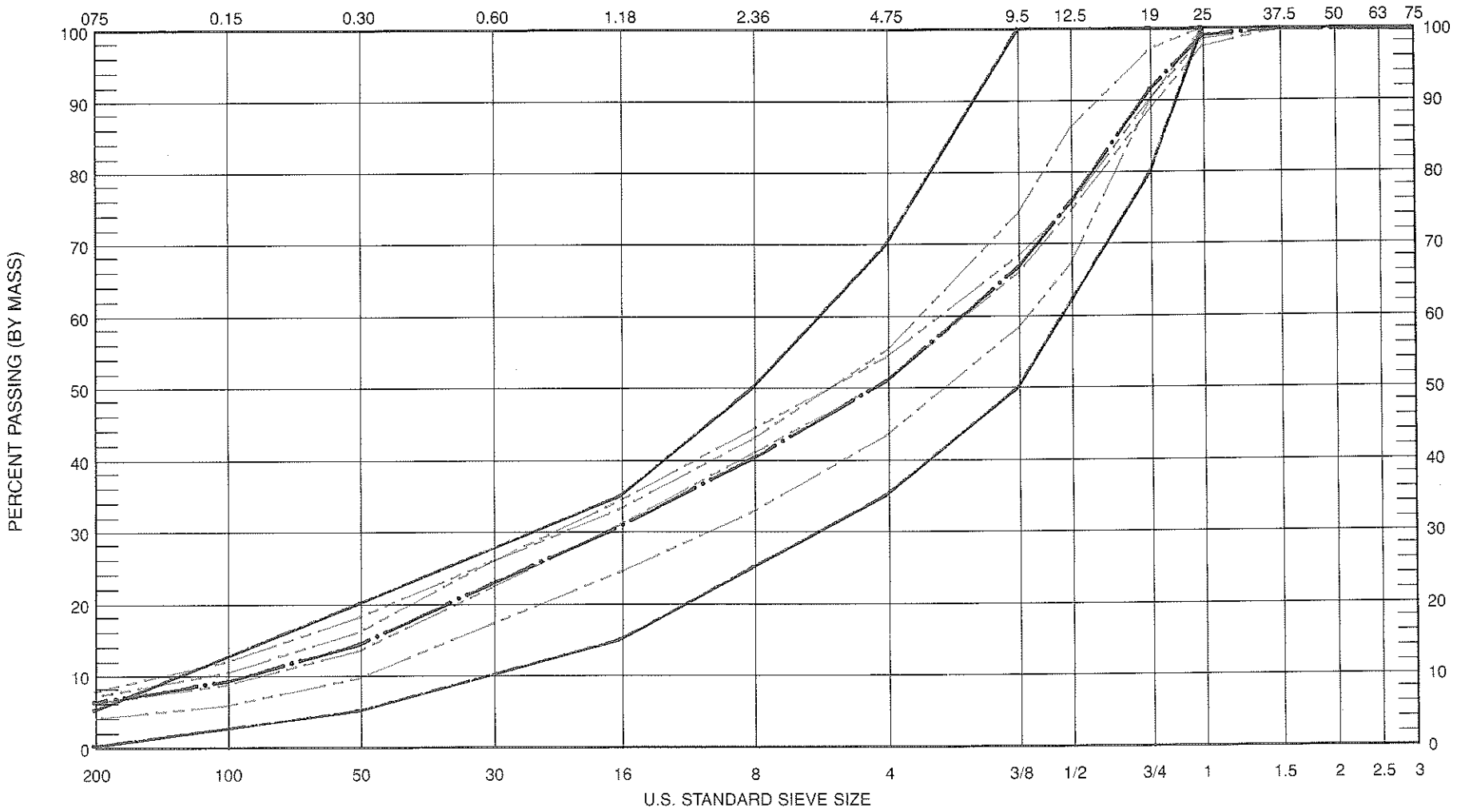
BRIDGE END FILL

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PIT 4P013
DISTRICT: NORTH ISLAND



BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
				QUINSAM PIT LAB CRUSH					

GROUP PLOTTED: B
MEAN OF GROUP

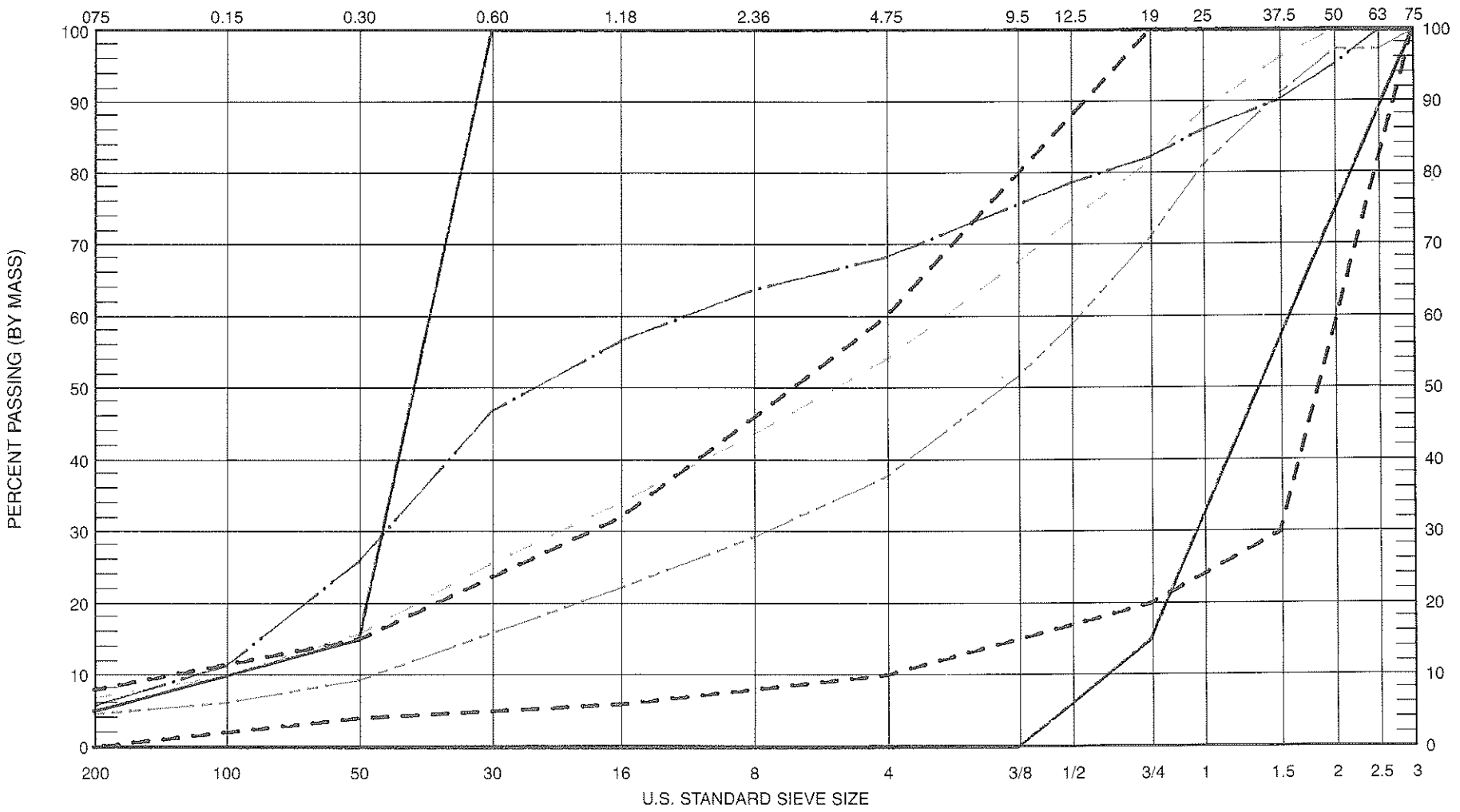
25mm WELL GRADED BASE

H187F

Ministry of Transportation and Highways — Geotechnical Branch

AGGREGATE GRADATION CHART

PROJECT: QUINSAM PIT 4P013
DISTRICT: NORTH ISLAND



	BAG #	SAMPLE #	TESTHOLE/PIT	DEPTH	SAMPLE OF	SAMPLED BY	METHOD	DATE	TESTED BY	DATE
———	X16319	1	89-26	3.0-4.3m	PITRUN	M. SMALLWOOD	BECKER	89-06-07	A.K.&F.S.	89-08-10
- - - -	X16320	2	89-26	7.9-9.1m	PITRUN	M. SMALLWOOD	BECKER	89-06-07	A.K.&F.S.	89-08-10
——— . ———	X16321	3	89-26	12.8-14.0m	PITRUN	M. SMALLWOOD	BECKER	89-06-07	A.K.&F.S.	89-08-10

——— SELECT GRANULAR SUB-BASE

- - - - - BRIDGE END FILL

H187F

QUINSAM

X7047/+7030

- FRACTURE -

METHOD A : for Crushed Granular Surfacing and Base Aggregate

METHOD B : for Crushed Paving Aggregate

		METHOD A (Count)	METHOD B (Mass)
RETAINED on 9.5 mm sieve.	UNFRACTURED	105	374
	1 FRACTURE	6	37
	2+ FRACTURES	73	292
PASSING 9.5mm sieve. RETAINED on 4.75mm sieve.	UNFRACTURED	430	262
	1 FRACTURE	4	4
	2+ FRACTURES	94	41
TOTAL	UNFRACTURED	535	
	1 FRACTURE	10	
	2+ FRACTURES	167	
	TOTAL	712	703
	TOTAL FRACTURE	177	292
	FRACTURE %	24.9 %	41.5 %

Completed by : DA/RG

X 7006

- FRACTURE -

METHOD A : for Crushed Granular Surfacing and Base Aggregate

METHOD B : for Crushed Paving Aggregate

		METHOD A (Count)	METHOD B (Mass)
RETAINED on 9.5 mm sieve.	UNFRACTURED	176	666
	1 FRACTURE	2	13
	2+ FRACTURES	113	505
PASSING 9.5mm sieve. RETAINED on 4.75mm sieve.	UNFRACTURED	788	354
	1 FRACTURE	—	—
	2+ FRACTURES	231	88
TOTAL	UNFRACTURED	964	
	1 FRACTURE	2	
	2+ FRACTURES	344	
	TOTAL	1310	1184
	TOTAL FRACTURE	346	505
	FRACTURE %	26.4	42.7

Completed by : _____.

X7008/X7009

- FRACTURE -

METHOD A : for Crushed Granular Surfacing and Base Aggregate

METHOD B : for Crushed Paving Aggregate

		METHOD A (Count)	METHOD B (Mass)
RETAINED on 9.5 mm sieve.	UNFRACTURED	126	493
	1 FRACTURE		
	2+ FRACTURES	82	435
PASSING 9.5mm sieve. RETAINED on 4.75mm sieve.	UNFRACTURED	893	382
	1 FRACTURE	—	—
	2+ FRACTURES	107	57
TOTAL	UNFRACTURED	1019	
	1 FRACTURE		
	2+ FRACTURES	249	
	TOTAL	1268	928
	TOTAL FRACTURE	249	435
	FRACTURE %	19.6	46.9

Completed by : _____.

X7019

- FRACTURE -

METHOD A : for Crushed Granular Surfacing and Base Aggregate

METHOD B : for Crushed Paving Aggregate

		METHOD A (Count)	METHOD B (Mass)
RETAINED on 9.5 mm sieve.	UNFRACTURED	121	440
	1 FRACTURE	—	—
	2+ FRACTURES	55	149
PASSING 9.5mm sieve. RETAINED on 4.75mm sieve.	UNFRACTURED	685	324
	1 FRACTURE	—	—
	2+ FRACTURES	66	24
TOTAL	UNFRACTURED	806	
	1 FRACTURE	—	
	2+ FRACTURES	101	
	TOTAL	907	589
	TOTAL FRACTURE	101	149
	FRACTURE %	11.1	25.3

Completed by : RD

X7020

- FRACTURE -

METHOD A : for Crushed Granular Surfacing and Base Aggregate

METHOD B : for Crushed Paving Aggregate

		METHOD A (Count)	METHOD B (Mass)
RETAINED on 9.5 mm sieve.	UNFRACTURED	116	451
	1 FRACTURE	—	
	2+ FRACTURES	51	219
PASSING 9.5mm sieve. RETAINED on 4.75mm sieve.	UNFRACTURED	537	271
	1 FRACTURE	1	1
	2+ FRACTURES	108	43
TOTAL	UNFRACTURED	667	
	1 FRACTURE	1	
	2+ FRACTURES	159	
	TOTAL	827	670
	TOTAL FRACTURE	160	219
	FRACTURE %	19.3	32.6

Completed by : _____ .

X7022/X7021

- FRACTURE -

METHOD A : for Crushed Granular Surfacing and Base Aggregate

METHOD B : for Crushed Paving Aggregate

		METHOD A (Count)	METHOD B (Mass)
RETAINED on 9.5 mm sieve.	UNFRACTURED	91	272
	1 FRACTURE	—	—
	2+ FRACTURES	134	317
PASSING 9.5mm sieve. RETAINED on 4.75mm sieve.	UNFRACTURED	467	
	1 FRACTURE	—	
	2+ FRACTURES	115	
TOTAL	UNFRACTURED	558	
	1 FRACTURE	—	
	2+ FRACTURES	249	
	TOTAL	807	589
	TOTAL FRACTURE	249	317
	FRACTURE %	30.9	53.8

Completed by : _____.

X7023/X7024

- FRACTURE -

METHOD A : for Crushed Granular Surfacing and Base Aggregate

METHOD B : for Crushed Paving Aggregate

		METHOD A (Count)	METHOD B (Mass)
RETAINED on 9.5 mm sieve.	UNFRACTURED	117	504
	1 FRACTURE	1	2
	2+ FRACTURES	87	381
PASSING 9.5mm sieve. RETAINED on 4.75mm sieve.	UNFRACTURED	759	341
	1 FRACTURE		
	2+ FRACTURES	196	86
TOTAL	UNFRACTURED	876	
	1 FRACTURE	1	
	2+ FRACTURES	283	
	TOTAL	1160	887
	TOTAL FRACTURE	284	381
	FRACTURE %	24.5	42.9

Completed by : DC

X 7016

- FRACTURE -

METHOD A : for Crushed Granular Surfacing and Base Aggregate

METHOD B : for Crushed Paving Aggregate

		METHOD A (Count)	METHOD B (Mass)
RETAINED on 9.5 mm sieve.	UNFRACTURED	181	718
	1 FRACTURE	0	0
	2+ FRACTURES	138	573
PASSING 9.5mm sieve. RETAINED on 4.75mm sieve.	UNFRACTURED	503	
	1 FRACTURE	3	
	2+ FRACTURES	155	
TOTAL	UNFRACTURED	684	
	1 FRACTURE	3	
	2+ FRACTURES	293	
	TOTAL	980	718
	TOTAL FRACTURE	296	573
	FRACTURE %	30.2	79.8

Completed by : Da

X7029/X6163

- FRACTURE -

METHOD A : for Crushed Granular Surfacing and Base Aggregate

METHOD B : for Crushed Paving Aggregate

		METHOD A (Count)	METHOD B (Mass)
RETAINED on 9.5 mm sieve.	UNFRACTURED	83	299
	1 FRACTURE	—	—
	2+ FRACTURES	104	485
PASSING 9.5mm sieve. RETAINED on 4.75mm sieve.	UNFRACTURED	522	
	1 FRACTURE	—	
	2+ FRACTURES	288	
TOTAL	UNFRACTURED	605	
	1 FRACTURE	—	
	2+ FRACTURES	392	
	TOTAL	997	784
	TOTAL FRACTURE	392	485
	FRACTURE %	39.3	61.9

Completed by : DO

X 7012

- FRACTURE -

METHOD A : for Crushed Granular Surfacing and Base Aggregate

METHOD B : for Crushed Paving Aggregate

		METHOD A (Count)	METHOD B (Mass)
RETAINED on 9.5 mm sieve.	UNFRACTURED	104	503
	1 FRACTURE		
	2+ FRACTURES	152	796
PASSING 9.5mm sieve. RETAINED on 4.75mm sieve.	UNFRACTURED	492	237
	1 FRACTURE		
	2+ FRACTURES	211	90
TOTAL	UNFRACTURED	596	
	1 FRACTURE	~~363~~	
	2+ FRACTURES	363	
	TOTAL	959	1299
	TOTAL FRACTURE	363	796
	FRACTURE %	37.9	61.3

Completed by : DC

X7013/X7014

- FRACTURE -

METHOD A : for Crushed Granular Surfacing and Base Aggregate

METHOD B : for Crushed Paving Aggregate

		METHOD A (Count)	METHOD B (Mass)
RETAINED on 9.5 mm sieve.	UNFRACTURED	834	713
	1 FRACTURE		
	2+ FRACTURES	163	610
PASSING 9.5mm sieve. RETAINED on 4.75mm sieve.	UNFRACTURED	641	341
	1 FRACTURE		
	2+ FRACTURES	138	52
TOTAL	UNFRACTURED	875	
	1 FRACTURE	0	
	2+ FRACTURES	301	
	TOTAL	1176	1323
	TOTAL FRACTURE	301	610
	FRACTURE %	25.6	46.1

Completed by : _____.

X7010

- FRACTURE -

METHOD A : for Crushed Granular Surfacing and Base Aggregate

METHOD B : for Crushed Paving Aggregate

		METHOD A (Count)	METHOD B (Mass)
RETAINED on 9.5 mm sieve.	UNFRACTURED	105	355
	1 FRACTURE	1	5
	2+ FRACTURES	116	542
PASSING 9.5mm sieve. RETAINED on 4.75mm sieve.	UNFRACTURED	485	251
	1 FRACTURE	—	—
	2+ FRACTURES	154	64
TOTAL	UNFRACTURED	590	
	1 FRACTURE	1	
	2+ FRACTURES	270	
	TOTAL	~~861~~ 861	902
	TOTAL FRACTURE	271	542
	FRACTURE %	31.5	60.1

Completed by : DO

X7011

- FRACTURE -

METHOD A : for Crushed Granular Surfacing and Base Aggregate

METHOD B : for Crushed Paving Aggregate

		METHOD A (Count)	METHOD B (Mass)
RETAINED on 9.5 mm sieve.	UNFRACTURED	181	664
	1 FRACTURE	2	17
	2+ FRACTURES	162	789
PASSING 9.5mm sieve. RETAINED on 4.75mm sieve.	UNFRACTURED	773	366
	1 FRACTURE	—	—
	2+ FRACTURES	281	104
TOTAL	UNFRACTURED	954	
	1 FRACTURE	2	
	2+ FRACTURES	443	
	TOTAL	1399	1470
	TOTAL FRACTURE	445	789
	FRACTURE %	31.8	53.7

Completed by : DO

Province of British Columbia
Ministry of Transportation and Highways
Geotechnical and Materials Branch

Project [illegible]
Station
Sample No. X 7087/20 Depth
Sampled By Date
Tested By VW Date @ 31/07/98

DEGRADATION

SAMPLE NUMBER	1	
SEDIMENT HEIGHT (H)	5.4	
DEGRADATION FACTOR (D)	39.3	

CALCULATIONS:

ENGLISH UNITS $D = \frac{15-H}{15+1.75\ H} \times 100$

S.I. UNITS $D = \frac{381-H}{381+1.75\ H} \times 100$

DURABILITY INDEX COARSE

SAMPLE NUMBER	1	
SEDIMENT HEIGHT (H)	0.8	20.3
DURABILITY INDEX (Dc)		78.0

CALCULATION:

$Dc = 30.3 + 20.8\ \mathrm{Cot}(0.29+.0059H)$

SAND EQUIVALENT

SAMPLE NUMBER	1	
SEDIMENT PERIOD	20 MIN	
CLAY HEIGHT	4.7	
SAND HEIGHT	4.2	
SAND EQUIVALENT	89.4	

CALCULATIONS:

$\text{SAND EQUIVALENT} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

DURABILITY INDEX FINE

SAMPLE NUMBER	1	
SEDIMENT PERIOD	20 MIN	
CLAY HEIGHT	7.1	
SAND HEIGHT	3.8	
D.I. FINE	53.5	

CALCULATION:

$\text{D.I. FINE} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

INTERPRETATION OF SAND EQUIVALENT:

50	40	30	20	10
ABSENCE OF PLASTIC MATERIAL		POSSIBLE PLASTIC MATERIAL		PLASTIC MATERIAL

Province of British Columbia
Ministry of Transportation and Highways
Geotechnical and Materials Branch

Project [illegible]
Station
Sample No. X7006 Depth
Sampled By Date
Tested By DO Date 26/08/88

DEGRADATION

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)	5.9	
DEGRADATION FACTOR (D)	35.9	

DURABILITY INDEX COARSE

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)		
DURABILITY INDEX (Dc)		

CALCULATIONS:

ENGLISH UNITS $D = \frac{15-H}{15+1.75\ H} \times 100$

S.I. UNITS $D = \frac{381-H}{381+1.75\ H} \times 100$

CALCULATION:

$Dc = 30.3 + 20.8\ \mathrm{Cot}(0.29+.0059H)$

SAND EQUIVALENT

SAMPLE NUMBER	1	
SEDIMENT PERIOD		
CLAY HEIGHT	4.5	
SAND HEIGHT	4.1	
SAND EQUIVALENT	91.1	

DURABILITY INDEX FINE

SAMPLE NUMBER		
SEDIMENT PERIOD		
CLAY HEIGHT		
SAND HEIGHT		
D.I. FINE		

CALCULATIONS:

$\text{SAND EQUIVALENT} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

CALCULATION:

$\text{D.I. FINE} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

INTERPRETATION OF SAND EQUIVALENT:

50	40	30	20	10
ABSENCE OF PLASTIC MATERIAL		POSSIBLE PLASTIC MATERIAL		PLASTIC MATERIAL

Province of British Columbia
Ministry of Transportation and Highways
Geotechnical and Materials Branch

Project [illegible]
Station
Sample No. X7008/9 Depth
Sampled By Date
Tested By DD Date 21/07/88

DEGRADATION

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)	50?	
DEGRADATION FACTOR (D)	42.1	

SPLICED SOME OF SAMPLE

CALCULATIONS:

ENGLISH UNITS $D = \frac{15-H}{15+1.75\ H} \times 100$

S.I. UNITS $D = \frac{381-H}{381+1.75\ H} \times 100$

DURABILITY INDEX COARSE

SAMPLE NUMBER	1	
SEDIMENT HEIGHT (H)	09	22.9
DURABILITY INDEX (Dc)		77.0

CALCULATION:

$Dc = 30.3 + 20.8\ \mathrm{Cot}(0.29+.0059H)$

SAND EQUIVALENT

SAMPLE NUMBER	1	
SEDIMENT PERIOD	20 min	
CLAY HEIGHT	5.2	
SAND HEIGHT	3.9	
SAND EQUIVALENT	75.0	

CALCULATIONS:

$\text{SAND EQUIVALENT} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

DURABILITY INDEX FINE

SAMPLE NUMBER	1	
SEDIMENT PERIOD	20 min	
CLAY HEIGHT	6.4	
SAND HEIGHT	3.5	
D.I. FINE	54.7	

CALCULATION:

$\text{D.I. FINE} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

INTERPRETATION OF SAND EQUIVALENT:

50	40	30	20	10
ABSENCE OF PLASTIC MATERIAL		POSSIBLE PLASTIC MATERIAL		PLASTIC MATERIAL

Province of British Columbia
Ministry of Transportation and Highways
Geotechnical and Materials Branch

Project QUINSAM PASS (1)
Station
Sample No. X7013 Depth
Sampled By Date
Tested By DA Date 26/07/88

DEGRADATION

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)	7.0	
DEGRADATION FACTOR (D)	23.4	

CALCULATIONS:

ENGLISH UNITS $D = \frac{15-H}{15+1.75\ H} \times 100$

S.I. UNITS $D = \frac{381-H}{381+1.75\ H} \times 100$

DURABILITY INDEX COARSE

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)		
DURABILITY INDEX (Dc)		

CALCULATION:

$Dc = 30.3 + 20.8\ \mathrm{Cot}(0.29+.0059H)$

SAND EQUIVALENT

SAMPLE NUMBER	1	
SEDIMENT PERIOD	20 min	
CLAY HEIGHT	4.5	
SAND HEIGHT	4.1	
SAND EQUIVALENT	91.1	

CALCULATIONS:

$\text{SAND EQUIVALENT} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

DURABILITY INDEX FINE

SAMPLE NUMBER		
SEDIMENT PERIOD		
CLAY HEIGHT		
SAND HEIGHT		
D.I. FINE		

CALCULATION:

$\text{D.I. FINE} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

INTERPRETATION OF SAND EQUIVALENT:

50	40	30	20	10
ABSENCE OF PLASTIC MATERIAL		POSSIBLE PLASTIC MATERIAL		PLASTIC MATERIAL

Province of British Columbia
Ministry of Transportation and Highways
Geotechnical and Materials Branch

Project QUINSAM MINE CREEK
Station
Sample No. K7020 Depth
Sampled By Date
Tested By XO Date 26/07/88

DEGRADATION

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)	1.1	
DEGRADATION FACTOR (D)	82.1	

DURABILITY INDEX COARSE

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)		
DURABILITY INDEX (Dc)		

CALCULATIONS:

ENGLISH UNITS $D = \frac{15-H}{15+1.75\ H} \times 100$

S.I. UNITS $D = \frac{381-H}{381+1.75\ H} \times 100$

CALCULATION:

$Dc = 30.3 + 20.8\ \mathrm{Cot}(0.29+.0059H)$

SAND EQUIVALENT

SAMPLE NUMBER	1	
SEDIMENT PERIOD	20 min	
CLAY HEIGHT	4.5	
SAND HEIGHT	3.9	
SAND EQUIVALENT	86.7	

DURABILITY INDEX FINE

SAMPLE NUMBER		
SEDIMENT PERIOD		
CLAY HEIGHT		
SAND HEIGHT		
D.I. FINE		

CALCULATIONS:

$\text{SAND EQUIVALENT} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

CALCULATION:

$\text{D.I. FINE} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

INTERPRETATION OF SAND EQUIVALENT:

50	40	30	20	10
ABSENCE OF PLASTIC MATERIAL		POSSIBLE PLASTIC MATERIAL		PLASTIC MATERIAL

Province of British Columbia
Ministry of Transportation and Highways
Geotechnical and Materials Branch

Project QUINSAM PASS PIT
Station
Sample No. X7021/22 Depth
Sampled By Date
Tested By SDa Date JULY 21/88

DEGRADATION

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)	5.3	
DEGRADATION FACTOR (D)	40.0	

CALCULATIONS:

ENGLISH UNITS $D = \frac{15-H}{15+1.75\ H} \times 100$

S.I. UNITS $D = \frac{381-H}{381+1.75\ H} \times 100$

DURABILITY INDEX COARSE

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)	1.1	27.9
DURABILITY INDEX (Dc)		73.0

CALCULATION:

$Dc = 30.3 + 20.8\ \mathrm{Cot}(0.29+.0059H)$

SAND EQUIVALENT

SAMPLE NUMBER	1	
SEDIMENT PERIOD	20 min	
CLAY HEIGHT	4.1	
SAND HEIGHT	3.9	
SAND EQUIVALENT	95.1	

CALCULATIONS:

$\text{SAND EQUIVALENT} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

DURABILITY INDEX FINE

SAMPLE NUMBER	1	
SEDIMENT PERIOD	20 min	
CLAY HEIGHT	6.6	
SAND HEIGHT	3.9	
D.I. FINE	59.1	

CALCULATION:

$\text{D.I. FINE} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

INTERPRETATION OF SAND EQUIVALENT:

50	40	30	20	10
ABSENCE OF PLASTIC MATERIAL		POSSIBLE PLASTIC MATERIAL		PLASTIC MATERIAL

Province of British Columbia
Ministry of Transportation and Highways
Geotechnical and Materials Branch

Project [illegible]
Station
Sample No. X1023/24 Depth
Sampled By Date
Tested By RD Date 21/09/88

DEGRADATION

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)	1.3	
DEGRADATION FACTOR (D)	79.3	

CALCULATIONS:

ENGLISH UNITS $D = \frac{15-H}{15+1.75\,H} \times 100$

S.I. UNITS $D = \frac{381-H}{381+1.75\,H} \times 100$

DURABILITY INDEX COARSE

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)		
DURABILITY INDEX (Dc)		

CALCULATION:

$Dc = 30.3 + 20.8\ \mathrm{Cot}(0.29+.0059H)$

SAND EQUIVALENT

SAMPLE NUMBER	1	
SEDIMENT PERIOD	20 min	
CLAY HEIGHT	4.6	
SAND HEIGHT	3.9	
SAND EQUIVALENT	84.8	

CALCULATIONS:

$\text{SAND EQUIVALENT} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

DURABILITY INDEX FINE

SAMPLE NUMBER		
SEDIMENT PERIOD		
CLAY HEIGHT		
SAND HEIGHT		
D.I. FINE		

CALCULATION:

$\text{D.I. FINE} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

INTERPRETATION OF SAND EQUIVALENT:

50	40	30	20	10
ABSENCE OF PLASTIC MATERIAL		POSSIBLE PLASTIC MATERIAL		PLASTIC MATERIAL

Province of British Columbia
Ministry of Transportation and Highways
Geotechnical and Materials Branch

Project QUINSAM LAKE WEEK
Station
Sample No. X7016 Depth
Sampled By Date
Tested By GD Date 26/07/88

DEGRADATION

SAMPLE NUMBER	1	
SEDIMENT HEIGHT (H)	2.2	
DEGRADATION FACTOR (D)	67.3	

CALCULATIONS:

ENGLISH UNITS $D = \frac{15-H}{15+1.75\ H} \times 100$

S.I. UNITS $D = \frac{381-H}{381+1.75\ H} \times 100$

DURABILITY INDEX COARSE

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)		
DURABILITY INDEX (Dc)		

CALCULATION:

$Dc = 30.3 + 20.8\ \mathrm{Cot}(0.29+.0059H)$

SAND EQUIVALENT

SAMPLE NUMBER		
SEDIMENT PERIOD		
CLAY HEIGHT	5.0	
SAND HEIGHT	4.0	
SAND EQUIVALENT	80	

CALCULATIONS:

$\text{SAND EQUIVALENT} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

DURABILITY INDEX FINE

SAMPLE NUMBER		
SEDIMENT PERIOD		
CLAY HEIGHT		
SAND HEIGHT		
D.I. FINE		

CALCULATION:

$\text{D.I. FINE} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

INTERPRETATION OF SAND EQUIVALENT:

50	40	30	20	10
ABSENCE OF PLASTIC MATERIAL		POSSIBLE PLASTIC MATERIAL		PLASTIC MATERIAL

Province of British Columbia
Ministry of Transportation and Highways
Geotechnical and Materials Branch

Project QUINSAM PROJ CREEK
Station
Sample No. X7029/62 Depth
Sampled By Date
Tested By DO Date 26/07/88

DEGRADATION

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)	3.5	
DEGRADATION FACTOR (D)	59.4	

CALCULATIONS:

ENGLISH UNITS $D = \frac{15-H}{15+1.75\ H} \times 100$

S.I. UNITS $D = \frac{381-H}{381+1.75\ H} \times 100$

DURABILITY INDEX COARSE

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)		
DURABILITY INDEX (Dc)		

CALCULATION:

$Dc = 30.3 + 20.8\ \mathrm{Cot}(0.29+.0059H)$

SAND EQUIVALENT

SAMPLE NUMBER		
SEDIMENT PERIOD	20 MIN	
CLAY HEIGHT	4.6	
SAND HEIGHT	4.1	
SAND EQUIVALENT	89.1	

CALCULATIONS:

$\text{SAND EQUIVALENT} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

DURABILITY INDEX FINE

SAMPLE NUMBER		
SEDIMENT PERIOD		
CLAY HEIGHT		
SAND HEIGHT		
D.I. FINE		

CALCULATION:

$\text{D.I. FINE} = \frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

INTERPRETATION OF SAND EQUIVALENT:

50	40	30	20	10
ABSENCE OF PLASTIC MATERIAL		POSSIBLE PLASTIC MATERIAL		PLASTIC MATERIAL

FRACTURE COUNT

MINISTRY OF TRANSPORTATION AND HIGHWAYS – GEOTECHNICAL BRANCH

METHOD A – FOR CRUSHED GRANULAR SURFACING AND BASE
METHOD B – FOR CRUSHED PAVING AGGREGATE

PROJECT: Quilsam DISTRICT: North Island

TESTHOLE/PIT: 89-26 SAMPLE NO.: 1 BAG NO.: X16319 DEPTH: 3.0-4.3

METHOD A (COUNT)

			COUNT		
PASSING	37.5	UNFRACTURED	0		
RETAINED	25	1 + FRACTURED	0	0	% (25 mm)
PASSING	25	UNFRACTURED	7		
RETAINED	19	1 + FRACTURED	52	88	% (19 mm)
PASSING	19	UNFRACTURED	42		
RETAINED	12.5	1 + FRACTURED	183	81	% (12.5 mm)
PASSING	12.5	UNFRACTURED	71		
RETAINED	9.5	1 + FRACTURED	123	63	% (9.5 mm)
PASSING	9.5	UNFRACTURED	582		
RETAINED	4.75	1 + FRACTURED	1860	76	% (4.75 mm)
TOTAL		UNFRACTURED	702		
		1 + FRACTURED	2218	= 79	% FRACTURE A
TOTAL NUMBER OF PIECES			2800		

METHOD B (MASS)

			MASS		
PASSING	19	UNFRACTURED	151		
RETAINED	13.2	2 + FRACTURED	749	83	% (13.2 mm)
PASSING	13.2	UNFRACTURED	241		
RETAINED	9.5	2 + FRACTURED	528	66	% (9.5 mm)
ARITHMETIC AVERAGE				75	% FRACTURE B

FRACTURE COUNT

MINISTRY OF TRANSPORTATION AND HIGHWAYS – GEOTECHNICAL BRANCH

METHOD A – FOR CRUSHED GRANULAR SURFACING AND BASE
METHOD B – FOR CRUSHED PAVING AGGREGATE

PROJECT: Pemberton DISTRICT: North Island

TESTHOLE/PIT: 89-26 SAMPLE NO.: 2 BAG NO.: X16320 DEPTH: 7.9-9.1

METHOD A (COUNT)

			COUNT		
PASSING	37.5	UNFRACTURED	0		
RETAINED	25	1 + FRACTURED	2	100	% (25 mm)
PASSING	25	UNFRACTURED	5		
RETAINED	19	1 + FRACTURED	37	88	% (19 mm)
PASSING	19	UNFRACTURED	554		
RETAINED	12.5	1 + FRACTURED	156	74	% (12.5 mm)
PASSING	12.5	UNFRACTURED	84		
RETAINED	9.5	1 + FRACTURED	152	64	% (9.5 mm)
PASSING	9.5	UNFRACTURED	874		
RETAINED	4.75	1 + FRACTURED	1014	54	% (4.75 mm)
TOTAL		UNFRACTURED	1017		
		1 + FRACTURED	1361	= 57	% FRACTURE A
TOTAL NUMBER OF PIECES			2378		

METHOD B (MASS)

			MASS		
PASSING	19	UNFRACTURED	238		
RETAINED	13.2	2 + FRACTURED	523	69	% (13.2 mm)
PASSING	13.2	UNFRACTURED	275		
RETAINED	9.5	2 + FRACTURED	457	62	% (9.5 mm)
ARITHMETIC AVERAGE				66	% FRACTURE B

FRACTURE COUNT

MINISTRY OF TRANSPORTATION AND HIGHWAYS – GEOTECHNICAL BRANCH

78.

METHOD A – FOR CRUSHED GRANULAR SURFACING AND BASE
METHOD B – FOR CRUSHED PAVING AGGREGATE

PROJECT: Quinsam DISTRICT: North Island

TESTHOLE/PIT: 89-28 SAMPLE NO.: 1 BAG NO.: X16324 DEPTH: 4.3-5.5

METHOD A (COUNT)

			COUNT		
PASSING 37.5 RETAINED 25	UNFRACTURED	9			
	1 + FRACTURED	6	100	% (25 mm)	
PASSING 25 RETAINED 19	UNFRACTURED	1			
	1 + FRACTURED	5	83	% (19 mm)	
PASSING 19 RETAINED 12.5	UNFRACTURED	21			
	1 + FRACTURED	33	61	% (12.5 mm)	
PASSING 12.5 RETAINED 9.5	UNFRACTURED	23			
	1 + FRACTURED	27	54	% (9.5 mm)	
PASSING 9.5 RETAINED 4.75	UNFRACTURED	329			
	1 + FRACTURED	370	53	% (4.75 mm)	
TOTAL	UNFRACTURED	407			
	1 + FRACTURED	511	= 56	% FRACTURE A	
TOTAL NUMBER OF PIECES		918			

METHOD B (MASS)

			MASS		
PASSING 19 RETAINED 13.2	UNFRACTURED	191			
	2 + FRACTURED	426	71	% (13.2 mm)	
PASSING 13.2 RETAINED 9.5	UNFRACTURED	186			
	2 + FRACTURED	230	55	% (9.5 mm)	
ARITHMETIC AVERAGE			63	% FRACTURE B	

18.

FRACTURE COUNT

MINISTRY OF TRANSPORTATION AND HIGHWAYS – GEOTECHNICAL BRANCH

METHOD A – FOR CRUSHED GRANULAR SURFACING AND BASE
METHOD B – FOR CRUSHED PAVING AGGREGATE

PROJECT: Quinsam DISTRICT: North Islands

TESTHOLE/PIT: 89-28 SAMPLE NO.: 3. BAG NO.: X16326 DEPTH: 14.0-15.2

METHOD A (COUNT)

			COUNT		
PASSING	37.5	UNFRACTURED	0		
RETAINED	25	1 + FRACTURED	0	0	% (25 mm)
PASSING	25	UNFRACTURED	1		
RETAINED	19	1 + FRACTURED	11	92	% (19 mm)
PASSING	19	UNFRACTURED	52		
RETAINED	12.5	1 + FRACTURED	97	65	% (12.5 mm)
PASSING	12.5	UNFRACTURED	77		
RETAINED	9.5	1 + FRACTURED	209	73	% (9.5 mm)
PASSING	9.5	UNFRACTURED	126		
RETAINED	4.75	1 + FRACTURED	586	82	% (4.75 mm)
TOTAL		UNFRACTURED	256		
		1 + FRACTURED	903	= 78	% FRACTURE A
TOTAL NUMBER OF PIECES			1159		

METHOD B (MASS)

			MASS		
PASSING	19	UNFRACTURED	179		
RETAINED	13.2	2 + FRACTURED	361	67	% (13.2 mm)
PASSING	13.2	UNFRACTURED	256		
RETAINED	9.5	2 + FRACTURED	592	69	% (9.5 mm)
ARITHMETIC AVERAGE				68	% FRACTURE B

Province of British Columbia
Ministry of Transportation and Highways
Geotechnical and Materials Branch

Project QUINSAM
Station 89-26
Sample No. #1 X16319 Depth 3.0-4.3
Sampled By SMALLWOOD Date 89-06-07
Tested By DE Date 89-08-15

DEGRADATION

SAMPLE NUMBER	X16319	
SEDIMENT HEIGHT (H)	1.6"	
DEGRADATION FACTOR (D)	75.3	

CALCULATIONS:

ENGLISH UNITS $D = \frac{15-H}{15+1.75\ H} \times 100$

S.I. UNITS $D = \frac{381-H}{381+1.75\ H} \times 100$

DURABILITY INDEX COARSE

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)		
DURABILITY INDEX (Dc)		

CALCULATION:

$Dc = 30.3 + 20.8 \cot(0.29+.0059$

SAND EQUIVALENT

SAMPLE NUMBER	X16319	
SEDIMENT PERIOD	20 min	
CLAY HEIGHT	9.2"	
SAND HEIGHT	3.9"	
SAND EQUIVALENT	42.4	

DURABILITY INDEX FINE

SAMPLE NUMBER		
SEDIMENT PERIOD		
CLAY HEIGHT		
SAND HEIGHT		
D.I. FINE		

INTERPRETATION OF SAND EQUIVALENT:

50	40	30	20	10
ABSENCE OF PLASTIC MATERIAL		POSSIBLE PLASTIC MATERIAL		PLASTIC MATERIAL

CALCULATIONS:
SAND EQUIVALENT = $\frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

CALCULATION:
D.I. FINE = $\frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

Province of British Columbia
Ministry of Transportation and Highways
Geotechnical and Materials Branch

Project QUINSAM
Station 89-26
Sample No. 2 X16320 Depth 7.9-9.1
Sampled By SMALLWOOD Date 89-06-07
Tested By KK Date 89-08-15

DEGRADATION

SAMPLE NUMBER	X16320	
SEDIMENT HEIGHT (H)	1.4"	
DEGRADATION FACTOR (D)	77.9	

DURABILITY INDEX COARSE

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)		
DURABILITY INDEX (Dc)		

CALCULATIONS:

ENGLISH UNITS $D = \frac{15-H}{15+1.75\ H} \times 100$

S.I. UNITS $D = \frac{381-H}{381+1.75\ H} \times 100$

CALCULATION:

$Dc = 30.3 + 20.8\ \mathrm{Cot}(0.29+.00591$

SAND EQUIVALENT

SAMPLE NUMBER	X16320	
SEDIMENT PERIOD	20 min	
CLAY HEIGHT	9.5"	
SAND HEIGHT	3.3"	
SAND EQUIVALENT	34.7	

DURABILITY INDEX FINE

SAMPLE NUMBER		
SEDIMENT PERIOD		
CLAY HEIGHT		
SAND HEIGHT		
D.I. FINE		

INTERPRETATION OF SAND EQUIVALENT:

50	40	30	20	10
ABSENCE OF PLASTIC MATERIAL		POSSIBLE PLASTIC MATERIAL		PLASTIC MATERIAL

CALCULATIONS:
SAND EQUIVALENT = $\frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

CALCULATION:
D.I. FINE = $\frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

Province of British Columbia
Ministry of Transportation and Highways
Geotechnical and Materials Branch

Project QUINSAM
Station 89-28 SA#1
Sample No. X16324 Depth 4.3-5.5
Sampled By SMALLWOOD Date 89-06-07
Tested By LEE Date 89-08-15

DEGRADATION

SAMPLE NUMBER	X16324	
SEDIMENT HEIGHT (H)	1.2"	
DEGRADATION FACTOR (D)	80.7	

CALCULATIONS:

ENGLISH UNITS $D = \frac{15-H}{15+1.75\ H} \times 100$

S.I. UNITS $D = \frac{381-H}{381+1.75\ H} \times 100$

SAND EQUIVALENT

SAMPLE NUMBER	X16324	
SEDIMENT PERIOD	20 MIN	
CLAY HEIGHT	5.3"	
SAND HEIGHT	3.6"	
SAND EQUIVALENT	67.9	

INTERPRETATION OF SAND EQUIVALENT:

50	40	30	20	10
ABSENCE OF PLASTIC MATERIAL		POSSIBLE PLASTIC MATERIAL		PLASTIC MATERIAL

DURABILITY INDEX COARSE

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)		
DURABILITY INDEX (Dc)		

CALCULATION:

$Dc = 30.3 + 20.8 \cot(0.29+.0059$

DURABILITY INDEX FINE

SAMPLE NUMBER		
SEDIMENT PERIOD		
CLAY HEIGHT		
SAND HEIGHT		
D.I. FINE		

CALCULATIONS:
SAND EQUIVALENT = $\frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

CALCULATION:
D.I. FINE = $\frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

Province of British Columbia
Ministry of Transportation and Highways
Geotechnical and Materials Branch

Project QUINSAM
Station 89-28 SA#3
Sample No. X16326 Depth 19.0-15.2
Sampled By SMALLWOOD Date 89-06-07
Tested By DC Date 89-08-15

DEGRADATION

SAMPLE NUMBER	X16326	
SEDIMENT HEIGHT (H)	1.1"	
DEGRADATION FACTOR (D)	82.1	

DURABILITY INDEX COARSE

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)		
DURABILITY INDEX (Dc)		

CALCULATIONS:

ENGLISH UNITS $D = \frac{15-H}{15+1.75\ H} \times 100$

S.I. UNITS $D = \frac{381-H}{381+1.75\ H} \times 100$

CALCULATION:

$Dc = 30.3 + 20.8\ \mathrm{Cot}(0.29+.0059$

SAND EQUIVALENT

SAMPLE NUMBER	X16326	
SEDIMENT PERIOD	20 min	
CLAY HEIGHT	7.7"	
SAND HEIGHT	3.5"	
SAND EQUIVALENT	45.5	

DURABILITY INDEX FINE

SAMPLE NUMBER		
SEDIMENT PERIOD		
CLAY HEIGHT		
SAND HEIGHT		
D.I. FINE		

INTERPRETATION OF SAND EQUIVALENT:

50	40	30	20	10
ABSENCE OF PLASTIC MATERIAL		POSSIBLE PLASTIC MATERIAL		PLASTIC MATERIAL

CALCULATIONS:
SAND EQUIVALENT = $\frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

CALCULATION:
D.I. FINE = $\frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

Province of British Columbia
Ministry of Transportation and Highways
Geotechnical and Materials Branch

Project QUINSAM
Station 89-29
Sample No. SA#3X16317 Depth 12.8-14.0
Sampled By SMALLWOOD Date 89-06-07
Tested By DR Date 89-08-15

DEGRADATION

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)		
DEGRADATION FACTOR (D)		

DURABILITY INDEX COARSE

SAMPLE NUMBER		
SEDIMENT HEIGHT (H)		
DURABILITY INDEX (Dc)		

CALCULATIONS:

ENGLISH UNITS $D = \frac{15-H}{15+1.75\ H} \times 100$

S.I. UNITS $D = \frac{381-H}{381+1.75\ H} \times 100$

CALCULATION:

$Dc = 30.3 + 20.8\ \mathrm{Cot}(0.29+.0059$

SAND EQUIVALENT

SAMPLE NUMBER	16317	
SEDIMENT PERIOD	20 min.	
CLAY HEIGHT	9.6"	
SAND HEIGHT	3.7"	
SAND EQUIVALENT	38.5	

DURABILITY INDEX FINE

SAMPLE NUMBER		
SEDIMENT PERIOD		
CLAY HEIGHT		
SAND HEIGHT		
D.I. FINE		

INTERPRETATION OF SAND EQUIVALENT:

50	40	30	20	10
ABSENCE OF PLASTIC MATERIAL		POSSIBLE PLASTIC MATERIAL		PLASTIC MATERIAL

CALCULATIONS:
SAND EQUIVALENT = $\frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$

CALCULATION:
D.I. FINE = $\frac{\text{SAND HEIGHT}}{\text{CLAY HEIGHT}} \times 100$