B Laboratory Results

The laboratory reports contain sample results for both the Contact/Sonoma Mines and the Helen Mine. The following samples area associated with the Contact and Sonoma Mines:

Chemical Analyses

01CM-MW	05SM-RT2	03SM-SS
03CM-MW	06SM-RT2	04SM-SS
05CM-MW	01CS-BG	05SM-SS
07CM-MW	02CS-BG	06SM-SS
01SM-MW	03CS-BG	07SM-SS
04SM-MW	01CM-SS	08SM-SS
06SM-MW-B	02CM-SS	09SM-SS
07SM-MW	03CM-SS	10SM-SS
09SM-MW	04CM-SS	11SM-SS
02CM-SB	05CM-SS	12SM-SS
04CM-SB	06CM-SS	13SM-SS
06CM-SB	07CM-SS	14SM-SS
02SM-SB	08CM-SS	15SM-SS
05SM-SB-B	09CM-SS	16SM-SS
08SM-SB	10CM-SS	17SM-SS
01SM-RT1	11CM-SS	18SM-SS
02SM-RT1	12CM-SS	01CM-MW
03SM-RT1	13CM-SS	03CM-MW
04SM-RT1	14CM-SS	07CM-MW
05SM-RT1	15CM-SS	01SM-MW
06SM-RT1	16CM-SS	04SM-MW
01SM-RT2	17CM-SS	06SM-MW
02SM-RT2	18CM-SS	07SM-MW
03SM-RT2	01SM-SS	09SM-MW
04SM-RT2	02SM-SS	

Geotechnical Analyses

04CM-SB5-7
04CM-SB7-9

SHELBY TUBE SAMPLES TOK **Chain of Custody Record** GEOTECHNICAL ANALYSIS

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: _____

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other _____

TestAmerica Laboratories, Inc.

Client Contact			
Company Name: Ecology and Environment	Client Project Manager: Jim Petersen	Site Contact:	Lab Contact:
Address: 333 SW Fifth Ave Suite 600	Telephone: 503-248-5600	Telephone:	Telephone:
City/State/Zip: Portland, OR 97204	Email: JPetersen@eae.com		
Phone: 503-248-5600			
Project Name: Helen Contact Sonoma Mines	Method of Shipment/Carrier:		
Project Number: 001096.0X75176.01	Shipping/Tracking No:		
PO#			

COC No: _____ of _____ COCs

Analysis Turnaround Time (in BUS days)

TAT if different from below _____

☐ 3 weeks
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Analyses: PER CONTRACT

For lab use only
Walk-in client ☐
Lab pickup ☐
Lab sampling ☐
Job/SDG No:

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Filtered Sample (Y/N)	Composite=C / Grab=G	Sample Specific Notes / Special Instructions:
02HMSB05	5-8-10	0900															Per Contract
04CMSB5-7	5-2-10	1400															
04CMSB7-9	5-2-10	1410															
08HMSB05	5-7-10	1540															
02HMSB07	5-8-10	0905															

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Courtney Funk	Ecology + Environ.	5-11-10 0900	[illegible]	ARI	5/18/10 850
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

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TAL-0018 (1008)

GEOTECHNICAL ANALYSIS DATA SHEET
Moisture Content by Method ASTM D2216

ANALYTICAL RESOURCES INCORPORATED

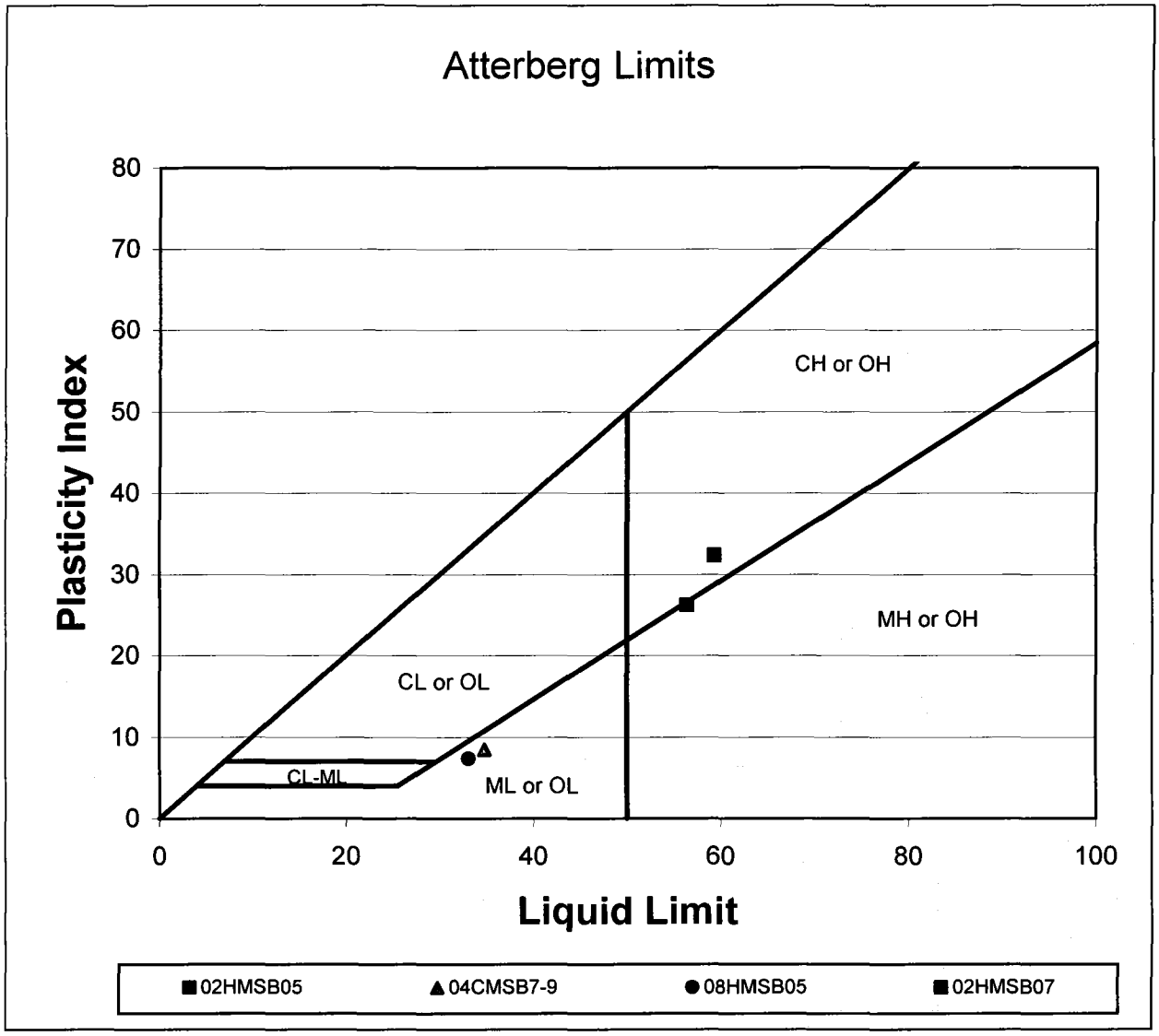
Data Release Authorized: CBL
Reported: 06/11/10
Date Received: 05/18/10

QC Report No: QW85-Ecology and Environment
Project: Helen Contact Sonoma Mines
001096.OX75/76.01

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	Result
02HMSB05 QW85A 10-11878	05/08/10	Soil	06/11/10 14:29	36.02
04CMSB5-7 QW85B 10-11879	05/02/10	Soil	06/11/10 14:29	7.80
04CMSB7-9 QW85C 10-11880	05/02/10	Soil	06/11/10 14:29	9.00
08HMSB05 QW85D 10-11881	05/07/10	Soil	06/11/10 14:29	4.13
02HMSB07 QW85E 10-11882	05/08/10	Soil	06/11/10 14:29	29.89

Reported in Percent

Ecology and Environment
001096.OX75/76.01 Helen Contact Sonoma Mines



Sample Identification	As-Received Moisture Content	Plasticity Index	Liquid Limit	Plastic Limit	USCS
02HMSB05	36.02	32.3	59.3	27.0	CH
04CMSB5-7	7.80	NA	NA	NA	Non-Plastic
04CMSB7-9	9.00	8.5	34.8	26.3	ML
08HMSB05	4.13	7.4	33.1	25.7	ML
02HMSB07	29.89	26.2	56.4	30.2	MH

QW85

Ecology and Environment
001096.OX75/76.01
Helen Contact Sonoma Mines

Percent Finer (Passing) Than the Indicated Size

Sieve Size (microns)	3"	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4 (4750)	#10 (2000)	#20 (850)	#40 (425)	#60 (250)	#100 (150)	#200 (75)	32	22	13	9	7	3.2	1.3
02HMSB05	100.0	100.0	100.0	100.0	100.0	93.8	90.3	83.0	69.8	51.0	41.2	35.3	31.2	26.7	25.1	23.5	21.9	20.3	19.5	16.2	10.5
08HMSB05	100.0	100.0	100.0	85.7	81.0	74.2	69.3	56.7	43.2	33.3	26.9	22.1	18.2	12.8	6.7	4.8	3.7	2.7	2.7	1.3	1.1
02HMSB07	100.0	100.0	100.0	100.0	93.0	84.8	80.1	72.1	58.3	44.1	34.4	28.4	24.3	19.7	19.5	16.3	14.4	13.6	12.4	9.7	7.4

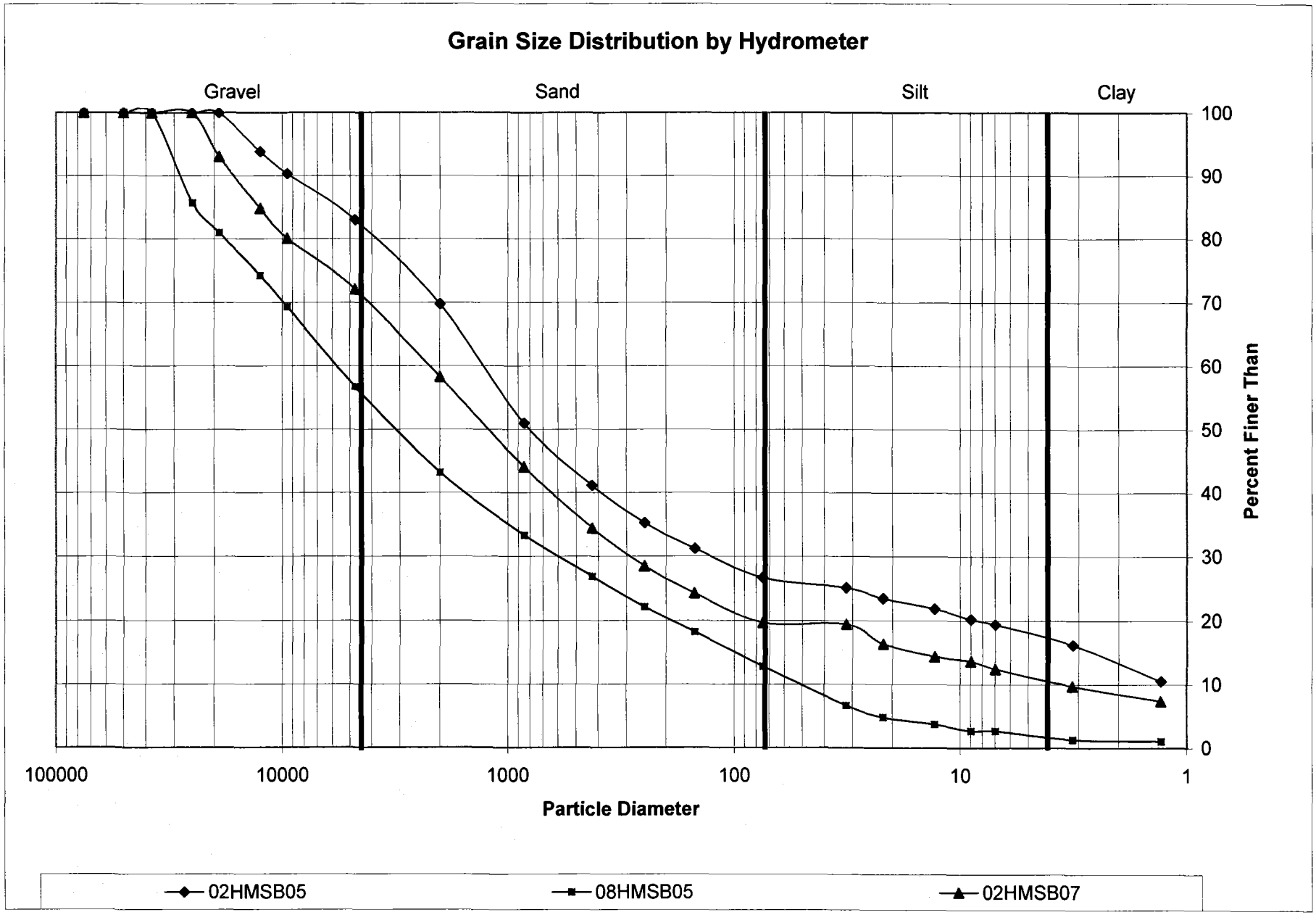
Testing performed according to ASTM D421/D422

QW85

Ecology and Environment
001096.OX75/76.01
Helen Contact Sonoma Mines

Percent Retained in Each Size Fraction

Description	%Coarse Gravel				% Gravel			% Coarse Sand	% Medium Sand		% Fine Sand			% Very Coarse Silt	% Coarse Silt	% Medium Silt	% Fine Silt	% Fine Silt	% Very Fine Silt	% Clay
Particle Size (microns)	3-2"	2-1 1/2"	1 1/2"-1"	1-3/4"	3/4-1/2"	1/2-3/8"	3/8"-4750	4750-2000	2000-850	850-425	425-250	250-150	150-75	75-32	32-22	22-13	13-9	9-7	7-3.2	<3.2
02HMSB05	0.0	0.0	0.0	0.0	6.2	3.5	7.3	13.2	18.8	9.8	5.9	4.0	4.5	1.6	1.6	1.6	1.6	0.8	3.2	16.2
08HMSB05	0.0	0.0	14.3	4.7	6.7	4.9	12.6	13.5	9.9	6.4	4.7	3.9	5.4	6.1	1.9	1.1	1.1	0.0	1.3	1.3
02HMSB07	0.0	0.0	0.0	7.0	8.2	4.7	8.0	13.8	14.2	9.6	6.0	4.2	4.6	0.3	3.1	1.9	0.8	1.2	2.7	9.7


Grain Size Distribution by Hydrometer
Gravel
Sand
Silt
Clay
100
90
80
70
60
50
40
30
20
10
0
Percent Finer Than
100000
10000
1000
100
10
1
Particle Diameter
02HMSB05
08HMSB05
02HMSB07

Ecology and Environment
001093.OX75/76.01
Helen Contact Sonoma Mines

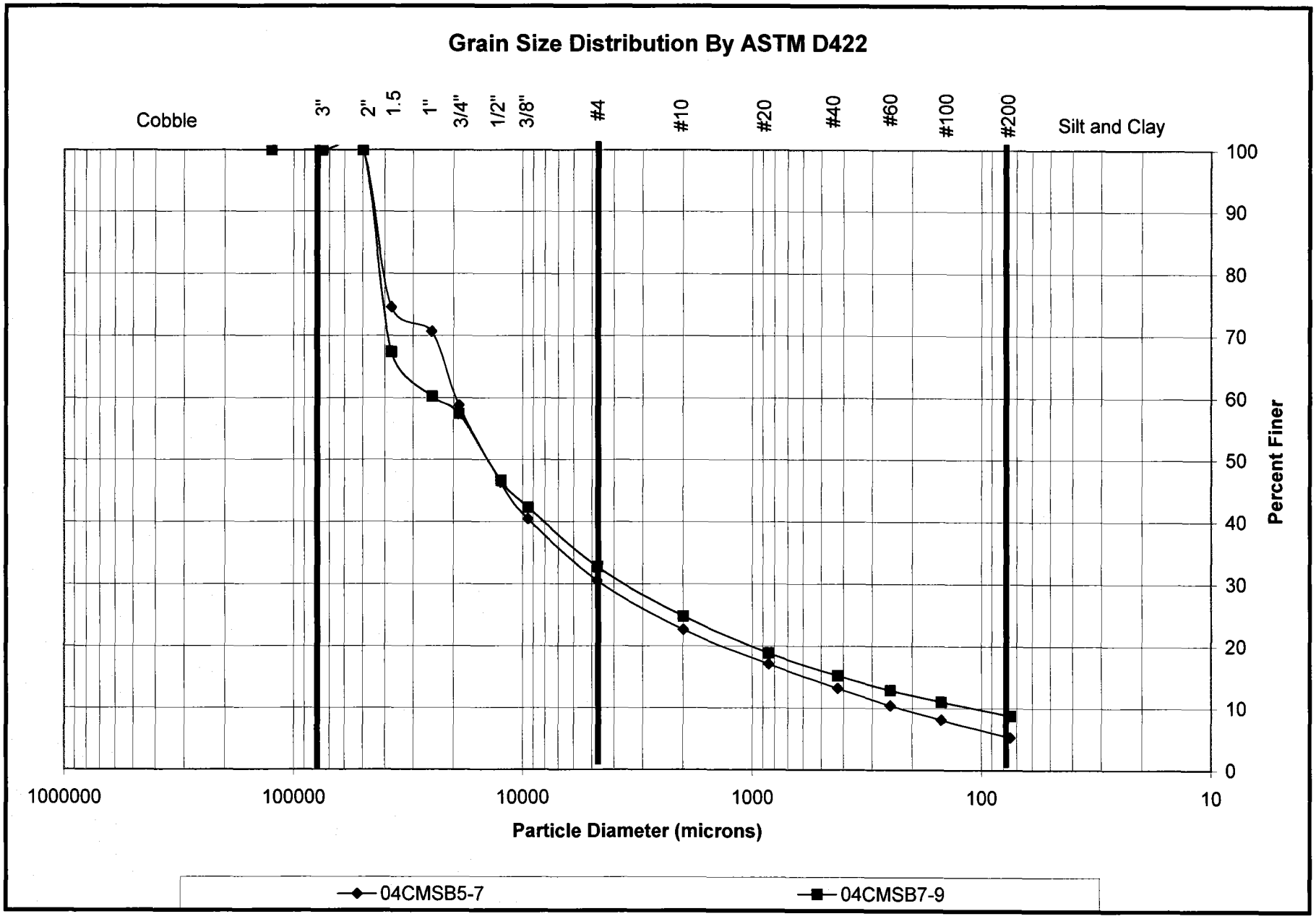
Percent Finer Than Indicated Size, By ASTM D422

Sample ID	5"	3"	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#100	#200
04CMSB5-7	100.00	100.0	100.0	74.6	70.7	58.8	46.4	40.5	30.5	22.7	17.1	13.2	10.4	8.1	5.3
04CMSB7-9	100.0	100.0	100.0	67.4	60.2	57.4	46.6	42.3	32.7	24.8	18.9	15.2	12.9	11.1	8.8

Ecology and Environment
001093.OX75/76.01
Helen Contact Sonoma Mines

Percent Retained in Each Size Fraction, By ASTM D422

Sieve Size (microns)	5"-3"	3-2"	2-1.5"	1.5-1"	1-3/4"	3/4-1/2"	1/2-3/8"	3/8-#4	4750-2000	2000-850	850-425	425-250	250-150	150-75	<75
04CMSB5-7	0.0	0.0	25.4	3.9	11.9	12.4	5.9	10.0	7.8	5.5	3.9	2.8	2.3	2.8	5.3
04CMSB7-9	0.0	0.0	32.6	7.2	2.8	10.8	4.3	9.6	7.9	5.9	3.7	2.3	1.8	2.2	8.8


Grain Size Distribution By ASTM D422
Cobble
3"
2"
1.5
1"
3/4"
1/2"
3/8"
#4
#10
#20
#40
#60
#100
#200
Silt and Clay
100
90
80
70
60
50
40
30
20
10
0
Percent Finer
1000000
100000
10000
1000
100
10
Particle Diameter (microns)
04CMSB5-7
04CMSB7-9