California Department of Pesticide Regulation Environmental Hazards Assessment Program 830 K Street Sacramento, California 95814 SOP Number:METH 001.00 Previous SOP: Page 1 of 3

STANDARD OPERATING PROCEDURE Soil Water Content Determination

KEY WORDS-	KF)	/ W	IOR	DS-
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Soil; gravimetric method; moisture; water content

APPROVALS	,	
APPROVED BY:_	- Theansurgh	DATE: 3/9/99
APPROVED BY:_	Management //	DATE: 2/23/99
_	EHAP Senior Scientist	
APPROVED BY:_	EHAP Quality Assurance Officer	DATE: 2/23/99
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Environmental Hazards Assessment Program (EHAP) organization and personnel such as management, senior scientist, quality assurance officer, project leader, etc. are defined and discussed in SOP ADMN002.

California Department of Pesticide Regulation Environmental Hazards Assessment Program 830 K Street Sacramento, California 95814 SOP Number:METH 001.00 Previous SOP: Page 2 of 3

STANDARD OPERATING PROCEDURE

Soil Water Content Determination

1.0 INTRODUCTION

1.1 Purpose

This SOP defines the method for the determination of the water content of a soil expressed as a percent of the oven-dry mass of the sample. A gravimetric method is used in which a soil sample is dried at 105°C to a constant weight. The dry weight of the soil is used as the divisor in the calculation because it expresses the absolute quantity of soil present.

2.0 EQUIPMENT

- **2.1** Drying Oven (105°C)
- 2.2 1/2 pint wide mouth mason jars
- 2.3 Samples accompanied by EHAP Soil Analysis Data Sheets (see attached)
- 2.4 Balance (accurate to 0.1g)

3.0 PROCEDURE

- **3.1** Weigh the empty sample jars (without lids) and record the weight in the tare weight column of the EHAP Soil Analysis Data Sheet.
- **3.2** After placing the soil sample in the jars weigh the jars (without lids) and record the weight in the wet weight column on the Soil Analysis Data Sheet.
- **3.3** Cap the jars and store at room temperature until ready to proceed.
- **3.4** Remove lids from sample jars and place in 105°C oven and dry for 24 hours or until weight becomes constant.
- **3.5** Remove from oven, replace lids and let cool.
- **3.6** Remove lids and weigh. Record weight on Soil Analysis Data Sheet in the soil dry weight column.

California Department of Pesticide Regulation Environmental Hazards Assessment Program 830 K Street Sacramento, California 95814 SOP Number:METH 001.00 Previous SOP: Page 3 of 3

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4.0 CALCULATION

Water content (%) = $(M_w - M_d) / M_d \times 100$

 M_w = Mass of wet soil sample (wet weight - tare weight) (grams) M_d = Mass of dry soil sample (dry weight - tare weight) (grams)

5.0 REFERENCE

Hausenbuiller, R.L., Soil Science Principles and Practice, page 90, 4th printing 1975, Wm. C. Brown Co., Dubuque, Iowa

STUDY #:	-	SOIL ANAL	YSIS DATA SHE	ET	
		% MOISTUR	AND BULK DE	NSITY	
SAMPLE #	TARE WT. JAR NO LID	SOIL WE W/ JAR N	l l	L DRY WT. IAR NO LID	
			1.1		
			<u> </u>		
			1.1		
			<u> </u>		
			1.		
			 		
			 		
			·		
			·		
	DITED .	DATE:	BY:		
CHECK-IN:		CHE	CK-OUT:		
DATE RECEIVED:		DAT	E DELIVERED:		DATE ANALYZED:
CHECKED-IN BY:		CHE	CKED-OUT BY:		DATE DISPOSED:
STORAGE LOCATION	ON:	LAB	DRATORY:		DATE DISPOSED:
REMARKS:					
DATE COLLECTED	SAMPLE TYPE	CONTAINER TYPE	ANALYSIS TYPE	CHEMICAL ANALYSIS	COMMENTS
	SOIL	1/2 PINT JAR	м в		