

500 12th Street  
Suite 100  
Oakland, CA 94607 4014  
(415) 893-3600

## Woodward-Clyde Consultants

*found 6-92*

91 APR -3 11:11:09

April 2, 1991

Mr. Dennis Byrne  
Alameda County Department of Environmental Health  
Division of Hazardous Materials  
80 Swan Way, Room 200  
Oakland, California 94621

Subject: Quarterly Monitoring Report  
9th and Jefferson Streets Site, Oakland

*Douglas Salter*

Dear Mr. Byrne:

This letter transmits the results of the first round of quarterly groundwater monitoring at the 9th and Jefferson Streets site in downtown Oakland. Previously, on January 11, 1991 Woodward-Clyde Consultants (WCC) transmitted a work plan and two reports describing background information and site characterization work completed to date on the 9th and Jefferson Streets site. In accordance with the remediation and monitoring plan proposed in the January 11 letter, WCC has completed measurement, sampling, and analysis of groundwater from the three monitoring wells, MW-5, MW-18, and MW-19, on the site.

Groundwater sampling was performed by David Simpson and William Copeland, geologists with WCC, on February 15, 1991. The depth to groundwater was measured on March 27, 1991 at 25.76 feet below grade in MW-5, at 25.93 feet below grade in MW-18, and at 25.55 feet below grade in MW-19 (Attachment 1). Correlating these depths with the respective elevations of the three well heads allows construction of the groundwater surface and determination of flow direction (Attachment 2). The groundwater surface slopes down 0.38 feet from MW-19 to MW-18 over a distance of 107 feet (0.35% = 0.2° slope). Groundwater flow direction was calculated to be N84°W; this is the same orientation that had been measured in previous rounds.

Groundwater samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline and benzene, toluene, ethyl benzene, and xylenes (BTEX). The results of these analyses are summarized in Attachment 3 and are shown in the attached laboratory report (Attachment 4). Laboratory data from previous groundwater analyses are also shown in Attachment 3. The current laboratory results show that all of the contaminants in the groundwater are at lower or in a few cases the same concentrations that were measured in August, 1989; TPH concentrations were measured at approximately half the previous concentrations during this latest analysis. It is our opinion that additional rounds of groundwater samples should be analyzed before a downward trend in TPH and BTEX concentrations can be considered representative.

On behalf of the property owner, WCC is currently designing a vapor extraction system (VES) to

Consulting Engineers, Geologists  
and Environmental Scientists

Offices in Other Principal Cities



## Woodward-Clyde Consultants

reduce concentrations of gasoline in the soil and will soon be submitting this to the Bay Area Air Quality Management District (BAAQMD) for approval. Based on our experience with VES remediation in the Bay Area, we expect that the VES will also reduce concentrations of TPH and BTEX in the groundwater.

In accordance with the remediation plan proposed in our January 11 letter, quarterly progress reports will be submitted to you documenting progress with the VES design and installation and the groundwater monitoring results. In addition, you will be notified when the VES design has been accepted by BAAQMD and when construction will begin. Please feel free to call if you have any questions about past or proposed future work plans.

Sincerely,

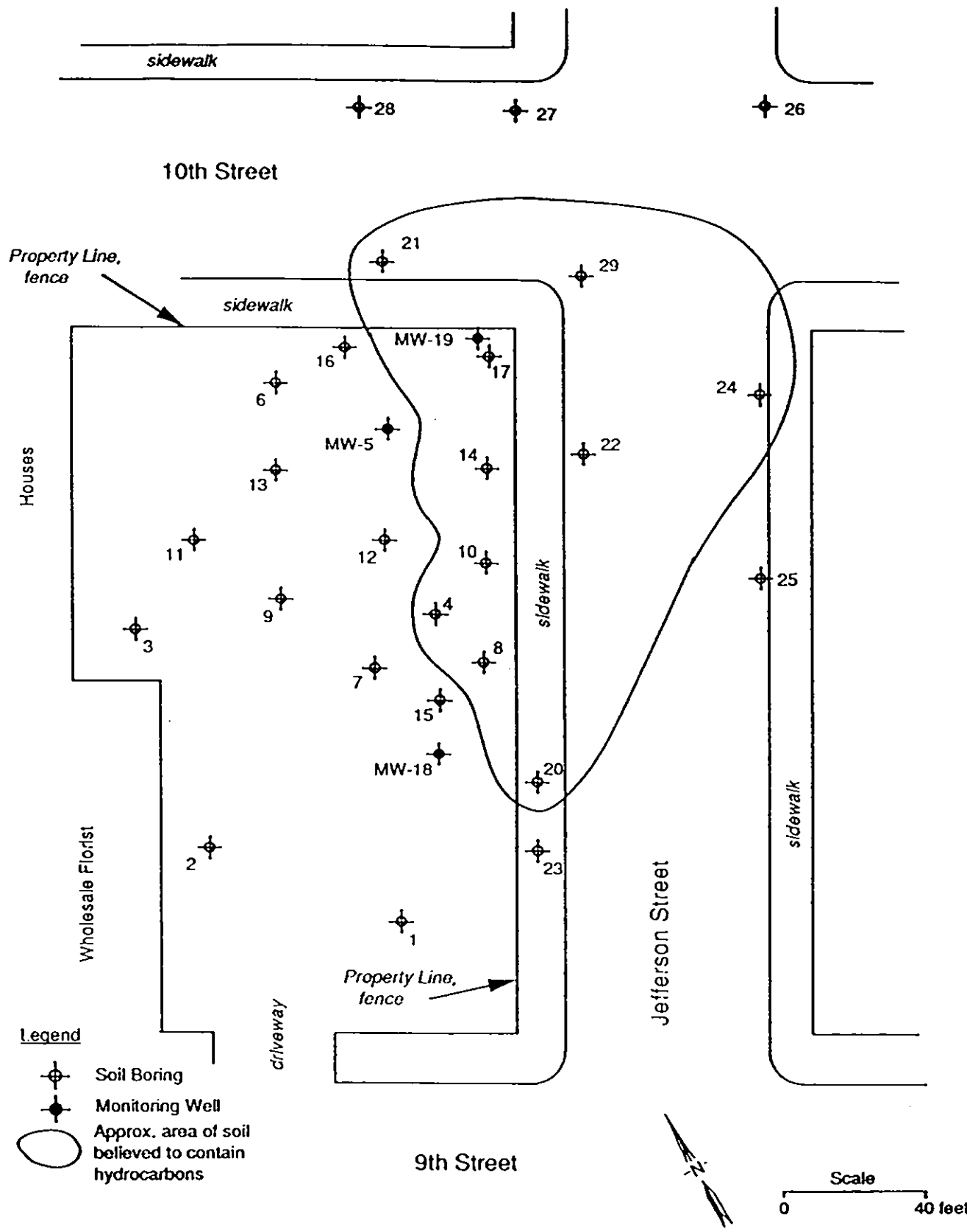
Woodward-Clyde Consultants



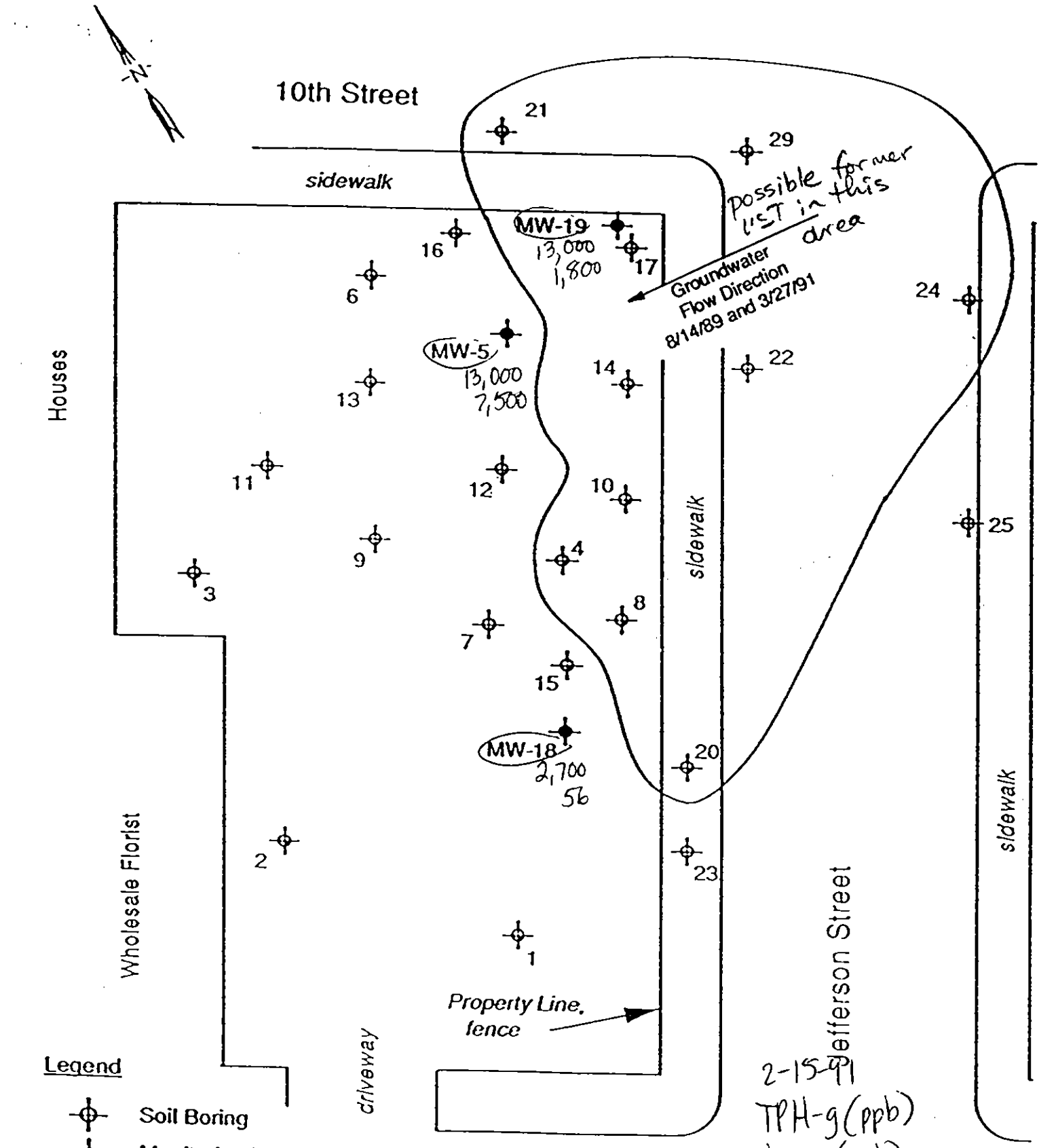
George A. Ford  
Associate

Attachments:   1. 9th and Jefferson Site Map  
                  2. Groundwater Flow Direction Map  
                  3. TPH and BTEX Concentrations Table  
                  4. February, 1991 Laboratory Analytical Results




cc:     Mr. Douglas N. Salter

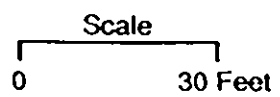


Project No. 8910084A	9th and Jefferson EA		Attachment 1
Woodward-Clyde Consultants			



**Legend**

-  Soil Boring
-  Monitoring Well
-  Approx. area of soil believed to contain hydrocarbons



Project No. 8910084A	9th and Jefferson E.A.	Groundwater Flow Direction Map	Attachment 2
Woodward-Clyde Consultants			

Refer to Attachment 3 for groundwater sampling data.

9TH and JEFFERSON STREETS 8910084A

TPH (mg/L)

DATE	MONITORING WELL		
	MW-5	MW-18	MW-19
04/24/89	24		
08/14/89	19	7.6	26
02/15/91	13 ✓	2.7 ✓	13 ✓

BENZENE (ug/L)

DATE	MONITORING WELL		
	MW-5	MW-18	MW-19
04/24/89	7500		
08/14/89	5400	160	4300
02/15/91	7500 ✓	56 ✓	1800 ✓

TOLUENE (ug/L)

DATE	MONITORING WELL		
	MW-5	MW-18	MW-19
04/24/89	220		
08/14/89	210	21	690
02/15/91	250 ✓	22 ✓	640 ✓

ETHYL BENZENE (ug/L)

DATE	MONITORING WELL		
	MW-5	MW-18	MW-19
04/24/89	990		
08/14/89	770	210	980
02/15/91	1000 ✓	94 ✓	510 ✓

XYLENES (ug/L)

DATE	MONITORING WELL		
	MW-5	MW-18	MW-19
04/24/89	730		
08/14/89	440	14	2600
02/15/91	340 ✓	20 ✓	2600 ✓

ATTACHMENT 3: TPH and BTEX Concentrations Table

**Woodward-Clyde Consultants**

Chain of Custody # 910063

March 4, 1991.

George Ford  
Woodward-Clyde Consultants  
500 12th Street; Suite #100  
Oakland, CA 94607-4014

Dear Mr. Ford:

Enclosed is the report for (Project ID 8910084A) samples which were received at Woodward-Clyde Analytical Laboratory February 15, 1991.

The report consists of the following sections:

- I Sample Description
- II Analysis Results

If you have any questions, please feel free to call.

Sincerely,

  
Edward R. Morales  
Lab Manager

COC# 910063

I SAMPLE DESCRIPTION

WCC LAB ID	SAMPLE ID	MATRIX	DATE SAMPLED	CONTAINERS	ANALYSIS DESCRIPTION
910063-01-01thru03	MW5-1	WATER	02-15-91	3-40ml VOAs	TPHg/BTEX
910063-02-01thru03	MW18-1	WATER	02-15-91	3-40ml VOAs	TPHg/BTEX
910063-03-01thru03	MW19-1	WATER	02-15-91	3-40ml VOAs	TPHg/BTEX
910063-04-01	FIELD BLANK	WATER	02-15-91	1-40ml VOA	TPHg/BTEX

The samples were received under chain of custody, in good condition.

# Woodward-Clyde Consultants

VOLATILE PETROLEUM HYDROCARBONS  
MODIFIED EPA METHOD 8015/5030

PROJECT NAME: 9th & JEFFERSON--  
PROJECT NUMBER: 8910084A  
PROJECT MANAGER: GEORGE FORD

COC# 910063

WCC LAB ID	SAMPLE ID	MATRIX	COLLECTION DATE	EXTRACTION DATE	ANALYSIS DATE	DETECTION	
						LIMIT (mg/L)	VPH (mg/L)
METHOD BLANK	-	WATER	-	-	02-28-91	0.05	ND
910063-01-01	MW5-1	WATER	02-15-91	-	03-01-91	0.5	13 ✓
910063-02-01	MW18-1	WATER	02-15-91	-	02-28-91	0.05	2.7 ✓
910063-03-01	MW19-1	WATER	02-15-91	-	02-28-91	0.5	13 ✓
910063-04-01	FIELD BLANK	WATER	02-15-91	-	02-28-91	0.05	ND

*TPH-g*

QUALITY ASSURANCE SUMMARY

REC 1	REC 2	%RPD
75	90	20

Quantitated as Gasoline.

REVIEWED BY:





**Woodward-Clyde Consultants**

**BENZENE, TOLUENE, ETHYLBENZENE, XYLENES DATA SHEET  
MODIFIED EPA METHOD 8020/5030**

PROJECT NAME: 9th & JEFFERSON  
PROJECT NUMBER: 8910084A  
PROJECT MANAGER: GEORGE FORD

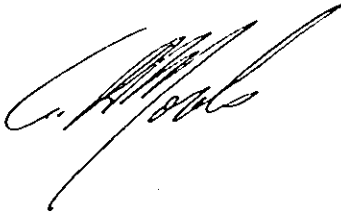
COC# 910063

WCC LAB ID	SAMPLE ID	MATRIX	COLLECTION DATE	EXTRACTION DATE	ANALYSIS DATE	DETECTION		ETHYL		
						LIMIT (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	BENZENE (ug/L)	XYLENES (ug/L)
METHOD BLANK	-	WATER	-	-	02-28-91	0.5	ND	ND	ND	ND
910063-01-01	MWS-1	WATER	02-15-91	-	03-01-91	5	7500 ✓	250 ✓	1000 ✓	340 ✓
910063-02-01	MW18-1	WATER	02-15-91	-	02-28-91	0.5	56 ✓	22 ✓	94 ✓	20 ✓
910063-03-01	MW19-1	WATER	02-15-91	-	02-28-91	50	1800 ✓	640 ✓	510 ✓	2600 ✓
910063-04-01	FIELD BLANK	WATER	02-15-91	-	02-28-91	0.5	ND	ND	ND	ND

QUALITY ASSURANCE SUMMARY

REC 1	REC 2	%RPD
107	92	15

REVIEWED BY:



910063

# Woodward-Clyde Consultants

500 12th Street, Suite 100, Oakland, CA 94607-4644

George Ford (415) 893-3600 4014

# Chain of Custody Record

PROJECT NO. 8910084A / 9th & Jefferson			ANALYSES								Number of Containers	REMARKS (Sample preservation, handling procedures, etc.)
SAMPLERS: (Signature) David Simpson			Sample Matrix (Soil, Water, Air)	EPA Method	EPA Method	EPA Method	EPA Method	TPH-Gas	BTEX			
DATE	TIME	SAMPLE NUMBER										
2-15-91		MW5-1 (3 each)	W					X	X	3	Normal TAT  Preserved w/ HCL	
		MW18-1* (3 each)						X	Y	3		
		MW19-1* (3 each)						X	X	3		
		Field Blank						X	X	1		
										TOTAL NUMBER OF CONTAINERS	10	

\* As per David Simpson  
2/17/91  
- s pd

RELINQUISHED BY (Signature) David Simpson	DATE/TIME 2-15 9:25	RECEIVED BY (Signature)	RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)
METHOD OF SHIPMENT	SHIPPED BY (Signature)	COURIER (Signature)	RECEIVED FOR LAB BY (Signature)	DATE/TIME	