

July 10, 1992
SCI 430.015

Mr. William Meckel
EBMUD - Mail Slot #702
Source Control Division
P.O. Box 24055
Oakland, California 94623-1055

Quarterly Monitoring Report #9
Wastewater Discharge Permit Account #502-29091
1330 Martin Luther King Jr. Way
Oakland, California

Dear Mr. Meckel:

This letter presents quarterly monitoring results from the groundwater treatment plant at 1330 Martin Luther King Jr. Way. Monitoring of treated effluent has been performed in accordance with criteria specified in the EBMUD wastewater discharge permit account #502-29091, issued to the Oakland Redevelopment Agency for remediation of hydrocarbon contaminated groundwater.

During the ninth quarter of operation (April 9, 1992 through July 9, 1992) approximately 358,101 gallons of treated water were discharged into the EBMUD sanitary sewer system. Treatment plant performance remains excellent. The analytical results from 40 sampling events indicate that total volatile hydrocarbons (TVH), benzene, toluene, xylene, and ethylbenzene (BTXE) have been reduced to nondetectable concentrations before discharge into the EBMUD sanitary sewer. No indications of breakthrough have occurred in the primary carbon column. Results of the water quality data generated during the ninth quarter are presented in Table 1. As requested, we have renamed our sampling locations. Analytical test reports and Chain-of-Custody documents are also attached. A Schematic Flow Diagram of the treatment plant including sampling locations is presented on Plate 1.

The analytical test results indicate that biologic activity within the primary holding tank is on-going. During this quarter, hydrocarbon concentrations up to approximately 820 ug/l entered the primary holding tank and no detectable concentrations of hydrocarbons were recorded leaving the tank before passing through the carbon treatment system. Consequently, hydrocarbon loading of

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Mr. William Meckel
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the carbon treatment system has been minimal.

If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.



Sean O. Carson
Civil Engineer 45074 (expires 3/31/94)



James P. Bowers
Civil Engineer 28962 (expires 3/31/95)

SOC:JPB:sld

Attachments: Table 1 - Contaminant Concentrations in Water
Plate 1 - Schematic Flow Diagram
Analytical Test Reports
Chain-of-Custody Documents

cc: Ms. Lois Parr
Oakland Redevelopment Agency

Mr. John Esposito
Bramalea Pacific

Mr. Paul Smith
ACHCSA

Mr. Eddy So
RWQCB

Mr. Donnell Choy
City of Oakland

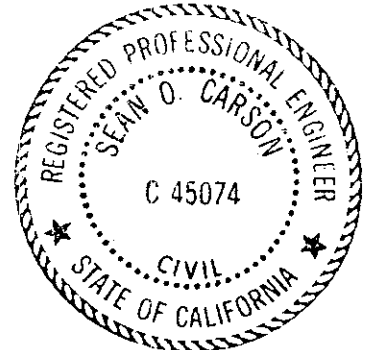


Table 1. Contaminant Concentrations In Water

Sample	Sampling Date	TVH ¹ (ug/L) ³	Benzene ² (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
WI ⁴ -38-1 ⁵	04/24/92	ND ⁷	ND	ND	ND	ND
WI-38-2		51	2.2	ND	0.6	1.2
I ⁶ -38		ND	ND	ND	ND	ND
B ⁸ -38		ND	ND	ND	ND	ND
E ⁹ -38		ND	ND	ND	ND	ND
EW ¹⁰ -1-39	05/28/92	100	1.3	0.5	0.6	ND
EW-2-39		ND	1.7	ND	ND	ND
A ¹¹ -39		ND	ND	ND	ND	ND
B-39		ND	ND	ND	ND	ND
SS#1 ¹² -39		ND	ND	ND	ND	ND
EW-1-40	06/25/92	820	140	23	14	48
EW-2-40		68	3.2	ND	0.7	1.0
A-40		ND	ND	ND	ND	ND
B-40		ND	ND	ND	ND	ND
SS#1-40		ND	ND	ND	ND	ND

¹ TVH = Total volatile hydrocarbons, EPA 8015/5030

² BTEX, Analyses by EPA 8020/5030

³ ug/L = micrograms per liter or parts per billion (ppb)

⁴ WI = Well Influent, i.e. wastewater from well prior to discharge into the primary holding tank

⁵ -1 indicates sample from Extraction Well #1

⁶ I = Influent at primary carbon vessel

⁷ ND = None detected, chemicals not present at concentrations above the detection limits; see test reports for detection limits

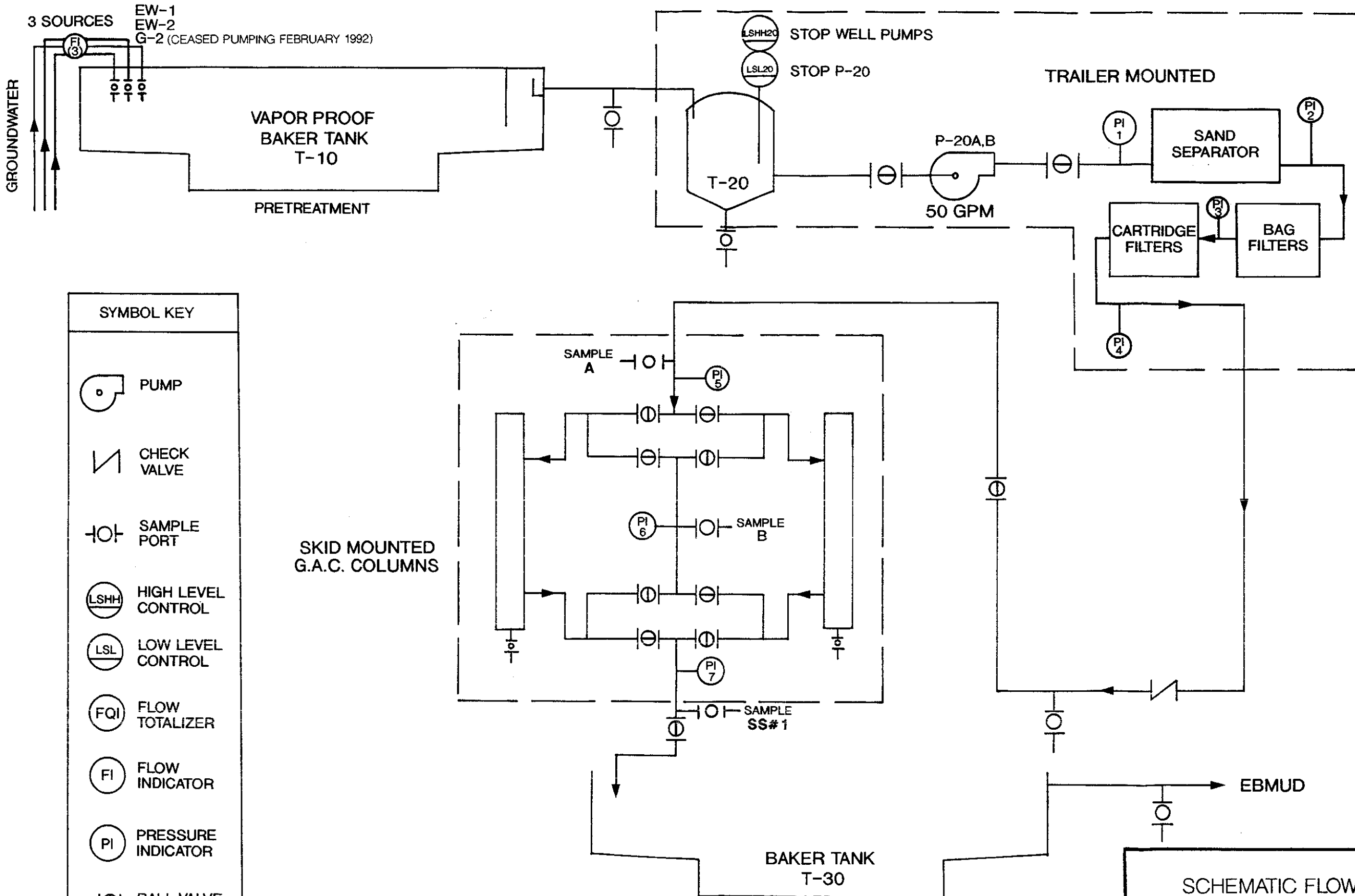
⁸ B = Between carbon vessels

⁹ E = Effluent

¹⁰ EW = extraction well, previously WI, well influent

¹¹ A = previous sample point I, influent at primary carbon vessel

¹² SS#1 = side sewer #1, previous sample point E, effluent sample



SYMBOL KEY	
	PUMP
	CHECK VALVE
	SAMPLE PORT
	HIGH LEVEL CONTROL
	LOW LEVEL CONTROL
	FLOW TOTALIZER
	FLOW INDICATOR
	PRESSURE INDICATOR
	BALL VALVE (CLOSED)

SCHEMATIC FLOW DIAGRAM		
MARTIN LUTHER KING JR. WAY		
JOB NUMBER 430.015	DATE 1/28/92	APPROVED <i>ell</i>
		PLATE 1

Subsurface Consultants



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710. Phone (415) 486-0900

DATE RECEIVED: 04/24/92
DATE REPORTED: 04/29/92


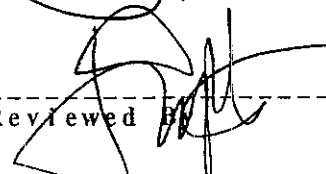
LABORATORY NUMBER: 107226

CLIENT: SUBSURFACE CONSULTANTS

PROJECT ID: 430.015

LOCATION: MLK GW EXTRACTION

RESULTS: SEE ATTACHED


Reviewed By _____

Reviewed By _____

LABORATORY NUMBER: 107226
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 430.015
 LOCATION: MLK GW EXTRACTION

DATE SAMPLED: 04/24/92
 DATE RECEIVED: 04/24/92
 DATE ANALYZED: 04/28/92
 DATE REPORTED: 04/29/92

Total Volatile Hydrocarbons with BTXE in Aqueous Solutions
 TVH by California DOHS Method/LUFT Manual October 1989
 BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
107226-001	WI-38-1	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
107226-002	WI-38-2	51(50)	2.2(0.5)	ND(0.5)	0.6(0.5)	1.2(0.5)
107226-003	I-38	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
107226-004	B-38	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
107226-005	E-38	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY

RPD, %	3
RECOVERY, %	96



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2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 05/28/92
DATE REPORTED: 06/04/92

LABORATORY NUMBER: 107495

CLIENT: SUBSURFACE CONSULTANTS

PROJECT ID: 430.015

LOCATION: MLK EXTRACTION

RESULTS: SEE ATTACHED

Kathleen Bri
Reviewed By _____
[Signature]
Reviewed By _____

Berkeley

Wilmington

Los Angeles

LABORATORY NUMBER: 107495
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 430.015
 LOCATION: MLK EXTRACTION

DATE SAMPLED: 05/28/92
 DATE RECEIVED: 05/28/92
 DATE ANALYZED: 06/02/92
 DATE REPORTED: 06/04/92

Total Volatile Hydrocarbons with BTXE in Aqueous Solutions
 TVH by California DOHS Method/LUFT Manual October 1989
 BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
107495-001	EW-1-39	100(50)	1.3(0.5)	0.5(0.5)	6(0.5)	ND(0.5)
107495-002	EW-2-39	ND(50)	1.7(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
107495-003	A-39	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
107495-004	B-39	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
107495-005	SS#1-39	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)

ND = Not detected at or above reporting limit; Reporting limit
 indicated in parentheses.

QA/QC SUMMARY

RPD, %	4
RECOVERY, %	99



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2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 06/25/92
DATE REPORTED: 07/02/92

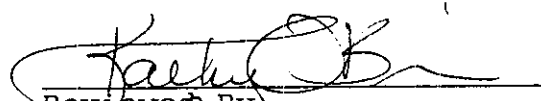
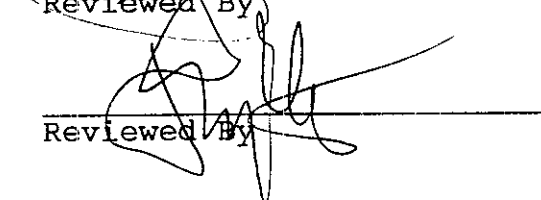
LABORATORY NUMBER: 107785

CLIENT: SUBSURFACE CONSULTANTS

PROJECT ID: 430.015

LOCATION: MLK GW EXTRACTION

RESULTS: SEE ATTACHED


Reviewed By

Reviewed By

LABORATORY NUMBER: 107785
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 430.015
 LOCATION: MLK GW EXTRACTION

DATE SAMPLED: 06/25/92
 DATE RECEIVED: 06/25/92
 DATE ANALYZED: 06/29/92
 DATE REPORTED: 07/02/92

Total Volatile Hydrocarbons with BTXE in Aqueous Solutions
 TVH by California DOHS Method/LUFT Manual October 1989
 BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
107785-001	EW-1-40	820(50)	140(0.5)	23(0.5)	14(0.5)	48(0.5)
107785-003	A-40	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
107785-004	B-40	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)
107785-005	SS#1-40	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)

ND = Not detected at or above reporting limit; Reporting limit
 indicated in parentheses.

QA/QC SUMMARY

RPD, % 3
 RECOVERY, % 99

LABORATORY NUMBER: 107785
 CLIENT: SUBSURFACE CONSULTANTS
 PROJECT ID: 430.015
 LOCATION: MLK GW TREATMENT PLANT

DATE SAMPLED: 06/25/92
 DATE RECEIVED: 06/25/92
 DATE ANALYZED: 07/01/92
 DATE REPORTED: 07/02/92

Total Volatile Hydrocarbons with BTXE in Aqueous Solutions
 TVH by California DOHS Method/LUFT Manual October 1989
 BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
107785-2	EW-2-40	68	3.2	ND(0.5)	0.7	1.0

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY

RPD, % <1
 RECOVERY, % 97

CHAIN OF CUSTODY FORM

PROJECT NAME: MLK GW Treatment Plant
 JOB NUMBER: 430.015 LAB: Curtis + Tompkins
 PROJECT CONTACT: Sean Carson TURNAROUND: Normal
 SAMPLED BY: Charles Pearson REQUESTED BY: Sean Carson

ANALYSIS REQUESTED											

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX				CONTAINERS			METHOD PRESERVED					SAMPLING DATE				NOTES		
		WATER	SOIL	WASTE	AIR	VOA	LITER	PINT	TUBE	HCL	H2SO4	HNO3	ICE	NONE	MONTH	DAY	YEAR		TIME	
	WI-38-1	X				X			X			X			04	24	92		TVH/SIXE	
	WI-38-2	X				X			X			X								
	I-38	X				X			X			X								
	B-38	X				X			X			X								
	E-38	X				X			X			X								

COMMENTS & NOTES:

CHAIN OF CUSTODY RECORD			
RELEASED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
<i>Charles Pearson</i>	4-24-92 3:40 pm		
RELEASED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
RELEASED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
			4/24/92 1535

Subsurface Consultants, Inc.
 171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607
 (510) 268-0461 • FAX: 510-268-0137

CHAIN OF CUSTODY FORM

PROJECT NAME: MLK GW Treatment Plant
 JOB NUMBER: 430.015 LAB: Curtis + Tompkins Ltd
 PROJECT CONTACT: Sean Carson TURNAROUND: Normal
 SAMPLED BY: _____ REQUESTED BY: Sean Carson

ANALYSIS REQUESTED											
TVH											
BTX											
EPA											
8015											
8021											
5030											

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX				CONTAINERS				METHOD PRESERVED					SAMPLING DATE				NOTES					
		WATER	SOIL	WASTE	AIR	VOA	40ml	LITER	PINT	TUBE	Glass	HCL	H2SO4	HNO3	ICE	NONE	MONTH	DAY		YEAR	TIME			
																					AM	PM		
	FW-1-39	X				W				X	X			X		0	5	2	8	9	2	10	35	X
	EW-2-39	X				W				X	X			X		0	5	2	8	9	2	10	39	X
	A-39	X				W				X	X			X		0	5	2	8	9	2	10	44	X
	B-39	X				W				X	X			X		0	5	2	8	9	2	10	49	X
	SS#1-39	X				W				X	X			X		0	5	2	8	9	2	10	53	X

COMMENTS & NOTES:
 All samples are "grab samples"
 Containers not sealed "tamper proof"

CHAIN OF CUSTODY RECORD			
RELEASED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
<i>Charles...</i>	5/20/92 11:17 am		
RELEASED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
RELEASED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	DATE/TIME
		<i>Nancy...</i>	5/20/92 11:17 am

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 (510) 268-0461 • FAX: 510-268-0137

CHAIN OF CUSTODY FORM

PROJECT NAME: MLK GW Treatment Plant
 JOB NUMBER: 430.015 LAB: Curtis + Tompkins Ltd
 PROJECT CONTACT: Sean Carson TURNAROUND: Normal
 SAMPLED BY: Fernando Velez REQUESTED BY: Sean Carson

ANALYSIS REQUESTED	
TVH/STXE EPA 8015/8022	5030

LABORATORY I.D. NUMBER	SCI SAMPLE NUMBER	MATRIX				CONTAINERS				METHOD PRESERVED				SAMPLING DATE				NOTES	
		WATER	SOIL	WASTE	AIR	VOA 40ml	LITER	PINT	TUBE	Glass	HCL	H2SO4	HNO3	ICE	NONE	MONTH	DAY		YEAR
	EW-1-40	X							X	X			X		06	25	92	16:00	X
	EW-2-40	X							X	X			X		06	25	92	16:00	X
	A-40	X							X	X			X		06	25	92	16:00	X
	B-40	X							X	X			X		06	25	92	16:00	X
	SS#1-40	X							X	X			X		06	25	92	16:00	X

COMMENTS & NOTES:
 All samples are "grab samples"
 Containers not sealed "tamper proof"

CHAIN OF CUSTODY RECORD

RELEASED BY: (Signature) <u>[Signature]</u> DATE/TIME <u>10-25/92 1840</u>	RECEIVED BY: (Signature) _____ DATE/TIME _____
RELEASED BY: (Signature) _____ DATE/TIME _____	RECEIVED BY: (Signature) _____ DATE/TIME _____
RELEASED BY: (Signature) _____ DATE/TIME _____	RECEIVED BY: (Signature) <u>[Signature]</u> DATE/TIME <u>10/25/92 1840</u>

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