

April 20, 1993

Mr. Steve Chrissanthos
Alameda Cellars
1702 Lincoln Avenue
Alameda, CA 94501

RE: Quarterly Groundwater Sampling
901 Lincoln Avenue, Alameda, California

Dear Mr. Chrissanthos:

The attached report describes the materials and procedures used during groundwater sampling of the monitoring wells located at 901 Lincoln Avenue, Alameda, California.

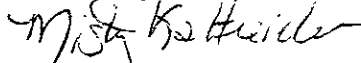
This work was performed to evaluate the presence or absence of residual hydrocarbon concentrations in groundwater by obtaining samples from existing monitoring wells.

Groundwater samples obtained from each monitoring well were submitted to ChromaLab, Inc. for petroleum hydrocarbon analysis, in accordance with the "Tri-Regional Guidelines for Underground Storage Tank Sites".

The results of the chemical analysis indicated non-detectable concentrations in monitoring wells MW-2 and MW-3. Sample analysis results from monitoring well MW-1 indicated detectable levels of Total Petroleum Hydrocarbons (TPH) as gasoline and Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX).

If you have any comments regarding this report, please call me.

Sincerely,



Misty C. Kaltreider
Geologist

cc: Mr. Richard Hiatt - Regional Water Quality Control Board
Ms. Juliet Shin - Alameda County Health Care Services - Division of
Hazardous Materials

A.C.C.

ENVIRONMENTAL
CONSULTANTS

QUARTERLY GROUNDWATER SAMPLING

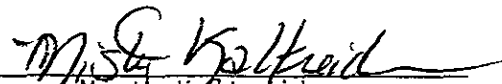
901 LINCOLN AVENUE
ALAMEDA, CALIFORNIA

April 1993

Prepared for:
Mr. Steve Chrissanthos
Alameda Cellars
1702 Lincoln Avenue
Alameda, CA 94501

Prepared by:

Prepared by:


Misty Kaltreider,
Project Geologist

Reviewed by:

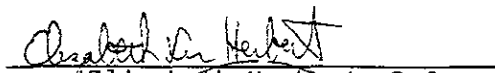

Elizabeth Herbert, R.G.
Registered Geologist



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ATTACHMENTS

Exhibit A	Chain of Custody Forms and Analytical Test Results
Exhibit B	Notes of Well Sampling

1.0 INTRODUCTION

This report presents the procedures and findings of the groundwater investigation conducted by ACC Environmental Consultants, Inc., ("ACC") on behalf of Mr. Steve Chrissanthos and Alameda Cellars, site owner at 901 Lincoln Avenue, Alameda, California. The project objective is to evaluate the presence or absence of petroleum hydrocarbons in the groundwater by obtaining samples from the existing monitoring wells.

2.0 BACKGROUND

The site is presently occupied by E-Z Liquors, a commercial liquor store. The property is owned by Mr. Steve Chrissanthos. On March of 1990, two 10,000-gallon gasoline tanks and one 2,000-gallon diesel tank were removed from the above referenced site. Analysis of the soil samples collected from beneath the two gasoline tanks indicated up to 710 parts per million (ppm) of Total Petroleum Hydrocarbons (TPH) as gasoline. Soil samples collected from beneath the diesel tank indicated less than detectable levels of TPH as diesel.

Per request of Alameda County Health Care Services - Hazardous Materials Division, a preliminary Site Assessment was conducted to further evaluate the soil contamination from the gasoline release on-site.

ACC was retained by Mr. Chrissanthos to perform the work requested by the Alameda County Health Care Services.

In December 4, 1992, three monitoring wells were installed on-site. Analytical results of the soil collected during drilling and soil sampling indicated 55.96 parts per million (ppm) of TPH as gasoline with benzene, toluene, ethylbenzene, and total xylenes (BTEX) from monitoring well MW-1. Soil samples collected from the other borings indicated constituents below detectable levels.

Initial groundwater samples collected from the on-site monitoring wells on December 15, 1992, indicated below detectable levels of constituents.

In February 24, 1993, ACC performed a soil investigation on the property to evaluate the lateral and vertical extent of soil contamination adjacent to monitoring well MW-1. Analytical results of soil samples collected indicated below detectable levels of hydrocarbon constituents in the soil. It was concluded that hydrocarbon impact on-site is limited to soil around monitoring well MW-1.

3.0 GROUNDWATER SAMPLING

Groundwater samples are collected from each on-site well once per quarter. Groundwater measurements are collected from each on-site well monthly. Groundwater samples were collected on March 10, 1993 from monitoring wells MW-1, MW-2, and MW-3.

Prior to groundwater sampling the depth to the surface of the water table was measured from the top of the PVC casing using a Solinst Water Level Meter. Information regarding depths of wells, well elevations and groundwater levels collected monthly are summarized in Table 1.

TABLE 1
Groundwater Depth Information

<u>Date Sampled</u>	<u>Depth to Groundwater (ft)</u>	<u>Groundwater Elevation (ft)</u>
<u>Well No. MW-1</u> Elevation of Top of Casing-18.99 MSL		
12/15/92	10.27	8.72
01/06/93	8.67	10.32
02/09/93	6.98	12.01
03/10/93	6.94	12.05
<u>Well No. MW-2</u> Elevation of Top of Casing-19.03 MSL		
12/15/92	10.14	8.89
01/06/93	8.50	10.53
02/09/93	6.66	12.37
03/10/93	6.53	12.50
<u>Well No. MW-3</u> Elevation of Top of Casing-19.35 MSL		
12/15/92	10.44	8.91
01/06/93	8.91	10.44
02/09/93	7.26	12.09
03/10/93	7.16	12.19

Notes: All measurements in feet
MSL = Mean Sea Level

During sampling, after water-level measurements were taken, each on-site well was purged by hand using a designated disposable Teflon bailer for each well. Groundwater pH, temperature and electrical conductivity were monitored during well purging. Each well was considered to be purged when these parameters stabilized. Four well volumes were removed to purge each well. See Exhibit B for worksheets of groundwater conditions monitored during purging.

After the groundwater had recovered to a minimum of approximately 80 percent of its static level, water samples were obtained using the designated disposable Teflon bailer. Two 40 ml VOA vials, without headspace, were filled from the water collected from each monitoring well.

The samples were preserved on ice and submitted to ChromaLab Inc. under chain of custody protocol (see Exhibit A for laboratory results and chain of custody).

4.0 FINDINGS

4.1 Analytical Results - Groundwater

One groundwater sample from each on-site groundwater monitoring well was collected quarterly and submitted to ChromaLab for analysis for TPH as gasoline by EPA test method 5030 and BTEX by EPA test method 602. Analysis results from the groundwater samples are illustrated in Table 2. Copies of the analytical results are provided in Exhibit A.

TABLE 2
Analytical Results - Groundwater

Well Number	Date Sampled	TPH-gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)
MW-1	12/15/92	<50	<0.5	<0.5	<0.5	<0.5
	03/10/93	100	0.86	<0.5	<0.5	6.3
MW-2	12/15/92	<50	<0.5	<0.5	<0.5	<0.5
	03/10/93	<50	<0.5	<0.5	<0.5	<0.5
MW-3	12/15/92	<50	<0.5	<0.5	<0.5	<0.5
	03/10/93	<50	<0.5	<0.5	<0.5	<0.5

Notes:

ug/L = micrograms per liter (ppb)

4.2 Groundwater Gradient

Prior to calculating the groundwater gradient, elevations for the on-site monitoring wells were surveyed by Ron Archer Civil Engineer, Inc. to an accuracy of one-hundredth of a foot. The well elevation was surveyed at the top of the PVC well casing. The elevations of the monitoring wells were established relative to a nearby benchmark located in the curb on the northwest corner of the intersection of Ninth Street and Pacific Avenue in Alameda, California.

The groundwater gradient was calculated monthly using measurements from the on-site monitoring wells. The location of the wells is shown on Figure 1 - Site Plan. Groundwater elevations were taken from the wells on January 6, February 9, and March 10, 1993 and are illustrated on Figures 2 through 4, respectively. The gradients were evaluated by triangulation using the elevation of the potentiometric surface measured with respect to Mean Sea Level datum.

Table 3 summarized the historic groundwater gradient and the direction of groundwater flow on-site.

TABLE 3
Historic Groundwater Gradient

<u>Date Monitored</u>	<u>Gradient (foot/foot)</u>	<u>Direction</u>
12/15/92	0.00175	west-southwest
01/06/93	0.004	northwest
02/09/93	0.008	northwest
03/10/93	0.009	northwest

5.0 CONCLUSION

The data and observations discussed herein indicate that groundwater has been impacted due to an unauthorized hydrocarbon release. In December 1992, low levels of Total Petroleum Hydrocarbons (TPH) as gasoline with BTEX were found in the soil sample collected at 11 feet bgs from boring MW-1. Soil staining was also observed in the same boring from 8 to 13 feet below ground surface. Initial sampling and analysis of the groundwater in December 1992 indicated no release had occurred to impact groundwater.

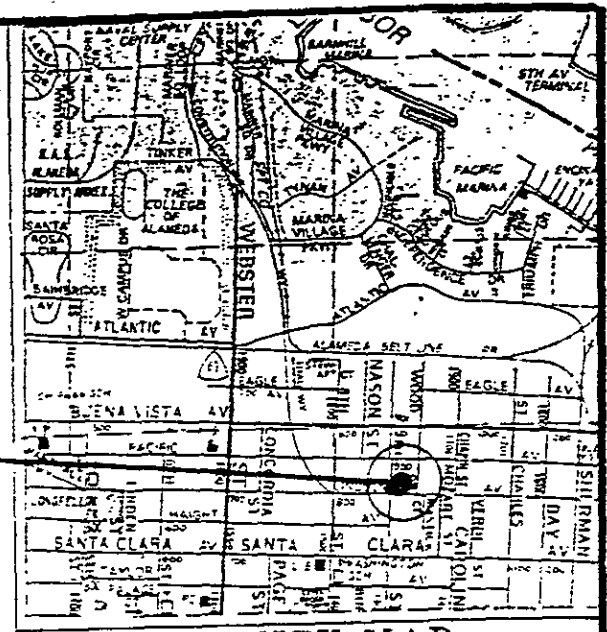
Further soil investigation performed in February 1993, indicated hydrocarbon impact on-site is limited to soil around monitoring well MW-1.

Since December substantial rainfall has increased the elevation of the groundwater. Impacted soil adjacent to monitoring well MW-1 apparently has come into contact with the rising groundwater.

Pursuant to the Tri-Regional Board guidelines, monitoring of the on-site wells will be performed monthly and groundwater sampling will continue on a quarterly basis.



NINTH STREET



VICINITY MAP
N.T.S

WELL DATA TABLE

ELEV	DESCRIPTION
18.99	TOP OF PVC CASING
19.44	TOP OF BOX
19.03	TOP OF PVC CASING
19.42	TOP OF BOX
19.35	TOP OF PVC CASING
19.83	TOP OF BOX
19.38	GROUND

JOB NO. 1982

WELLS AT THE EZ LIQUOR STORE.
CORNER AT NINTH STREET, CITY OF
SAN FRANCISCO, CALIFORNIA

CONSULTANTS, INC.

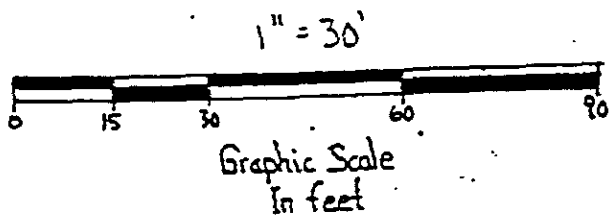
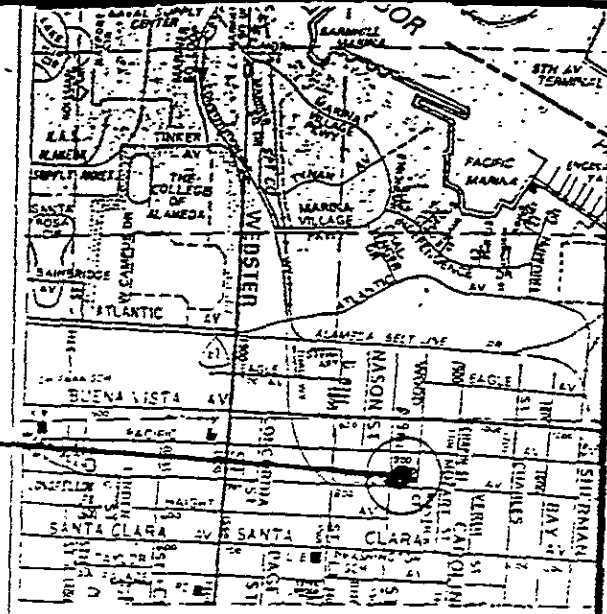
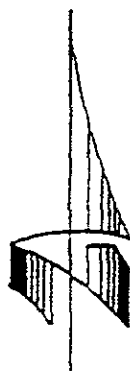


Figure 1

Site Plan



VICINITY MAP
N.T.S

NINTH STREET

SITE

OR WELL DATA TABLE

ELEV	DESCRIPTION
18.99	TOP OF PVC CASING
19.44	TOP OF BOX
19.83	TOP OF PVC CASING
19.42	TOP OF BOX
19.35	TOP OF PVC CASING
19.83	TOP OF BOX
19.38	GROUND

JOB NO. 1982

MONITOR WELLS AT THE EZ LIQUOR STORE,
BUENA VISTA AVENUE AT NINTH STREET, CITY OF
ALAMEDA, CALIFORNIA

CONSULTANTS, INC.

1" = 30'



Graphic Scale
In feet

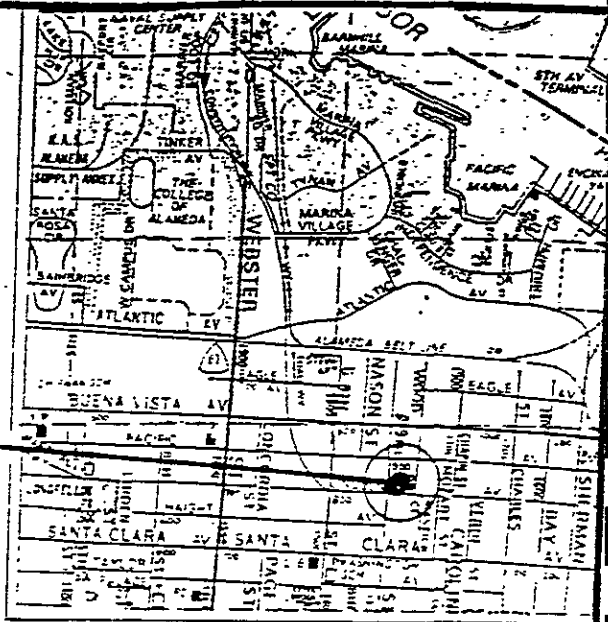
Elevations in Feet Above Mean Sea Level



Figure 2
Groundwater Gradient
1/6/93



NINTH STREET



VICINITY MAP
N.T.S

SITE

OR WELL DATA TABLE

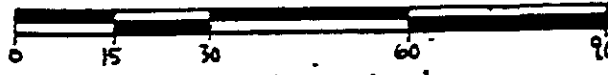
ELEV	DESCRIPTION
18.99	TOP OF PVC CASING
19.44	TOP OF BOX
19.03	TOP OF PVC CASING
19.42	TOP OF BOX
19.35	TOP OF PVC CASING
19.83	TOP OF BOX
19.38	GROUND

JOB NO. 1982

TOP WELLS AT THE EZ LIQUOR STORE.
NUE AT NINTH STREET. CITY OF
ALIFORNIA

SULTANTS, INC.

1" = 30'



Graphic Scale
In feet

Elevations in Feet Above Mean Sea Level



Figure 3
Groundwater Gradient
2/9/93

ARE IN TOP OF CURB AT THE NORTH
 , NORTHWEST CORNER OF INTERSECTION
 D PACIFIC AVENUE. ELEVATION TAKEN

GE ELEVATION DATUM TO M.S.L.

S FENCE LINE

12.19')

S SALT
 ERFACE

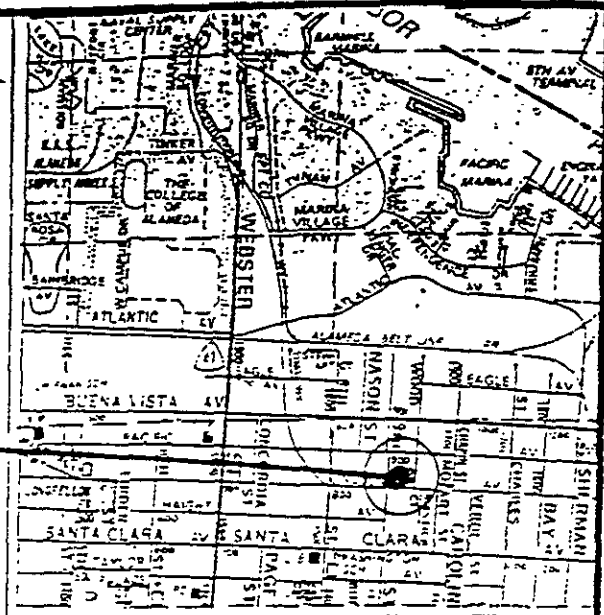
W2

50')

ENUE



SITE



VICINITY MAP
 N.T.S

MONITOR WELL DATA TABLE

WELL DESIGNATION	ELEV	DESCRIPTION
MW1	18.99 19.44	TOP OF PVC CASING TOP OF BOX
MW2	19.82 19.42	TOP OF PVC CASING TOP OF BOX
MW3	19.35 19.83	TOP OF PVC CASING TOP OF BOX
B1	19.38	GROUND

* REVISED DECEMBER 9, 1992
 DECEMBER 8, 1992

JOB NO. 1982

PLAT SHOWING EXISTING MONITOR WELLS AT THE EZ LIQUOR STORE.
 LOCATED AT 981 LINCOLN AVENUE AT NINTH STREET, CITY OF
 ALAMEDA, ALAMEDA COUNTY, CALIFORNIA

FOR: ACC ENVIRONMENTAL CONSULTANTS, INC.
 PROJECT NO. 6839-2



Figure 4
 Groundwater Gradient
 3/10/93

EXHIBIT A

Well Sampling Well Development check one

Well Number: MW-1

Job Number: 6039-2

Job Name: 901 Lincoln

Date: 3/10/93

Sampler: mck

Depth to Water (measured from TOC): 6.94'

Inside Diameter of Casing: 2

Depth of Boring: 15'

Method of well development/purging: boiling

Amount of Water Bailed/Pumped from well: 6 gallons

Depth to Water after well development: -

Depth to water prior to sampling: 8.00

Bailed water stored on-site ? How ? drums

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope ? yes

18.99'
(12.05 MSL)

Water Appearance:

	yes	no
froth		<input checked="" type="checkbox"/>
irridescence		<input checked="" type="checkbox"/>
oil		<input checked="" type="checkbox"/>
smell		<input checked="" type="checkbox"/>
product		<input checked="" type="checkbox"/>
other, describe		<input checked="" type="checkbox"/>

Gallons Removed	pH	EC	Temp
5	7.30	3.26	60.7
10	7.28	3.15	64.4
15	7.22	3.03	69.0
20			
25			
30			
35			
40			
45			
50			

Samples Obtained:

TPH (gasoline)	<input checked="" type="checkbox"/>
TPH (diesel)	<input type="checkbox"/>
TPH (motor oil)	<input type="checkbox"/>
BTXE	<input checked="" type="checkbox"/>
EPA 624	<input type="checkbox"/>
EPA 625	<input type="checkbox"/>
EPA 608	<input type="checkbox"/>
PCBs only	<input type="checkbox"/>
Metals	<input type="checkbox"/>
Other, specify	<input type="checkbox"/>
Field Blank	<input type="checkbox"/>

Well Sampling Well Development check one

Well Number: MW-2

Job Number: 6039-2

Job Name: 901 Lincoln

Date: 3/10/93

Sampler: MCL

Depth to Water (measured from TOC): 6.53'

19.03' msl
(12.5' nsl)

Inside Diameter of Casing: 2"

Depth of Boring: 78'

Method of well development/purging: bailing

Amount of Water Bailed/Pumped from well: 8 gallons

Depth to Water after well development: —

Depth to water prior to sampling: 7.0

Bailed water stored on-site? How? drums

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope? yes

Water Appearance:

	yes	no
froth		✓
iridescence		✓
oil		✓
smell		✓
product		✓
other, describe		

Gallons Removed	pH	EC	Temp
5	7.50	2.69	7.4
10	7.35	2.57	65.2
15	7.34	2.56	64.3
20			
25			
30			
35			
40			
45			
50			

Samples Obtained:

- TPH (gasoline)
- TPH (diesel)
- TPH (motor oil)
- BTXE
- EPA 624
- EPA 625
- EPA 608
- PCBs only
- Metals
- Other, specify
- Field Blank

Well Sampling

Well Development

check one

Well Number: MW-3

Job Number: 6039-2

Job Name: 901 Lincoln

Date: 3/10/93

Sampler: mcl

Depth to Water (measured from TOC): 7.16'

Inside Diameter of Casing: 2"

Depth of Boring: 19

Method of well development/purging: Bailing

Amount of Water Bailed/Pumped from well: 6.5 gal

Depth to Water after well development: -

Depth to water prior to sampling: 8.00

Bailed water stored on-site ? How ? drums

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope ? yes

19.35'
(12.19' MSL)

Water Appearance:

	yes	no
froth		
irridescence		
oil		
smell		
product		
other, describe		

Samples Obtained:

- TPH (gasoline)
- TPH (diesel)
- TPH (motor oil)
- BTXE
- EPA 624
- EPA 625
- EPA 608
- PCBs only
- Metals
- Other, specify
- Field Blank

Gallons Removed	pH	EC	Temp
5	7.99	3.19	65.0
10	7.97	2.95	63.7
15	7.74	2.94	63.2
20			
25			
30			
35			
40			
45			
50			

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

March 18, 1993

ChromaLab File No.: 0393145

ACC ENVIRONMENTAL CONSULTANTS, INC.

Attn: Misty Kaltreider

RE: Three water samples for Gasoline and BTEX analysis

Project Name: 901 LINCOLN

Project Number: 6039-2

Date Sampled: Mar. 10, 1993

Date Submitted: Mar. 11, 1993


Date Analyzed: Mar. 17, 1993

RESULTS:

Sample I.D.	Gasoline ($\mu\text{g/L}$)	Benzene ($\mu\text{g/L}$)	Toluene ($\mu\text{g/L}$)	Ethyl Benzene ($\mu\text{g/L}$)	Total Xylenes ($\mu\text{g/L}$)
MW1	100	0.86	N.D.	N.D.	6.3
MW2	N.D.	N.D.	N.D.	N.D.	N.D.
MW3	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	91%	100%	104%	101%	88%
DUP SPIKE RECOVERY	----	91%	109%	105%	103%
DETECTION LIMIT	50	0.5	0.5	0.5	0.5
METHOD OF ANALYSIS	5030/8015	602	602	602	602

ChromaLab, Inc


Billy Chach
Analytical Chemist


Eric Tam
Laboratory Director

cc

EXHIBIT B

ACC Environmental
 1000 Atlantic Ave,
 Alameda, CA 94501

CHALAB FILE # 393145
 ORDER # 10783

Lab Name Chroma lab

CHAIN OF CUSTODY RECORD

PROJECT NUMBER		PROJECT NAME					# Containers	PHYSICAL							Remarks								
6039-2		901 Lincoln																					
SAMPLER(S): (Signature)																							
Misty K. Kreide																							
ID#	Depth	Date	Time	Water	Soil	Location																	
MW-1		3/10/93	4:00	X			2	X														Standards turned in	
MW-2			3:00				2	X															
MW-3			4:40				2	X															
Relinquished by (Signature)		Date	Time	Received by (Signature)		Relinquished by (Signature)		Date	Time	Received by (Signature)													
Misty K. Kreide		3/11/93	11:40	<i>[Signature]</i>																			
Relinquished by (Signature)		Date	Time	Received by (Signature)		Relinquished by (Signature)		Date	Time	Received by (Signature)													
Relinquished by (Signature)		Date	Time	Received by (Signature)		Date	Time	Sample Integrity:															