

QUARTERLY MONITORING WELL
SAMPLING AND ANALYSIS

FOR THE

U.S. COAST GUARD SUPPORT CENTER
SWIMMING POOL LOCATION
COAST GUARD ISLAND
ALAMEDA, CALIFORNIA

PREPARED FOR THE

U.S. COAST GUARD SUPPORT CENTER
CIVIL ENGINEERING UNIT
2000 EMBARCADERO, SUITE 200
OAKLAND, CALIFORNIA 94606-5337



Professional Service Industries, Inc.

February 15, 1994

U.S. Coast Guard Support Center
Civil Engineering Unit
2000 Embarcadero, Suite 200
Oakland, CA. 94606-5337

Attention: Mr. Louis Rivero

Subject: QUARTERLY MONITORING WELL SAMPLING & ANALYSIS

Project: Swimming Pool Location
Coast Guard Island
Alameda, CA 94606
Project No. 582-34006

Dear Mr. Rivero:

Professional Service Industries, Inc. (PSI), San Francisco Field Services Division is pleased to present the fourth quarter monitoring well sampling and analysis results. A description of the sampling and laboratory analysis for the one monitoring well located at the Swimming Pool location (see Figure 1, Vicinity Map, Figure 2, Site Plan, and Figure 3, Monitoring Well Location Map) are contained herein.

Field activities were conducted on January 31, 1994. The purpose of this program is to monitor hydrocarbon concentrations in the groundwater below the area where two 2,000 gallon underground storage tanks (UST's) previously containing diesel and gasoline, were located. This is the fourth and final groundwater sampling event under the scope of work.

SAMPLING METHOD

The groundwater elevation was measured prior to and after well development. The one monitoring well (MW-1SP) was redeveloped in order to establish a flow of groundwater into the well and to remove any longstanding water. Well redevelopment was accomplished by means of a stainless steel bailer. Approximately 8 to 10 gallons of water (3 to 4 casing volumes) were removed from the well prior to sampling. The purged groundwater from the well was contained in labelled 55-gallon drums and left on-site for future storage during additional sampling. After allowing the well to recharge, a groundwater sample was collected.

Prior to redevelopment and sampling from the well, the bailer was cleaned using trisodium phosphate solution and triple-rinsed with potable water. A water sample was drained from the bailer into certified clean, 40 ml vials, with care being taken to eliminate headspace. The vials were labelled and placed into cold storage until delivery to a state certified laboratory for analysis. Additionally, hydrochloric acid was used to preserve samples. Proper chain-of-custody procedures were observed. A Chain-of-custody is included with the attached analytical results.

OBSERVATIONS

Monitoring Well No. 1 (MW-1SP): No petroleum odor was evident when initially uncapped. Water sample was clear in color.

Note: See Appendix B Table I, Groundwater Elevation Data.

LABORATORY ANALYSES

The groundwater samples were submitted to Sequoia Analytical of Concord, California Laboratory Certificate #1271, and analyzed for Aromatic Volatile Organics by EPA Method 8020 and Total Petroleum Hydrocarbons for gasoline (TPHG), Method 8015, using gas chromatography with photoionization detection. The analytical results are summarized below. The complete laboratory report, including analytical results, QA/QC data, and chain-of-custody is attached.

SUMMARY OF ANALYTICAL RESULTS FOURTH QUARTER GROUNDWATER MONITORING *

<u>Well Number</u>	<u>Date of Sample</u>	<u>Benzene</u>	<u>Toluene</u>	<u>Ethylbenzene</u>	<u>Xylenes</u>	<u>Purgeable Hydrocarbons</u>
MW-1SP	4/8/93	7.4	1.2	29	20	720
	7/8/93	N.D.	N.D.	N.D.	N.D.	610
	10/20/93	11.0	N.D.	N.D.	N.D.	660
	1/31/94	4.7	N.D.	N.D.	N.D.	180

* All concentrations are in parts per billion (micrograms per liter, ug/l).
N.D. Analytes reported as not detected above the analytical reporting limit.

DISCUSSION OF RESULTS

Based on the analytical results for this sampling event, toluene, ethylbenzene, and xylenes in groundwater beneath the site are not above their reporting limits. A decrease in Total Purgeable Hydrocarbons as gasoline (TPH-G) and benzene was detected from the previous October 20, 1993 readings. TPH-G levels dropped from 660 ug/l on October 20, 1993, to 180 ug/l on January 31, 1994, and benzene levels decreased from 11.0 ug/l on October 20, 1993 to 4.7 ug/l on January 31, 1994. Due to the continuing presence of benzene and TPH-G in the groundwater, the U.S. Coast Guard may wish to consider continuing the quarterly sampling of MW-1SP for another one-year period.

LIMITATIONS OF INVESTIGATION

Our investigation was performed using the degree of care and skill ordinarily exercised under similar circumstances by reputable environmental consultants practicing in this or similar localities. The samples collected and used for testing and observations made are believed representative of site conditions. No other warranty, expressed or implied, is made to conclusions and professional advice included in this report.

This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the proper authorities and/or regulating agencies.

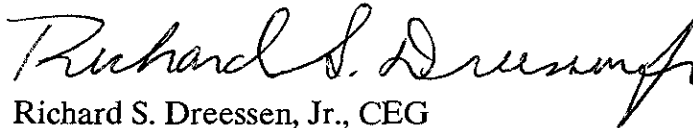
The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties.

In addition, changes in applicable or appropriate standards may occur from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should be updated as changes may occur.

The opportunity to be of service is appreciated. Should you have any questions regarding the content of this report, or we can be of further assistance, please do not hesitate to contact us.

Sincerely,

Professional Service Industries, Inc.
San Francisco Field Services



Richard S. Dreessen, Jr., CEG
Branch Manager

RD/lw

APPENDICES

APPENDIX A
FIGURES

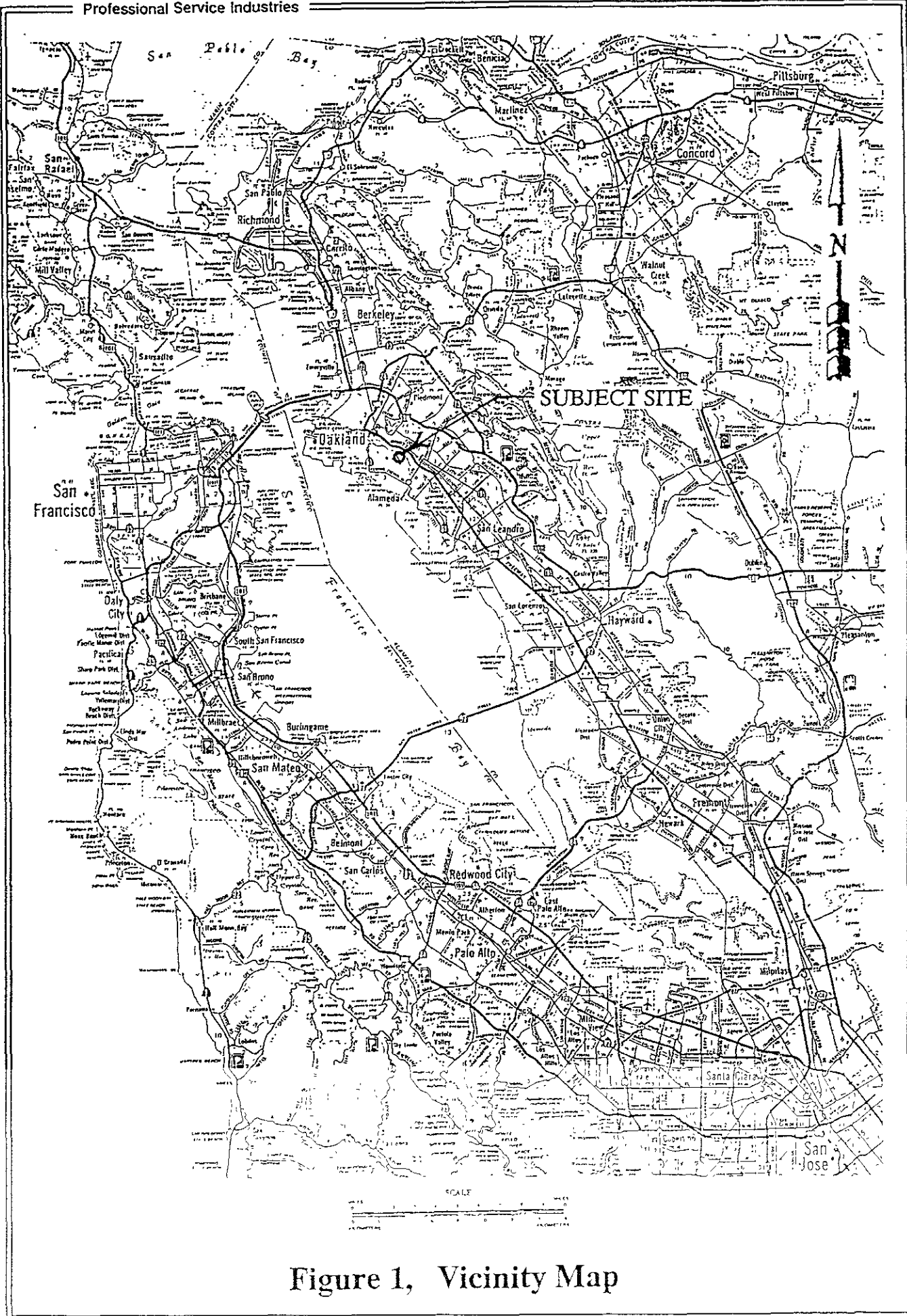
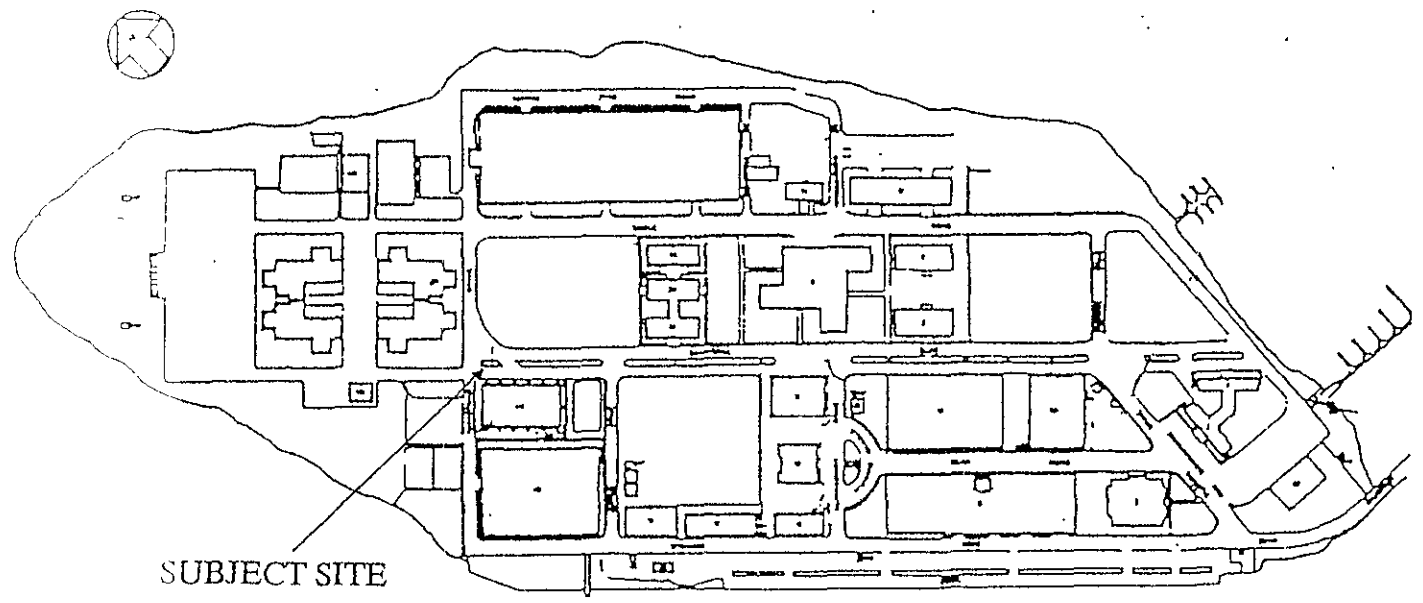


Figure 1, Vicinity Map



SUBJECT SITE

FIGURE 2, SITE PLAN

APPENDIX B
GROUNDWATER ELEVATION DATA

TABLE I
GROUNDWATER ELEVATION DATA*

<u>Well Number</u>	<u>Surface Casing Elevations</u>	<u>Date/Time of Measurement</u>	<u>Depth to Water Meas. in ft.</u>	<u>Water Level Elev. (MSL)</u>
MW-1SP	14.30	4/8/93/14:30	4.50	9.85
		7/8/93/15:30	4.90	9.40
		10/20/93/14:08	5.95	8.35
		1/31/94/15:06	4.80	9.50

* MSL, Mean Sea Level

APPENDIX C
LABORATORY RESULTS AND
CHAIN OF CUSTODY



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

P.S.I.	Client Project ID: USCG	Sampled: Jan 31, 1994
3730 Mt. Diablo Blvd., Ste 345	Sample Matrix: Water	Received: Jan 31, 1994
Lafayette, CA 94549	Analysis Method: EPA 5030/8015/8020	Reported: Feb 14, 1994
Attention: Rick Dreesen	First Sample #: 401-1506	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION


Analyte	Reporting Limit µg/L	Sample I.D. 401-1506 MW-1SP
Purgeable Hydrocarbons	50	180
Benzene	0.5	4.7
Toluene	0.5	N.D.
Ethyl Benzene	0.5	N.D.
Total Xylenes	0.5	N.D.
Chromatogram Pattern:		Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Analyzed:	2/9/94
Instrument Identification:	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	118

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL


Karen L. Enstrom
Project Manager



SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

P.S.I.
3730 Mt. Diablo Blvd., Ste 345
Lafayette, CA 94549
Attention: Rick Dreesen

Client Project ID: USCG
Matrix: Liquid

QC Sample Group: 401-1506

Reported: Feb 14, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	J. Fontecha	J. Fontecha	J. Fontecha	J. Fontecha

MS/MSD

Batch#:	4011507	4011507	4011507	4011507
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Date Prepared:	2/9/94	2/9/94	2/9/94	2/9/94
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Date Analyzed:	2/9/94	2/9/94	2/9/94	2/9/94
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Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
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Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
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Matrix Spike

% Recovery:	105	100	100	100
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Matrix Spike

Duplicate % Recovery:	105	100	100	103
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Relative %

Difference:	0.0	0.0	0.0	2.9
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LCS Batch#:	1LCS020994	1LCS020994	1LCS020994	1LCS020994
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Date Prepared:	2/9/94	2/9/94	2/9/94	2/9/94
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Date Analyzed:	2/9/94	2/9/94	2/9/94	2/9/94
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Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
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LCS %

Recovery:	108	108	108	110
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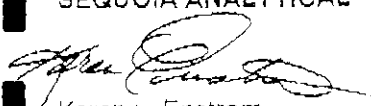
% Recovery

Control Limits:	71-133	72-128	72-130	71-120
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Please Note:

The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL


Karen L. Enstrom
Project Manager



SEQUOIA ANALYTICAL CHAIN OF CUSTODY

- 600 Chesapeake Drive • Redwood City, CA 94063 • (415) 364-9600 FAX (415) 364-9233
- 819 West Striker Ave. • Sacramento, CA 95834 • (916) 921-9600 FAX (916) 921-0100
- 1900 Bates Ave., Suite LM • Concord, CA 94520 • (510) 686-9600 FAX (510) 686-9689

Company Name: <u>P.S.D. Inc.</u>			Project Name: <u>USGG</u>		
Address: <u>3730 Mt Diablo Blvd Suite 345</u>			Billing Address (if different):		
City: <u>Lafayette</u>	State: <u>CA</u>	Zip Code: <u>94549</u>			
Telephone: <u>(510) 244-3070</u>		FAX #:	P.O. #:		
Report To:	Sampler:	QC Data: <input type="checkbox"/> Level D (Standard) <input type="checkbox"/> Level C <input type="checkbox"/> Level B <input type="checkbox"/> Level A			

Turnaround 10 Working Days 3 Working Days 2 - 8 Hours
 Time: 7 Working Days 2 Working Days
 5 Working Days 24 Hours

Analyses Requested
 Drinking Water
 Waste Water
 Other

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Sequoia's Sample #	[Diagonal Hatched Area]					Comments
1. <u>MW-158</u>	<u>1/31/24</u>	<u>W</u>	<u>2</u>	<u>VOA</u>		BTEX 2015					<u>4011506 AB</u>
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											

Relinquished By: <u>[Signature]</u>	Date: <u>1/31/24</u>	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: <u>Melissa Counsel</u>	Date: <u>1/31/24</u>	Time: <u>4:25 pm</u>

Pink - Client
Yellow - Sequoia
White - Sequoia

APPENDIX D
GROUNDWATER SAMPLING DATA

