November 24, 1998

Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, Second Floor Alameda, California 94502

ATTENTION: Mr. Scott Seery

SUBJECT:

STOCKPILED SOIL SAMPLING RESULTS

Olympic Service Station 1436 Grant Avenue San Lorenzo, California

Dear Mr. Seery:

On November 11, 1998 Aqua Science Engineers, Inc. (ASE), collected soil samples from the stockpiled soil formerly surrounding the gasoline and diesel-fuel underground storage tanks (USTs) at the subject site, see Figures 1 and 2.

SCOPE OF WORK

Using a hand auger to gain access to the inner portions of the stockpiled soil, ASE collected eight soil samples from each stockpile (sample names STKP-A (1-4) and (5-8) and STKP-B (1-4) and (5-8)) which were later composited by the laboratoy into four (4) four-point composite soil samples. The soil samples were extracted from the hand auger sampling device and stored in brass sample containers, covered on both ends with Teflon tap and plastic end caps. Each sample was discretely labeled and stored within an ice chest containing wet ice prior to delivery to the laboratory under chain of custody procedures. Each of the four (4) four-point composite soil samples was analyzed by Chromalab, Inc. of Pleasanton, California (ELAP # 1094) for total petroleum hydrocarbons as gasoline (TPH-G) by EPA Method 8015M, total petroleum hydrocarbons as dieset (LEPH-D) by EPA Method 8015M, benzene, toluene, ethylbenzene and total wydenes (BTEX) and methyl-tertiary butyl ether (MTBE) by EPA Method 8020 and total read by EPA The analytical results are tabulated in the None and Table Two, Method 7420. attached. The certified analytical report is attached in Appendix 14.

At this time, only a faxed copy of the analytical report from Chromalab is available. Upon completion of the sampling activities, the stockpiles were covered completely with visqueen.

ANALYTICAL RESULTS

The stockpiled soil contains elevated concentrations of TPH-D and total lead. In regard to the TPH-D, the highest concentration identified was 280 parts per million (ppm). ASE believes that this concentration of TPH-D does not pose a significant threat to the site or environment. In regards to the total lead, two of the composite soil samples resulted in lead concentration of less than 5 ppm, the reporting limit. One contained 33 ppm and the other contained 110 ppm. The highest concentration, 110 ppm total lead, is below the US EPA Region IX Preliminary Remediation Goal (PRG) for residential soil.

RECOMMENDATIONS

Based on these analytical results, it is the opinion of ASE that both of these stockpiles appear suitable for re-use as backfill material at the site. The void of the former USTs will be replaced with import material.

Backfilling activities are scheduled immediately upon your review and concurrence with the afore-mentioned recommendations. We look forward to hearing from you in the very near future. If you have any questions or comments, please feel free to give us a call at (925) 820-9391.

No. REA-06211 Expires: <u>6 - 99</u>

Respectfully submitted, AQUA SCIENCE ENGINEERS, INC.

David Allen, R.E.A. Senior Project Manager

Enclosures

Cc: Mr. George Jaber, property owner



SHLAND Sta. MANOR 豆 BDY BDY SITE Martin School VOBENZO BMABE

LOCATION MAP

Olympic Service Station 1436 Grant Avenue San Lorenzo, California

AQUA SCIENCE ENGINEERS, INC.

Figure 1





NORTH **SCALE** 1" = 20'

GRANT AVENUE

SIDEWALK PLANTER-GAS & DIESEL-FUEL STOCKPILED SOIL, DISPENSERS STOCKPILE 0 "B" 0 GAS & DIESEL-FUEL OFFICE TANK AND **EXCAVATION** SIDEWALK GARAGE WASTE-OIL STOCKPILED SOIL WASTE-OIL UST EXCAVATION PLANTER GAS & DIESEL-FUEL STOCKPILE STOCKPILED SOIL "A"

LEGEND

- 0 COMPOSITE SOIL SAMPLES 1-4
- COMPOSITE SOIL SAMPLES 5-8

STOCKPILED SOIL SAMPLING MAP

Olympic Service Station 1436 Grant Avenue San Lorenzo, California

AQUA SCIENCE ENGINEERS, INC.

Figure 2

TABLE ONE

Summary of Chemical Analysis of **Stockpiled Soil** Samples TPH-G, TPH-D, BTEX, and MTBE All results are in **parts per million**

SAMPLE NAME	TPH GAS	TPH DIESEL	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL	MTBE
STKP-A (1-4)	< 1.0	62	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
STKP-A (5-8)	< 1.0	28	< 0.005	0.055	0.026	0.066	0.012
STKP-B (1-4)	< 1.0	220	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
STKP-B (5-8)	< 1.0	280	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
EPA METHOD	8015M	8015M	8020	8020	8020	8020	8020

NOTES:

Detectable concentrations are in bold.

Non-detectable concentrations are noted by the less than sign (<) followed by the laboratory detection limit.

TABLE TWO

Summary of Chemical Analysis of Stockpiled Soil Samples

Total Lead

All results are in parts per million

SAMPLE NAME STKP-A (1-4) STKP-A (5-8) STKP-B (1-4) STKP-B (5-8)	TOTAL <u>LEAD</u> 33 < 5 110 < 5
RESIDENTIAL PRG	13 <i>0</i>
EPA METHOD	7420

NOTES:

Detectable concentrations are in bold.

Non-detectable concentrations are noted by the less than sign (<) followed by the laboratory reporting limit.

PRG stands for Prelininary Remediation Goalfrom the US EPA Region IX.

APPENDIX A ANALYTICAL REPORT

Environmental Services (SDB)

November 19, 1998

Submission #: 9811197

AQUA SCIENCE ENGINEERS INC

Atten: Dave Allen

Project: OLYMPIC SERVICE STATION

Project#: 4306

Received: November 12, 1998

re: One sample for Gasoline BTEX MTBE analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: STKP-A(1-4)

Spl#: 215465 Matrix: SOIL

Sampled: November 11, 1998 Run#:16067

Analyzed: November 19, 1998

ANALYTE	Result (mg/Kg)	REPORTING LIMIT (mg/Kg)	Blank Result (mg/kg)	BLANK I SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	99	1
MTBE	N.D.	0.0050	N.D.	78	l
BENZEÑE	N.D.	Q.0050	N.D.	94	1
TOLUENE	N.D.	0.0050	N.D.	93	1
ETHYL BENZENE	N.D.	0.0050	N.D.	93	1
XYLENES	N.D.	0.0050	N.D.	92	1

Note: Hydrocarbon found in Gasoline Range is uncharacteristic of Gesoline Profile. If quantified using Gasoline's response factor, concentration would equal 2.0mg/Kg.

Vincent Vancil

Analyst



Environmental Services (SDB)

November 19, 1998

Submission #: 9811197

AOUA SCIENCE ENGINEERS INC

Atten: Dave Allen

Project: OLYMPIC SERVICE STATION

Project#: 4306

Received: November 12, 1998

re: One sample for Gasoline BTEX MTBE analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: STRP-A(5-8)

Spl#: 215466

Matrix: SOIL

Sampled: November 11, 1998 Run#:16067

Analyzed: November 19, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/kg)	BLANK RESULT (mg/kg)	SPIRE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	99	1
MTBE	0.012	0.0050	N.D.	78	1
BENZENE	N.D.	0.0050	N.D.	94	1
TOLUENE	0.055	0.0050	N.D.	93	1
ETHYL BENZENE	0.026	0.0050	N.D.	93	1
XYLENES	0.066	0.0050	N.D.	92	1

Note: Hydrocarbon found in Gasoline Range is uncharacteristic of Gasoline Profile. If quantified using Gasoline's response factor, concentration would equal 5.6mg/Kg. MTBE result draft pending GC/MS conformation.

Vincent Vancil

Analyst

Environmental Services (SDB)

November 19, 1998

Submission #: 9811197

AQUA SCIENCE ENGINEERS INC

Atten: Dave Allen

Project: OLYMPIC SERVICE STATION

Project#: 4306

Received: November 12, 1998

ra: One sample for Gasoline BTEX MTBE analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: STRP-B(1-4)

Spl#: 215467 Matrix: SOIL

Sampled: November 11, 1998 Run#:16067 Analyzed: November 19, 1998

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/kg)	Blank Result (mg/kg)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	1.0	N.D.	99	1
MTBE	N.D.	0.0050	N.D.	78	1
BENZENÊ	N.D.	0,0050	N.D.	94	1
TOLUENE	N.D.	0.0050	N.D.	93	1
ETHYL BENZENE	N.D.	0.0050	N.D.	93	1
XYLENES	N.D.	0.0050	N.D.	92	1

Vincent Vancil

Analyst

Environmental Services (SDB)

November 19, 1998

Submission #: 9811197

AQUA SCIENCE ENGINEERS INC

Atten: Dave Allen

Project: OLYMPIC SERVICE STATION

Project#: 4306

Received: November 12, 1998

re: One sample for Gasoline BTEX MTBE analysis.

Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: STKP-B(5-8)

Spl#: 215468 Matrix: SOIL

Sampled: November 11, 1998 Run#:16066

Analyzed: November 19, 1998

ANALYTE	result (mg/kg)	REPORTING LIMIT (mg/kg)	BLANK RESULT (mg/kg)	BLANK DILUTION SPIKE FACTOR (%)	
GASOLINE	N.D.	1.0	N.D.	97 1	
MTBE	N.D.	0.0050	N.D.	100 1	
Benžene	N.D.	0.0050	N.D.	95 1	
TOLUENE	N.D.	0.0050	N.D.	9 1 1	
ETHYL BENZENE	N.D.	,0.0050	N.D.	89 1	
xylenes	N.D.	0.0050	N.D.	88 1	

Vincent Vancil

Analyst

Environmental Services (SDB)

November 19, 1998

Submission #: 9811197

AQUA SCIENCE ENGINEERS INC

Atten: Dave Allen

Project: OLYMPIC SERVICE STATION

Project#: 4306

Received: November 12, 1998

re: 4 samples for TPH - Diesel analysis.

Method: EPA 8015M

Matrix: SOIL

Extracted: November 16, 1998

Sampled: November 11, 1998 Run#: 15984 Analyzed: November 19, 1998

REPORTING BLANK BLANK DILUTION RESULT DIESEL LIMIT SPIKE FACTOR Spl# CLIENT SPL 215465 STKP-A(1-4) Spl# (mq/Rq)(ma/ka) (%) 79.4 (mq/Kq)62 2.0 N.D. Note: Hydrocarbon reported does not match the pattern of our Diesel Standard. Surrogate Recoveries biased high due to Hydrocarbon co-elution. 215466 STKP-A(5-8) 5.0 N.D. 79.4 28 Note: Hydrocarbon reported does not match the pattern of our Diesel Standard. 215467 STKP-B(1-4) 20 220 N.D. 79.4 20 Note: Hydrocarbon reported is in the late Diesel Range and does not match our Diesel Standard. Surrogate Recoveries biased high due to Hydrocarbon coelution. 79.4

215468 STKP-B(5-8) Note: Surrogate Recoveries biased high due to Hydrocarbon co-elution.

250

2.0

N.D.

Yyn'House

Anallyst

Bruce Havlik Analyst

Environmental Services (SDB)

November 19, 1998

Submission #: 9811197

AQUA SCIENCE ENGINEERS INC

Attan: Dave Allen

Project: OLYMPIC SERVICE STATION

Project#: **43**06

Received: November 12, 1998

re: 4 samples for Lead analysis.

Method: EPA 3050A/7420A

Matrix: SOIL

Extracted: November 16, 1998

Sampled: November 11, 1998 Run#: 15981 Analyzed: November 16, 1998

REPORTING BLANK BLANK DILUTION LEAD LIMIT RESULT SPIKE FACTOR CLIENT SPL ID (mg/Kg) (mg/Kg) (mg/Kg) 215465 STKP-A(1-4) 215466 STKP-A(5-8) 215467 STKP-B(1-4) 5.0 5.0 100 33 1 И.D. Ñ.D. N.D. N.D. 100 1 5,0 110 100 215468 STKP-B(5-8) 5.0 N.D. N.D. 100

Christopher Arndt

Analyst