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Alameda County Environmental Health

Mr. Steven Plunkett Environmental Health Services – Environmental Protection 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577

Subject: 1st Quarter 2008, Groundwater Monitoring report 20957 Baker Road Castro Valley, California 94546 Leak Case RO0002739 AEI Project # 273928

Dear Mr. Plunkett:

Attached is a copy of the first quarter 2008 groundwater monitoring event at the above referenced site with the perjury statement from the Client

If you have any questions I can be reached at 925-944-2899, extension 122.

Sincerely, AEI Consultants

Robert F. Flory, P.G.

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CERTIFICATION STATEMENT

I DECLARE, UNDER PENALTY OF PERJURY, THAT THE INFORMATION AND/OR RECOMMENDATIONS CONTAINED IN THE ATTACHED DOCUMENT OR REPORT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

NATALE PIAZZA

DATE

DARLENE J. PIAZZA

DATE

February 29, 2008

GROUNDWATER MONITORING REPORT 1st Quarter, 2008

20957 Baker Road Castro Valley, California 94565

AEI Project No. 273928

Prepared For

Nat and Darlene Piazza 7613 Peppertree Road Dublin, California 94568

Prepared By

AEI Consultants 2500 Camino Diablo Walnut Creek, CA 94597 (800) 801-3224



2500 Camino Diablo, Walnut Creek, CA 94597 tel 800-801-3224 fax 925-944-2895

ENVIRONMENTAL & ENGINEERING SERVICES

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February 29, 2008

Nat and Darlene Piazza 7613 Peppertree Road Dublin, California 94568

Subject: Quarterly Groundwater Monitoring Report 1st Quarter, 2008 20957 Baker Road Castro Valley, California 94565 AEI Project No. 273928

Dear Mr. And Mrs. Piazza:

AEI Consultants (AEI) has prepared this report on your behalf to document groundwater quality at the above referenced site (Figure 1: Site Location Map). The purpose of this activity was to monitor groundwater quality near the former underground storage tanks (USTs). This report presents the findings of the 1st Quarter, 2008 groundwater monitoring event conducted on January 14, 2008.

I Site Description and Background

The subject property (hereafter referred to as the "site" or "property") is located at 20957 Baker Road in Castro Valley, California (Figure 1: Site Location Map). The site is located in a mixed residential and commercial/light-industrial area of Castro Valley. The site is approximately 81 feet by 300 feet in area; and is currently undeveloped and not in use. The site is partially covered with asphalt surfacing and concrete slabs with the remainder of the site graveled. The site occupies the southern two thirds of the fenced in area.

Baker Road makes up the east boundary of the site with a residential property to the east, beyond the road. Rutledge Road bounds the property to the west with commercial and residential property beyond the road. The property is bounded to the north by a partially vacant lot. The parcel to the north is split by a fence, with the southern half of the adjacent lot appearing to be part of the subject site. Two residential buildings are located in the northeast quadrant of this adjacent lot. To the south, the eastern half of the property is by an apartment complex and the western half bounded to the south by a plumbing contractor. The locations of these buildings relative to the subject site and locations of the former UST are shown on Figure 2, "Site Map".

Tank Removal

On April 21, 2004, AEI removed two 1,000-gallon USTs from the site (Figure 2). The removal was performed under permit from the ACEHS. Robert Weston, Inspector for the ACEHS, observed the tank removal. Two soil samples were collected from underneath each UST and analyzed for Total Petroleum Hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene, xylenes (BTEX) and Methyl tertiary butyl ether (MTBE) by EPA Method 8021B/8015Cm. Total Petroleum Hydrocarbons as diesel (TPH-d) was analyzed by EPA Method 8015C and total lead by EPA method 7010.

Hydrocarbons were reported in all the soil samples analyzed. TPH-g was reported at concentrations ranging from 160 milligrams per kilogram (mg/kg) (T1W-EB8') to 1,400 mg/kg (T2W-EB8'). TPH-d was reported at concentrations ranging from 1,400 mg/kg (T2E-EB8') to 10,000 mg/kg (T1E-EB8'). Total xylenes were reported in two samples at 8.4 mg/kg (T2W-E8') and 0.25 mg/kg (T2E-EB8'). Benzene and ethylbenzene were reported as not detected. Total lead was reported at concentrations ranging from 6.1 mg/kg (T1W-E8') to 24 mg/kg (stockpile sample STKP1-4).

Preliminary Site Investigation

AEI performed a Preliminary investigation at the property on May 18, 2005. Eight (8) soil borings (SB-1 through SB-8) were advanced to depths ranging from 14 ft. to 18 ft. below ground surface (bgs) using a Geoprobe[®] Model 5410 direct-push drilling rig. The locations of the soil borings are shown on Figure 2, Site Map.

No detectable concentrations of TPH-g, TPH-d, TPH-mo, MTBE or BTEX, were reported in any of the soil samples from depths of 7.5 to 11 feet bgs at or above detection limits of 1.0 mg/kg, 1.0 mg/kg, 5.0 mg/kg, 0.05 mg/kg, and 0.005 mg/kg, respectively.

TPH-g was reported in the groundwater sample from soil boring SB-2 (SB-2W) at concentration of 7,300 micrograms per liter (μ g/L). No TPH-g was reported in groundwater samples from any other borings at or above the detection limit of 50 μ g/L.

The maximum concentration of TPH-d was reported at a concentration of 23,000 μ g/L in the groundwater sample from boring SB-2 (SB-2W). TPH-d was reported in the other seven borings at concentrations ranging from ND<50 μ g/L (SB-7) to 670 μ g/L (SB-5).

TPH-mo was reported in groundwater samples from borings SB-1, SB-2, SB-5, SB-6 and SB-8 at concentrations ranging from 300 μ g/L (SB-6) to 1400 μ g/L (SB-1 and SB-5). No concentrations of TPH-mo were reported in groundwater samples from borings SB-3, SB-4 and SB-7 at or above a detection limit of 250 μ g/L.

No MTBE was reported in the groundwater samples from any of the borings at or above a detection limit of $5.0 \,\mu$ g/L.

Monitoring Well Installation

On October 12, 2007 AEI installed five (5) 2-inch inside diameter (ID) groundwater monitoring wells, one on each side of the former tank hold (MW-1, MW-2), one through the center of the backfill (IN-1) and two down gradient of the former tank hold (MW-3, MW-4). The details of well construction are summarized in Table 1, *Well Construction Details*.

TPH-d was reported in well IN-1 at concentrations of 4.0 mg/kg, 5.1 mg/kg, and ND<1.0 in samples collected at depths of 8.5 feet bgs, 10 feet bgs, and 12 feet bgs, respectively. Two soil samples from borings MW-1 through MW-3 and three soil samples from wells MW-4 and IN-1 were analyzed for TPH-g and MBTEX by EPA Method 8015/8021B and TPH-d, TPH-mo, and TPH-bo by method 8015C.

No TPH-g, TPH-d, TPH-mo, TPH-bo, BTEX or MTBE was reported in any of the soil samples analyzed from wells MW-1 through MW-4 at or above standard reporting limits. No TPH-g, TPH-mo, BTEX or MTBE was reported in soil samples from well IN-1.

The wells were initially developed on October 15, 2007. Depth to water at the time the wells were developed ranged from 11.00 feet bgs (IN-1) to 14.57 feet bgs (MW-4). On October 18, 2007, at the time of the initial sampling event, the depth to groundwater ranged from 10.89 feet bgs (IN-1) to 14.92 feet bgs (MW-4). Depth to water in the wells was on November 6, 2007 ranged from 8.00 feet bgs (MW-4) to 11.37 feet bgs (MW-2). The depth to water in well MW-4 was anomalously low when the wells were installed and at the three times depth to water was measured in October 2007

Groundwater elevations on November 6, 2007 ranged from 148.59 feet bgs (MW-3) to 151.69 feet bgs (MW-4). The direction of groundwater flow at the time of measurement was to the south southeast with a groundwater gradient of 0.002 ft/ft.

Groundwater samples from the October 18, 2007 groundwater monitoring event were analyzed for TPH-g, MBTEX by method SW8021B/8015Cm and Total petroleum Hydrocarbons as Bunker oil (TPH-bo – C10+), TPH-d (C10-23) and TPH-mo (C18+) by method SW8015C.

No TPH-g, BTEX or MTBE were present at or above standard reporting limits in any of the groundwater samples.

No TPH-bo, TPH-d, or TPH-mo, were reported in samples from wells MW-2 through MW-4 and IN-1 at or above detection limits of 100 μ g/L, 50 μ g/L, and 250 μ g/L, respectively. TPH-bo (C10+, middle - heavy residual fuel), TPH-d (C10 - 23, middle residual fuel), and TPH-mo (C28+ heavy residual fuel were reported in the water sample from well MW-1 at concentrations of 56 μ g/L, 140 μ g/L, and ND<250 μ g/L, respectively. The difference between concentrations reported for TPH-bo and TPH-d indicate that the heavy residual concentration was 86 μ g/L.

II Summary of Activities

On January 14, 2008, AEI conducted the regularly scheduled quarterly groundwater monitoring event at the site. The well caps were removed from each well (MW-1 to MW-4 and IN-1), allowing the wells to equilibrate with atmospheric pressure. The depth to groundwater was measured with an electric water level indicator.

Prior to sampling the wells, the well caps were all removed and the wells were allowed to equilibrate with the atmosphere for at least 15 minutes. The depth to water was then measured in each well to \pm 0.01 foot using an electronic depth to water meter. Each well purged using a peristaltic pump with ¹/₄-inch polyethylene drop tube. The wells were low flow ⁽¹²⁾ or micro-purged at a rate of approximately 0.5-liter per minute. During well purging temperature, pH, specific conductivity, dissolved oxygen, and oxidation-reduction potential (ORP) was measured at one-minute intervals. The wells were purged until

the three successive readings are within ± 0.1 for pH, $\pm 3\%$ for conductivity, ± 10 mv for ORP, and $\pm 10\%$ for temperature between three consecutive measurements or until the well dewatered. Visual estimates of turbidity were noted during the purging of the wells.

Once the groundwater parameters stabilized water samples were collected from each well using the peristaltic pump. Water samples were collected into containers with appropriate preservatives to each analysis. Samples for volatile analytes were collected into 40 milliliter (mL) hydrochloric acid preserved volatile organic analysis (VOA) vials, with zero headspace (no air bubbles). Samples were labeled with, at minimum, project number, sample number, time, date, and sampler's name. The samples were then entered on an appropriate chain-of-custody form and placed on water ice in the pre-chilled cooler pending same day transportation to the laboratory. Samples were transported the same day on ice under proper chain-of-custody protocol to McCampbell Analytical, Inc. of Pittsburg, California (Department of Health Services Certification #1644).

Five groundwater samples were analyzed for TPH-g, BTEX, and MTBE by EPA Methods SW8021B and SW8015Cm. Analysis for TPH-d was performed by EPA Method SW8015C.

III Field Results

No hydrocarbon odor was noted while groundwater was being purged from of the wells. No sheen was detected at any of the wells. Groundwater levels for the current monitoring episode ranged from 150.81 (MW-1) to 151.51 (MW-2) feet above mean sea level (amsl). The average groundwater elevation was 2.75 feet higher than at the time of the previous monitoring event. The direction of groundwater flow was to the southwest with a variable apparent hydraulic gradient ranging from 0.010 ft/ft to 0.029 ft/ft. Apparent gradients at the site have exhibited a high degree of variability since the wells were installed. This variability appears to be the result of sensitivity to rainfall and possibly due to local recharge from fractures in the underlying bedrock.

Water table contours and groundwater flow direction are shown in Figure 3. Groundwater elevation data are summarized in Tables 2 and 2a. Refer to Appendix A for the Groundwater Monitoring Well Field Sampling Forms.

IV Groundwater Quality

The TPH-d concentration in well MW-1 decreased from 56 μ g/L last quarter to ND<50 μ g/L. TPH-bo was reported as ND<250 μ g/L. TPH-g, BTEX and MTBE continued to be reported as not detectable at or above the laboratory reporting limits of 50 μ g/L, 0.5 μ g/L and 5.0 μ g/L respectively.

No TPH or MBTEX were reported at or above the laboratory reporting limits in the remaining groundwater monitoring wells (MW-2 through MW-4 and IN-1) during this event.

A summary of groundwater sample analytical data is presented in Table 3. Laboratory results and chain of custody documentation are included in Appendix B.

V Conclusions and Recommendations

No TPH-g, BTEX or MTBE were detected in any of the wells onsite during this groundwater monitoring event. The data from this and the previous monitoring event indicate that no significant hydrocarbon impact remains at the site. It appears that following the removal of the UST, natural attenuation mechanisms such as biodegradation and dispersion have reduced the contaminant concentrations to below detection limits. For this reason, AEI recommends immediate case closure for the site. A copy of the Case Closure Summary is attached as Appendix C.

VI Report Limitations and Signatures

This report presents a summary of work completed by AEI Consultants, including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide required information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses, observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

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These services were performed in accordance with generally accepted practices in the environmental engineering and construction field, which existed at the time and location of the work.

Please contact the undersigned for questions regarding the findings outlined in this report.

Sincerely,

AEI Consultants Calvin Hee Staff Engineer No. 5825 Robert F. Flory, P.G. Project Manager

Figures

Figure 1Site Location Map Figure 2Site Plan Figure 3Groundwater Gradients – 1/14/08 Figure 4Groundwater Analytical data – 1/14/08

Tables

Table 1	Well Construction Details
Table 2/2a	Historical Groundwater Elevation Data
Table 3	Historical Groundwater Data

Appendix A

Groundwater Monitoring Well Field Sampling Forms

Appendix B

Laboratory Analyses with Chain of Custody Documentation

Appendix C

Site Closure Summary

Previous Documentation

- 1. *Geotechnical Exploration and Engineering Study, Proposed Baker Road Apartments*, December 3, 1986, prepared by JMK Environmental Solutions, Inc.
- 2. Underground Storage Tank removal Final Report, May 19, 2004, prepared by AEI Consultants
- 3. *Workplan for Soil and Groundwater Investigation and Interim Source Removal*, September 20, 2007, prepared by AEI Consultants
- 4. Well Installation Report, November 29, 2007, prepared by AEI Consultants

Distribution:

Nat Piazza, 7613 Pepper Tree Road, Dublin, California, 94568-3343	2 copies
Steven Plunkett, Alameda County Environmental Health Services	electronic
GeoTracker	electronic

File

FIGURES









TABLES

Table 1: Well Construction Details

Piazza, 20957 Baker Road, Castro Valley, CA

Well ID	Date Installed (feet)	Top of casing (feet)	Top of Well Box (feet)	Depth To Water 01/14/08 (feet)	Casing Material	Total Depth Boring (feet)	Total Depth Well (feet)	Borehole Diameter (inches)	Casing Diameter (inches)	Screened Interval (feet)	Slot Size (inches)	Filter Pack Interval (feet)	Filter Pack Sand (feet)	Bentonite Interval (feet)	Grout Interval (feet)
IN-1	10/12/07	160.12	159.85		PVC	16.5	16.5	8 1/4	2.0	6.5-16.5	0.020	6.0-16.5	2/12	5.0-5.5	.05-5.0
MW-1	10/12/07	159.84	159.62		PVC	16.5	16.5	8 1/4	2.0	6.5-16.5	0.020	6.0-16.5	2/12	5.0-6.5	.05-5.0
MW-2	10/12/07	160.30	160.00		PVC	16.5	16.5	8 1/4	2.0	6.5-16.5	0.020	6.0-16.5	2/12	5.0-6.5	.05-5.0
MW-3	10/12/07	160.04	159.79		PVC	16.5	16.5	8 1/4	2.0	6.5-16.5	0.020	6.0-16.5	2/12	5.0-6.5	.05-5.0
MW-4	10/12/07	159.95	159.69		PVC	16.5	16.5	8 1/4	2.0	6.5-16.5	0.020	6.0-16.5	2/12	5.0-6.5	.05-5.0

Well ID	Date	Well Elevation (ft amsl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)	Elevation Change (ft)
IN-1	10/15/07	159.85	11.00	148.85	
	10/18/07	159.85	10.89	148.96	0.11
	10/22/2007*	159.85	10.93	148.92	-0.04
	11/06/07	159.85	11.20	148.65	-0.27
	01/14/08	159.85	8.39	151.46	2.81
MW-1	10/15/07	159.62	14.30	145.32	
	10/18/07	159.62	11.64	147.98	2.66
	10/22/07	159.62	10.86	148.76	0.78
	11/06/07	159.62	10.95	148.67	-0.09
	01/14/08	159.62	8.81	150.81	2.14
MW-2	10/15/07	160.00	13.28	146.72	
	10/18/07	160.00	11.74	148.26	1.54
	10/22/07	160.00	11.32	148.68	0.42
	11/06/07	160.00	11.32	148.65	-0.03
	01/14/08	160.00	8.49	151.51	2.86
MW-3	10/15/07	159.79	11.01	148.78	
112110	10/18/07	159.79	11.10	148.69	-0.09
	10/22/07	159.79	10.95	148.84	0.15
	11/06/07	159 79	11.20	148 59	-0.25
	01/14/08	159.79	8.41	151.38	2.79
MW-4	10/15/07	159.69	14.57	145.12	
	10/18/07	159.69	14.92	144.77	-0.35
	10/22/07	159.69	14.65	145.04	0.27
	10/22/07 Well loaded	l with fresh water- sur	ged for 15 minutes- w	ater level dropping slov	wly @ 4.0 feet hgs
	11/06/07	159.69	8.00	151.69	6.65
	01/14/08	159.69	8 77	150.92	-0.77

Table 2Groundwater Elevation DataPiazza, 20957 Baker Road, Castro Valley, CA

Depth to water measured from the top of well casing

ft amsl = feet above mean sea level

Table 2aGroundwater Elevation and GradientPiazza, 20957 Baker Road, Castro Valley, CA

Event	Date	Average Water	Water Table	Hydraulic Gradient	
		Table Elevation	Elevation Change	Flow Direction	
		(ft amsl)	(ft)	(ft/ft)	
Develop wells	10/15/07	147.42		variable	
1	10/18/07	148.47	1.06	variable	
Develop well MW- 4	10/22/07	148.80	0.33	variable	
	11/06/07	148.64	-0.16	0.002/SSE	
	01/14/08	151.22	2.58	0.010-0.029/SE	

Notes

Table 3 **Groundwater Analytical Data**

Sample	Date	Depth to	TPH-g	TPH-d	TPH-mo	TPH-bo	MTBE	Benzene	Toluene	Ethyl-	Xylenes
ID		Water	C6-C12	C10-C23	C18+	C10+				benzene	
		feet	μg/L		μg/L		μg/L	μg/L	μg/L	μg/L	µg/L
			E	PA Method 8	015			EP	PA Method 802	1B	
IN-1	10/18/07		ND<50	ND<50	ND<250	ND<100	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	1/14/2008		ND<50	ND<50		ND<250	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-1	10/18/07		ND<50	56	ND<250 (86) ¹	140^{-2}	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	1/14/2008		ND<50	ND<50		ND<250	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-2	10/18/07		ND<50	ND<50	ND<250	ND<100	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	1/14/2008		ND<50	ND<50		ND<250	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-3	10/18/07		ND<50	ND<50	ND<250	ND<100	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	1/14/2008		ND<50	ND<50		ND<250	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-4	10/18/07		ND<50	ND<50	ND<250	ND<100	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	1/14/2008		ND<50	ND<50		ND<250	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
RWQCB ESL	~S**		100	100	100		5.0	1.0	40	30	20

Piazza, 20957 Baker Road, Castro Valley, CA

Notes

BOLD = Current groundwater data

ft amsl = feet above mean sea level

TPH-g = total petroleum hydrocarbons as gasoline

TPH-d = total petroleum hydrocarbons as dieselTPH-bo = total petroleum hydrocarbons as bunker oil MTBE = methyl tert-butyl ether

TPH-mo = total petroleum hydrocarbons as motor oil

 $\mu g/L = micrograms$ per liter (parts per billion)

1 = value in parenthesis is approximate "residual fuel", C10+ value minus TPH-d value 2 = diesel range compounds are significant, no recognizable pattern

TPH-mo = total petroleum hydrocarbons as motor oil

ND = Not reported at or above the indicated method detection limit

** = RWQCB ESLs November 2007, TABLE F-1a. Groundwater Screening levels, Groundwater is a current or potential drinking water resource

APPENDIX A

Groundwater Monitoring Well Field Sampling Forms

Monitoring Well Number: MW-1

Project Name:	Nat Piazza	Date of Sampling: 1/14/2008
Job Number:	273928	Name of Sampler: A Nieto
Project Address:	20957 Baker Road, Castro valley, California	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")		2			
Wellhead Condition	ОК				
Elevation of Top of Casing (feet above msl)	159.62				
Depth of Well	16.50				
Depth to Water (from top of casing)	9.81				
Water Elevation (feet above msl)	149.81				
Well Volumes Purged	Micropurged				
Actual Volume Purged (liters)	4.0				
Appearance of Purge Water	Clear				
Free Product Present?	No	Thickness (ft):			

GROUNDWATER SAMPLES

Number of Sample		3 - 40 ml VOA, 1 1-liter Amber,					
Time	Vol Removed (liter)	Temperature (deg C)	рН	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	1liter	20.09	7.10	2660	3.41	73.1	clear
	2liters	20.03	7.07	2651	3.26	74.8	clear
	3liters	20.00	7.06	2598	3.28	76.9	clear
	4liters	19.94	7.04	2539	3.29	78.6	clear

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Purge water clear with no odor						
Tubin line at 15 feet deep						

Monitoring Well Number: MW-2

Project Name:	Nat Piazza	Date of Sampling: 1/14/2008
Job Number:	273928	Name of Sampler: A Nieto
Project Address:	20957 Baker Road, Castro valley, California	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")		2			
Wellhead Condition	ОК				
Elevation of Top of Casing (feet above msl)	160.00				
Depth of Well	16.50				
Depth to Water (from top of casing)	8.49				
Water Elevation (feet above msl)	151.51				
Well Volumes Purged	Micropurged				
Actual Volume Purged (liters)	4.0				
Appearance of Purge Water	Clear				
Free Product Present?	No	Thickness (ft):			

GROUNDWATER SAMPLES

Number of Samples/Container Size			3 - 40 ml VOA, 1 1-liter Amber				
Time	Vol Removed (liter)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	1liter	19.22	7.01	1098	2.03	66.1	clear
	2liters	19.18	6.95	1076	1.92	73.4	clear
	3liters	19.09	6.86	1037	1.96	80.7	clear
	4liters	19.12	6.83	1026	1.98	84.2	clear

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Purge water clear with no odor

Monitoring Well Number: MW-3

Project Name:	Nat Piazza	Date of Sampling: 1/14/2008
Job Number:	273928	Name of Sampler: A Nieto
Project Address:	20957 Baker Road, Castro valley, California	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")		2		
Wellhead Condition	ОК			
Elevation of Top of Casing (feet above msl)	159.79			
Depth of Well		16.50		
Depth to Water (from top of casing)	8.41			
Water Elevation (feet above msl)	151.38			
Well Volumes Purged	Micropurged			
Actual Volume Purged (liters)	2.0			
Appearance of Purge Water		Clear		
Free Product Present?	No	Thickness (ft):		

GROUNDWATER SAMPLES

Number of Samples/Container Size			3 - 40 ml VOA	A, 1 1-liter Am	ber,		
Time	Vol Removed (liter)	Temperature (deg C)	рН	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	1liter	18.08	6.71	1049	0.37	60.3	clear
	2liters	18.14	6.68	1042	0.35	57.0	clear
	3liters	18.19	6.65	1036	0.33	55.7	clear
	4liters	18.18	6.62	1031	0.32	55.3	clear

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Purge water clear with no odor
300 RPM'S

Monitoring Well Number: MW-4

Project Name:	Nat Piazza	Date of Sampling: 1/14/2008
Job Number:	273928	Name of Sampler: A Nieto
Project Address:	20957 Baker Road, Castro valley, California	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")		2		
Wellhead Condition	OK			
Elevation of Top of Casing (feet above msl)	159.69			
Depth of Well		16.50		
Depth to Water (from top of casing)	8.77			
Water Elevation (feet above msl)	150.92			
Well Volumes Purged	Micropurged			
Actual Volume Purged (liters)	2.0			
Appearance of Purge Water	Clear			
Free Product Present?	No	Thickness (ft):		

GROUNDWATER SAMPLES

Number of Samples/Container Size			3 - 40 ml VOA, 1 1-liter Amber,				
Time	Vol Removed (liter)	Temperature (deg C)	рН	Conductivity (µS/cm)	DO (mg/L)	ORP (meV)	Comments
	1liter	17.72	7.25	2442	2.09	59.2	clear
	2liters	17.67	7.24	2432	2.13	60.0	clear
	3liters	17.56	7.18	2389	2.40	64.4	clear
	4liters	17.59	7.15	2376	2.01	63.3	clear

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Tubing line at 12 feet deep Purge water clear with no odor

Water turned brown at 2 liters

Monitoring Well Number: IN-1

Project Name:	Nat Piazza	Date of Sampling: 1/14/2008
Job Number:	273928	Name of Sampler: A Nieto
Project Address:	20957 Baker Road, Castro valley, California	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")		2		
Wellhead Condition	ОК			
Elevation of Top of Casing (feet above msl)	159.85			
Depth of Well	16.50			
Depth to Water (from top of casing)	8.39			
Water Elevation (feet above msl)	151.46			
Well Volumes Purged	Micropurged			
Actual Volume Purged (liters)	4.0			
Appearance of Purge Water		Clear		
Free Product Present?	No	Thickness (ft):		

GROUNDWATER SAMPLES

Number of Samples/Container Size			3 - 40 ml VOA	A, 1 1-liter Am	ber,		
Time	Vol Removed (liter)	Temperature (deg C)	рН	Conductivity (μS/cm)	DO (mg/L)	ORP (meV)	Comments
	1liter	19.96	6.50	1105	0.87	88.5	clear
	2liters	20.06	6.47	1099	0.65	87.2	clear
	3liters	20.03	6.46	1080	0.62	86.1	clear
	4liters	20.01	6.45	1077	0.58	86.4	clear

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Purge water clear with no odor. Tubin line at 12 feet deep with geo pump head set at 300rpm's

APPENDIX B

Laboratory Analytical Reports With Chain of Custody Documentation

McCampbell An "When Ouality	1534 Will Web: www.mc Telepho	low Pass Road, Pittsburg, campbell.com E-mail: m one: 877-252-9262 Fax:	CA 94565-1701 aain@mccampbell.com 925-252-9269	
AEI Consultants	3; Piazza	Date Sampled:	01/14/08	
2500 Camino Diablo, Ste. #200		Date Received:	01/14/08	
Walnut Creek, CA 94597	Client Contact: Robert Flo	ory	Date Reported:	01/17/08
	Client P.O.:		Date Completed:	01/17/08

WorkOrder: 0801339

January 17, 2008

Dear Robert:

Enclosed within are:

- 1) The results of the **5** analyzed samples from your project: **#273928; Piazza**,
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager McCampbell Analytical, Inc.

McCampbell Analytical, Inc.

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1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

(925) 252-9262				WorkO	order: 080133	9 ClientI	D: AEL	
			EDF	Excel	Fax	🖌 Email	HardCopy ThirdParty	/
Report to:				В	sill to:		Requested TAT:	5 days
Robert Flory AEI Consultants 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Email: TEL: ProjectNo: PO:	rflory@aeiconsult (925) 283-6000 #273928; Piazza	ants.com FAX: (925) 28	33-6121	Denise Moc AEI Consult 2500 Camin Walnut Cree dmockel@a	kel ants lo Diablo, Ste. #200 ek, CA 94597 eiconsultants.com	0 Date Received: Date Printed:	01/14/2008 01/16/2008
						Requested Tests	s (See legend below)	

									9400104		000.09	0114 801	•,			
Sample ID	ClientSampID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
0801339-001	MW-1	Water	01/14/2008		А	А	В									
0801339-002	MW-2	Water	01/14/2008		Α		В									
0801339-003	MW-3	Water	01/14/2008		А		В									
0801339-004	MW-4	Water	01/14/2008		А		В									
0801339-005	IN-1	Water	01/14/2008		А		В									

Test Legend:

1	G-MBTEX_W	2	2 PREDF REPORT		3	TPH(D)_W		4	5
6		7	7] [8]	9	10
11		1	2]					

Prepared by: Samantha Arbuckle

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.



McCampbell Analytical, Inc. "When Ouality Counts"

Sample Receipt Checklist

Client Name:	AEI Consultants				Date ar	nd Time Received:	01/14/08 5	:15:54 PM
Project Name:	#273928; Piazza				Checkl	list completed and re	eviewed by:	Samantha Arbuckle
WorkOrder N°:	0801339	Matrix <u>Water</u>			Carrier	: <u>Client Drop-In</u>		
		Chain	of Cu	stody (CC	C) Informat	tion		
Chain of custody	/ present?		Yes		No 🗆			
Chain of custody	/ signed when relinqui	shed and received?	Yes	\checkmark	No 🗆			
Chain of custody	agrees with sample	abels?	Yes	\checkmark	No 🗌			
Sample IDs noted	d by Client on COC?		Yes	\checkmark	No 🗆			
Date and Time of	f collection noted by Cl	ient on COC?	Yes	✓	No 🗆			
Sampler's name	noted on COC?		Yes	\checkmark	No 🗆			
		Sa	ample	Receipt I	nformation			
Custody seals in	tact on shipping conta	iner/cooler?	Yes		No 🗆		NA 🔽	
Shipping contain	er/cooler in good conc	lition?	Yes	\checkmark	No 🗆			
Samples in prop	er containers/bottles?		Yes	\checkmark	No 🗆			
Sample containe	ers intact?		Yes	\checkmark	No 🗆			
Sufficient sample	e volume for indicated	test?	Yes	\checkmark	No 🗌			
		Sample Preser	vatio	and Hold	d Time (HT)	Information		
		<u>oumple rreser</u>	Tution			momuton		
All samples rece	ived within holding tim	e?	Yes		No			
Container/Temp	Blank temperature		Coole	er Temp:	3.8°C		NA	
Water - VOA via	ls have zero headspa	ce / no bubbles?	Yes	\checkmark	No 🗆	No VOA vials submi	itted	
Sample labels cl	hecked for correct pre	servation?	Yes	✓	No 🗌			
TTLC Metal - pH	acceptable upon rece	ipt (pH<2)?	Yes		No 🗆		NA 🗹	

Client contacted:

Date contacted:

Contacted by:

Comments:

	McCampbell	Analy	tical, Inc	<u>.</u>	1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269						
AEI C	Consultants		Client Proj	ect ID: #	273928; Pia	azza		Date Sample	ed: 01/14/08		
2500	Camino Diablo, Ste. #200							Date Receiv	ed: 01/14/08		
Walni	ut Creek CA 9/597		Client Cor	ntact: Ro	bert Flory			Date Extract			
vv anno	n Clock, CH 94397		Client P.O	.:				Date Analyz	ed 01/15/08		
Extracti	Gasolin on method SW5030B	ne Range ((C 6-C12) Vola Anal	atile Hydr	rocarbons a is SW8021B/	is Gaso 8015Cm	line with BTF	X and MTBE	* Work Order	: 0801	339
Lab ID	Client ID	Matrix	TPH(g)	TPH(g) MTBE Benzene Toluene				Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	ND	ND	١	ID	ND	ND	ND	1	85
002A	MW-2	w	ND	ND	١	ID	ND	ND	ND	1	88
003A	MW-3	w	ND	ND	١	ID	ND	ND	ND	1	88
004A	MW-4	W	ND	ND	١	ID	ND	ND	ND	1	89
005A	IN-1	W	ND	ND	١	ID	ND	ND	ND	1	92
Rej	porting Limit for DF =1;	W	50	5.0	().5	0.5	0.5	0.5	1	µg/L
ND ał	means not detected at or howe the reporting limit	S	NA	NA	N	IA	NA	NA	NA	1	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request; p) see attached narrative.



	Campbell Analyti	ical, I	[<u>nc.</u>	1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269						
AEI Consultar	nts	Client	Project ID:	#273928; Piazza	Date Sampled: 01/	/14/08				
2500 Camino I	Diablo, Ste. #200				Date Received: 01/	ed: 01/14/08				
Walnut Creek.	CA 94597	Client	Contact: Ro	obsert FloryDate Extracted: 01/14/08						
Walling Crook,		Client	P.O.:		Date Analyzed 01/	/14/08-01/	15/08			
Dies Extraction method:	el Range (C10-C23) & Bunk SW3510C	ker Oil F	Range (C10+) Analytical metho	+) Extractable Hydrocarbons as Diesel & Bunker Oil* thods: SW8015C Work Order: 0801339						
Lab ID	Client ID	1	Matrix	TPH(d)	TPH(bo)	DF	% SS			
0801339-001B	MW-1		W	ND	ND	1	97			
0801339-002B	MW-2		W	ND	ND	1	95			
0801339-003B	MW-3		W	ND	ND	1	96			
0801339-004B	MW-4		W	ND	ND	1	96			
0801339-005B	IN-1		W	ND	ND	1	96			
Rep	porting Limit for DF =1;		W	50	250	μg	y/L			
	means not detected at or ove the reporting limit		S	NA	NA	mg	/Kg			

* water samples are reported in μ g/L, wipe samples in μ g/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in μ g/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range/jet fuel range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.





"When Ouality Counts"

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0801339

EPA Method SW8021B/8015Cm	Extra	Extraction SW5030B				BatchID: 33177				piked Sample ID: 0801335-003A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	e Criteria (%))		
7 tildiyte	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD		
TPH(btex ^f)	ND	60	109	112	2.64	107	107	0	70 - 130	30	70 - 130	30		
MTBE	ND	10	102	103	0.727	122	119	2.54	70 - 130	30	70 - 130	30		
Benzene	ND	10	101	97.7	3.75	104	96.7	7.71	70 - 130	30	70 - 130	30		
Toluene	ND	10	101	97	4.44	115	107	7.92	70 - 130	30	70 - 130	30		
Ethylbenzene	ND	10	106	101	4.33	112	104	7.62	70 - 130	30	70 - 130	30		
Xylenes	ND	30	117	110	5.88	123	113	8.45	70 - 130	30	70 - 130	30		
%SS:	88	10	92	93	0.433	95	88	7.66	70 - 130	30	70 - 130	30		
All target compounds in the Method I NONE	3lank of this	extraction	batch we	ere ND les	ss than the	method F	RL with th	ne following	exceptions:					

BATCH 33177 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801339-001A	01/14/08 11:40 AM	01/15/08	01/15/08 10:19 AM	0801339-002A	01/14/08 11:00 AM	01/15/08	01/15/08 8:05 AM
0801339-003A	01/14/08 12:30 PM	01/15/08	01/15/08 8:38 AM	0801339-004A	01/14/08 12:00 PM	01/15/08	01/15/08 9:12 AM
0801339-005A	01/14/08 11:20 AM	01/15/08	01/15/08 9:46 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

 \pounds TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.





1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0801339

EPA Method SW8015C	PA Method SW8015C Extraction SW3510C						175	Sp	Spiked Sample ID: N/A			
Analyte	Sample Spiked MS MSD			MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)				
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(d)	N/A	1000	N/A	N/A	N/A	109	109	0	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	97	97	0	N/A	N/A	70 - 130	30
All target compounds in the Method E NONE	3lank of this	extraction	batch we	ere ND les	ss than the	method F	RL with th	ne following	exceptions:			

BATCH 33175 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0801339-001B	01/14/08 11:40 AM	01/14/08	01/14/08 9:06 PM	0801339-002B	01/14/08 11:00 AM	01/14/08	01/14/08 10:16 PM
0801339-003B	01/14/08 12:30 PM	01/14/08	01/14/08 11:25 PM	0801339-004B	01/14/08 12:00 PM	01/14/08	01/15/08 12:35 AM
0801339-005B	01/14/08 11:20 AM	01/14/08	01/15/08 1:44 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



A QA/QC Officer

APPENDIX C

Site Closure Summary

CASE CLOSURE SUMMARY

I. AGENCY INFORMATION

Agency Name: Alameda County Environmental health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, California 94502	Phone: 510-383-1767
Responsible Staff Person: Steven Plunkett	Title: Hazardous Materials Specialist

II. SITE INFORMATION

Site Facility Nat	me: Nat Piazza Prop	perty					
Site Facility Address: 20957 Baker Road, Castro valley, CA 94565							
RB Case Nos.: Local or LOP Case No.: RO00002739 Priority: Low							
URF Filing Date: SWEEPS No.:							
Responsible Par	ties (include address	es and phone numbers)					
Nat and Darler	Nat and Darlene Piazza, 7613 Peppertree Road, Dublin, CA 94568						
Home: 925-828-1577 Fax: 925-828-1538							
Tank No.	Size in Gallons	Contents	Closed In—Place/Removed?		Date		
1	1000	gasoline	Removed		4/21/2004		
2	1000	diesel	Removed		4/21/2004		

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Leaking UST						
Site characterization complete? Yes	Date Approved by Oversight Agency:					
Monitoring wells installed? Yes	Number: 5	Proper screened interval? yes				
Highest GW Depth Below Ground Surface: 14.92	Lowest Depth: 8.39	Flow Direction: SE				
Most Sensitive Current Use: Commercial/Industrial						
Most Sensitive Potential Use Residential and Probability of Use						
Are drinking water wells affected? No	Aquifer Name:					
Is surface water affected? No	Nearest surface water name: San Lorenzo creek					
Off-Site Beneficial Use Impacts (Addresses/Locations): None						
Report(s) on file? Yes	Where is report(s) filed? ACEH/GeoTracker					

	TREATMENT AND DISPOSAL OF AFFECTED MATERIAL											
Material Amount (Include Units) Action (Treatment or Disposal w/Destin						Destinat	ion)	Date				
Tanks		2 1	1000 gallo	n tanks	Triple rinse removal and disposal ECI						4/21/2004	
Piping		unknown			Removal and disposal by ECI 4/21/2004						21/2004	
Free Product		Tr	ace/tank c	ontents	disposal by Excel 4/21/2004						21/2004	
Soil			unknov	vn	unknown							
Groundwater			None rem	oved	Biodegradation/natural attenuation					То	To date	
Barrels												
MAXIMUM DOCUMENTED POLLUTANT CONCENTRATIONS—BEFORE AND AFTER CLEANUP												
POLLUTANT		Soil (p	opm)	Water	· (ppb)	POLLUTANT	Soil (ppm)		١	Water (ppb)		
	Be	fore	After	Before	After		Before	Afte r	Befo	ore	After	
TPH-mo	-			1,400	ND<250	Toluene	ND<1.7		ND<	1.7	ND<0.5	
TPH-d	10	,000		23,000	ND<50	Xylenes	8.4		27	,	ND<0.5	
TPH-g	1,	400		7,300	ND<50							
MTBE	ND)<17		ND<5.0	ND<5.0							
Benzene	ND)<1.7		ND<1.7	ND<0.5							
Ethylbenzene	ND	<1.7		11	ND<0.5							
Comments (D No TPH-g, -d,	epth , mo a	of Ren above 1	nediation, .00 ug/L in	etc.): 1 groundwat	er from wel	ls.						

x:\projects\characterization & remediation\characterization\273928 wi (piazza) castro valley - (RFF)\case closure summary.doc 2

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes						
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes						
Does corrective action protect public health for current land use? Yes						
Site Management Requirements: NONE						
Should corrective action be reviewed if land use changes: NO						
Monitoring Wells Decommissioned: None to date	Number Decommissioned: 0	Number Retained: 5				
List Enforcement Actions Taken: None						
List Enforcement Actions Rescinded: None						

V. TECHNICAL REPORTS, CORRESPONDENCE, ETC., THAT THIS CLOSURE RECOMMENDATION WAS BASED UPON

Well Installation Report, 11/29/07	
Groundwater Monitoring Report, 1st Quarter 2008, 2/29/08	

VI. ADDITIONAL COMMENTS, DATA, ETC.

See referenced reports

This document and the related CASE CLOSURE LETTER shall be retained by the lead agency as part of the official site file.