



Brunsing Associates, Inc.

March 21, 2013

Project No. 12336.01

Mr. Eric Reid
Sonoma Mountain Village
1212 Valley House Drive, Building 1400
Rohnert Park, California 94928

**Report of Findings
Phase II Environmental Site Assessment
Building 1400
Sonoma Mountain Village
Rohnert Park, California**

Dear Mr. Reid:

This report presents the results of a Phase II Environmental Site Assessment (ESA) performed by Brunsing Associates, Inc. (BAI) for a site at Building 1400 in Sonoma Mountain Village at 1212 Valley House Drive, in Rohnert Park, California (Plate 1). Our scope of work was based on Environmental Review No. SF12-042292, prepared by Wells Fargo Bank (Wells Fargo) and dated January 24, 2013. The focus of this ESA was an existing underground storage tank (UST) used to store diesel fuel for a backup generator. The UST is operated under an active permit from Sonoma County Department of Emergency Services.

Scope of Work

As part of our Phase II ESA, BAI performed the following activities:

- Obtain a Sonoma County Environmental Health Department (the County) Drilling Permit.
- Drill four 25-foot borings and obtain soil samples at depths of 15, 20, and 25 feet.
- Drill two (2) 5-foot borings and obtain soil samples at 5 feet along UST piping.
- Analyze 15 soil samples for total petroleum hydrocarbons (TPH) as Diesel.
- Submit the results completed activities in a brief letter.

Our boring locations are shown on Plate 1.

Investigation

BAI obtained the County drilling permit number SR0011413, dated February 21, 2013. A copy of the County Permit is attached as Appendix A. On February 26, 2013, BAI's drilling subcontractor Clear Heart Drilling, LLC installed the borings under the direction of BAI's geologist Jamie Wilen. The boring were drilled utilizing 4-inch diameter flight augers. Our geologist logged the borings and obtained soil samples for analytical testing. The soil boring logs and key to the Unified Soil Classification System are presented in Appendix B. The borings around the UST extended approximately 25 feet below ground surface (bgs); soil samples were obtained every 5 feet starting at 15 feet bgs. Borings adjacent to the piping extended 5 feet bgs, with one sample being obtained the bottom of each boring.

Soil samples were collected using a split-spoon sampler lined with brass tubes. They were screened in the field using a photoionization detector (PID) to check for the presence of volatile organic compounds. The ends of the brass tubes containing the soil samples were covered with Teflon sheets and sealed with plastic caps. The samples were labeled and stored in a cooled ice chest until delivery to BACE Analytical and Field Testing, a State Certified analytical laboratory, under proper chain-of-custody protocol.

Soil samples from six soil borings were analyzed for TPH as diesel using EPA Test Method 8015. Samples containing detectable concentrations of TPH as diesel would also analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), using EPA Test Method 8260B.

Sampling equipment was decontaminated by means of a three bucket wash and the augers were cleaned by means of high pressure wash. The borings were backfilled from the bottom to within 6 inches of the ground surface using cement/bentonite grout. Lean concrete or asphalt patch was placed to match the surface grade. The soil and water generated were placed in labeled 55-gallon drums and stored onsite pending proper disposal.

Results

Sample depths and analytical test results are summarized in Table 1. As shown, the fifteen soil samples from the six borings reported nondetectable concentrations of TPH as diesel. Based on the TPH as diesel results, none of the samples were analyzed for BTEX. A copy of the analytical laboratory report is presented in Appendix C.

Conclusions

Borings BAI -1 and -2 were located in the approximate down gradient position of the regional groundwater flow direction. Boring BAI-3 was placed near the UST fill pipe. Boring BAI-4 was placed at the fuel line/UST connection area. BAI-5 was placed adjacent to the fuel supply line. BAI-6 was placed at the 90⁰ –elbow joint where the fuel supply lines trends toward the generator.




Mr. Eric Reid
March 21, 2013
Page 3

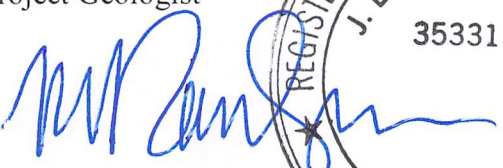
Based on the lack of TPH as diesel in the 15 soil samples, BAI concludes that there has not been an impact to the soil in the vicinity of the diesel fuel UST and the associated piping, and thus no further characterization work is necessary.


As required in the Wells Fargo Environmental Review No. SF12-042292, resumes of the Environmental Professionals are attached as Appendix D. If you have any questions, please contact Bill Coset at (707) 838-3027.

Sincerely yours,

BRUNSING ASSOCIATES, INC.


William H. H. Coset
Project Geologist


J. Erich Rauber, P.E.
Principal Engineer



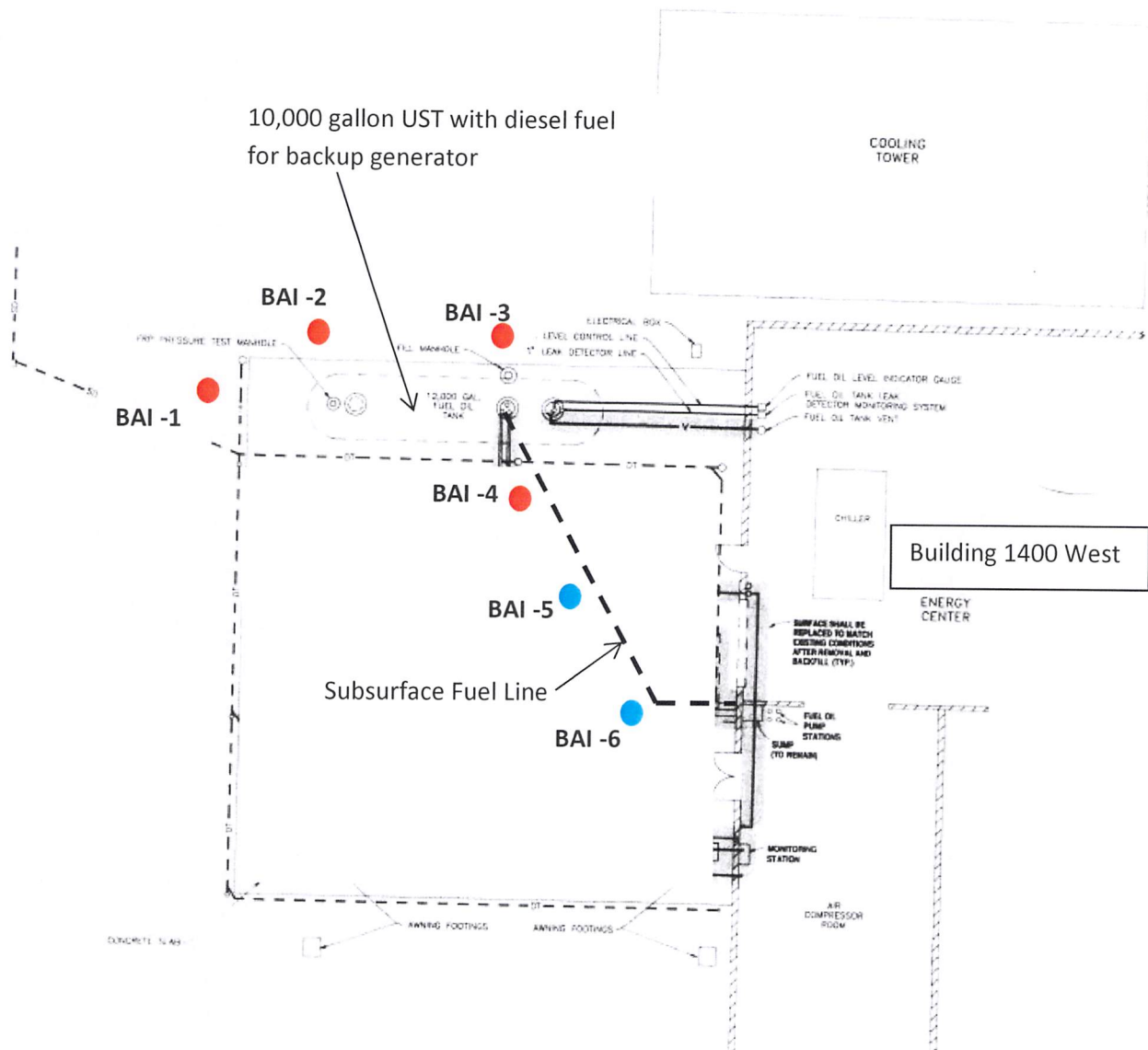
cc: Mr. William Bater, Wells Fargo Bank

Attachments:

Plate 1 – Site Map, Soil Boring Locations

Appendix A - Sonoma County Environmental Health Department Drilling Permit
Appendix B - Soil Boring Logs and Unified Soil Classification System Key
Appendix C - Analytical Laboratory Report
Appendix D – Environmental Professional Resumes





Ref: Plan of Existing Tanks and Piping, Tank Removal/Retrofit Program,
by Levine Fricke Consulting Engineers, September 20, 1989

BAI -4 ● 25-foot Deep Boring Location

BAI -6 ● 5-foot Deep Boring Location

UST - Underground Storage Tank



Approximate Scale



Brunson Associates, Inc.
5468 Skylane Boulevard
Santa Rosa, California 95403
707-838-3027

Job No.: 12336.01

Appr.:

Date: 3/20/2013

SITE MAP

Soil Boring Locations
Phase II Soil Sampling
1212 Valley House Drive, Bldg 1400
Rohnert Park, California

Plate

1

TABLE 1
Analytical Results Summary of Phase II Soil Samples
Sonoma Mountain Village
1212 Valley House Drive
Rohnert Park, California

Boring Number	Location	Date Sampled	Sample Depth (ft)	TPH as Diesel (mg/kg)
BAI-1	Downgradient of UST	2/26/2013	15.0	<2.0
		2/26/2013	20.0	<2.0
		2/26/2013	25.0	<2.0
BAI-2	Downgradient of UST	2/26/2013	15.0	<2.0
		2/26/2013	20.0	<2.0
		2/26/2013	25.0	<2.0
BAI-3	Adjacent to fill pipe	2/26/2013	15.0	<2.0
		2/26/2013	20.0	<2.0
		2/26/2013	25.0	<2.0
BAI-4	Adjacent to fuel line	2/26/2013	5.0	<2.0
		2/26/2013	15.0	<2.0
		2/26/2013	20.0	<2.0
		2/26/2013	25.0	<2.0
BAI-5	Fuel line	2/26/2013	5.0	<2.0
BAI-6	Fuel line	2/26/2013	5.0	<2.0

NOTES:

mg/kg = milligrams per kilogram

na = not analyzed

Less than symbol (<) indicates not detected at given reporting limit

Sample Depth is in feet below ground surface

TPH as diesel - Total Petroleum Hydrocarbons as Diesel by EPA Test Method 8015B



Appendix A

Sonoma County Environmental Health Department Drilling Permit



COUNTY OF SONOMA — DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL HEALTH DIVISION
475 Aviation Blvd., Suite 220, Santa Rosa, CA 95403
Phone (707) 565-6565 Fax (707) 565-6525 www.sonoma-county.org

APPLICATION FOR DRILLING PERMIT

for Regional Board Lead/Environmental Assessment / LOP Lead

FEB 19 2013
ENVIRONMENTAL
HEALTH DIVISION

For Office Use Only
Amount paid \$552.00
Receipt number 607B
Payment date 2/19/13 Rev. code 1348
Site ID# EA0039008
Permit # SR0011413

Well type: ☐ Monitoring well ☐ Recovery extraction well ☐ Boring ☐ Injection well ☐ Destruct ☒ Environmental assessment
☐ Soil gas survey ☐ Direct push ☐ Air sparging/venting ☐ Remediation well ☐ Other

Well depth Boring depth 25'

On-site well/boring 5 ID# B-1 thru B-5 # Off-site well/boring ID#

Submit legal right-of-entry/off-site well address/encroachment permit

On-site Address 1212 Valley House Dr. AP# 046-051-045

Facility Name Sonoma Mountain Village

On-site Owner Sonoma Mountain Village, LLC Phone

Street 1212 Valley House Dr. Cityohnert Park StateCA Zip94928

Responsible Party - Same Phone 707-795-3550 ext. 134

Street City State Zip

Consultant Bruning Associates, Inc. Phone 838-3027

Street 5468 Skylane Blvd., Ste 201 City Santa Rosa StateCA Zip 95403

License #/Type 39434 CA PE

Drilling Contractor Clear Heart Drilling, Inc. Phone 707-568-6095

Street 555 W. College Ave. Suite B City Santa Rosa StateCA Zip 95401

C-57 License # 780357

Type of work: ☒ Initial investigation # Wells ☐ Subsequent investigation # Wells ☐ Destruct # Wells

Groundwater investigation due to: ☐ Underground tank ☐ Surface impoundment ☒ Environmental assessment
☐ Surface disposal practice—specify involved industry
☐ Other

Perforated intervals Chemical constituents

Disposal method for soil cuttings off-site Disposal method for development water off-site

Drilling method 4-in OD solids/ 8-in HSS Method of drill equip. rinsate containment 55-gallon drum

If destroying a well, abandonment method

Submit plot plan of wells in relation to all sewer or septic lines.

Is well to be constructed within: 100 feet of a septic tank or leachfield? ☐ Yes ☒ No
50 feet of any sanitary sewer line? ☐ Yes ☒ No
25 feet of any private sanitary sewer line? ☐ Yes ☒ No

In addition, all monitoring wells must include identification system affixed to interior surface:

1) Well identification 2) Well type 3) Well depth 4) Well casing diameter 5) Perforated intervals

Well identification number and well type shall be affixed to the exterior surface security structure.

02/19/13



17604*#
001348D
ENVDRILL 552.00
TTLAMT 552.00
CHECKS 552.00
CHANGE 0.00
607B #2 7:45

For Office Use Only	
Address	1212 Valley House
Site ID#	FA0039008
Permit #	SR0011413

I hereby agree to comply with all laws and regulations of the County of Sonoma and State of California pertaining to water well construction. I will telephone (707) 565-6565, 48 hours in advance, to notify the Environmental Health Specialist when completing or destroying a well. I will furnish the Director of Health Services and the owner a legible copy of the State Water Well Driller's Report within 15 days; and a copy of the Summary Report, including sample results, should be received by this Department within 90 days in order to obtain final approval on this well permit. I acknowledge that the application will become a permit *only* after site approval and payment of fee. I understand that this permit is not transferable and expires one year from date of issuance.

Signature of Well Driller—*no proxies* Dani White Date 2/14/2013
 Insurance Carrier State Fund Expiration Date 1/1/13

Once all wells/borings are installed, submit a Well Driller's Log and/or Summary Report to complete permit process.

Indicate on attached plot plan the exact location of well(s) with respect to the following items: property lines, water bodies or water courses drainage pattern, roads, existing wells, sewer main and laterals and private sewage disposal systems or other sources of contamination or pollution. INCLUDE DIMENSIONS. The validity of this permit depends upon the accuracy of the information provided by the applicant.

Conditions of permit:

Please submit an environmental assessment
report when completed.

FOR OFFICE USE ONLY – ENVIRONMENTAL HEALTH DIVISION

Permit approved by Matt L. Valenzuela Date 2, 21, 13

Constr. approved by _____ Observed? [] Yes [] No Well # _____ Date ____/____/____

RWQCB / LOP approval _____ Date ____/____/____

Appendix B

Soil Boring Logs and Unified Soil Classification System Key



DRILLING CONTRACTOR: Clear Heart Drilling, Inc.

LOGGED BY: JEW

SHEET 1 OF 1

DRILLING METHOD: Solid Stem Auger

DRILLING STARTED: 2/26/13

ENDED: 2/26/13

DRILLING EQUIPMENT: CME-75

SAMPLE INFORMATION						DESCRIPTION	STRATA		
DEPTH FEET	LAB SAMPLE	SAMPLE TYPE	BLOW COUNTS	Recovery (%)	PID (ppm)				
						BLACK/GRAY ASPHALT CONCRETE			
						GRAY BROWN SILTY SANDY GRAVEL (GM)			
						loose, dry to damp			
						REDDISH BROWN SILTY SAND (SM)			
						loose, damp, medium to low grained			
						DARK GRAY-BROWN SILTY CLAY (CL)			
						with sand			
5						soft, damp			5
						DARK GRAY-BROWN SILTY CLAY (CL)			
						with sand			
						soft, damp, less sand, color change to lighter brown			
10						DARK GRAY-BROWN TO LIGHT BROWN SILTY CLAY (CL) with sand			10
						soft to medium stiff, damp to moist			
						LIGHT BROWN SILTY CLAY WITH SAND (CL)			
						medium stiff, damp to moist, occasional to rare rounded pea gravel sized gravel and rock fragments, rare carbonized wood			
15			11 20 27						15
						LIGHT BROWN TO OLIVE BROWN SILTY SANDY CLAY (CL)			
						medium stiff, damp to moist with depth, sandier with depth			
20			11 17 23			LIGHT BROWN TO OLIVE BROWN CLAYEY SILTY SAND (SM)			20
						medium dense, moist, occasional to rare pea gravel sized pebbles and rock fragments			
						OLIVE BROWN CLAYEY SILTY SAND (SM)			
25			18 22 37			medium dense to dense with depth, moist to wet with depth, occasional to rare peagravel sized pebbles and rock fragments			25
						Notes: 1. Completed to 25.5 feet below ground surface at 9:40am 2. Water encountered at 20 feet below ground surface 3. Backfilled with grout by 9:55am 4. No caving			

* See key sheet for symbols and abbreviations used above.

Scale: 1" = 5'



Brunsing Associates, Inc.
5468 Skylane Blvd., Suite 201
Santa Rosa, California 95403
Tel: (707) 838-3027

Job No.: 12336.01
Appr.:
Date: 03/21/13

LOG OF BORING BAI-1
SOIL SAMPLING PHASE II
1400 VALLEY HOUSE DRIVE
Rohnert Park, California

PLATE
B-1

DRILLING CONTRACTOR: Clear Heart Drilling, Inc.

LOGGED BY: JEW

SHEET 1 OF 1

DRILLING METHOD: Solid Stem Auger

DRILLING STARTED: 2/26/13

ENDED: 2/26/13

DRILLING EQUIPMENT: CME-75

SAMPLE INFORMATION						DESCRIPTION	STRATA		
DEPTH FEET	LAB SAMPLE	SAMPLE TYPE	BLOW COUNTS	Recovery (%)	PID (ppm)				
						BLACK-GRAY ASPHALTIC CONCRETE			
						GRAY-BROWN SILTY SANDY GRAVEL (GM) loose, dry (baserock)			
5						DARK GRAY-BROWN TO MEDIUM BROWN SILTY CLAY (CL) with sand soft, damp			5
						DARK GRAY-BROWN TO LIGHT BROWN SILTY CLAY (CL) with sand soft, damp			
10						DARK GRAY-BROWN SILTY CLAY (CL) trace sand soft to medium stiff, damp, trace organics (rootlets)			10
						DARK GRAY-BROWN SILTY CLAY (CL) trace sand soft to medium stiff, damp, trace organics (rootlets)			
15			12 17 20			LIGHT BROWN TO OLIVE BROWN SILTY SANDY CLAY (CL) trace pebbles medium stiff, damp to moist, trace peagavel sized pebbled and rock fragments sandier with depth, lighter color with depth sandier with depth			15
20			6 11 13			OLIVE BROWN CLAYEY SILTY SAND (SM) trace pebbles loose to medium dense, moist to wet with depth			20
25			21 29 42			OLIVE BROWN CLAYEY SILTY SAND (SM) trace pebbles medium dense to dense, moist			25

Notes:

1. Completed to 25.5 feet below ground surface at 10:50am
2. Water encountered at 22 feet below ground surface
3. Backfilled with grout by 11:05am
4. No caving

* See key sheet for symbols and abbreviations used above.

Scale: 1" = 5'



Brunsing Associates, Inc.
5468 Skylane Blvd., Suite 201
Santa Rosa, California 95403
Tel: (707) 838-3027

Job No.: 12336.01

Appr.:

Date: 03/21/13

LOG OF BORING BAI-2

SOIL SAMPLING PHASE II
1400 VALLEY HOUSE DRIVE
Rohnert Park, California

PLATE

B-2

DRILLING CONTRACTOR: Clear Heart Drilling, Inc.

LOGGED BY: JEW

SHEET 1 OF 1

DRILLING METHOD: Solid Stem Auger

DRILLING STARTED: 2/26/13

ENDED: 2/26/13

DRILLING EQUIPMENT: CME-75

SAMPLE INFORMATION						DESCRIPTION	STRATA		
DEPTH FEET	LAB SAMPLE	SAMPLE TYPE	BLOW COUNTS	Recovery (%)	PID (ppm)				
						BLACK-GRAY ASPHALTIC CONCRETE			
						GRAY-BROWN SILTY SANDY GRAVEL (GM)			
						loose, dry to damp (Baserock)			
						REDDISH BROWN CLAYEY SILTY SAND (SM)			
						loose, damp, medium to coarse grained			
5						MEDIUM BROWN SILTY SANDY CLAY (CL) with gravel			5
						soft, damp			
						OLIVE BROWN DEEP SILTY SANDY CLAY (CL) with gravel			
						soft, damp, sand decreases			
10						DARK GRAY-BROWN SILTY CLAY (CL) with sand			10
						soft to medium stiff, damp, rare to occasional organics (rootlets), trace gravels (peagavel sized)			
						DARK GRAY BROWN SILTY CLAY (CL) with sand			
						soft to medium stiff, damp, rare to occasional organics (rootlets), trace peagavel sized pebbles			
15			17 40 13			OLIVE-BROWN TO TAN-BROWN CLAYEY SILTY SAND (SM) with gravel			15
						medium dense, damp to moist			
						OLIVE-BROWN TO TAN-BROWN CLAYEY SANDY GRAVEL (GM) with silt			
						medium dense, damp to moist			
						clayey and silty with depth			
20			4 7 8			OLIVE-BROWN SANDY CLAYEY SILT (ML) trace gravel			20
						soft, damp to moist gravels/rock frgments are pebble sized			
						OLIVE-BROWN CLAYEY SANDY GRAVEL WITH SILT (GM)			
						medium dense, damp to moist			
25			7 19 27			OLIVE-BROWN CLAYEY SILTY SAND (SM) trace gravel			25
						medium dense, damp to moist			
						Notes:			
						1. Completed to 25.5 feet below ground surface at 12:45pm			
						2. Water encountered at 23.5 feet below ground surface			
						3. Backfilled with grout by 1:00pm			
						4. No caving			

* See key sheet for symbols and abbreviations used above.

Scale: 1" = 5'



Brunsing Associates, Inc.
5468 Skylane Blvd., Suite 201
Santa Rosa, California 95403
Tel: (707) 838-3027

Job No.: 12336.01
Appr.:
Date: 03/21/13

LOG OF BORING BAI-3
SOIL SAMPLING PHASE II
1400 VALLEY HOUSE DRIVE
Rohnert Park, California

PLATE

B-3

DRILLING CONTRACTOR: Clear Heart Drilling, Inc.

LOGGED BY: JEW

SHEET 1 OF 1

DRILLING METHOD: Solid Stem Auger

DRILLING STARTED: 2/26/13

ENDED: 2/26/13

DRILLING EQUIPMENT: CME-75

SAMPLE INFORMATION						DESCRIPTION	STRATA		
DEPTH FEET	LAB SAMPLE	SAMPLE TYPE	BLOW COUNTS	Recovery (%)	PID (ppm)				
						GRAY CONCRETE			
						GRAY TO BLUE GRAY SILTY GRAVEL WITH SAND (GM) loose, dry (peagravel fill)			
5			5 8 11			DARK BROWN TO DARK GRAY BROWN SANDY SILTY CLAY (CL) trace gravel soft to medium stiff, damp, rootlets, rare gravels			5
						DARK GRAY-BROWN TO BLACK SILTY CLAY (CL) trace sand soft to medium stiff, damp, rootlets, rare gravels			
10						OLIVE-BROWN SANDY SILTY CLAY (CL) soft to medium stiff, damp sandier/siltier			10
						OLIVE-BROWN SANDY SILTY CLAY (CL) soft to medium stiff, damp sandy with depth			
15			11 15 21			OLIVE-BROWN CLAYEY SILTY SAND (SM) with gravel loose to medium dense, damp, gravels are pebble sized			15
						gravels increase with depth, harder drilling			
20			17 22 31			OLIVE-BROWN TO TAN BROWN CLAYEY SANDY GRAVEL (GM) with silt medium dense to dense, damp to moist, gravels are pebble sized			20
						OLIVE-BROWN TO TAN BROWN CLAYEY SILTY SAND (SM) with gravel medium dense to dense, damp to moist, gravels are pebble sized			
25			13 21 29						25

Notes:

1. Completed to 25.5 feet below ground surface at 1:55pm
2. Water encountered at 22 feet below ground surface
3. Backfilled with grout by 2:05 pm
4. No caving

* See key sheet for symbols and abbreviations used above.

Scale: 1" = 5'



Brunsing Associates, Inc.
5468 Skylane Blvd., Suite 201
Santa Rosa, California 95403
Tel: (707) 838-3027

Job No.: 12336.01

Appr.:

Date: 03/21/13

LOG OF BORING BAI-4

SOIL SAMPLING PHASE II
1400 VALLEY HOUSE DRIVE
Rohnert Park, California

PLATE

B-4

SAMPLE INFORMATION						DESCRIPTION	STRATA		
DEPTH FEET	LAB SAMPLE	SAMPLE TYPE	BLOW COUNTS	Recovery (%)	PID (ppm)				
						GRAY CONCRETE			
						GRAY-BROWN TO REDDISH-BROWN SILTY SANDY GRAVEL (GM) loose, dry, gravels are peagavel sized			
						REDDISH-BROWN SILTY SAND (SM) with gravel loose, dry			
						GRAY-BROWN TO OLIVE-BROWN SILTY GRAVELLY CLAY (CL) with sand medium stiff, damp			
5			11						
			19						
			22			GRAY-BROWN CLAYEY SILTY GRAVEL (GM) medium dense, damp to dry			5

Notes:

1. Completed to 5.5 feet below ground surface at 3:00pm
2. No free water encountered
3. No caving
4. Backfilled with grout by 3:05pm

* See key sheet for symbols and abbreviations used above.



Brunsing Associates, Inc.
5468 Skylane Blvd., Suite 201
Santa Rosa, California 95403
Tel: (707) 838-3027

Job No.: 12336.01

Appr.:

Date: 03/21/13

LOG OF BORING BAI-5

SOIL SAMPLING PHASE II
1400 VALLEY HOUSE DRIVE
Rohnert Park, California

Scale: 1" = 1'

PLATE

B-5

DRILLING CONTRACTOR: Clear Heart Drilling, Inc.

LOGGED BY: JEW






SHEET 1 OF 1

DRILLING METHOD: Solid Stem Auger

DRILLING STARTED: 2/26/13

ENDED: 2/26/13

DRILLING EQUIPMENT: CME-75

SAMPLE INFORMATION						DESCRIPTION	STRATA		
DEPTH FEET	LAB SAMPLE	SAMPLE TYPE	BLOW COUNTS	Recovery (%)	PID (ppm)				
						GRAY CONCRETE			
						GRAY TO GRAY-BLUE SILTY SANDY GRAVEL (GM) loose, dry			
						REDDISH BROWN SILTY SAND (SM) with gravel loose, dry, gravels are pebble/peagravel sized			
						GRAY-BROWN TO OLIVE-BROWN SILTY GRAVELLY CLAY (CL) with sand medium stiff, damp			
5						GRAY-BROWN CLAYEY SILTY GRAVEL (GM) with sand medium dense, damp to dry		5	
			11						
			17						
			29						

Notes:

1. Complete to 5.5 feet below ground surface at 3:45pm
2. No free water encountered
3. No caving
4. Backfilled with grout by 3:55pm

* See key sheet for symbols and abbreviations used above.

Scale: 1" = 1'



Brunsing Associates, Inc.
5468 Skylane Blvd., Suite 201
Santa Rosa, California 95403
Tel: (707) 838-3027















Job No.: 12336.01
Appr.:
Date: 03/21/13

LOG OF BORING BAI-6
SOIL SAMPLING PHASE II
1400 VALLEY HOUSE DRIVE
Rohnert Park, California

PLATE

B-6

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

MAJOR DIVISIONS			USCS		TYPICAL DESCRIPTIONS
COARSE-GRAINED SOILS	GRAVELS	CLEAN GRAVELS (Little or no fines)		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (Appreciable amount of fines)		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SANDS	CLEAN SANDS (Little or no fines)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES (Appreciable amount of fines)		SM	SILTY SANDS, SAND-SILT MIXTURES
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE-GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT 50 OR MORE		MH	INORGANIC SILT, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMOUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

RELATIVE CONSISTENCY CLASSIFICATION

GRANULAR	COHESIVE
Silts, Sands, and Gravels	Clays, and Clayey Silts
VERY LOOSE	SOFT
LOOSE	MEDIUM STIFF
MEDIUM DENSE	STIFF
DENSE	VERY STIFF
VERY DENSE	HARD

Relative Moisture Contents
DRY
DAMP
MOIST
WET
SATURATED

■ Undisturbed sample retained ▨ Recovered, not retained □ Sample Not Recovered ☒ Bulk Sample

CA - California Modified Split Tube Sampler 3.0-inch O.D. ▽ First Depth to Water Reading ▼ Second Depth to Water Reading

CM - California Modified Split Tube Sampler 2.5-inch O.D. SPT - California Split Tube Sampler 2.0-inch O.D.



Brunsing Associates, Inc.
5468 Skylane Blvd., Suite 201
Santa Rosa, California 95403
Tel: (707) 838-3027

Job No.: 12336.01
Appr.:
Date: 03/21/13

UNIFIED SOIL CLASSIFICATION CHART
SOIL SAMPLING PHASE II
1400 VALLEY HOUSE DRIVE
Rohnert Park, California

**PLATE
B-7**

Appendix C

Analytical Laboratory Report



Laboratory Report Project Overview

EDF 1.2a

Laboratory:	Bace Analytical, Windsor, CA
Lab Report Number:	5851
Project Name:	1212 VALLEY HOUSE DR.
Work Order Number:	12336
Control Sheet Number:	NA

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run Sub
5851	BAI-1-15.0	5851-1	SO	CS	SW8015B	SW3550B	02/26/201 3	02/27/201 3	02/27/201 3	02272013	3
5851	BAI-1-20.0	5851-2	SO	CS	SW8015B	SW3550B	02/26/201 3	02/28/201 3	02/28/201 3	02272013	14
5851	BAI-1-25.0	5851-3	SO	CS	SW8015B	SW3550B	02/26/201 3	02/28/201 3	02/28/201 3	02272013	18
5851	BAI-2-15.0	5851-4	SO	CS	SW8015B	SW3550B	02/26/201 3	02/28/201 3	02/28/201 3	02272013	19
5851	BAI-2-20.0	5851-5	SO	CS	SW8015B	SW3550B	02/26/201 3	02/27/201 3	02/27/201 3	02272013	9
5851	BAI-2-25.0	5851-6	SO	CS	SW8015B	SW3550B	02/26/201 3	02/27/201 3	02/27/201 3	02272013	10
5851	BAI-3-15.0	5851-7	SO	CS	SW8015B	SW3550B	02/26/201 3	02/27/201 3	02/27/201 3	02272013	11
5851	BAI-3-20.0	5851-8	SO	CS	SW8015B	SW3550B	02/26/201 3	02/27/201 3	02/27/201 3	02272013	12
5851	BAI-3-25.0	5851-9	SO	CS	SW8015B	SW3550B	02/26/201 3	02/27/201 3	02/27/201 3	02272013	13
5851	BAI-4-15.0	5851-11	SO	CS	SW8015B	SW3550B	02/26/201 3	02/28/201 3	02/28/201 3	02272013	15
5851	BAI-4-20.0	5851-12	SO	CS	SW8015B	SW3550B	02/26/201 3	02/28/201 3	02/28/201 3	02272013	16
5851	BAI-4-25.0	5851-13	SO	CS	SW8015B	SW3550B	02/26/201 3	02/28/201 3	02/28/201 3	02272013	17
5851	BAI-4-5.0	5851-10	SO	CS	SW8015B	SW3550B	02/26/201 3	02/27/201 3	02/27/201 3	02272013	6
5851	BAI-5-5.0	5851-14	SO	CS	SW8015B	SW3550B	02/26/201 3	02/27/201 3	02/27/201 3	02272013	7
5851	BAI-6-5.0	5851-15	SO	CS	SW8015B	SW3550B	02/26/201 3	02/27/201 3	02/27/201 3	02272013	8
		5851MB	SO	LB1	SW8015B	SW3550B	/ /	02/27/201 3	02/27/201 3	02272013	1
		5851MS	SO	MS1	SW8015B	SW3550B	/ /	07/19/201 2	07/19/201 2	02272013	4
		5851SD	SO	SD1	SW8015B	SW3550B	/ /	07/19/201 2	07/19/201 2	02272013	5

02/28/201

Lab Report No.: 5851 Date: 02/28/2013

Page: 1

Project Name: 1212 VALLEY HOUSE	Analysis: Non-Halogenated Organics Using GC/FID					
Project No: 12336	Method: SW8015B					
	Prep Meth: SW3550B					
Field ID: BAI-1-15.0	Lab Samp ID: 5851-1					
Descr/Location: BAI-1-15.0	Rec'd Date: 02/26/2013					
Sample Date: 02/26/2013	Prep Date: 02/27/2013					
Sample Time: 0920	Analysis Date: 02/27/2013					
Matrix: Soil	QC Batch: 02272013					
Basis: Wet	Notes:					
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0	PQL	ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl		60-140	SLSA	104%		1

Approved by: _____



Date: _____

2/28/13

Lab Report No.: 5851 Date: 02/28/2013

Page: 2

Project Name: 1212 VALLEY HOUSE		Analysis: Non-Halogenated Organics Using GC/FID				
Project No: 12336		Method: SW8015B				
		Prep Meth: SW3550B				
Field ID: BAI-1-20.0		Lab Samp ID: 5851-2				
Descr/Location: BAI-1-20.0		Rec'd Date: 02/26/2013				
Sample Date: 02/26/2013		Prep Date: 02/28/2013				
Sample Time: 0925		Analysis Date: 02/28/2013				
Matrix: Soil		QC Batch: 02272013				
Basis: Wet		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0	PQL	ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl		60-140	SLSA	98%		1

Approved by: _____



Date: _____

2/28/13

Lab Report No.: 5851 Date: 02/28/2013

Page: 3

Project Name: 1212 VALLEY HOUSE		Analysis: Non-Halogenated Organics Using GC/FID				
Project No: 12336		Method: SW8015B				
		Prep Meth: SW3550B				
Field ID: BAI-1-25.0		Lab Samp ID: 5851-3				
Descr/Location: BAI-1-25.0		Rec'd Date: 02/26/2013				
Sample Date: 02/26/2013		Prep Date: 02/28/2013				
Sample Time: 0935		Analysis Date: 02/28/2013				
Matrix: Soil		QC Batch: 02272013				
Basis: Wet		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0	PQL	ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl		60-140	SLSA	98%		1

Approved by: _____



Date: _____

2/28/13

Lab Report No.: 5851 Date: 02/28/2013

Page: 4

Project Name: 1212 VALLEY HOUSE		Analysis: Non-Halogenated Organics Using GC/FID				
Project No: 12336		Method: SW8015B				
		Prep Meth: SW3550B				
Field ID: BAI-2-15.0		Lab Samp ID: 5851-4				
Descr/Location: BAI-2-15.0		Rec'd Date: 02/26/2013				
Sample Date: 02/26/2013		Prep Date: 02/28/2013				
Sample Time: 1030		Analysis Date: 02/28/2013				
Matrix: Soil		QC Batch: 02272013				
Basis: Wet		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0	PQL	ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl		60-140	SLSA	120%		1

Approved by:



Date:

2/28/13

Lab Report No.: 5851 Date: 02/28/2013

Page: 5

Project Name: 1212 VALLEY HOUSE		Analysis: Non-Halogenated Organics Using GC/FID				
Project No: 12336		Method: SW8015B				
		Prep Meth: SW3550B				
Field ID: BAI-2-20.0		Lab Samp ID: 5851-5				
Descr/Location: BAI-2-20.0		Rec'd Date: 02/26/2013				
Sample Date: 02/26/2013		Prep Date: 02/27/2013				
Sample Time: 1040		Analysis Date: 02/27/2013				
Matrix: Soil		QC Batch: 02272013				
Basis: Wet		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0 PQL		ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl		60-140	SLSA	101%		1

Approved by: _____



Date: _____

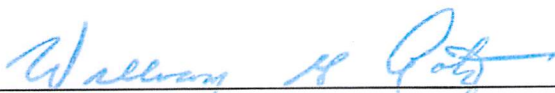
2/28/13

Lab Report No.: 5851 Date: 02/28/2013

Page: 6

Project Name: 1212 VALLEY HOUSE		Analysis: Non-Halogenated Organics Using GC/FID				
Project No: 12336		Method: SW8015B				
		Prep Meth: SW3550B				
Field ID: BAI-2-25.0		Lab Samp ID: 5851-6				
Descr/Location: BAI-2-25.0		Rec'd Date: 02/26/2013				
Sample Date: 02/26/2013		Prep Date: 02/27/2013				
Sample Time: 1050		Analysis Date: 02/27/2013				
Matrix: Soil		QC Batch: 02272013				
Basis: Wet		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0	PQL	ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl		60-140	SLSA	98%		1

Approved by: _____



Date: _____

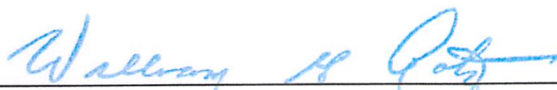
2/28/13

Lab Report No.: 5851 Date: 02/28/2013

Page: 7

Project Name: 1212 VALLEY HOUSE		Analysis: Non-Halogenated Organics Using GC/FID				
Project No: 12336		Method: SW8015B				
		Prep Meth: SW3550B				
Field ID: BAI-3-15.0		Lab Samp ID: 5851-7				
Descr/Location: BAI-3-15.0		Rec'd Date: 02/26/2013				
Sample Date: 02/26/2013		Prep Date: 02/27/2013				
Sample Time: 1225		Analysis Date: 02/27/2013				
Matrix: Soil		QC Batch: 02272013				
Basis: Wet		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0	PQL	ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl		60-140	SLSA	98%		1

Approved by:



Date:

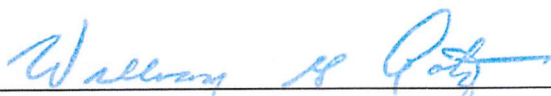
2/28/13

Lab Report No.: 5851 Date: 02/28/2013

Page: 8

Project Name: 1212 VALLEY HOUSE	Analysis: Non-Halogenated Organics Using GC/FID					
Project No: 12336	Method: SW8015B					
	Prep Meth: SW3550B					
Field ID: BAI-3-20.0	Lab Samp ID: 5851-8					
Descr/Location: BAI-3-20.0	Rec'd Date: 02/26/2013					
Sample Date: 02/26/2013	Prep Date: 02/27/2013					
Sample Time: 1230	Analysis Date: 02/27/2013					
Matrix: Soil	QC Batch: 02272013					
Basis: Wet	Notes:					
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0	PQL	ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl	60-140	SLSA		76%		1

Approved by:



Date:


2/28/13

Lab Report No.: 5851 Date: 02/28/2013

Page: 9

Project Name: 1212 VALLEY HOUSE		Analysis: Non-Halogenated Organics Using GC/FID				
Project No: 12336		Method: SW8015B				
		Prep Meth: SW3550B				
Field ID: BAI-3-25.0		Lab Samp ID: 5851-9				
Descr/Location: BAI-3-25.0		Rec'd Date: 02/26/2013				
Sample Date: 02/26/2013		Prep Date: 02/27/2013				
Sample Time: 1240		Analysis Date: 02/27/2013				
Matrix: Soil		QC Batch: 02272013				
Basis: Wet		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0	PQL	ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl		60-140	SLSA	110%		1

Approved by: _____



Date: _____

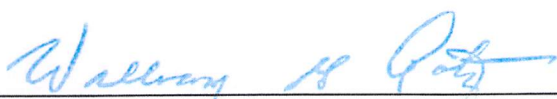
2/28/13

Lab Report No.: 5851 Date: 02/28/2013

Page: 10

Project Name: 1212 VALLEY HOUSE		Analysis: Non-Halogenated Organics Using GC/FID				
Project No: 12336		Method: SW8015B				
		Prep Meth: SW3550B				
Field ID: BAI-4-15.0		Lab Samp ID: 5851-11				
Descr/Location: BAI-4-15.0		Rec'd Date: 02/26/2013				
Sample Date: 02/26/2013		Prep Date: 02/28/2013				
Sample Time: 1325		Analysis Date: 02/28/2013				
Matrix: Soil		QC Batch: 02272013				
Basis: Wet		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0	PQL	ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl		60-140	SLSA	115%		1

Approved by:



Date:


2/28/13

Lab Report No.: 5851 Date: 02/28/2013

Page: 11

Project Name: 1212 VALLEY HOUSE		Analysis: Non-Halogenated Organics Using GC/FID				
Project No: 12336		Method: SW8015B				
		Prep Meth: SW3550B				
Field ID: BAI-4-20.0		Lab Samp ID: 5851-12				
Descr/Location: BAI-4-20.0		Rec'd Date: 02/26/2013				
Sample Date: 02/26/2013		Prep Date: 02/28/2013				
Sample Time: 1335		Analysis Date: 02/28/2013				
Matrix: Soil		QC Batch: 02272013				
Basis: Wet		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0	PQL	ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl	60-140	SLSA		99%		1

Approved by: _____



Date: _____

2/28/13

Lab Report No.: 5851 Date: 02/28/2013

Page: 12

Project Name: 1212 VALLEY HOUSE		Analysis: Non-Halogenated Organics Using GC/FID				
Project No: 12336		Method: SW8015B				
		Prep Meth: SW3550B				
Field ID: BAI-4-25.0		Lab Samp ID: 5851-13				
Descr/Location: BAI-4-25.0		Rec'd Date: 02/26/2013				
Sample Date: 02/26/2013		Prep Date: 02/28/2013				
Sample Time: 1350		Analysis Date: 02/28/2013				
Matrix: Soil		QC Batch: 02272013				
Basis: Wet		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0	PQL	ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl		60-140	SLSA	120%		1

Approved by: _____

Date: 2/28/13

Lab Report No.: 5851 Date: 02/28/2013

Page: 13

Project Name: 1212 VALLEY HOUSE		Analysis: Non-Halogenated Organics Using GC/FID				
Project No: 12336		Method: SW8015B				
		Prep Meth: SW3550B				
Field ID: BAI-4-5.0		Lab Samp ID: 5851-10				
Descr/Location: BAI-4-5.0		Rec'd Date: 02/26/2013				
Sample Date: 02/26/2013		Prep Date: 02/27/2013				
Sample Time: 1315		Analysis Date: 02/27/2013				
Matrix: Soil		QC Batch: 02272013				
Basis: Wet		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0	PQL	ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl		60-140	SLSA	107%		1

Approved by: _____



Date: _____

2/28/13

Lab Report No.: 5851 Date: 02/28/2013

Page: 14

Project Name: 1212 VALLEY HOUSE		Analysis: Non-Halogenated Organics Using GC/FID				
Project No: 12336		Method: SW8015B				
		Prep Meth: SW3550B				
Field ID: BAI-5-5.0		Lab Samp ID: 5851-14				
Descr/Location: BAI-5-5.0		Rec'd Date: 02/26/2013				
Sample Date: 02/26/2013		Prep Date: 02/27/2013				
Sample Time: 1500		Analysis Date: 02/27/2013				
Matrix: Soil		QC Batch: 02272013				
Basis: Wet		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0	PQL	ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl		60-140	SLSA	116%		1

Approved by:



Date:

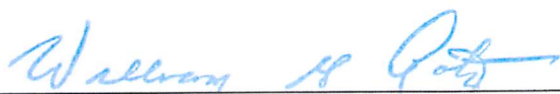
2/28/13

Lab Report No.: 5851 Date: 02/28/2013

Page: 15

Project Name: 1212 VALLEY HOUSE		Analysis: Non-Halogenated Organics Using GC/FID				
Project No: 12336		Method: SW8015B				
		Prep Meth: SW3550B				
Field ID: BAI-6-5.0		Lab Samp ID: 5851-15				
Descr/Location: BAI-6-5.0		Rec'd Date: 02/26/2013				
Sample Date: 02/26/2013		Prep Date: 02/27/2013				
Sample Time: 1540		Analysis Date: 02/27/2013				
Matrix: Soil		QC Batch: 02272013				
Basis: Wet		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.8	2.0 PQL		ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl		60-140 SLSA		108%		1

Approved by:



Date:

3/28/13

QA/QC Report Method Blank Summary

Bace Analytical, Windsor, CA

Lab Report No.: 5851 Date: 02/28/2013

Page: 16

QC Batch: 02272013		Analysis: Non-Halogenated Organics Using GC/FID				
Matrix: Soil		Method: SW8015B				
Lab Samp ID: 5851MB		Prep Meth: SW3550B				
Analysis Date: 02/27/2013		Prep Date: 02/27/2013				
Basis: Wet		Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Diesel Range Organics (C10-C24)	0.80	2.0	PQL	ND	MG/KG	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
o-Terphenyl		60-140	SLSA	99%		1

QA/QC Report

Matrix Spike/Duplicate Matrix Spike Summary

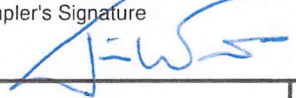
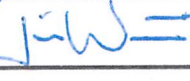
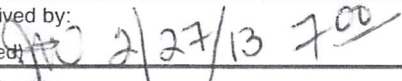
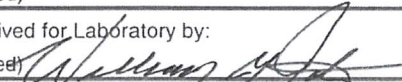
Bace Analytical, Windsor, CA

Lab Report No.: 5851 Date: 02/28/2013

Page: 17

QC Batch: 02272013						Project Name: 1212 VALLEY HOUSE DR.							
Matrix: Soil						Project No.: 12336							
Lab Samp ID: 5851MS						Field ID: BAI-1-15.0							
Basis: Wet						Lab Ref ID: 5851-1							
Analyte	Analysis Method	Spike Level		Sample Result	Spike Result		Units	% Recoveries			Acceptance Criteria		
		MS	DMS		MS	DMS		MS	DMS	RPD	% Rec	MSA	RPD
Diesel Range Organics (C10-C24)	SW8015B	63.	63.	ND	53.	53.	MG/KG ww	84.1	84.1	0.00	140-60	MSA	20MSP
o-Terphenyl	SW8015B	100.	100.	104.	94.	106.	PERCENT ww	94.0	106	12	140-60	SLSA	20SLSP

Chain of Custody

Project # 12336.01	Project Address Sonoma Mtn. Village 1212 Valley House Dr., Bldg 1400 Robert Park, CA			C o u n t a i n e r s	Analysis												C.O.C. No. 12209
BG No.	Sampler's Signature 																Remarks: see Work Plan
Date Sampled	Sample I.D.	Time (24 Hour)	Sample Type														
2/26/13	BAI-1 - 15.0'	9:20am	soil	1	✓												5851-1
	BAI-1 - 20.0'	9:25am		1	✓												-2
	BAI-1 - 25.0'	9:35am		1	✓												-3
	BAI-2 - 15.0'	10:30am		1	✓												-4
	BAI-2 - 20.0'	10:40am		1	✓												-5
	BAI-2 - 25.0'	10:50am		1	✓												-6
	BAI-3 - 15.0'	12:25pm		1	✓												-7
	BAI-3 - 20.0'	12:30pm		1	✓												-8
	BAI-3 - 25.0'	12:40pm		1	✓												-9
	BAI-4 - 5.0'	1:15pm		1	✓												-10
	BAI-4 - 15.0'	1:25pm		1	✓												-11
	BAI-4 - 20.0'	1:35pm		1	✓												-12
	BAI-4 - 25.0'	1:50pm		1	✓												-13
	BAI-5 - 5.0'	3:00pm		1	✓												-14
	BAI-6 - 5.0'	3:40pm		1	✓												-15
Laboratory: LENNEX ANALYTICAL				Preservation: A - HCL; B - HNO3; C - Ice (Specify) TAT: R; 2-WK; Urgent Immediate (Specify) 48hrs.													
Relinquished by: (signed) 	Date/Time 2/26/13 - 5:30pm	Received by: (signed) 	Results To: (Office Use Only)		Brunsing Associates, Inc. P.O. Box 588 5468 Skylane Blvd., Suite 201 Santa Rosa, CA 95403 (707) 838-3027 Phone (707) 838-4420 Fax												
Relinquished by: (signed)	Date/Time	Received by: (signed)	Global ID: (Office Use Only)														
Relinquished by: (signed)	Date/Time	Received for Laboratory by: (signed) 															

Appendix D

Environmental Professional Resumes



J. Erich Rauber, P.E., G.E.

Principal Geotechnical Engineer

Mr. Rauber is a Professional Engineer in California with 30 years of experience in geotechnical and environmental engineering. He has conducted hundreds of geotechnical investigations and design and construction oversight and testing on a variety of projects, including earth dams, mine sites, landfills, waterfront facilities, and landslide stabilization projects. Mr. Rauber has coordinated preconstruction activities, prepared budgets and engineer's estimates, and prepared final construction documents. He has solicited, reviewed and evaluated contractor and subcontractor bids. Mr. Rauber has written numerous reports and given many presentations to public and private clients, regulatory agencies and the public. Mr. Rauber has experience in managing and participating in design/build projects including investigation, design, construction oversight, and quality control testing. Mr. Rauber has provided litigation support and testimonial expert support on several matters involving construction claims, groundwater containment, and asbestos abatement, and cost recovery under CERCLA.

Education

M.S., Geotechnical Engineering, University of California, Berkeley, 1981
B.S., Civil Engineering, University of California, Berkeley, 1979

Certifications

- Professional Engineer – California, Colorado, New Mexico, Oregon, Utah, Washington
- Geotechnical Engineer – California

Project Experience

Sonoma Marin Area Rail Transit (SMART) Station Sites, Marin and Sonoma County, California – Project manager for geotechnical evaluations at sites for the 14 planned stations during Advanced Conceptual Engineering, and geotechnical investigations for eight of these stations as part of Preliminary Engineering activities for the Sonoma Marin Area Rail Transit (SMART) project. Working for the project, our work targeted geotechnical factors that may influence design and construction of station elements, including platforms, pavements, shelters, light poles, and retaining walls. Project challenges included developing efficient, effective approaches for addressing weak, compressible or expansive surface soils, liquefaction potential in response to earthquake shaking, and shallow groundwater.

Sonoma Marin Area Rail Transit (SMART) IOS-1 and IOS-1A Design/Build Project – Project Manager for geotechnical engineering services for the project that includes approximately 38 miles of new track, replacement of eight bridges and construction of eight station platforms.

Geothermal Powerplant Access Road, Sonoma County, California - For geothermal operating company, directed geotechnical engineering efforts during construction of a 5-mile roadway in the Geysers Geothermal region of California during which over 100 landslides were repaired to successfully complete the road. Repair schemes included rock bolting, soldier pile and lagging walls, reinforced earth walls, conventional buttress repairs, and horizontal drains. Because of the fast track nature of the project, there was insufficient time to investigate and design repair schemes for most of the landslides. Consequently, many of the repair schemes were successfully developed and implemented during roadway construction.

Cullinan Ranch Residential and Commercial Development, Vallejo, California – Project engineer for a geotechnical investigation for this development on bay mud consisting of 4,500 residential units, commercial centers, schools, parks and recreation areas. A combination of excavation and filling was planned to construct water ways and increase the land surface elevations. Work included performing static and pseudostatic slope stability analyses to develop allowable water way slopes.



William H. H. Coset

Project Geologist

Mr. Coset has 26 years experience in the earth sciences field. The past 20 years with BAI have been spent in both engineering geology and geotechnical projects, and environmental engineering. He directs drilling and logging of geologic borings and cone penetrometers, performs static and dynamic slope stability analyses, conducts soil sampling and associated field density testing, and completes geotechnical reports for construction projects. Mr. Coset also currently designs and implements investigatory and remediation measures for contaminants in soils and water.

For the past 20 years, Mr. Coset has been responsible for managing RCRA-CERCLA soil and groundwater investigations and performing Phase I Environmental Site Assessments. His primary responsibilities in RCRA-CERCLA soil and groundwater investigations has been: work plan preparation; coordination of regulatory review processes for soil and groundwater investigation work plans; groundwater monitoring well design; supervising geologic borings and monitoring well construction; hydrogeologic interpretations; designing and implementing soil and groundwater remediation plans; long term groundwater monitoring and reporting program design and implementation; and data reduction and report preparation.

Further RCRA-CERCLA remedial action technical support experience has been as Project Geologist responsible for logging geologic borings at a PCB contaminated State Superfund Site in Richmond, CA. The data obtained from the borings were used in the design of a passive contaminant system. Mr. Coset also acted as site Health and Safety Officer during his participation in this project.

Mr. Coset managed a proposed school site project for the County of Lake School District, with oversight by The California Department of Toxic Substances Control (DTSC) School Investigation Unit, that involved the following phases: a Phase I Environmental Site Assessment (ESA); designed and implemented a Phase II soil sampling program; prepared a Preliminary Endangerment Assessment (PEA); prepared and submitted a Removal Action Workplan (RAW); oversaw the RAW implementation and reporting; and prepared and issued a Removal Action Report of Findings. DTSC reviewed and oversaw each document and phase of work, and ultimately issued the certificate of completion.

Mr. Coset is currently managing a LUFT site that is utilizing both dual phase extraction soil/groundwater remediation and pump and treat groundwater remediation due to site constraints. This site is currently in negotiation for co-mingled plume status regarding two nearby sites. Mr. Coset designed and implemented a further site characterization program, and with the data presented the multiple water bearing zone site conceptual model.

Mr. Coset has been involved in the performance of, and has co-authored, 80 environmental audits/site assessments. Mr. Coset's engineering geology experience includes geologic mapping, trench wall mapping, both field and laboratory geotechnical testing, slope stability analysis, and logging geologic borings.

As Project Geologist, Mr. Coset has been responsible for preparing the scope of work and cost estimates for numerous projects. This includes client, staff, and regulatory agency interaction. Mr. Coset has been responsible for preparing Request for Bid packages for various subcontractors, reviewing bids and selecting subcontractors, and coordinating pre-field activities for both initial site investigations and site remedial activities. Mr. Coset has also been responsible for overseeing both staff and subcontractors implementing approved investigative and remedial activities, and has acted as both Health and Safety Officer and QA/QC officer for various projects.



B.S., 1978 Geology
California State University, Sonoma, California

- OSHA Health and Safety Training, 40-Hours

- *Project Geologist* directing drilling and logging of geologic borings and cone penetrometers for soil strength data at a State Superfund site, Fass Metals. Data obtained from the borings were used in the design of a slurry trench passive containment system. Performed slope stability analyses under static and dynamic conditions of the slurry trench walls using TSTAB/TSLOPE slope stability program.
- *Project Geologist* and Project Manager during a City of Cotati Phase I site assessment and during the Phase II soil and groundwater study for a site containing petroleum product contamination resulting from surface spills and imported contaminated soil. Obtained regulatory agency site closure.
- *Project Geologist* designed and performed a Phase II soil study for the Sonoma Marin Area Rail Transit agency at street crossings along a 25-mile former NWPRR rail alignment.
- *Project Geologist* and Project Manager designed and performed site characterization and contributed to remediation system design at an underground storage tank site with a benzene/MTBE plume covering approximately 3-acres. Project manager during the 3-year groundwater clean-up. Obtained regulatory agency closure. Redwood Enterprises, Inc.
- *Project Geologist* and Project Manager during site characterization and contributed to remediation system design at a former dry cleaner site. Oversaw the installation of a soil vapor extraction and groundwater extraction system, including a vapor extraction system beneath a commercial building. Project is on-going. Montgomery Village Partners
- *Project Geologist* designed and performed a Phase I site assessment and Phase II soil study for the City of Novato at a former NWPRR train station as a component of a property exchange with the Sonoma Marin Area Rail Transit agency.
- *Project Geologist* designed and performed a Phase I site assessment and Phase II soil study for the City of Santa Rosa at a creek reclamation and park construction project. This project is currently on-going.
- *Project Geologist* during an overexcavation of soil contaminated by petroleum products and subsequent groundwater investigation for Sonoma County Department of Public Works.
- *Project Geologist* conducting field work and regulatory file searches during a Phase I site assessment. Scope of services included an outline of procedures dealing with regulatory agencies governing development on property containing vernal pools, for Pan Pacific Development, Inc.



- *Staff Geologist* during soil and groundwater investigation and groundwater remediation of a chromium contaminated Superfund site (former Ecodyne Wood Treatment Facility), for Lakewood Enterprises.
- *Project Geologist* during a Camp Meeker, CA Phase I Environmental Site Assessment, conducting both field work and regulatory agency file search for a 960-acre site. Designed Phase II soil and water sampling based on results of Phase I for Monohan-Pacific Development Corporation/County of Sonoma.
- *Project Geologist* conducting fieldwork and regulatory file searches during multiple Phase I site assessments for planned retail center, bank, and office buildings in Rohnert Park, CA for Codding Properties.
- *Project Geologist* during soil and groundwater investigation of a site containing multiple underground storage tanks. Obtained regulatory agency site closure for the Futrell-Cia-Sievert-Mueller Partnership.
- *Project Geologist* supervising the remediation by excavation and off-site disposal of approximately 2,500 cubic yards of contaminated soil, and overseeing the collection of verification soil samples from the excavation sidewalls and bottom. Prior to excavation procedures, directed the proper abandonment of existing groundwater monitoring wells. Mr. Coset coordinated efforts between BAI and regulatory agencies to approve construction of the low permeability cut-off barrier and french drain system in the excavation. After agency approval, Mr. Coset supervised the construction of the cut-off barrier/french drain and remaining backfilling procedures. After excavation backfilling was complete, Mr. Coset supervised the installation of replacement monitoring wells. He's currently overseeing continued groundwater monitoring.
- *Project Geologist* for Baseline Groundwater Study/Slope Stability Analysis involving investigating both pond and levee stability, and performing a baseline groundwater quality study for a proposed expansion of gravel mining operations. Mr. Coset supervised installation of groundwater monitoring wells in the proposed mining expansion area. Physical property parameters and groundwater levels used in the stability analysis were derived from subsurface data and laboratory strength data collected by BAI. Mr. Coset performed slope stability analysis for several proposed mining pond depths under static and dynamic conditions using TSTAB/TSLOPE slope stability program for pond and levee stability for Syar Industries.
- *Project Geologist* for Phase I/Phase II/AST Removals/Soil and Groundwater investigation, Northern California simultaneously conducting four separate full ASTM Phase I Environmental Site Assessments on parcels that either the client owned or was purchasing for a proposed shopping center development. Portions of several of the study site parcels that were adjacent to San Rafael Creek were going to be titled to the City of San Rafael Redevelopment Agency for public use. Mr. Coset coordinated Phase I ESA efforts between the client and State/local agencies involved in the proposed public use. Depending upon the results and conclusions of the some of the Phase I ESAs, Mr. Coset designed Phase II soil and groundwater sampling to characterize areas of concern on particular sites. The soil sampling program which he designed involves sampling locations, soil sampling intervals and frequencies, and determining appropriate analytes. He coordinated efforts between the client and local regulatory agencies in removal of four above ground storage tanks. Mr. Coset also conducted a subsequent soil and groundwater investigation and remediation due to discharge from ASTs for Shamrock Materials, Inc.
- **Landfill Remediation Upgrade – Lincoln, CA** - This project involved a landfill that was used to dispose of spent solvents and metal debris at an existing industrial site. The landfill was capped and surrounded



by clay barrier cut-off wall. Mr. Coset was involved in authoring and implementing the further site characterization workplan that included completing the vertical extent characterization and installing dual phase extraction wells in locations determined by a soil-gas survey. Drilling in the landfill included Level C PPE and constant real-time monitoring with three separate gas/vapor monitoring devices. The extraction well and further site characterization was successful. Pump test information allowed BAI to successfully upgrade the existing groundwater remediation site.

- Landfill Monitoring – San Rafael, CA - Mr. Coset was involved in the on-going landfill gas monitoring at this site. This included collecting vapor samples for analytical testing at sampling ports and reading methane percentages with a hand-held, portable device at other sampling locations. Mr. Coset was also involved in replacing damaged monitoring wells in the former landfill. This involved proper well abandonment and replacement; including vapor and gas monitoring during the drilling activities. Mr. Coset was also involved in the design and construction of vapor cut-off barriers for new construction in the vicinity of this closed landfill.

