Mills College
5000 MacArthur Blvd.
Oakland, CA 94613
www.mills.edu

MILLS

Mr. Keith Nowell
Alameda County Health Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

January 27, 2014

RE: **Additional Site Investigation**
Mills College
5000 MacArthur Blvd.
Oakland, California

Dear Mr. Nowell,

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.

Sincerely,

Linda A. Zitzner
AVP Facilities, Auxiliaries, and Campus Planning
Off: 510-430-2024
Fax: 510-430-2306
lzitzner@mills.edu

EquoLogic

Mr. Keith Nowell
Alameda County Health Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

January 31, 2014
Project 411-01.03

RE: **Additional Site Investigation**
Toyon Meadows
Mills College
5000 MacArthur Boulevard
Oakland, California

Dear Mr. Nowell,

EquoLogic, on behalf of Mills College, has prepared the following Additional Site Investigation Report (Figure 1). The report presents data from the scope of work described in EquoLogic's work plan dated November 18, 2013 and approved with modifications in an email from Alameda County dated November 19, 2013.

BACKGROUND

In 1989, a small capacity, fuel oil UST was removed from the parking lot of the former Mills kitchen building. This area is now developed as an open lawn and landscaped area referred to as Toyon Meadow (currently Holmgren Meadows) (Figure 1). Soil samples from the base of the excavation (10 to 13 feet below grade) contained total petroleum hydrocarbons as diesel (TPH-D) at concentrations ranging from 260 milligrams per kilogram (mg/kg) to 5,000 mg/kg. Soil samples were collected from eleven borings (B-1 through B-11, Figure 2) located west (downgradient) of the tank excavation. TPH-D was reported at a maximum concentration of 11,000 mg/kg at 14 feet below grade in boring B-8 (Figure 2). Three groundwater monitoring wells were installed (MW-1M, MW-2M, MW-3M, Figure 2).

During the last monitoring event April 22, 2013, wells contained a maximum concentration of 136 micrograms per liter (ug/l) TPH-D (see table Attachment A). The TPH-d concentration in well MW-3M was 76 ug/l.

A meeting was held on November 15, 2013 with Alameda County to discuss the possibility of case closure under the California low threat closure policy. It was concluded that the length of the TPH-D plume was not definitively established and that groundwater samples should be collected between the existing groundwater monitoring wells and the creek located approximately 100 feet north of well MW-3M (Figure 2). In addition, a well survey was requested from the Alameda County public works agency.

SCOPE OF WORK

On December 18, 2013, depth to groundwater was sounded in well MW-3M located between the former UST and the creek. Depth to groundwater was 13 feet below top of casing with a total well depth of 17 feet below ground surface.

Three soil borings (B-14 through B-16) were drilled at the location shown on Figure 2. A copy of the boring permit is provided as Attachment B. Direct push drilling equipment was used to advance borings. Initially, a hydropunch sampling tip was advanced to 15 and 20 feet in borings B-15 and B-16, respectively. The tip was retracted, exposing the hydropunch to the bottom three feet of the borehole. After approximately 2 to 3 hours, the borings were found to be dry. Continuously cored soil borings were then advanced to a depth of 15 feet at each of the three locations in order to identify any saturated zones. No wet zones were identified in any of the borings. Boring logs are contained in Attachment C.

Soil samples were collected from the bottom of each boring. The samples were placed on ice for transportation to the laboratory. Samples were analyzed for TPH-D (C10-C28) with silica gel cleanup, benzene, toluene, ethylbenzene, total xylene, methyl tert butyl ether (MTBE), 1,2 dibromoethane, 1,2 dichloroethane , and naphthalene. TPH-D was estimated below the laboratory reporting limit but above the machine detection limit ("J "value) at concentrations of 4.87, 5.71, and 6.95 mg/kg. All other parameters were below the laboratory and machine detection limits. The laboratory certified report is provided as Attachment D.

All borings were backfilled with cement grout under the supervision of Mr. Gustavo Porras, well inspector for Alameda County public works agency.

WELL SURVEYS

No active water supply wells are currently known to exist on the campus. EquoLogic requested site Well Completion Reports (Reports) from the California Department of Water Resources (DWR). DWR provided reports for four wells reportedly once located on the Mills College campus. The wells ranged in depth from 324 to 358 feet. One report indicated that the well was installed in 1930. The reports did not contain any specific location data. Sanborn maps dated 1950 show three water supply well locations (Attachment E). Two wells are shown approximately 500 feet north of Mills Hall (Area 1). A third well is shown approximately 600 feet south of Mills Hall (Area 2). No evidence of wells was observed in either area.

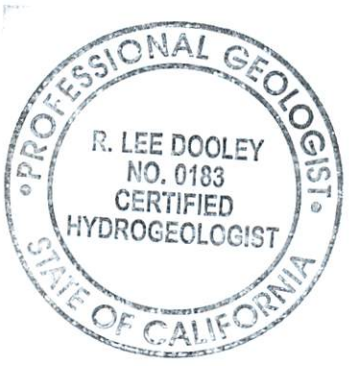
A well survey was requested from Alameda County public works agency (ACPWA). The ACPWA identified ten wells with an address of Mills College. Eight of the wells were groundwater monitoring wells associated with site environmental investigations. One well had unknown date of installation, depth, and usage. The well location was listed as "Behind Mill Pond." There are currently no ponds in on campus. Another well also had an unknown date of installation and depth. The usage was listed as abandoned but not destroyed (ABN). There was no specific location indicated.

DISCUSSION

Under current site conditions, shallow groundwater beneath the western portion of Toyon Meadows appears tightly held in clayey soils. Soil analysis from borings do not indicate that the TPH-D plume (>100 ug/l) has advanced from the source area more than 100 feet toward the creek. This is consistent with data from monitoring well MW-3M located closest to the creek. No water supply wells have been identified within 250 feet of the portion of Toyon Meadows under investigation. EquoLogic, on behalf of Mills College, requests that the site be granted case closure under the State low threat closure policy.

You can contact me at (408) 656-2505 or by email at ldooley@equologicgroup.com.

Sincerely,



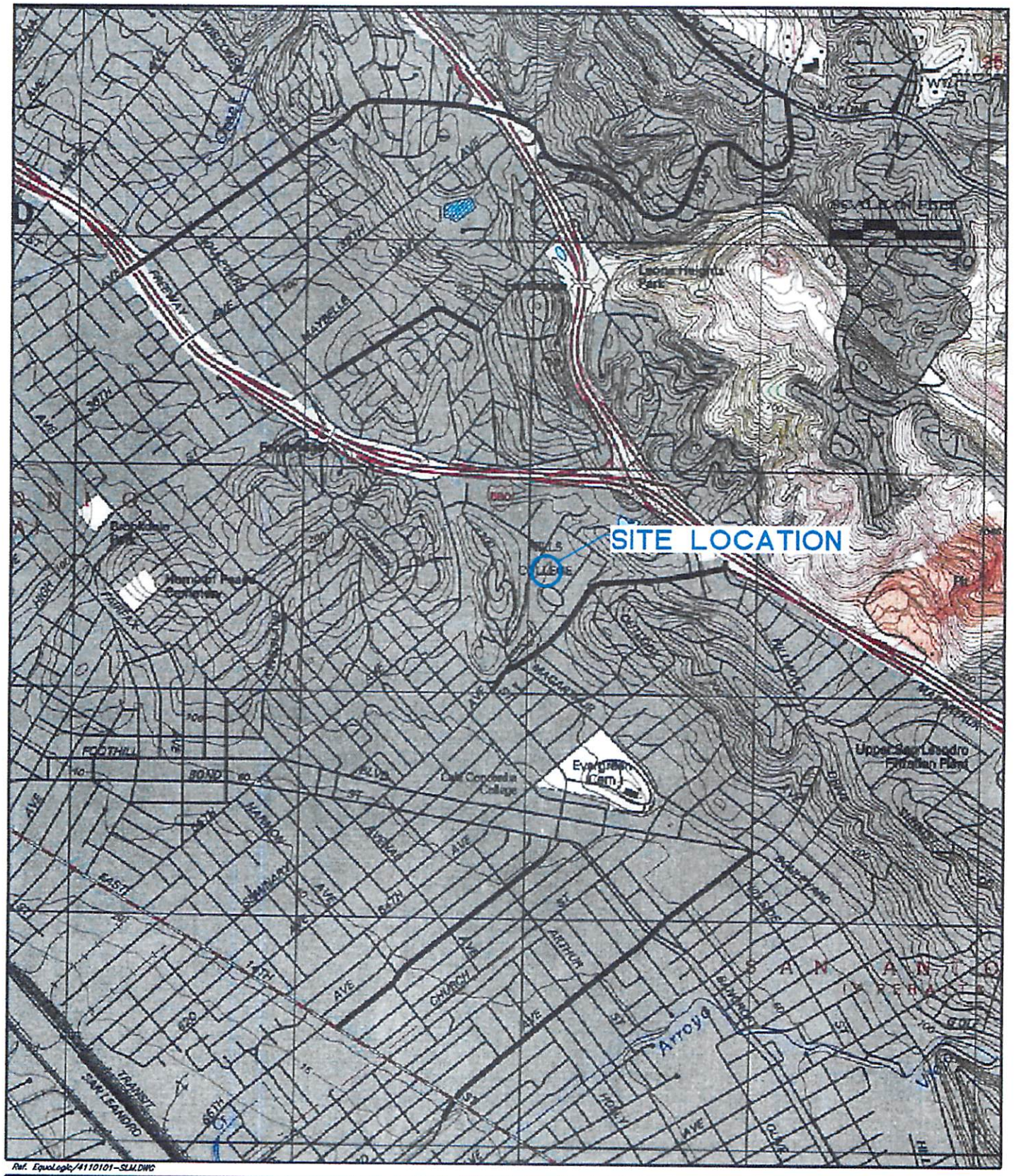
Lee Dooley
Senior Hydrogeologist
CHG 183

Attachments

Figure 1 – Site Location Map
Figure 2 – Site Plan Toyon Meadows

Attachment A – Groundwater Monitoring Data
Attachment B – Boring Permit
Attachment C – Boring Logs
Attachment D – Laboratory Analytical Report
Attachment E – Well Survey Map

Cc: Linda Zitzner, Mills College, 5000 MacArthur Blvd., Oakland, CA 94613-1301



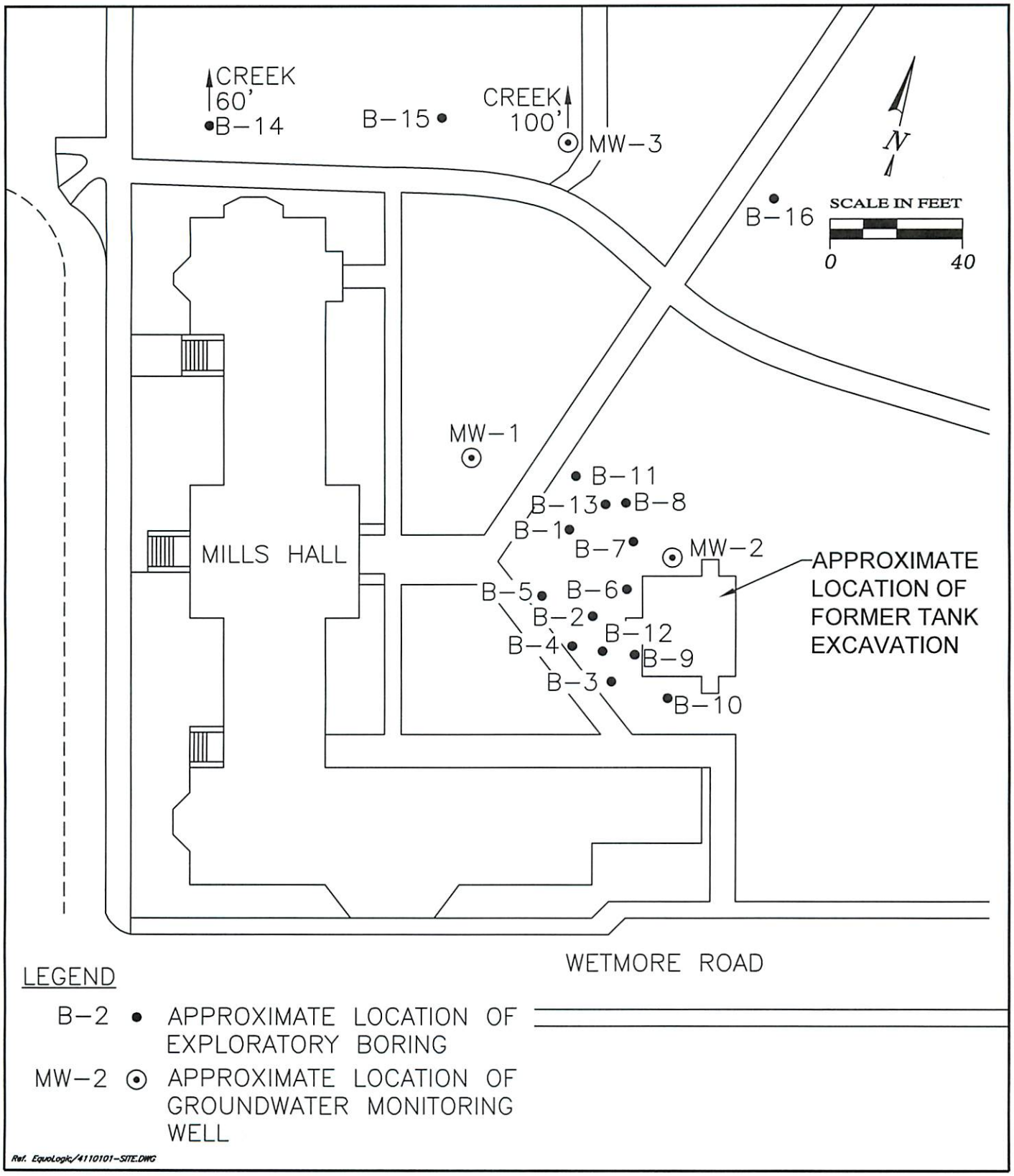
Ref. EquoLogic/4110101-SLM.DWG

EquoLogic

SITE LOCATION MAP

MILLS COLLEGE
5000 MacArthur Boulevard
Oakland, California

FIGURE:
1
PROJECT:
411.01.01



EquoLogic

SITE PLAN TOYON MEADOWS

MILLS COLLEGE
5000 MacArthur Boulevard
Oakland, California

FIGURE:
2
PROJECT:
411.01.01

TABLE 1 - SUMMARY OF SOIL ANALYTICAL DATA
MILLS COLLEGE

Boring	Depth Feet	Date	B ug/kg	T ug/kg	E ug/kg	X ug/kg	1,2-Dibrm ug/kg	1,2-Dichlorm ug/kg	MTBE ug/kg	Napth ug/kg	TPH (C10-28) mg/kg
TOYON MEADOWS											
B-14	15	12/18/2013	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	6.95 J
B-15	15	12/18/2013	<4.9	<4.9	<4.9	<9.8	<4.9	<4.9	<4.9	<4.9	5.71 J
B-16	15	12/18/2013	<5.0	<5.0	<5.0	<9.9	<5.0	<5.0	<5.0	<5.0	4.87 J

Notes

B	Benzene	MTBE	Methyl Tert Butyl Ether
T	Toluene	Napth	Napthalene
E	Ethylbenzene	TPH	Total Petroleum Hydrocarbons
X	Xylene	J	Indicates an estimated value below the laboratory reportimg limit
1,2-Dibrm	1,2-Dibromoethane		
1,2-Dichlorm	1,2-Dichloroethane		

ATTACHMENT A

Groundwater Monitoring Data

- SUMMARY OF GROUNDWATER ANALYTICAL DATA
MILLS COLLEGE

Boring	Date	B ug/l	T ug/l	E ug/l	X ug/l	1,2-Dibrm ug/l	1,2-Dichlorm ug/l	DIPE ug/l	ETBE ug/l	MTBE ug/l	Napth ug/l	TAME ug/l	TBA ug/l	TPH (C10-28) mg/l
TOYON MEADOWS														
MW-1 M	10/19/2012	<0.20	<0.20	<0.20	<0.46	<0.20	<0.20	<0.22	<0.22	<0.20	<0.50	<0.40	<2.4	**0.0333**
	4/22/2013	<0.20	<0.20	<0.20	<0.46	<0.20	<0.20	<0.22	<0.22	<0.20	<0.50	<0.40	<2.4	**0.0255**
MW-2 M	10/19/2012	<0.20	<0.20	<0.20	<0.46	<0.20	<0.20	<0.22	<0.22	<0.20	<0.50	<0.40	<2.4	**0.115**
	4/22/2013	<0.20	<0.20	<0.20	<0.46	<0.20	<0.20	<0.22	<0.22	<0.20	<0.50	<0.40	<2.4	**0.136**
MW-3 M	10/19/2012	<0.20	<0.20	<0.20	<0.46	<0.20	<0.20	<0.22	<0.22	<0.20	<0.50	<0.40	<2.4	**0.0904**
	4/22/2013	<0.20	<0.20	<0.20	<0.46	<0.20	<0.20	<0.22	<0.22	<0.20	<0.50	<0.40	<2.4	**0.0756**
B-12	11/8/2012	<0.20	<0.20	<0.20	<0.46	<0.20	<0.20	<0.22	<0.22	<0.20	<0.50	<0.40	<2.4	**0.0837**
B-13	11/8/2012	<0.20	<0.20	<0.20	<0.46	<0.20	<0.20	<0.22	<0.22	<0.20	**18**	<0.40	<2.4	**9.46**
MAINTENANCE YARD														TPH (C6-10)
MW-1	10/19/2012	**1.7**	<0.20	**0.21**	<0.46	<0.20	**0.56**	<0.22	<0.22	**0.32**	<0.50	<0.40	<2.4	**0.036**
	4/22/2013	**3.6**	<0.20	**0.81**	<0.46	<0.20	**0.55**	<0.22	<0.22	**0.33**	<0.50	<0.40	<2.4	**0.049**
MW-2	10/19/2012	<0.20	<0.20	<0.20	<0.46	<0.20	<0.20	<0.22	<0.22	<0.20	<0.50	<0.40	**10.9**	<0.025
	4/22/2013	<0.20	<0.20	<0.20	<0.46	<0.20	<0.20	<0.22	<0.22	<0.20	<0.50	<0.40	**9.1**	<0.025
MW-3	10/19/2012	<0.20	<0.20	<0.20	<0.46	<0.20	<0.20	<0.22	<0.22	0.20	<0.50	<0.40	<2.4	<0.025
	4/22/2013	<0.20	<0.20	<0.20	<0.46	<0.20	<0.20	<0.22	<0.22	0.20	<0.50	<0.40	<2.4	<0.025

Notes

B	Benzene	DIPE	Di-isoproply ether	TPH (C10-28)	Total Petroleum Hydrocarbons as diesel
T	Toluene	ETBE	Ethyl tert-Butly Ether		
E	Ethylbenzene	MTBE	Methyl Tert Butyl Ether	TPH (6-10)	Total Petroleum Hydrocarbons as gasoline
X	Xylene	Napth	Napthalene		
1,2-Dibrm	1,2-Dibromoethane	TAME	Tert-Amyl Methyl Ether	ug/l	Microgarms per liter
1,2-Dichlorm	1,2-Dichloroethane	TBA	Tert Butyl Alcohol	mg/l	

ATTACHMENT B

Boring Permit

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 12/06/2013 By jamesy

Permit Numbers: W2013-0968
Permits Valid from 12/19/2013 to 12/19/2013

Application Id:	1385501310099	**City of Project Site:** Oakland
Site Location:	5000 MacArthur Blvd.	
Project Start Date:	12/19/2013	**Completion Date:** 12/19/2013
Assigned Inspector:	Contact Balance Hydrologics, Inc at (510) 473-5663 or acwells@balancehydro.com	
Applicant:	Equo Logic - Lee Dooley 1095 Branham Ln Ste 204, San Jose, CA 95136	**Phone:** 408-463-6813
Property Owner:	Mills College Linda Zitzner 5000 MacArthur Blvd, Oakland, CA 94613	**Phone:** 510-430-2024
Client:	** same as Property Owner **	

	Total Due:	$265.00
Receipt Number: WR2013-0456	**Total Amount Paid:**	$265.00
Payer Name : Equologic Group	Paid By: CHECK	**PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Contamination Study - 3 Boreholes
Driller: Vironex - Lic #: 705927 - Method: DP

Work Total: $265.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2013-0968	12/06/2013	03/19/2014	3	2.00 in.	15.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

5. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting,

once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

7. NOTE:
Under California laws, the owner/operator are responsible for reporting the contamination to the governmental regulatory agencies under Section 25295(a). The owner/operator is liable for civil penalties under Section 25299(a)(4) and criminal penalties under Section 25299(d) for failure to report a leak. The owner/operator is liable for civil penalties under Section 25299(b)(4) for knowing failure to ensure compliance with the law by the operator. These penalty provisions do not apply to a potential buyer.

8. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

ATTACHMENT C

Boring Logs

B-14

Mills College	5000 MacArthur Blvd.		Oakland, CA
Project Number	411-01.03	Drill Rig	Direct Push
Geologist	L. Dooley	Ground Elevation	Feet
Date Drilled	12/18/13	Total Depth of Borehole	15 Feet
Borehole Diameter	2 Inches	Depth to Water	Dry Feet

Graphic Log	Description	Depth	Sample	Undefined	Blow Counts	Completion
	Dark brown sandy CLAY with roots, damp					
	(mottled blue-gray-tan)					
	Brown gravelly CLAY, damp	5				
	Brown clayey GRAVEL, damp	10				
	Dark gray sandy CLAY, damp	15				
		20				
		25				
		30				
		35				

C:\Users\Owner\Documents\Well Logger\Mills College.wl2

B-15

Mills College	5000 MacArthur Blvd.		Oakland, CA
Project Number	411-01.03	Drill Rig	Direct Push
Geologist	L. Dooley	Ground Elevation	Feet
Date Drilled	12/18/13	Total Depth of Borehole	15 Feet
Borehole Diameter	2 Inches	Depth to Water	Dry Feet

Graphic Log	Description	Depth	Sample	Undefined	Blow Counts	Completion
	Brown-black mottled sandy CLAY with roots, damp					
	Brown-gray-tan mottled sandy CLAY with gravel, damp	5				
	Brown clayey GRAVEL, moist at 11.5'	10				
	Tan CLAY with some sand, damp	15				
		20				
		25				
		30				
		35				

C:\Users\Owner\Documents\Well Logger\Mills College.wl2

B-16

Mills College		5000 MacArthur Blvd.	Oakland, CA
Project Number	411-01.03	Drill Rig	Direct Push
Geologist	L. Dooley	Ground Elevation	Feet
Date Drilled	12/18/13	Total Depth of Borehole	15 Feet
Borehole Diameter	2 Inches	Depth to Water	Dry Feet

Graphic Log	Description	Depth	Sample	Undefined	Blow Counts	Completion
	Dark brown CLAY with roots, damp					
	Brown-tan sandy CLAY with gravel, damp	5				
	Brown gravelly CLAY, damp	10				
		15				
		20				
		25				
		30				
		35				

C:\Users\Owner\Documents\Well Logger\Mills College.wl2

ATTACHMENT D

Laboratory Analytical Report

Northern California
ACCUTEST
LABORATORIES

12/26/13

Technical Report for

EquoLogic

T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA

411.01.04

Accutest Job Number: C31498

Sampling Date: 12/18/13

Report to:

EquoLogic
15936 Barry Lane
Monte Sereno, CA 95030
ldooley@equologicgroup.com

ATTN: Lee Dooley

Total number of pages in report: 25

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

James J. Rhudy
Lab Director

Client Service contact: Nutan Kabir 408-588-0200

Certifications: CA (08258CA) AZ (AZ0762) DoD ELAP (L-A-B L2242)

Sections: 1 2 3 4 5 6

Table of Contents

-1-

Accutest Laboratories

Sample Summary

EquoLogic

Job No: C31498

T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA
Project No: 411.01.04

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
C31498-1	12/18/13	00:00	LD	12/19/13	SO	Soil	B-14@15'
C31498-2	12/18/13	00:00	LD	12/19/13	SO	Soil	B-15@15'
C31498-3	12/18/13	00:00	LD	12/19/13	SO	Soil	B-16@15'

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Job Number: C31498
Account: EquoLogic
Project: T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA
Collected: 12/18/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
C31498-1	B-14@15'					
TPH (C10-C28)		6.95 J	9.9	2.5	mg/kg	SW846 8015B M
C31498-2	B-15@15'					
TPH (C10-C28)		5.71 J	9.8	2.5	mg/kg	SW846 8015B M
C31498-3	B-16@15'					
TPH (C10-C28)		4.87 J	9.9	2.5	mg/kg	SW846 8015B M

Northern California ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-14@15'		
Lab Sample ID:	C31498-1	Date Sampled:	12/18/13
Matrix:	SO - Soil	Date Received:	12/19/13
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M43620.D	1	12/19/13	XB	n/a	n/a	VM1314
Run #2							

	Initial Weight
Run #1	5.02 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	0.50	ug/kg	
108-88-3	Toluene	ND	5.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	0.50	ug/kg	
1330-20-7	Xylene (total)	ND	10	1.0	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	0.50	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	0.50	ug/kg	
91-20-3	Naphthalene	ND	5.0	1.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-130%
2037-26-5	Toluene-D8	113%		70-130%
460-00-4	4-Bromofluorobenzene	108%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

3.1

Client Sample ID:	B-14@15'		
Lab Sample ID:	C31498-1	Date Sampled:	12/18/13
Matrix:	SO - Soil	Date Received:	12/19/13
Method:	SW846 8015B M SW846 3550B	Percent Solids:	n/a [a]
Project:	T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH310150.D	1	12/21/13	AG	12/19/13	OP9273	GHH1159
Run #2							

	Initial Weight	Final Volume
Run #1	10.1 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	6.95	9.9	2.5	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	86%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-15@15'		
Lab Sample ID:	C31498-2	Date Sampled:	12/18/13
Matrix:	SO - Soil	Date Received:	12/19/13
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L29572.D	1	12/23/13	XB	n/a	n/a	VL931
Run #2							

	Initial Weight
Run #1	5.11 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	4.9	0.49	ug/kg	
108-88-3	Toluene	ND	4.9	0.49	ug/kg	
100-41-4	Ethylbenzene	ND	4.9	0.49	ug/kg	
1330-20-7	Xylene (total)	ND	9.8	0.98	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	4.9	0.98	ug/kg	
106-93-4	1,2-Dibromoethane	ND	4.9	0.49	ug/kg	
107-06-2	1,2-Dichloroethane	ND	4.9	0.49	ug/kg	
91-20-3	Naphthalene	ND	4.9	0.98	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		70-130%
2037-26-5	Toluene-D8	100%		70-130%
460-00-4	4-Bromofluorobenzene	102%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-15@15'		
Lab Sample ID:	C31498-2	Date Sampled:	12/18/13
Matrix:	SO - Soil	Date Received:	12/19/13
Method:	SW846 8015B M SW846 3550B	Percent Solids:	n/a [a]
Project:	T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH310151.D	1	12/21/13	AG	12/19/13	OP9273	GHH1159
Run #2							

	Initial Weight	Final Volume
Run #1	10.2 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	5.71	9.8	2.5	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	85%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B-16@15'		
Lab Sample ID:	C31498-3	Date Sampled:	12/18/13
Matrix:	SO - Soil	Date Received:	12/19/13
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L29573.D	1	12/23/13	XB	n/a	n/a	VL931
Run #2							

	Initial Weight
Run #1	5.05 g
Run #2	

Purgeable Aromatics, MTBE

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	0.50	ug/kg	
108-88-3	Toluene	ND	5.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	0.50	ug/kg	
1330-20-7	Xylene (total)	ND	9.9	0.99	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	0.99	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	0.50	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	0.50	ug/kg	
91-20-3	Naphthalene	ND	5.0	0.99	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		70-130%
2037-26-5	Toluene-D8	99%		70-130%
460-00-4	4-Bromofluorobenzene	102%		70-130%

(a) All results reported on a wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	B-16@15'		
Lab Sample ID:	C31498-3	Date Sampled:	12/18/13
Matrix:	SO - Soil	Date Received:	12/19/13
Method:	SW846 8015B M SW846 3550B	Percent Solids:	n/a [a]
Project:	T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH310152.D	1	12/21/13	AG	12/19/13	OP9273	GHH1159
Run #2							

	Initial Weight	Final Volume
Run #1	10.1 g	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	4.87	9.9	2.5	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	86%		37-122%

(a) All results reported on a wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Northern California ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST LABORATORIES

2105 Lundy Ave, San Jose, CA 95131
(408) 588-0200 FAX: (408) 588-0201

EGUOCAMS4745

FED-EX Tracking #:
Bottle Order Control #: C31498
Accutest Quote #:
Accutest NC Job #: C

Client / Reporting Information

Company Name: Equalogic
Address: 1095 Branham Lane #204
City: San Jose State: CA Zip: 95136
Project Contact: Lee Dooley
Phone #: 408 656-2505
Samplers's Name: Lee D.

Project Information

Project Name: Mills College
Street: 5000 MacArthur Blvd.
City: Oakland State: CA
Project #: 411.01.04
EMAIL: Ldooley@equalogicgroup.com
Client Purchase Order #:

Requested Analysis: TPH-d with silica gel; BTEX; MTBE; Napthalene; 1,2 dibromomethane; 1,2 dichloroethane

Accutest Sample ID	Sample ID / Field Point / Point of Collection	Date	Time	Sampled by	Matrix	# of bottles	TPH-d with silica gel	BTEX	MTBE	Napthalene	1,2 dibromomethane	1,2 dichloroethane	LAB USE ONLY
1	B-14 @ 15'	12/18/13		LD	S	1	X	X	X	X	X	X	
2	B-15 @ 15'	12/18/13		LD	S	1	X	X	X	X	X	X	
3	B-16 @ 15'	12/18/13		LD	S	1	X	X	X	X	X	X	

Matrix Codes: WW- Wastewater; GW- Ground Water; SW- Surface Water; SO- Soil; OI- Oil; WP- Wipe; LIQ - Non-aqueous Liquid; AIR; DW- Drinking Water (Perchlorate Only)

Turnaround Time (Business days)

- [x] 10 Day
- [ ] 5 Day
- [ ] 3 Day
- [ ] 2 Day
- [ ] 1 Day
- [ ] Same Day

Approved By:/ Date:

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" - Results only
- [x] Commercial "B" - Results with QC summaries
- [ ] Commercial "B+" - Results, QC, and chromatograms
- [ ] FULT1 - Level 4 data package
- [x] EDF for Geotracker
- [ ] EDD Format

Provide EDF Global ID:
Provide EDF Logcode: ELMS

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	12/18/13 1430	1 [signature]	2 [signature]	12/19/13 1430	2 [signature]
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Appropriate Bottle / Pres (Y)/N; Labels match Coc (Y)/N	Headspace Y/N N/A; On Ice (Y)/N; Separate Receiving Check List used (Y)/N; Cooler Temp. 3.7-1.5=2.2°C

C31498: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: C31498 **Client:** EQUOLOGIC **Project:** MILLS COLLEGE

Date / Time Received: 12/19/2013 **Delivery Method:** Client **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3.7/2.2); 0

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☐		☑	3. COC Present:	☑		☐
2. Custody Seals Intact:	☐		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR1 Plastic;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☐		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:408.588.0200

2105 Lundy Avenue
F: 408.588.0201

San Jose, CA 95131
www/accutest.com

C31498: Chain of Custody
Page 2 of 2

Northern California ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C31498
Account: EQUOCAMS EquoLogic
Project: T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM1314-MB	M43614.D	1	12/19/13	XB	n/a	n/a	VM1314

The QC reported here applies to the following samples: Method: SW846 8260B

C31498-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	0.50	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	0.50	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	0.50	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.0	ug/kg	
91-20-3	Naphthalene	ND	5.0	1.0	ug/kg	
108-88-3	Toluene	ND	5.0	0.50	ug/kg	
1330-20-7	Xylene (total)	ND	10	1.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	70-130%
2037-26-5	Toluene-D8	115%	70-130%
460-00-4	4-Bromofluorobenzene	108%	70-130%

Method Blank Summary

Job Number: C31498
Account: EQUOCAMS EquoLogic
Project: T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL931-MB	L29571.D	1	12/23/13	XB	n/a	n/a	VL931

The QC reported here applies to the following samples: Method: SW846 8260B

C31498-2, C31498-3

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	0.50	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	0.50	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	0.50	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	0.50	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.0	ug/kg	
91-20-3	Naphthalene	ND	5.0	1.0	ug/kg	
108-88-3	Toluene	ND	5.0	0.50	ug/kg	
1330-20-7	Xylene (total)	ND	10	1.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	97%	70-130%
2037-26-5	Toluene-D8	100%	70-130%
460-00-4	4-Bromofluorobenzene	100%	70-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C31498
Account: EQUOCAMS EquoLogic
Project: T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM1314-BS	M43612.D	1	12/19/13	XB	n/a	n/a	VM1314
VM1314-BSD	M43613.D	1	12/19/13	XB	n/a	n/a	VM1314

The QC reported here applies to the following samples: Method: SW846 8260B

C31498-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	40	37.3	93	36.7	92	2	81-119/20
106-93-4	1,2-Dibromoethane	40	38.2	96	39.1	98	2	80-120/20
107-06-2	1,2-Dichloroethane	40	43.2	108	42.5	106	2	76-132/21
100-41-4	Ethylbenzene	40	39.2	98	38.0	95	3	80-119/21
1634-04-4	Methyl Tert Butyl Ether	40	37.2	93	38.3	96	3	79-127/19
91-20-3	Naphthalene	40	37.4	94	38.6	97	3	78-125/23
108-88-3	Toluene	40	38.0	95	37.1	93	2	80-117/21
1330-20-7	Xylene (total)	120	115	96	110	92	4	81-122/22

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	103%	106%	70-130%
2037-26-5	Toluene-D8	110%	107%	70-130%
460-00-4	4-Bromofluorobenzene	109%	108%	70-130%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C31498
Account: EQUOCAMS EquoLogic
Project: T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VL931-BS	L29568.D	1	12/23/13	XB	n/a	n/a	VL931
VL931-BSD	L29569.D	1	12/23/13	XB	n/a	n/a	VL931

The QC reported here applies to the following samples: Method: SW846 8260B

C31498-2, C31498-3

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	40	33.8	85	36.4	91	7	81-119/20
106-93-4	1,2-Dibromoethane	40	34.5	86	36.0	90	4	80-120/20
107-06-2	1,2-Dichloroethane	40	35.5	89	36.5	91	3	76-132/21
100-41-4	Ethylbenzene	40	33.7	84	37.2	93	10	80-119/21
1634-04-4	Methyl Tert Butyl Ether	40	35.8	90	36.3	91	1	79-127/19
91-20-3	Naphthalene	40	36.3	91	35.0	88	4	78-125/23
108-88-3	Toluene	40	33.8	85	37.0	93	9	80-117/21
1330-20-7	Xylene (total)	120	102	85	112	93	9	81-122/22

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	101%	99%	70-130%
2037-26-5	Toluene-D8	100%	101%	70-130%
460-00-4	4-Bromofluorobenzene	100%	103%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C31498
Account: EQUOCAMS EquoLogic
Project: T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C31476-1MS	M43622.D	1	12/19/13	XB	n/a	n/a	VM1314
C31476-1MSD	M43623.D	1	12/19/13	XB	n/a	n/a	VM1314
C31476-1	M43615.D	1	12/19/13	XB	n/a	n/a	VM1314

The QC reported here applies to the following samples: Method: SW846 8260B

C31498-1

CAS No.	Compound	C31476-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		43.2	40.0	93	39.8	95	1	81-119/20
106-93-4	1,2-Dibromoethane	ND		43.2	47.1	109	46.0	110	2	80-120/20
107-06-2	1,2-Dichloroethane	ND		43.2	52.7	122	50.1	119	5	76-132/21
100-41-4	Ethylbenzene	ND		43.2	43.9	102	42.4	101	3	80-119/21
1634-04-4	Methyl Tert Butyl Ether	ND		43.2	45.2	105	44.1	105	2	79-127/19
91-20-3	Naphthalene	ND		43.2	47.2	109	46.8	111	1	78-125/23
108-88-3	Toluene	ND		43.2	41.5	96	40.9	97	1	80-117/21
1330-20-7	Xylene (total)	ND		129	125	97	123	98	2	81-122/22

CAS No.	Surrogate Recoveries	MS	MSD	C31476-1	Limits
1868-53-7	Dibromofluoromethane	106%	105%	105%	70-130%
2037-26-5	Toluene-D8	108%	106%	111%	70-130%
460-00-4	4-Bromofluorobenzene	111%	107%	109%	70-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C31498
Account: EQUOCAMS EquoLogic
Project: T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C31498-3MS	L29589.D	1	12/23/13	XB	n/a	n/a	VL931
C31498-3MSD	L29590.D	1	12/23/13	XB	n/a	n/a	VL931
C31498-3	L29573.D	1	12/23/13	XB	n/a	n/a	VL931

The QC reported here applies to the following samples: Method: SW846 8260B

C31498-2, C31498-3

CAS No.	Compound	C31498-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		38.8	22.1	57* [a]	27.5	70* [a]	22* [a]	81-119/20
106-93-4	1,2-Dibromoethane	ND		38.8	23.9	62* [a]	26.5	67* [a]	10	80-120/20
107-06-2	1,2-Dichloroethane	ND		38.8	23.4	60* [a]	27.4	69* [a]	16	76-132/21
100-41-4	Ethylbenzene	ND		38.8	21.2	55* [a]	26.2	66* [a]	21	80-119/21
1634-04-4	Methyl Tert Butyl Ether	ND		38.8	24.5	63* [a]	28.2	71* [a]	14	79-127/19
91-20-3	Naphthalene	ND		38.8	21.4	55* [a]	22.8	58* [a]	6	78-125/23
108-88-3	Toluene	ND		38.8	21.4	55* [a]	26.4	67* [a]	21	80-117/21
1330-20-7	Xylene (total)	ND		116	62.7	54* [a]	77.7	66* [a]	21	81-122/22

CAS No.	Surrogate Recoveries	MS	MSD	C31498-3	Limits
1868-53-7	Dibromofluoromethane	102%	103%	104%	70-130%
2037-26-5	Toluene-D8	99%	96%	99%	70-130%
460-00-4	4-Bromofluorobenzene	101%	103%	102%	70-130%

(a) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Northern California ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C31498
Account: EQUOCAMS EquoLogic
Project: T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9273-MB	HH310111.D	1	12/20/13	AG	12/19/13	OP9273	GHH1159

The QC reported here applies to the following samples: Method: SW846 8015B M

C31498-1, C31498-2, C31498-3

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	10	2.5	mg/kg	

CAS No.	Surrogate Recoveries		Limits
630-01-3	Hexacosane	89%	37-122%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C31498
Account: EQUOCAMS EquoLogic
Project: T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9273-BS	HH310109.D	1	12/20/13	AG	12/19/13	OP9273	GHH1159
OP9273-BSD	HH310110.D	1	12/20/13	AG	12/19/13	OP9273	GHH1159

The QC reported here applies to the following samples: Method: SW846 8015B M

C31498-1, C31498-2, C31498-3

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	100	84.8	85	82.1	82	3	39-102/29

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	98%	96%	37-122%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C31498
Account: EQUOCAMS EquoLogic
Project: T0600100899-Mills College - 5000 MacArthur Blvd., Oakland, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9273-MS	HH310121.D	1	12/20/13	AG	12/19/13	OP9273	GHH1159
OP9273-MSD	HH310122.D	1	12/20/13	AG	12/19/13	OP9273	GHH1159
C31464-7	HH310119.D	1	12/20/13	AG	12/19/13	OP9273	GHH1159

The QC reported here applies to the following samples: Method: SW846 8015B M

C31498-1, C31498-2, C31498-3

CAS No.	Compound	C31464-7 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	5.82	J	98.4	92.2	88	88.3	84	4	39-102/29

CAS No.	Surrogate Recoveries	MS	MSD	C31464-7	Limits
630-01-3	Hexacosane	94%	90%	87%	37-122%

* = Outside of Control Limits.

ATTACHMENT E

Well Survey