



SOIL SAMPLE ANALYTICAL RESULTS



January 3, 2019

SCST No. 170415P4.1
Report No. 1

Ms. Rorie Skei
Chief Deputy Executive Officer
Mountains Recreation & Conservation Authority
King Gillette Ranch
26800 Mulholland Highway
Calabasas, CA 91302

Subject: SOIL SAMPLE ANALYTICAL RESULTS
LIMITED RADIOLOGICAL ASSESSMENT
UPPER LAS VIRGENES CANYON PRESERVE, CORRAL CANYON PARK,
CAMERON NATURE PRESERVE, AND ESCONDIDO CANYON PARK
MAILIBU, CALIFORNIA

Dear Ms. Skei:

At your request and authorization, SCST, LLC (SCST) presents this report summarizing our limited radiological assessment of the on-site surface soils near public access trails within the subject area. We understand that there is concern that the Woolsey Fire may have impacted site conditions as they relate to radioactive materials in on-site soils within the Upper Las Virgenes Canyon Preserve, Corral Canyon Park, Cameron Nature Preserve, and Escondido Canyon Park.

Sample Collection and Analyses

On December 7 and 8, 2018, SCST collected a total of 15 soil samples from 15 locations within parks and preserves managed by the Mountain Recreation and Conservation Authority (Figure 1). The samples were collected from randomly selected locations near existing publicly used trails within the park and preserve boundaries. The approximate sample locations were recorded using consumer grade Global Position Satellite (GPS) technology. Figures 2 through 4 show the approximate sample locations.

The samples were collected using hand tools, placed in appropriate containers, labeled, and delivered to TestAmerica Laboratories, Inc. for analyses. All fieldwork was performed in accordance with EPA Publication SW-846 and generally accepted protocols.

TestAmerica Laboratories, Inc. performed the following analyses on each of the soil samples:

- Cesium 137 and other Gamma Emitters by EPA Method 901.1
- Gross Alpha/Beta (GFPC) by EPA Method 9310



Analytical Results

Low level concentrations of radionuclides were detected in soil samples. A copy of the laboratory report is included as Appendix A.

Closure

This Limited Radiological Assessment was not intended to be a comprehensive analysis and assessment of the distribution of radiological material throughout areas managed by the Mountain Recreation & Conservation Authority. Rather, it is intended to provide timely information requested by the Mountain Recreation & Conservation Authority.

If you have any questions regarding this report or need additional information, please call our office at (619) 280-4321.

Respectfully Submitted,
SCST, LLC



Douglas A. Skinner, CEG 2472
Senior Geologist

Anne Lawrence, PG
Senior Geologist

Tom Bouleanu
Staff Geologist

DAS:hu

Attachments:

Figure

- Figure 1 – Site Vicinity Map
- Figure 2A – Sample Location Map
- Figure 2B – Sample Location Map

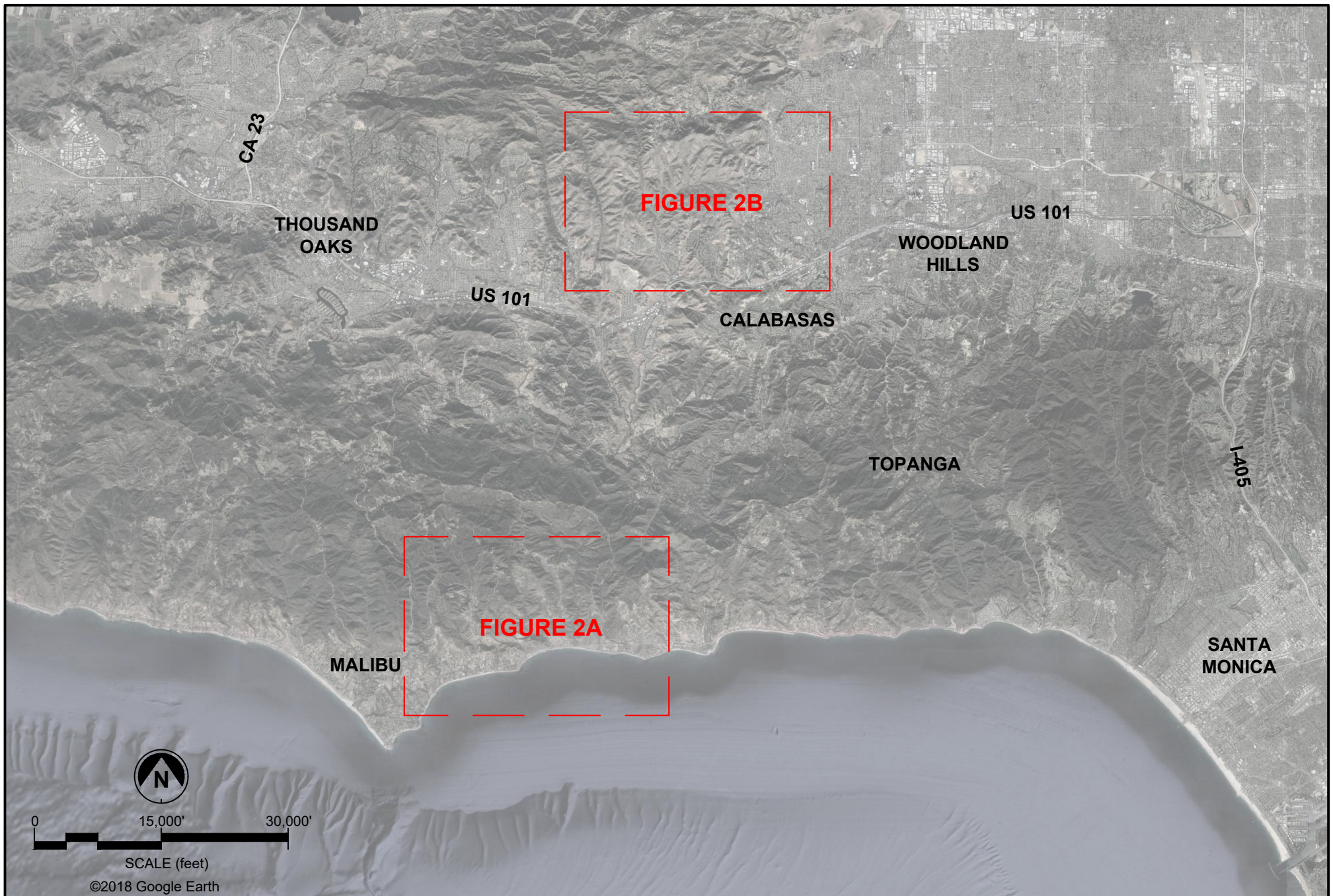
Tables

- Table 1 – Laboratory Analytical Results

Appendices

- Appendix A – Laboratory Analytical Results

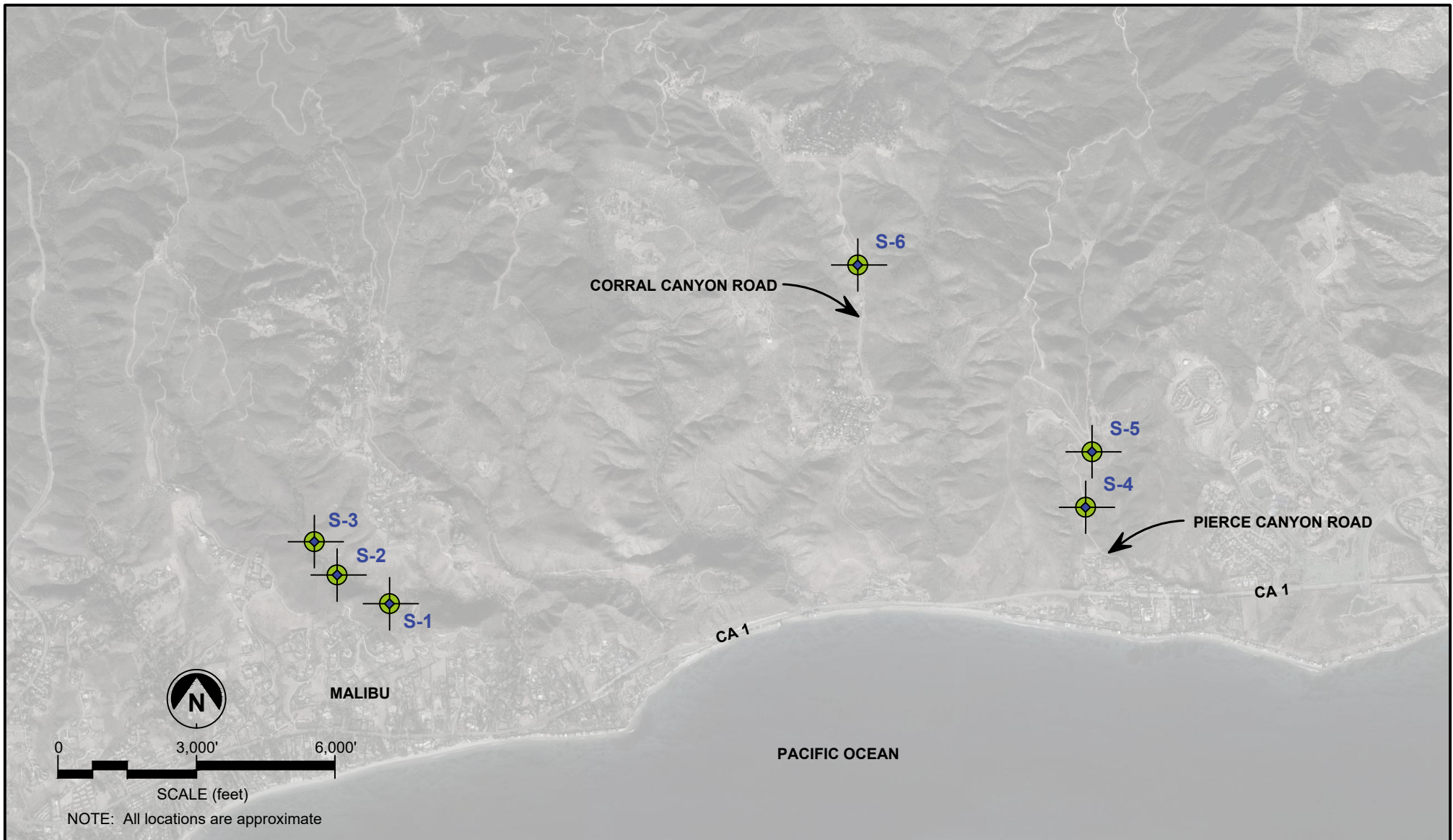
(1) Addressee via e-mail: skei@smmc.ca.gov.com




SITE VICINITY MAP
 Upper Las Virgenes Canyon Preserve Radiation
 Evaluation
 Calabasas, California

Date: December, 2018
 By: DTC
 Job No.: 170416P4.1-1

Figure:
1



SCST LEGEND:

 S-6 Location of Environmental Radiological Soil Sample

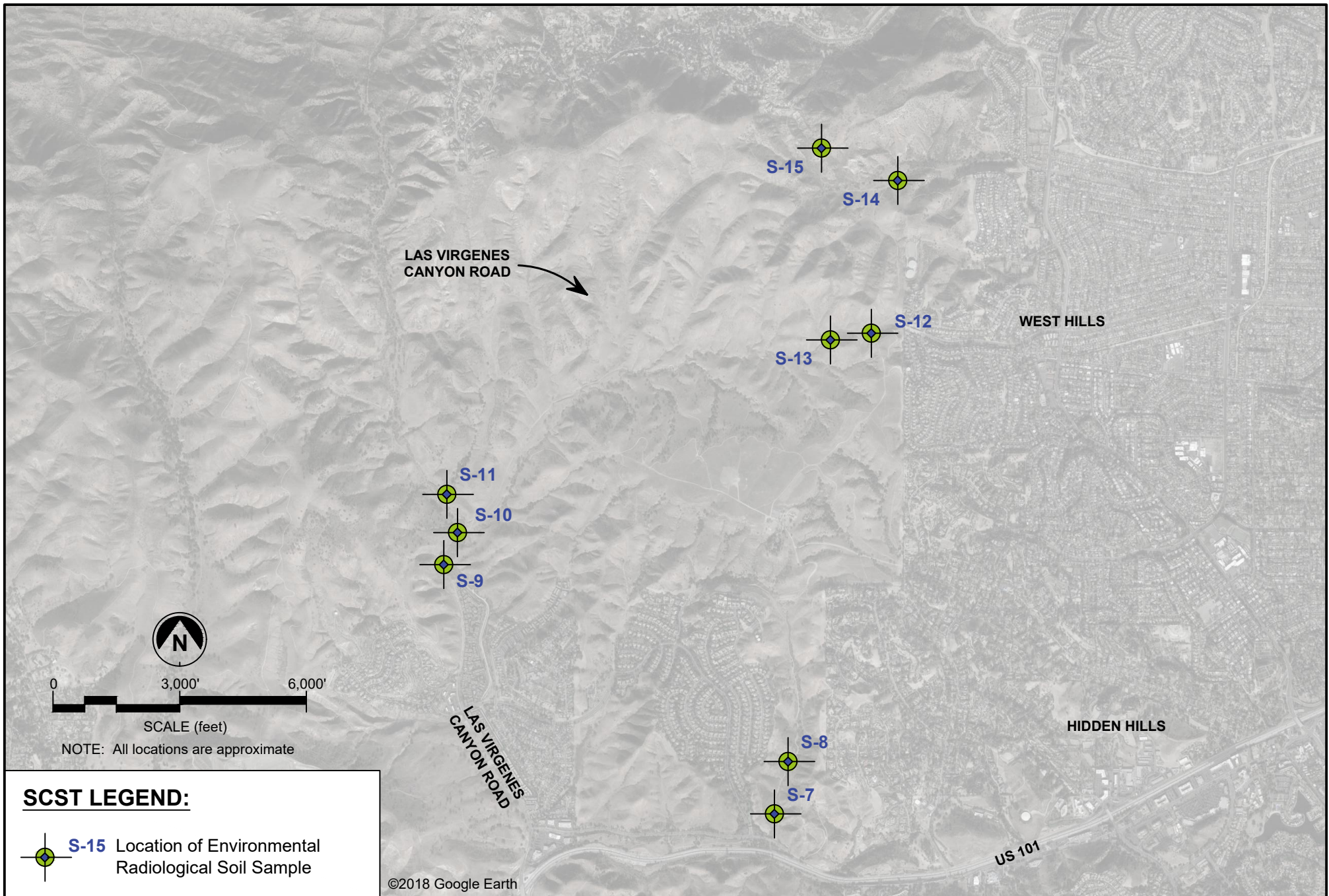
©2018 Google Earth




SAMPLE LOCATION MAP
 Upper Las Virgenes Canyon Preserve Radiation
 Evaluation
 Calabasas, California

Date: December, 2018
 By: DTC
 Job No.: 170416P4.1-1

Figure:
2A



SCST LEGEND:

 **S-15** Location of Environmental Radiological Soil Sample

©2018 Google Earth



SAMPLE LOCATION MAP
 Upper Las Virgenes Canyon Preserve Radiation
 Evaluation
 Calabasas, California

Date: December, 2018
 By: DTC
 Job No.: 170416P4.1-1

Figure:
2B

TABLE 1 – Laboratory Analytical Results

Sample ID	Radionuclide	Method MDC pCi/g	Reported Result pCi/g
S-1	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.200	-0.075
	Bi-214	0.160	1.360
	K-40	0.953	12.500
	Pb-210	1.780	4.570
	Pb-212	0.126	0.612
	Pb-214	0.178	1.600
	Ti-208	0.061	0.250
	Method 9310-Gross Alpha/Beta (GFPC)		
	Gross Alpha	5.72	13.1
	Gross Beta	3.51	16.2

Sample ID	Radionuclide	Method MDC pCi/g	Reported Result pCi/g
S-5	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.086	0.254
	Ac-228	0.989	0.149
	Bi-214	0.246	0.545
	K-40	1.28	7.86
	Pb-210	--	--
	Pb-212	0.17	0.501
	Pb-214	0.178	0.718
	Ti-208	--	--
	Method 9310-Gross Alpha/Beta (GFPC)		
	Gross Alpha	4.94	9.47
Gross Beta	3.14	12.6	

Sample ID	Radionuclide	Method MDC pCi/g	Reported Result pCi/g
S-2	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.213	0.0636
	Bi-214	0.223	0.961
	K-40	1.450	12.9
	Pb-210	--	--
	Pb-212	0.125	0.715
	Pb-214	0.125	0.888
	Ti-208	--	--
	Method 9310-Gross Alpha/Beta (GFPC)		
	Gross Alpha	5.35	7.57
	Gross Beta	3.15	14.7

Sample ID	Radionuclide	Method MDC pCi/g	Reported Result pCi/g
S-6	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.159	0.0452
	Ac-228	0.155	1.41
	Bi-212	1.1	2.23
	Bi-214	0.2	1.35
	K-40	1.15	14.4
	Pb-210	--	--
	Pb-212	0.184	1.11
	Pb-214	0.234	1.54
	Ti-208	0.0892	0.38
	Method 9310-Gross Alpha/Beta (GFPC)		
Gross Alpha	5.82	15.3	
Gross Beta	3.27	21.9	

Sample ID	Radionuclide	Method MDC pCi/g	Reported Result pCi/g
S-3	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.0918	0.298
	Ac-228	0.416	1.2
	Bi-212	0.76	1.86
	Bi-214	0.332	1.55
	K-40	1.63	15.1
	Pb-210	--	--
	Pb-212	0.249	0.814
	Pb-214	0.316	1.39
	Ti-208	0.101	0.489
	Method 9310-Gross Alpha/Beta (GFPC)		
Gross Alpha	6.57	18.2	
Gross Beta	3.54	19.3	

Sample ID	Radionuclide	Method MDC pCi/g	Reported Result pCi/g
S-7	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.2	-0.0749
	Bi-214	0.16	1.36
	K-40	0.953	12.5
	Pb-210	1.78	4.57
	Pb-212	0.126	0.612
	Pb-214	0.178	1.6
	Ti-208	0.061	0.25
	Method 9310-Gross Alpha/Beta (GFPC)		
	Gross Alpha	6.95	8.18
	Gross Beta	4.07	22.4

Sample ID	Radionuclide	Method MDC pCi/g	Reported Result pCi/g
S-4	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.0825	0.157
	Ac-228	0.297	0.957
	Bi-214	0.161	0.707
	K-40	0.994	19.8
	Pb-210	--	--
	Pb-212	0.214	0.573
	Pb-214	0.182	0.743
	Ti-208	0.0825	0.381
	Method 9310-Gross Alpha/Beta (GFPC)		
	Gross Alpha	5.74	11.3
Gross Beta	3.73	26.5	

Sample ID	Radionuclide	Method MDC pCi/g	Reported Result pCi/g
S-8	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.0594	0.118
	Bi-214	0.159	1.06
	K-40	1.03	11.6
	Pb-210	--	--
	Pb-212	0.155	0.668
	Pb-214	0.218	1.38
	Ti-208	0.0767	0.231
	Method 9310-Gross Alpha/Beta (GFPC)		
	Gross Alpha	6.64	5.45
	Gross Beta	3.95	11.8

TABLE 1 – Laboratory Analytical Results (continued)

Sample ID	Radionuclide	Method MDC pCi/g	Reported Result pCi/g
S-9	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.289	0.0524
	Bi-214	0.303	2.65
	K-40	1.51	15.9
	Pb-210	--	--
	Pb-212	0.243	0.888
	Pb-214	0.266	2.95
	Ti-208	--	--
	Method 9310-Gross Alpha/Beta (GFPC)		
	Gross Alpha	6.14	18.1
Gross Beta	4.04	16.5	

Sample ID	Radionuclide	Method MDC pCi/g	Reported Result pCi/g
S-13	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.235	0.0638
	Ac-228	0.307	0.938
	Bi-214	0.244	1.18
	K-40	1.17	13.9
	Pb-210	--	--
	Pb-212	0.167	0.748
	Pb-214	0.161	1.58
	Ti-208	0.0724	0.354
	Method 9310-Gross Alpha/Beta (GFPC)		
Gross Alpha	5.52	13.2	
Gross Beta	2.88	17.9	

S-10	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.221	0.0678
	Bi-214	0.204	0.877
	K-40	1.08	16.7
	Pb-210	--	--
	Pb-212	0.222	0.997
	Pb-214	0.221	1.12
	Ti-208	0.0913	0.495
	Method 9310-Gross Alpha/Beta (GFPC)		
	Gross Alpha	6.35	12.4
Gross Beta	3.66	23.3	

S-14	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.212	0.0786
	Bi-214	0.253	1.06
	K-40	1.41	18.9
	Pb-210	--	--
	Pb-212	0.153	0.984
	Pb-214	0.25	1.17
	Ti-208	0.0681	0.373
	Method 9310-Gross Alpha/Beta (GFPC)		
	Gross Alpha	4.77	8.4
Gross Beta	1.99	17.9	

S-11	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.411	-0.156
	Ac-228	0.282	1.45
	Bi-214	0.406	2.82
	K-40	1.96	13.3
	Pb-210	--	--
	Pb-212	0.332	0.771
	Pb-214	0.364	3.87
	Ti-208	0.163	0.35
	Method 9310-Gross Alpha/Beta (GFPC)		
Gross Alpha	5.67	18.2	
Gross Beta	3.91	20.5	

S-15	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.257	0.0825
	Ac-228	0.351	1.03
	Bi-214	0.306	3.42
	K-40	1.72	11.3
	Pb-210	--	--
	Pb-212	0.236	0.845
	Pb-214	0.344	2.94
	Ti-208	0.115	0.274
	Method 9310-Gross Alpha/Beta (GFPC)		
Gross Alpha	5.24	13.9	
Gross Beta	3.22	15.7	

S-12	Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)		
	Cesium-137	0.243	0.0786
	Bi-214	0.341	1.68
	K-40	1.45	13.5
	Pb-210	--	--
	Pb-212	0.218	0.571
	Pb-214	0.307	1.44
	Ti-208	--	--
	Method 9310-Gross Alpha/Beta (GFPC)		
	Gross Alpha	5.72	13.1
Gross Beta	3.51	16.2	

Notes:	
--	Not Reported
Method MDC	Minimum Detectable Concentration
pCi/g	Average Picocuries per gram

**APPENDIX A
LABORATORY ANALYTICAL RESULTS**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-32239-1

Client Project/Site: Malibu Post-Fire Samples

For:

SCST Inc
1600 Dove Street
Suite 400
Newport Beach, California 92660

Attn: Anne Lawrence



Authorized for release by:
12/18/2018 6:20:13 PM

Chenise Lambert-Sykes, Project Manager I
(314)298-8566
chenise.lambert-sykes@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Chain of Custody	5
Receipt Checklists	7
Definitions/Glossary	8
Method Summary	9
Sample Summary	10
Client Sample Results	11
QC Sample Results	19
QC Association Summary	21

Case Narrative

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Job ID: 160-32239-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: SCST Inc.

Project: Malibu Post-Fire Samples

Report Number: 160-32239-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative.

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Manual Integrations were performed only when necessary and are in compliance with the laboratory's standard operating procedure. Detailed information can be found in the raw data section of the level IV report.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 12/11/2018; the samples arrived in good condition, properly preserved. The temperatures of the 3 coolers at receipt time were 19.0° C, 19.0° C and 19.0° C.

CESIUM 137 & OTHER GAMMA EMITTERS

Samples S-1 (160-32239-1), S-2 (160-32239-2), S-3 (160-32239-3), S-4 (160-32239-4), S-5 (160-32239-5), S-6 (160-32239-6), S-7 (160-32239-7), S-8 (160-32239-8), S-9 (160-32239-9), S-10 (160-32239-10), S-11 (160-32239-11), S-12 (160-32239-12), S-13 (160-32239-13), S-14 (160-32239-14) and S-15 (160-32239-15) were analyzed for Cesium 137 & Other Gamma Emitters in accordance with EPA 901.1. The samples were prepared on 12/12/2018 and analyzed on 12/13/2018.

Case Narrative

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Job ID: 160-32239-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

Prep Batch: 160-405453

The detection goal for cesium-137 was not met. This is caused by the elevated Compton Background due to elevated activity from bismuth-214 (and lead-214). The data have been reported with this narrative. S-2 (160-32239-2), S-9 (160-32239-9), S-10 (160-32239-10), S-11 (160-32239-11), S-12 (160-32239-12), S-13 (160-32239-13), S-14 (160-32239-14) and S-15 (160-32239-15)

The following sample exhibited a negative result greater in magnitude than the 3 sigma TPU: S-8 (160-32239-8)
This occurrence was evaluated and determined to be random in nature. Sporadic occurrences such as this are statistically expected. No further action is required.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GROSS ALPHA AND GROSS BETA RADIOACTIVITY

Samples S-1 (160-32239-1), S-2 (160-32239-2), S-3 (160-32239-3), S-4 (160-32239-4), S-5 (160-32239-5), S-6 (160-32239-6), S-7 (160-32239-7), S-8 (160-32239-8), S-9 (160-32239-9), S-10 (160-32239-10), S-11 (160-32239-11), S-12 (160-32239-12), S-13 (160-32239-13), S-14 (160-32239-14) and S-15 (160-32239-15) were analyzed for Gross Alpha and Gross Beta Radioactivity in accordance with SW- 846 Method 9310. The samples were prepared on 12/14/2018 and analyzed on 12/14/2018 and 12/16/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Chain of Custody Record

TestAmerica Irvine
17461 Derian Avenue
Suite 100
Irvine, CA 92614-5843
phone 949.261.1022 fax 949.260.3299

TestAmerica Laboratories, Inc.

Regulatory Program: DW NPDES RCRA Other:

Client Contact
SCST Inc
6280 Riverdale St
San Diego, CA 92120
(619) 280-4321 Phone
(619) 280-4717 FAX
Project Name:
Site: Malibu, CA, Radiological Sampling
P O #

Project Manager: Doug Skinner
Tel/Fax: (760) 215-8640

Site Contact: Tom Bouleau
Date: 12-8-18
Carrier:

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
TAT if different from Below: 10
 2 weeks
 1 week
 2 days
 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Perform MS/MSD (Y/N)		Filtered Sample (Y/N)	Sample Specific Notes:
						Lab Contact:	Carrier:		
S-1	12-7-18	1500	G	Sz	1 BAG				
S-2		1505							
S-3		1510							
S-4		1540							
S-5		1545							
S-6		1430							
S-7		1630							
S-8		1645							
S-9	12-8-18	0725							
S-10		0730							
S-11		0740							
S-12		0840							

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other NA

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return to Client Disposal by Lab Archive for _____ Months

Chain of Custody:

Relinquished by: Tom Bouleau Date/Time: 12-8-18/12:15
 Relinquished by: TH IRV Date/Time: 12/10/18
 Relinquished by: _____ Date/Time: _____

Received by: TH IRV Date/Time: 12-11-18/11:00
 Received by: _____ Date/Time: _____

Company: TH IRV Company: _____

Therm ID No.: 48 Cooler Temp (°C): 14.8 Obs'd: 14.8 Corr'd: 4.8

Chain of Custody Record

TestAmerica Irvine
17461 Derian Avenue
Suite 100
Irvine, CA 92614-5843
phone 949.261.1022 fax 949.260.3299

TestAmerica Laboratories, Inc.

Regulatory Program: DW NPDES RCRA Other:

Client Contact
SCST Inc
6280 Riverdale St
San Diego, CA 92120
(619) 280-4321 Phone
(619) 280-4717 FAX
Project Name:
Site: Malibu, CA, Radiological Sampling
P O #

Project Manager: Doug Skinner
Tel/Fax: (760) 215-8640

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
TAT if different from Below _____
 2 weeks
 1 week
 2 days
 1 day

Site Contact: Tom Bouleau
Lab Contact:
Performs MS/MSD (Y/N)
Filtered Sample (Y/N)
Carrier: _____
Date: _____
COC No: _____ of _____ COCs

Sampler: _____
For Lab Use Only:
Walk-in Client: _____
Lab Sampling: _____
Job / SDG No.: _____

Sample Specific Notes:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.
S-13	12-8-18	0830	G	Soil	184
S-14	↓	0855	↓	↓	↓
S-15	↓	0910	↓	↓	↓
(The rest of the table is crossed out with a diagonal line)					

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other NA

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Unknown
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seal No.: Company: SCST Inc. Date/Time: 12-8-18/12:15	Cooler Temp (C): 14.8 Corr'd: 14.8 Therm ID No.: 89
Relinquished by: Company: TA IRV Date/Time: 12-10-18	Received by: Company: TA IRV Date/Time: 12-8-18/12:15
Relinquished by: Company: TA IRV Date/Time: 12-10-18	Received by: Company: TA IRV Date/Time: 12-10-18
Relinquished by:	Received in Laboratory by:

Login Sample Receipt Checklist

Client: SCST Inc

Job Number: 160-32239-1

Login Number: 32239

List Source: TestAmerica St. Louis

List Number: 1

Creator: Press, Nicholas B

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Definitions/Glossary

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.
G	The Sample MDC is greater than the requested RL.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method Summary

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Method	Method Description	Protocol	Laboratory
901.1	Cesium 137 & Other Gamma Emitters (GS)	EPA	TAL SL
9310	Gross Alpha / Beta (GFPC)	SW846	TAL SL
Fill_Geo-0	Fill Geometry, No In-Growth	None	TAL SL
Thin_Layer	Preparation, Thin Layer Technique	None	TAL SL

Protocol References:

EPA = US Environmental Protection Agency

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-32239-1	S-1	Solid	12/07/18 15:00	12/11/18 11:10
160-32239-2	S-2	Solid	12/07/18 15:05	12/11/18 11:10
160-32239-3	S-3	Solid	12/07/18 15:10	12/11/18 11:10
160-32239-4	S-4	Solid	12/07/18 15:40	12/11/18 11:10
160-32239-5	S-5	Solid	12/07/18 15:45	12/11/18 11:10
160-32239-6	S-6	Solid	12/07/18 14:30	12/11/18 11:10
160-32239-7	S-7	Solid	12/07/18 16:30	12/11/18 11:10
160-32239-8	S-8	Solid	12/07/18 16:45	12/11/18 11:10
160-32239-9	S-9	Solid	12/08/18 07:25	12/11/18 11:10
160-32239-10	S-10	Solid	12/08/18 07:30	12/11/18 11:10
160-32239-11	S-11	Solid	12/08/18 07:40	12/11/18 11:10
160-32239-12	S-12	Solid	12/08/18 08:20	12/11/18 11:10
160-32239-13	S-13	Solid	12/08/18 08:30	12/11/18 11:10
160-32239-14	S-14	Solid	12/08/18 08:55	12/11/18 11:10
160-32239-15	S-15	Solid	12/08/18 09:10	12/11/18 11:10

Client Sample Results

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Client Sample ID: S-1
Date Collected: 12/07/18 15:00
Date Received: 12/11/18 11:10

Lab Sample ID: 160-32239-1
Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-0.0749	U	0.120	0.120	0.200	0.200	pCi/g	12/12/18 23:49	12/13/18 17:45	1
Other Detected										
Radionuclides	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Bi-214	1.36		0.226	0.266		0.160	pCi/g	12/12/18 23:49	12/13/18 17:45	1
K-40	12.5		1.83	2.23		0.953	pCi/g	12/12/18 23:49	12/13/18 17:45	1
Pb-210	4.57		1.69	1.77		1.78	pCi/g	12/12/18 23:49	12/13/18 17:45	1
Pb-212	0.612		0.121	0.145		0.126	pCi/g	12/12/18 23:49	12/13/18 17:45	1
Pb-214	1.60		0.210	0.268		0.178	pCi/g	12/12/18 23:49	12/13/18 17:45	1
Tl-208	0.250		0.0765	0.0808		0.0610	pCi/g	12/12/18 23:49	12/13/18 17:45	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	13.1		5.15	5.36	10.0	5.72	pCi/g	12/14/18 13:52	12/16/18 12:58	1
Gross Beta	16.2		3.27	3.65	10.0	3.51	pCi/g	12/14/18 13:52	12/16/18 12:58	1

Client Sample ID: S-2
Date Collected: 12/07/18 15:05
Date Received: 12/11/18 11:10

Lab Sample ID: 160-32239-2
Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0636	U G	0.125	0.125	0.200	0.213	pCi/g	12/12/18 23:49	12/13/18 17:48	1
Other Detected										
Radionuclides	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Bi-214	0.961		0.246	0.264		0.223	pCi/g	12/12/18 23:49	12/13/18 17:48	1
K-40	12.9		2.37	2.70		1.45	pCi/g	12/12/18 23:49	12/13/18 17:48	1
Pb-212	0.715		0.149	0.167		0.125	pCi/g	12/12/18 23:49	12/13/18 17:48	1
Pb-214	0.888		0.255	0.271		0.285	pCi/g	12/12/18 23:49	12/13/18 17:48	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	7.57		4.08	4.17	10.0	5.35	pCi/g	12/14/18 13:52	12/14/18 17:12	1
Gross Beta	14.7		2.92	3.27	10.0	3.15	pCi/g	12/14/18 13:52	12/14/18 17:12	1

TestAmerica St. Louis

Client Sample Results

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Client Sample ID: S-3
Date Collected: 12/07/18 15:10
Date Received: 12/11/18 11:10

Lab Sample ID: 160-32239-3
Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.298		0.117	0.122	0.200	0.0918	pCi/g	12/12/18 23:49	12/13/18 17:46	1
Other Detected Radionuclides										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ac-228	1.20		0.500	0.519		0.416	pCi/g	12/12/18 23:49	12/13/18 17:46	1
Bi-212	1.86		0.875	0.901		0.760	pCi/g	12/12/18 23:49	12/13/18 17:46	1
Bi-214	1.55		0.379	0.419		0.332	pCi/g	12/12/18 23:49	12/13/18 17:46	1
K-40	15.1		2.85	3.34		1.63	pCi/g	12/12/18 23:49	12/13/18 17:46	1
Pb-212	0.814		0.211	0.231		0.249	pCi/g	12/12/18 23:49	12/13/18 17:46	1
Pb-214	1.39		0.338	0.374		0.316	pCi/g	12/12/18 23:49	12/13/18 17:46	1
Tl-208	0.489		0.135	0.146		0.101	pCi/g	12/12/18 23:49	12/13/18 17:46	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	18.2		6.14	6.49	10.0	6.57	pCi/g	12/14/18 13:52	12/14/18 17:13	1
Gross Beta	19.3		3.41	3.92	10.0	3.54	pCi/g	12/14/18 13:52	12/14/18 17:13	1

Client Sample ID: S-4
Date Collected: 12/07/18 15:40
Date Received: 12/11/18 11:10

Lab Sample ID: 160-32239-4
Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.157		0.0829	0.0845	0.200	0.0825	pCi/g	12/12/18 23:49	12/13/18 17:46	1
Other Detected Radionuclides										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ac-228	0.957		0.364	0.377		0.297	pCi/g	12/12/18 23:49	12/13/18 17:46	1
Bi-214	0.707		0.191	0.205		0.161	pCi/g	12/12/18 23:49	12/13/18 17:46	1
K-40	19.8		2.72	3.39		0.994	pCi/g	12/12/18 23:49	12/13/18 17:46	1
Pb-212	0.573		0.164	0.180		0.214	pCi/g	12/12/18 23:49	12/13/18 17:46	1
Pb-214	0.743		0.198	0.212		0.182	pCi/g	12/12/18 23:49	12/13/18 17:46	1
Tl-208	0.381		0.107	0.114		0.0825	pCi/g	12/12/18 23:49	12/13/18 17:46	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	11.3		4.71	4.89	10.0	5.74	pCi/g	12/14/18 13:52	12/14/18 17:13	1
Gross Beta	26.5		3.74	4.58	10.0	3.73	pCi/g	12/14/18 13:52	12/14/18 17:13	1

TestAmerica St. Louis

Client Sample Results

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Client Sample ID: S-5

Lab Sample ID: 160-32239-5

Date Collected: 12/07/18 15:45

Matrix: Solid

Date Received: 12/11/18 11:10

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.254		0.101	0.104	0.200	0.0860	pCi/g	12/12/18 23:49	12/13/18 17:53	1
Other Detected Radionuclides										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ac-228	0.989		0.282	0.300		0.149	pCi/g	12/12/18 23:49	12/13/18 17:53	1
Bi-214	0.545		0.228	0.235		0.246	pCi/g	12/12/18 23:49	12/13/18 17:53	1
K-40	7.86		1.71	1.89		1.28	pCi/g	12/12/18 23:49	12/13/18 17:53	1
Pb-212	0.501		0.140	0.154		0.170	pCi/g	12/12/18 23:49	12/13/18 17:53	1
Pb-214	0.718		0.258	0.269		0.269	pCi/g	12/12/18 23:49	12/13/18 17:53	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	9.47		4.16	4.30	10.0	4.94	pCi/g	12/14/18 13:52	12/14/18 17:13	1
Gross Beta	12.6		2.76	3.03	10.0	3.14	pCi/g	12/14/18 13:52	12/14/18 17:13	1

Client Sample ID: S-6

Lab Sample ID: 160-32239-6

Date Collected: 12/07/18 14:30

Matrix: Solid

Date Received: 12/11/18 11:10

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0452	U	0.0926	0.0927	0.200	0.159	pCi/g	12/12/18 23:49	12/13/18 17:54	1
Other Detected Radionuclides										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ac-228	1.41		0.290	0.323		0.155	pCi/g	12/12/18 23:49	12/13/18 17:54	1
Bi-212	2.23		1.19	1.21		1.10	pCi/g	12/12/18 23:49	12/13/18 17:54	1
Bi-214	1.35		0.259	0.295		0.200	pCi/g	12/12/18 23:49	12/13/18 17:54	1
K-40	14.4		2.25	2.69		1.15	pCi/g	12/12/18 23:49	12/13/18 17:54	1
Pb-212	1.11		0.186	0.234		0.184	pCi/g	12/12/18 23:49	12/13/18 17:54	1
Pb-214	1.54		0.268	0.312		0.234	pCi/g	12/12/18 23:49	12/13/18 17:54	1
Tl-208	0.380		0.107	0.114		0.0892	pCi/g	12/12/18 23:49	12/13/18 17:54	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	15.3		5.15	5.44	10.0	5.82	pCi/g	12/14/18 13:52	12/14/18 17:13	1
Gross Beta	21.9		3.25	3.92	10.0	3.27	pCi/g	12/14/18 13:52	12/14/18 17:13	1

TestAmerica St. Louis

Client Sample Results

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Client Sample ID: S-7
Date Collected: 12/07/18 16:30
Date Received: 12/11/18 11:10

Lab Sample ID: 160-32239-7
Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0434	U	0.111	0.111	0.200	0.191	pCi/g	12/12/18 23:49	12/13/18 19:13	1
Other Detected Radionuclides										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Bi-214	1.31		0.280	0.311		0.213	pCi/g	12/12/18 23:49	12/13/18 19:13	1
K-40	12.0		2.19	2.51		1.08	pCi/g	12/12/18 23:49	12/13/18 19:13	1
Pb-212	0.440		0.128	0.140		0.160	pCi/g	12/12/18 23:49	12/13/18 19:13	1
Pb-214	1.51		0.211	0.263		0.174	pCi/g	12/12/18 23:49	12/13/18 19:13	1
Tl-208	0.194		0.0821	0.0845		0.0770	pCi/g	12/12/18 23:49	12/13/18 19:13	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	8.18		4.92	5.01	10.0	6.95	pCi/g	12/14/18 13:52	12/14/18 17:14	1
Gross Beta	22.4		3.94	4.54	10.0	4.07	pCi/g	12/14/18 13:52	12/14/18 17:14	1

Client Sample ID: S-8
Date Collected: 12/07/18 16:45
Date Received: 12/11/18 11:10

Lab Sample ID: 160-32239-8
Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.118		0.0597	0.0609	0.200	0.0594	pCi/g	12/12/18 23:49	12/13/18 19:10	1
Other Detected Radionuclides										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Bi-214	1.06		0.209	0.237		0.159	pCi/g	12/12/18 23:49	12/13/18 19:10	1
K-40	11.6		1.84	2.19		1.03	pCi/g	12/12/18 23:49	12/13/18 19:10	1
Pb-212	0.668		0.138	0.163		0.155	pCi/g	12/12/18 23:49	12/13/18 19:10	1
Pb-214	1.38		0.228	0.269		0.218	pCi/g	12/12/18 23:49	12/13/18 19:10	1
Tl-208	0.231		0.0887	0.0919		0.0767	pCi/g	12/12/18 23:49	12/13/18 19:10	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	5.45	U	4.37	4.41	10.0	6.64	pCi/g	12/14/18 13:52	12/14/18 17:13	1
Gross Beta	11.8		3.18	3.39	10.0	3.95	pCi/g	12/14/18 13:52	12/14/18 17:13	1

Client Sample Results

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Client Sample ID: S-9
Date Collected: 12/08/18 07:25
Date Received: 12/11/18 11:10

Lab Sample ID: 160-32239-9
Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0524	U G	0.168	0.168	0.200	0.289	pCi/g	12/12/18 23:49	12/13/18 19:11	1
Other Detected Radionuclides			Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Bi-214	2.65		0.425	0.504		0.303	pCi/g	12/12/18 23:49	12/13/18 19:11	1
K-40	15.9		2.67	3.12		1.51	pCi/g	12/12/18 23:49	12/13/18 19:11	1
Pb-212	0.888		0.205	0.225		0.243	pCi/g	12/12/18 23:49	12/13/18 19:11	1
Pb-214	2.95		0.357	0.466		0.266	pCi/g	12/12/18 23:49	12/13/18 19:11	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	18.1		5.95	6.30	10.0	6.14	pCi/g	12/14/18 13:52	12/14/18 17:13	1
Gross Beta	16.5		3.64	4.00	10.0	4.04	pCi/g	12/14/18 13:52	12/14/18 17:13	1

Client Sample ID: S-10
Date Collected: 12/08/18 07:30
Date Received: 12/11/18 11:10

Lab Sample ID: 160-32239-10
Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0678	U G	0.130	0.131	0.200	0.221	pCi/g	12/12/18 23:49	12/13/18 19:09	1
Other Detected Radionuclides			Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Bi-214	0.877		0.241	0.258		0.204	pCi/g	12/12/18 23:49	12/13/18 19:09	1
K-40	16.7		2.62	3.13		1.08	pCi/g	12/12/18 23:49	12/13/18 19:09	1
Pb-212	0.997		0.196	0.235		0.222	pCi/g	12/12/18 23:49	12/13/18 19:09	1
Pb-214	1.12		0.231	0.259		0.221	pCi/g	12/12/18 23:49	12/13/18 19:09	1
Tl-208	0.495		0.126	0.136		0.0913	pCi/g	12/12/18 23:49	12/13/18 19:09	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	12.4		5.23	5.41	10.0	6.35	pCi/g	12/14/18 13:52	12/14/18 17:13	1
Gross Beta	23.3		3.76	4.42	10.0	3.66	pCi/g	12/14/18 13:52	12/14/18 17:13	1

Client Sample Results

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Client Sample ID: S-11
Date Collected: 12/08/18 07:40
Date Received: 12/11/18 11:10

Lab Sample ID: 160-32239-11
Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Cesium-137	-0.156	U G	0.246	0.246	0.200	0.411	pCi/g	12/12/18 23:49	12/13/18 19:12	1
Other Detected Radionuclides										
	Result	Qualifier	Count Uncert.	Total Uncert.	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			(2σ+/-)	(2σ+/-)						
Ac-228	1.45		0.471	0.500		0.282	pCi/g	12/12/18 23:49	12/13/18 19:12	1
Bi-214	2.82		0.558	0.646		0.406	pCi/g	12/12/18 23:49	12/13/18 19:12	1
K-40	13.3		2.98	3.35		1.96	pCi/g	12/12/18 23:49	12/13/18 19:12	1
Pb-212	0.771		0.252	0.268		0.332	pCi/g	12/12/18 23:49	12/13/18 19:12	1
Pb-214	3.87		0.554	0.711		0.364	pCi/g	12/12/18 23:49	12/13/18 19:12	1
Tl-208	0.350		0.158	0.163		0.163	pCi/g	12/12/18 23:49	12/13/18 19:12	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Gross Alpha	18.2		5.49	5.87	10.0	5.67	pCi/g	12/14/18 13:52	12/14/18 17:13	1
Gross Beta	20.5		3.33	3.91	10.0	3.38	pCi/g	12/14/18 13:52	12/14/18 17:13	1

Client Sample ID: S-12
Date Collected: 12/08/18 08:20
Date Received: 12/11/18 11:10

Lab Sample ID: 160-32239-12
Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Cesium-137	0.0786	U G	0.144	0.145	0.200	0.243	pCi/g	12/12/18 23:49	12/13/18 19:10	1
Other Detected Radionuclides										
	Result	Qualifier	Count Uncert.	Total Uncert.	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			(2σ+/-)	(2σ+/-)						
Bi-214	1.68		0.366	0.406		0.341	pCi/g	12/12/18 23:49	12/13/18 19:10	1
K-40	13.5		2.31	2.69		1.45	pCi/g	12/12/18 23:49	12/13/18 19:10	1
Pb-212	0.571		0.169	0.185		0.218	pCi/g	12/12/18 23:49	12/13/18 19:10	1
Pb-214	1.44		0.332	0.365		0.307	pCi/g	12/12/18 23:49	12/13/18 19:10	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Gross Alpha	9.37		4.62	4.74	10.0	5.98	pCi/g	12/14/18 13:52	12/14/18 17:13	1
Gross Beta	14.8		2.70	3.08	10.0	2.75	pCi/g	12/14/18 13:52	12/14/18 17:13	1

Client Sample Results

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Client Sample ID: S-13
Date Collected: 12/08/18 08:30
Date Received: 12/11/18 11:10

Lab Sample ID: 160-32239-13
Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0638	U G	0.139	0.139	0.200	0.235	pCi/g	12/12/18 23:49	12/13/18 19:12	1
Other Detected Radionuclides										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ac-228	0.938		0.288	0.303		0.307	pCi/g	12/12/18 23:49	12/13/18 19:12	1
Bi-214	1.18		0.279	0.305		0.244	pCi/g	12/12/18 23:49	12/13/18 19:12	1
K-40	13.9		2.23	2.65		1.17	pCi/g	12/12/18 23:49	12/13/18 19:12	1
Pb-212	0.748		0.158	0.185		0.167	pCi/g	12/12/18 23:49	12/13/18 19:12	1
Pb-214	1.58		0.230	0.283		0.161	pCi/g	12/12/18 23:49	12/13/18 19:12	1
Tl-208	0.354		0.0925	0.0995		0.0724	pCi/g	12/12/18 23:49	12/13/18 19:12	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	13.2		4.93	5.15	10.0	5.52	pCi/g	12/14/18 13:52	12/14/18 17:14	1
Gross Beta	17.9		2.97	3.47	10.0	2.88	pCi/g	12/14/18 13:52	12/14/18 17:14	1

Client Sample ID: S-14
Date Collected: 12/08/18 08:55
Date Received: 12/11/18 11:10

Lab Sample ID: 160-32239-14
Matrix: Solid

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0786	U G	0.127	0.127	0.200	0.212	pCi/g	12/12/18 23:49	12/13/18 19:45	1
Other Detected Radionuclides										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Bi-214	1.06		0.285	0.306		0.253	pCi/g	12/12/18 23:49	12/13/18 19:45	1
K-40	18.9		2.74	3.35		1.41	pCi/g	12/12/18 23:49	12/13/18 19:45	1
Pb-212	0.984		0.174	0.216		0.153	pCi/g	12/12/18 23:49	12/13/18 19:45	1
Pb-214	1.17		0.226	0.256		0.250	pCi/g	12/12/18 23:49	12/13/18 19:45	1
Tl-208	0.373		0.104	0.111		0.0681	pCi/g	12/12/18 23:49	12/13/18 19:45	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	8.40		3.79	3.91	10.0	4.77	pCi/g	12/14/18 13:52	12/14/18 17:14	1
Gross Beta	17.9		2.31	2.92	10.0	1.99	pCi/g	12/14/18 13:52	12/14/18 17:14	1

Client Sample Results

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Client Sample ID: S-15

Lab Sample ID: 160-32239-15

Date Collected: 12/08/18 09:10

Matrix: Solid

Date Received: 12/11/18 11:10

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	0.0825	U G	0.151	0.152	0.200	0.257	pCi/g	12/12/18 23:49	12/13/18 19:46	1
Other Detected Radionuclides										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Ac-228	1.03		0.409	0.422		0.351	pCi/g	12/12/18 23:49	12/13/18 19:46	1
Bi-214	3.42		0.494	0.604		0.306	pCi/g	12/12/18 23:49	12/13/18 19:46	1
K-40	11.3		2.46	2.71		1.72	pCi/g	12/12/18 23:49	12/13/18 19:46	1
Pb-212	0.845		0.206	0.224		0.236	pCi/g	12/12/18 23:49	12/13/18 19:46	1
Pb-214	2.94		0.455	0.544		0.344	pCi/g	12/12/18 23:49	12/13/18 19:46	1
Tl-208	0.274		0.111	0.115		0.115	pCi/g	12/12/18 23:49	12/13/18 19:46	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	13.9		4.99	5.24	10.0	5.24	pCi/g	12/14/18 13:52	12/14/18 17:14	1
Gross Beta	15.7		3.03	3.41	10.0	3.22	pCi/g	12/14/18 13:52	12/14/18 17:14	1

QC Sample Results

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Method: 901.1 - Cesium 137 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-405453/1-A
Matrix: Solid
Analysis Batch: 405463

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 405453

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Cesium-137	-0.06568	U	0.0842	0.0844	0.200	0.169	pCi/g	12/12/18 23:49	12/13/18 17:44	1
Other Detected Radionuclides										
Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Other Detected Radionuclide	None						pCi/g	12/12/18 23:49	12/13/18 17:44	1

Lab Sample ID: LCS 160-405453/2-A
Matrix: Solid
Analysis Batch: 405464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 405453

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Americium-241	96.7	92.45		9.70		1.03	pCi/g	96	87 - 116
Cesium-137	28.0	25.76		2.75	0.200	0.227	pCi/g	92	87 - 120
Cobalt-60	12.3	11.30		1.19		0.0407	pCi/g	92	87 - 115

Lab Sample ID: 160-32239-1 DU
Matrix: Solid
Analysis Batch: 405463

Client Sample ID: S-1
Prep Type: Total/NA
Prep Batch: 405453

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Cesium-137	-0.0749	U	0.02514	U G	0.123	0.200	0.217	pCi/g	0.41	1
Other Detected Radionuclides										
Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Bi-214	1.36		1.521		0.398		0.339	pCi/g	0.25	1
K-40	12.5		11.70		2.70		1.20	pCi/g	0.16	1
Pb-212	0.612		0.6986		0.184		0.160	pCi/g	0.26	1
Pb-214	1.60		1.720		0.311		0.291	pCi/g	0.20	1

Method: 9310 - Gross Alpha / Beta (GFPC)

Lab Sample ID: MB 160-405893/1-A
Matrix: Solid
Analysis Batch: 405776

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 405893

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	2.060	U	4.12	4.12	10.0	7.24	pCi/g	12/14/18 13:52	12/14/18 17:12	1
Gross Beta	3.869	U	2.84	2.87	10.0	4.41	pCi/g	12/14/18 13:52	12/14/18 17:12	1

TestAmerica St. Louis

QC Sample Results

Client: SCST Inc
 Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Method: 9310 - Gross Alpha / Beta (GFPC) (Continued)

Lab Sample ID: LCS 160-405893/2-A
Matrix: Solid
Analysis Batch: 405776

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 405893

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	27.1	28.74		7.53	10.0	6.18	pCi/g	106	44 - 140
Gross Beta	26.8	24.30		4.45	10.0	3.44	pCi/g	91	38 - 130

Lab Sample ID: 160-32239-1 DU
Matrix: Solid
Analysis Batch: 406035

Client Sample ID: S-1
Prep Type: Total/NA
Prep Batch: 405893

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Gross Alpha	13.1		13.64		5.45	10.0	5.67	pCi/g	0.05	1
Gross Beta	16.2		21.89		4.23	10.0	3.55	pCi/g	0.72	1

QC Association Summary

Client: SCST Inc
Project/Site: Malibu Post-Fire Samples

TestAmerica Job ID: 160-32239-1

Rad

Prep Batch: 405453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32239-1	S-1	Total/NA	Solid	Fill_Geo-0	
160-32239-2	S-2	Total/NA	Solid	Fill_Geo-0	
160-32239-3	S-3	Total/NA	Solid	Fill_Geo-0	
160-32239-4	S-4	Total/NA	Solid	Fill_Geo-0	
160-32239-5	S-5	Total/NA	Solid	Fill_Geo-0	
160-32239-6	S-6	Total/NA	Solid	Fill_Geo-0	
160-32239-7	S-7	Total/NA	Solid	Fill_Geo-0	
160-32239-8	S-8	Total/NA	Solid	Fill_Geo-0	
160-32239-9	S-9	Total/NA	Solid	Fill_Geo-0	
160-32239-10	S-10	Total/NA	Solid	Fill_Geo-0	
160-32239-11	S-11	Total/NA	Solid	Fill_Geo-0	
160-32239-12	S-12	Total/NA	Solid	Fill_Geo-0	
160-32239-13	S-13	Total/NA	Solid	Fill_Geo-0	
160-32239-14	S-14	Total/NA	Solid	Fill_Geo-0	
160-32239-15	S-15	Total/NA	Solid	Fill_Geo-0	
MB 160-405453/1-A	Method Blank	Total/NA	Solid	Fill_Geo-0	
LCS 160-405453/2-A	Lab Control Sample	Total/NA	Solid	Fill_Geo-0	
160-32239-1 DU	S-1	Total/NA	Solid	Fill_Geo-0	

Prep Batch: 405893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-32239-1	S-1	Total/NA	Solid	Thin_Layer	
160-32239-2	S-2	Total/NA	Solid	Thin_Layer	
160-32239-3	S-3	Total/NA	Solid	Thin_Layer	
160-32239-4	S-4	Total/NA	Solid	Thin_Layer	
160-32239-5	S-5	Total/NA	Solid	Thin_Layer	
160-32239-6	S-6	Total/NA	Solid	Thin_Layer	
160-32239-7	S-7	Total/NA	Solid	Thin_Layer	
160-32239-8	S-8	Total/NA	Solid	Thin_Layer	
160-32239-9	S-9	Total/NA	Solid	Thin_Layer	
160-32239-10	S-10	Total/NA	Solid	Thin_Layer	
160-32239-11	S-11	Total/NA	Solid	Thin_Layer	
160-32239-12	S-12	Total/NA	Solid	Thin_Layer	
160-32239-13	S-13	Total/NA	Solid	Thin_Layer	
160-32239-14	S-14	Total/NA	Solid	Thin_Layer	
160-32239-15	S-15	Total/NA	Solid	Thin_Layer	
MB 160-405893/1-A	Method Blank	Total/NA	Solid	Thin_Layer	
LCS 160-405893/2-A	Lab Control Sample	Total/NA	Solid	Thin_Layer	
160-32239-1 DU	S-1	Total/NA	Solid	Thin_Layer	