

**APPENDIX D**

**AGREEMENT WITH LABORATORY AND  
DEVIATIONS FROM PRESIDIO TRUST QAPP**

***Doyle Drive Replacement Project  
Responsibilities and Assumptions Document  
BASELINE, Curtis & Tomkins, and Laboratory Data Consultants  
4 November 2008***

General Project Information

- Fieldwork tentatively scheduled for Dec 1 through Jan 30
- Analyses estimated in attached table “*Estimate of Analyses for LDC Quote*”

Curtis & Tomkins Responsibilities

- Follow Presidio Trust QAPP<sup>1</sup> and supplements<sup>2</sup> unless otherwise agreed to in writing.
- Follow Curtis & Tomkins variances to Presidio Trust QAPP as documented in attached Variance Requests<sup>3</sup> letter. All compounds listed in the letter that don't meet QAPP reporting limits will be “J” flagged down to the MDL.
- Analytical methods are listed on the attached *C&T Testing Quote* dated 10/10/08. Silica gel cleanup to be performed on all TPH diesel and motor oil analyses.
- Perform all analyses as Level III unless Level IV is requested by email. (If it looks like we are not meeting our goal of 10%, please let Cheri Page of BASELINE know)
- Initiate “automatic” STLC and TCLP analyses if total metals exceed 10x or 20x STLC, respectively, per the attached *STLP & TCLP Decision Guide*.
- Pick samples up in field daily
- Retain all samples for sixth months, retain extracts until hold expiration.
- If asphalt is observed in sample do not analyze for petroleum hydrocarbons.
- Crush rock samples as follows: 120 grams crushed to pass through 9.5mm sieve to be used for TCLP analysis; 120 grams crushed to pass through 2mm sieve for TTLC and STLC analyses. Cleaning to consist of disassembly followed by water rinse and compressed air blowdown.
- Subcontracting of herbicides, asbestos, and possibly rock crushing.
- EDD to include herbicides, one report, one login number, same EDD format as typical for BASELINE plus second version consistent with Presidio Trust requirements. Asbestos will not be included in EDD. If some data determined to be invalid, BASELINE version of EDD will be regenerated with corrections.
- RCI Analysis: 1) analyze for total cyanide, and perform reactive test if cyanide is greater than or equal to 250 mg/kg; 2) analyze for total sulfide, and perform reactive test if sulfide is greater than or equal to 500 mg/kg; 3) perform ignitability test if total VOCs are greater than 1% (VOCs are included in both Suite A and B); 4) perform corrosive test as usual (for every Suite A or B sample).

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<sup>1</sup> Tetra Tech EM, Inc., 2001, *Presidio-Wide Quality Assurance Project Plan, Sampling and Analysis Plan, Revision 1*, April.

<sup>2</sup> Presidio Trust Environmental Remediation Database Management Department, 2007, *Data Deliverables Document*, 5 March.

<sup>3</sup> Curtis & Tomkins, 2008, *Variance Requests to Summary of Selection of Preliminary Remediation Goals Table 7-2 and the Presidio-Wide Quality Assurance Project Plan (QAPP) Sampling and Analysis Plan, Revision 1, April 2001 for Presidio of San Francisco, California*, October 16.

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BASELINE Responsibilities

- BASELINE will designate Level IV QA by email within 48 hours of sample pick-up – Level IV designations will be for an entire “job” or COC
- BASELINE will designate matrix spikes on our samples by email within 48 hours of sample pick-up– no more than 5% of samples per job, selecting composited samples with 3 or more sub-samples. BASELINE will collect triplicate groundwater samples for matrix spike purposes.
- BASELINE will send composite instructions by email within 48 hours of sample pick-up.
- BASELINE to request chromium +6 on about 10% of samples with positive Chromium results.
- BASELINE (and C&T) to copy Nanny of LDC on all emails regarding laboratory analyses

LDC Responsibilities

- Follow Presidio Trust QAPP and supplements as well as Curtis & Tomkins Variance Request letter of 16 October 2008, unless otherwise agreed to in writing.
- LDC to validate following current *EPA Contract Laboratory Program National Functional Guidelines for Organic and Inorganic Data Review* rather than the 1999 edition specified in the QAPP.
- Data qualifiers will include, but may not be limited to, those historically used by Presidio Trust, as follows:
  - J-: Data are qualified as estimated, with a low bias likely to occur
  - J+: Data are qualified as estimated, with a high bias likely to occur
  - U: Detected value was changed to non-detect due to blank contamination
- LDC to send data requests and questions to Curtis & Tomkins and cc: BASELINE, and will not contact Presidio Trust directly as stated in QAPP.
- LDC to begin data validation effort as soon as final reports and EDD are available.

Laboratory Deliverables:

- 1 -Cooler Receipt Checklist – email to Cheri and Nanny ASAP [24-48 hour T/A]
- 2- Login Summary – email to Cheri and Nanny ASAP, both before and after BASELINE’s supplemental email with composite, matrix spike, and data validation level instructions. [24-48 hr T/A]
- 3 - Lab report “Form 1” no narrative required – email to Cheri. [5-10 day T/A]
- 4 – Lab report “Form 1” with subcontracted asbestos and herbicide analysis –email to Cheri, Ray Boyer, and Nanny.[20 day T/A]
- 5 - Final lab report with cover sheet, narrative, pagination, signature, subcontractor reports, QA results, level III or IV backup – mail CD to Cheri, Ray Boyer, Nanny [25 day T/A]

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6 - EDD – email BASELINE version to Cheri, Presidio Trust version to Nanny. [25-day T/A]

LDC Deliverables:

1) LDC to upload validation findings and qualified EDDs to the BASELINE ftp site approximately 4 weeks after receipt of last lab report.

Deliverables Contact List

Cheri Page, BASELINE; [cheri@BASELINE-env.com](mailto:cheri@BASELINE-env.com)  
101 H Street, Suite C, Petaluma, CA 94952

Ray Boyer, Caltrans; [ray\\_boyer@dot.ca.gov](mailto:ray_boyer@dot.ca.gov) (underscore after Ray)  
Caltrans District 4, Division of Environmental Planning and Engineering, PO Box 23660,  
Oakland, CA 94623-0660

Nanny Bosch, Laboratory Data Consultants; [nbosch@lab-data.com](mailto:nbosch@lab-data.com)  
601 University Avenue, Suite 105, Sacramento, CA 95825

Attachments:

BASELINE -Estimate of Analyses for LDC Quote, 10/3/08  
C&T – QAPP Variance Letter, 16 October 2008  
C&T -Test Quote, 10/10/08  
C&T – STLC & TCLP Decision Guide, 10/08

Estimate of Analyses for LDC Quote, Doyle Drive Replacement Project, November 2008

Analyses for Soil Samples:

	Fill	Bay Mud	Alluv	Colma	Bedrock	Total No. Analyses
Suite A	85					85
Suite B		8	41	17		66
Title 22 Metals + RCI					9	9
Asbestos Composite					9	9
Asbestos Discrete	31					31
Lead Discrete	258					258
WET <sup>1</sup>	180					180
TCLP <sup>1</sup>	180					180
Chromium +6						42

<sup>1</sup> Assumes one metal (likely lead or chromium)

Analyses for Groundwater samples:

	Units
VOCs (8260)	12
SVOCs (8270)	12
TPHg,d,mo (8015M)	12
PCBs (8082)	12
Nine metals (6010,7471) <sup>1</sup>	12
Dissolved Sulfides	12
pH	12
Total Suspended Solids	12
COD	12
Chlorides	12

Analysis Definitions	Method	Suite A	Suite B
Organochlorine Pesticides	8081A	x	
Herbicides	8151A	x	
VOCs	8260	x	x
SVOCs	8270	x	x
TPHg	8015	x	x
TPHd, fo silica gel	8015	x	x
PAHs (PNAs)	8310	x	x
PCBs	8082	x	x
RCI		x	x
Title 22 metals	6020/7000	x	x



Curtis & Tompkins, Ltd.

Analytical Laboratories, Since 1878

October 16, 2008

Cheri Page
Baseline Environmental Consulting
101 H Street, Suite C
Petaluma, CA 94952-5100

Subject: Variance Requests to Summary of Selection of Preliminary Remediation Goals Table 7-2 and the Presidio-Wide Quality Assurance Project Plan (QAPP) Sampling and Analysis Plan, Revision 1, April 2001 for Presidio of San Francisco, California

Dear Ms. Page:

This letter details Curtis & Tompkins' (C&T's) concerns regarding performing chemical measurements under the requirements of the documents noted above. All comments and variances present are in reference to these documents.

Table 7-2

Requirement: A number of the PRGs listed in the table are lower than C&T's reporting limits:

Table with 6 columns: Soil, Method, Compound, PRG (mg/Kg), C&T RL, MDL. Rows include Cadmium, Selenium, Thallium, and Arochlor 1254.

QAPP

Table B2-1; Appendix 2 Table 2-1

Requirement: Analyte method numbers.

Comment: C&T uses the following methods for these analyses per the 40CFR methods update rule effective April 11, 2007:

Table with 2 columns: Analyte Name, Method ID. Rows include Total Cyanide, Total Sulfide, Total Suspended Solids, and Chemical Oxygen Demand.

Requirement: Analyte method numbers.

Comment: C&T uses the following methods for these analyses:

Organochlorine Pesticides	SW8081
PCB	SW8082

Comment: The following analyses will need to be subcontracted: Asbestos and Chlorinated Herbicides (8151A).

## Appendix 2

### Section 4.17

Requirement: Method 5035 (Encore sampling) for VOC, BTXE, and TPH Gas analysis.

Variance: Method 5035 has a holding time of 48 hours for the Encore samples. Region 9 has approved a modification of this method, allowing laboratories to freeze the samples for up to one week, from sampling date to analysis date. C&T would like to follow this modification for this project.

### Table 2-2

Requirement: Analyze immediately for pH in soil.

Comment: The method specifies a 14 day holding time for analysis in soil. C&T will follow this criteria.

Requirement: A number of the reporting limits listed in the tables in Appendix 2 are lower than C&T's reporting limits:

Water:	Method	Compound	QAPP RL (ug/L)	C&T RL	MDL
	8260	Bromoform	0.5	1	0.2
	8260	Bromomethane	0.5	1	0.28
	8260	Chloroethane	0.5	1	0.31
	8260	Chloromethane	0.5	1	0.2
	8260	Methylene Chloride	4.5	10	1
	8270	2-Nitrophenol	10	20	6
	8310	Fluorene	1	2	0.043

Soil:	Method	Compound	QAPP RL (mg/Kg)	C&T RL	MDL
	8260	Acetone	0.01	0.02	0.004
	8260	Methylene Chloride	0.005	0.02	0.004

8260	Vinyl Acetate	0.01	0.05	0.002
6020	Antimony	0.2	0.25	0.0034
6020	Arsenic	0.2	0.25	0.0099
6020	Barium	0.1	0.25	0.016
6020	Beryllium	0.1	0.25	0.0069
6020	Cadmium	0.1	0.25	0.0064
6020	Calcium	5	25	3.9
6020	Chromium	0.2	0.25	0.035
6020	Cobalt	0.1	0.25	0.0073
6020	Copper	0.2	0.25	0.057
6020	Lead	0.1	0.25	0.01
6020	Magnesium	5	25	0.5
6020	Manganese	0.1	0.25	0.0085
6020	Molybdenum	0.1	0.25	0.013
6020	Nickel	0.2	0.25	0.11
6020	Potassium	5	25	0.81
6020	Selenium	0.2	0.25	0.0055
6020	Silver	0.1	0.25	0.0037
6020	Sodium	5	25	1.4
6020	Thallium	0.1	0.25	0.0012
6020	Zinc	0.2	1	0.12
8081	Toxaphene	0.04	0.06	0.025
8270	Benzoic Acid	1.6	1.7	0.52
8270	3,3'-Dichlorobenzidine	0.66	0.67	0.18
8270	2-Nitrophenol	0.33	0.67	0.087
8310	Acenaphthylene	0.02	0.067	0.01
8310	Anthracene	0.002	0.0033	0.00032
8310	Benzo(a)anthracene	0.002	0.0033	0.00085
8310	Benzo(a)pyrene	0.002	0.0033	0.00089
8310	Benzo(b)fluoranthene	0.002	0.0067	0.0011
8310	Benzo(g,h,i)perylene	0.002	0.0067	0.0015
8310	Benzo(k)fluoranthene	0.002	0.0033	0.0007
8310	Chrysene	0.002	0.0033	0.00065
8310	Dibenzo(a,h)anthracene	0.005	0.0067	0.0015
8310	Fluoranthene	0.002	0.0067	0.0013
8310	Fluorene	0.002	0.0067	0.0014
8310	Indeno(1,2,3-c,d)pyrene	0.002	0.0033	0.0008
8310	Phenanthrene	0.002	0.0033	0.00041
8310	Pyrene	0.002	0.0033	0.00051

Comment: C&T does not analyze for 2-Chloroethyl vinyl ether because it is a highly reactive compound that degrades quickly.

**Table 2-6.3-2 Total Petroleum Hydrocarbons**

Requirement: Surrogate: o-Terphenyl for diesel and benzo(a)pyrene for motor oil range.

Variance: C&T currently uses hexacosane as the surrogate for diesel and motor oil. o-Terphenyl or benzo(a)pyrene could be used, given sufficient time for method development.

Requirement: Spike recoveries for Motor Oil

Variance: C&T would prefer to follow our SOP and only use diesel as the spike compound since these compounds overlap.

**Table 2-6.5-4 Organochlorine Pesticides and PCBs**

Requirement: ICAL, ICV, and CCV criteria.

Variance: C&T would prefer to follow method 8000B, which requires the average % difference across all compounds to be within 20% for the ICAL and 15% for the ICV/CCV. We would also prefer to follow the criteria in method 8082 for PCB calibration and analysis.

**Table 2-6.8-2 and 3 Volatile Organic Compounds SW8260**

Requirement: Surrogate control limits are greater than 80% and less than 120%.

Variance: C&T would like to use  $\pm 20\%$ , the same requirement specified for the CCC compounds in the continuing calibration.

**Table 2-6.8-5 Volatile Organic Compounds SW8260**

Requirement: Internal standard retention times and areas are compared to the continuing calibration verification.

Variance: C&T would prefer to follow the current version of the method and use the midpoint of the initial calibration for comparison.

**Tables 2-6.9-2 and –3 Semivolatile Organic Compounds SW8270**

Requirement: Control limits for surrogates, laboratory control samples, and matrix spike and matrix spike duplicate samples.

Variance: Several of these control limits have upper limits that are below 100%. C&T would prefer to raise all upper limits to at least 120%, equivalent to the CCC criteria in the continuing calibration.

**Table 2-6.12-2 Polynuclear Aromatic Hydrocarbons SW8310**

Requirement: Surrogate: o-Terphenyl for 8310 analysis.

Variance: C&T currently uses 1-methylnaphthalene as the surrogate. o-Terphenyl could be used, given sufficient time for method development.

**Tables 2-6.1-4; 2-6.3-4; and 2-6.12-4**

Requirement: ICB and CCB analysis after each ICV and CCV

Variance: C&T analyzes an ICB when the initial calibration and ICV are analyzed. C&T does not analyze CCBs but does analyze instrument blanks throughout the sequence to check for possible carry-over.

Curtis & Tompkins' mission is to meet our client's needs with the highest quality data available. It is important to the success of the project that all issues be addressed prior to sample analysis; C&T will assume that the variances listed above are acceptable unless we are informed otherwise.

If you have any questions or require additional information please contact me at (510) 204-2237.

Sincerely,

Carol Wortham  
QA Director  
Curtis & Tompkins, Ltd.

**CURTIS & TOMPKINS, LTD.**  
**ANALYTICAL LABORATORIES, SINCE 1878**  
**ANALYTICAL TESTING QUOTATION**

Updated

**Client** Baseline Environmental Consulting  
**Contact:** Cheri Page  
**Phone:** (707) 762-5233  
**Fax:**  
**Address:** 101 H Street  
Suite C  
**City:** Petaluma  
**Zip:** 94952

**Quotation No.:** CT09200807MP01

**Date:** 10/10/08

**Project Name:** Doyle Drive

**Start Date:** Q4

**Deliverables:** Level III, 10% Level IV & 2 EDD's

**C&T Project Mgr:** lisa@ctberk.com

**TAT: 10 Working Days**

**Quotation By:** Michael Pearl

**Vice President**

mike.pearl@ctberk.com

**E-Mail:** cheri@baseline-env.com

Parameter	EPA Method	Sample Volume	Sample Matrix	Discounted Price	BEC's Total Price	BEC's Unit Cost
Pesticides	8081	1	Soil	\$ 125.00	\$ 125.00	\$ 125.00
Title 26 Metals	6020/7000	1	Soil	\$ 138.00	\$ 138.00	\$ 138.00
VOC's	8260	1	Soil	\$ 115.00	\$ 115.00	\$ 115.00
SVOC's	8270	1	Soil	\$ 215.00	\$ 215.00	\$ 215.00
TPHG	8015M	1	Soil	\$ 45.00	\$ 45.00	\$ 45.00
TPHD	8015M	1	Soil	\$ 55.00	\$ 55.00	\$ 55.00
Silica Gel Cleanup	3630	1	Soil	\$ 20.00	\$ 20.00	\$ 20.00
PAH's	8310	1	Soil	\$ 145.00	\$ 145.00	\$ 145.00
PCB's	8082	1	Soil	\$ 70.00	\$ 70.00	\$ 70.00
RCI	Various	1	Soil	\$ 85.00	\$ 85.00	\$ 85.00
Total Lead	6010	1	Soil	\$ 15.00	\$ 15.00	\$ 15.00
Asbestos	PLM	1	Soil	\$ 35.00	\$ 35.00	\$ 35.00
TCLP Lead	1311/6010	1	Soil	\$ 90.00	\$ 90.00	\$ 90.00
STLC Lead	WET/6010	1	Soil	\$ 90.00	\$ 90.00	\$ 90.00
Hex Chrom	7196	1	Soil	\$ 48.00	\$ 48.00	\$ 48.00
pH	EPA 9040B/ SM 45	1	Soil	\$ 10.00	\$ 10.00	\$ 10.00
Moisture	ASTM D2216/CLP	1	Soil	\$ 10.00	\$ 10.00	\$ 10.00
COD	SM 5220D	1	Soil	\$ 30.00	\$ 30.00	\$ 30.00
Diss Sulfide	SM 4500S <sup>2</sup> -D	1	Soil	\$ 35.00	\$ 35.00	\$ 35.00
TSS	SM 2540C	1	Soil	\$ 22.00	\$ 22.00	\$ 22.00
Mercury	7471	1	Soil	\$ 40.00	\$ 40.00	\$ 40.00
Chloride	300.0	1	Soil	\$ 22.00	\$ 22.00	\$ 22.00
*Herbicides	8151	1	Soil	\$ 254.00	\$ 254.00	\$ 254.00
<b>Project Total:</b>				<b>\$</b>	<b>1,714.00</b>	

**QUOTATION IS VALID FOR 60 DAYS**

**Note:** Please include quotation number on Chain of Custody to ensure proper billing. All payment terms & conditions apply. Unless noted otherwise, there will be a additional \$4 Disposal Fee, for nonaqueous samples. Encore devices are \$10 each, and EDF (GeoTracker) EDD format fee is \$50 per job; if needed. Samples received with less than half of their hold time remaining are subject to a rush surcharge:

**Additional Comments:** If lead>50 mg/kg and <1000 mg/kg = do WET; STLC>5 mg/l = do TCLP  
**Data Validation Package (Level IV) surcharge is 12%. Crushing will be subcontracted and charged hourly. Compositing fee is \$5 per sample. \*Subcontracted Analysis TAT is 20 working days. Presidio EDD deliverable surcharge is 5%.**

Price includes sample bottles, sample pick-up, coolers, results emailed, technical consultation & full QA/QC per SW846.





## STLC & TCLP DECISION GUIDE

	Run STLC if TOTAL exceeds (mg/Kg)	STLC Limit <sup>*1</sup> (mg/L)	Run TCLP if TOTAL exceeds (mg/Kg)	TCLP Limit <sup>*2</sup> (mg/L)
Antimony	150	15	na	---
Arsenic	50	5	100	5
Barium	1,000	100	2,000	100
Beryllium	7.5	0.75	na	---
Cadmium	10	1	20	1
Chromium	50	5	100	5
Cobalt	800	80	na	---
Copper	250	25	na	---
Lead	50	5	100	5
Mercury	2	0.2	4	0.2
Molybdenum	3,500	350	na	---
Nickel	200	20	na	---
Selenium	10	1	20	1
Silver	50	5	100	5
Thallium	70	7	na	---
Vanadium	240	24	na	---
Zinc	2,500	250	na	---

<sup>\*1</sup> California Code of Regulations, Title 22, Chapter 11, Article 3, Section 66261.24

<sup>\*2</sup> 40 CFR Part 261.24