

APPENDIX A

**DATA QUALITY REVIEW OF NON RI-FS DATA
DEL AMO SITE**

A substantial volume of laboratory analytical data for samples from the Del Amo site has been generated outside of the current Remedial Investigation/Feasibility Study (RI/FS) being conducted by the Respondents. These data typically originate from investigations conducted on behalf of individual property owners, and were completed by numerous investigators, including Dames & Moore (now URS Corporation) and other consulting firms. In some cases, the data have been independently submitted to the United States Environmental Protection Agency (USEPA). A review of this “non-RI/FS” data was undertaken to determine what, if any, data could be used in the risk assessment. The following minimum acceptance criteria based on a subset of principles given in the USEPA National Functional Guidelines (USEPA, 1999) were used in the non-RI/FS data evaluation:

- The data should be generated by a certified mobile or fixed analytical laboratory using approved USEPA reference methods;
- Documentation and quality control standards consistent with those outlined in SW-846 and in the Del Amo Project Quality Assurance Project Plan (Appendix C, RI/FS Workplan, Dames & Moore, February 25, 1993) must be met;
- Level II data will be accepted only if 10 percent Level IV-equivalent data are available for verification;
- The data must be analyte specific, and both analyte identification and quantification should be able to be confirmed following precision, accuracy, completeness standards, as defined in the Del Amo Project Quality Assurance Project Plan (RI/FS Workplan, Appendix C, Section 3.0 and Tables C.3.2-1, C.3.2-3 and C.3.2-4); and
- Laboratory data are expected to include documentation of matrix spike/matrix spike duplicates (MS/MSD), laboratory control samples (LCS), method blanks, holding times, internal standards (surrogates), and serial dilutions, as appropriate based on the analytical method. Data without documentation regarding LCS, holding times, and surrogates will not be accepted for use in the risk assessment. While desirable, the absence of documentation regarding any one of the following: either method blanks, MS/MSD, or serial dilutions, by itself, will not disqualify data from use in the risk assessment, provided only one of these items is missing, and all other criteria are satisfied.

During the review it was determined some of the quantitative quality control data specified above was not available. Based on discussions with USEPA, additional criteria were considered in the review as follows:

1. For the majority of samples analyzed for Total Petroleum Hydrocarbons (TPH) using USEPA Method 8015 modified, no surrogate compounds were used in the laboratory

procedures. Although surrogate use is common practice among most analytical laboratories today, the State of California did not require surrogate use in the guidelines established in the California Leaking Underground Fuel Tank Manual (CARWQCB, 1989). For these TPH data, acceptable results for benzene, toluene, ethylbenzene, and xylenes (BTEX) by USEPA Method 8020 are available for use in qualitatively verifying the associated TPH data.

2. Some data sets associated with volatile organic chemicals (VOCs) and TPH are missing quantitative results for laboratory control samples. Percent recoveries for laboratory control samples are used to determine the accuracy of reported results. For these VOCs and TPH data sets, accuracy of the reported results will be demonstrated using other available quality control samples such as the quantitative results of associated matrix spike or surrogate recoveries, or repetitive results for the same location. If accuracy is demonstrated in the related quality control data, the data will be used quantitatively in the risk assessment.

The results of the analysis indicated that the data collected and submitted by several other investigators were suitable, as qualified, since appropriate documentation was provided so that data validation could be performed. Based on the minimum acceptance criteria, 112 of the 254 (44%) of the non-RI/FS data set were found to be suitable for use in the risk assessment, 91 of the 254 (36%) were qualitatively acceptable, and 51 of the 254 (20%) were unacceptable.

Data considered suitable were incorporated into the database and used quantitatively in the risk assessment. The only data that were usable on a qualitative basis were the total petroleum hydrocarbon (TPH) data. However, because the TPH data wasn't used in the risk assessment, the qualitative designation does not impact the risk assessment results. Data which were deemed unreliable and qualified as rejected were excluded from use in the risk assessment in a similar manner as any rejected data collected as part of the RI/FS and validated according to criteria specified in the National Functional Guidelines.

Table A-1 presents the results of the data review process for non RI/FS data.

References

California Regional Water Quality Control Board (CARWQCB). 1989. California Leaking Underground Fuel Tank Manual.

Dames & Moore. 1993. Remedial Investigation/Feasibility Study Workplan. Del Amo Site. February 25, 1993.

U.S. Environmental Protection Agency (USEPA). 1999. USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review. October, 1999.

Table A-1
Del Amo Non RI/FS Data Review

SDG	Sample	Fraction	Useable?	Notes
007455	MW3-25-A	8015 (TPH-G)	Qualitative	No LCS (Project MS/MSD); No Surrogate
007455	MW3-25-A	8020	No	Data Not Provided
007455	MW3-25-A	8240	No	Data Not Provided
007455	MW3-30-A	8015 (TPH-G)	Qualitative	No LCS (Project MS/MSD); No Surrogate
007455	MW3-30-A	8020	No	Data Not Provided
007455	MW3-30-A	8240	No	Data Not Provided
007455	MW3-30-B	8020	Yes	
007455	MW3-40-A	8015 (TPH-G)	Qualitative	No LCS (Project MS/MSD); No Surrogate
007455	MW3-40-A	8020	No	Data Not Provided
007455	MW3-40-A	8240	Yes	No LCS (Non-project MS/MSD)
007476	MW2-30-A	8020	Yes	
007476	MW2-40-A	8020	Yes	
007476	MW2-45-A	8020	Yes	
008073	MW1-15-A	8015 (TPH-G)	No	No LCS; No Method Blank; No Surrogate
008073	MW1-15-A	8020	No	Data Not Provided
008073	MW1-30-A	8015 (TPH-G)	No	Data Not Provided; Location Unkown
008073	MW1-30-A	8020	No	No LCS (Project MS/MSD); Location Unkown
008073	MW1-40-A	8015 (TPH-G)	No	Data Not Provided; Location Unkown
008073	MW1-40-A	8020	No	No LCS (Project MS/MSD); Location Unkown
008073	MW1-45-A	8015 (TPH-G)	No	Data Not Provided; Location Unkown
008073	MW1-45-A	8020	No	No LCS (Project MS/MSD); Location Unkown
009099	DW2-45A	8015 (TPH-G)	Qualitative	No LCS (Project MS/MSD); No Surrogate; No Chain-of-Custody
009099	DW2-45A	8020	Yes	No LCS (Non-project MS/MSD); No Chain-of-Custody
009099	DWP1-40	8015 (TPH-G)	Qualitative	No LCS (Project MS/MSD); No Surrogate
009099	DWP1-40	8020	Yes	No LCS (Non-project MS/MSD); No Chain-of-Custody
009170	DWP3-40A	8015 (TPH-G)	Qualitative	No LCS (Project MS/MSD); No Surrogate
009170	DWP3-40A	8020	Yes	
009170	DWP6-35A	8015 (TPH-G)	Qualitative	No LCS (Project MS/MSD); No Surrogate
009170	DWP6-35A	8020	Yes	
009170	DWP8-45A	8015 (TPH-G)	Qualitative	No LCS (Project MS/MSD); No Surrogate
009170	DWP8-45A	8020	Yes	
009170	DWP9-30A	8015 (TPH-G)	Qualitative	No LCS (Project MS/MSD); No Surrogate
009170	DWP9-30A	8020	Yes	
009170	DWP9-40A	8015 (TPH-G)	Qualitative	No LCS (Project MS/MSD); No Surrogate
009170	DWP9-40A	8020	Yes	
009202	DWP3-W-A	8240	No	No LCS (Non-project MS/MSD); Water Matrix, only dealing with Soil & Soil Gas
009202	DWP3-W-B	8240	No	No LCS (Non-project MS/MSD); Water Matrix, only dealing with Soil & Soil Gas
009202	DWP5-W-A	8240	No	No LCS (Non-project MS/MSD); Water Matrix, only dealing with Soil & Soil Gas
009202	DWP5-W-B	8240	No	No LCS (Non-project MS/MSD); Water Matrix, only dealing with Soil & Soil Gas
009203	DWP10-30A	8015 (TPH-G)	Qualitative	No LCS (Project MS/MSD); No Surrogate
009203	DWP10-30A	8020	Yes	
009203	DWP7-45A	8015 (TPH-G)	Qualitative	No LCS (Project MS/MSD); No Surrogate
009203	DWP7-45A	8020	Yes	
009277	DWP4-40A	8015 (TPH-G)	Qualitative	No LCS (Non-project MS/MSD); No Surrogate
009277	DWP4-40A	8020	Yes	No LCS (Non-project MS/MSD)
009296	DWP3-40B	8015 (TPH-G)	Qualitative	No LCS (Non-project MS/MSD); No Surrogate
009296	DWP3-40B	8020	Yes	No LCS (Project MS/MSD)
009300	MW-1	8240	Yes	No LCS (Project MS/MSD)
009300	MW-2	8240	Yes	No LCS (Project MS/MSD)
009300	MW-3	8240	Yes	No LCS (Project MS/MSD)
009300	MW-4	8240	Yes	No LCS (Project MS/MSD)
010177	DWP5-45A	8015 (TPH-G)	Qualitative	No LCS (Project MS/MSD); No Surrogate; Holding Time Exceeded
010391	DWP11-50A	8015 (TPH-G)	Qualitative	No Surrogate
010391	DWP11-50A	8020	Yes	No LCS (Project MS/MSD)
010391	DWP11-W-A	8240	No	No LCS (Project MS/MSD); Water Matrix, only dealing with Soil & Soil Gas
010391	DWP12-50A	8015 (TPH-G)	Qualitative	No Surrogate
010391	DWP12-50A	8020	Yes	No LCS (Project MS/MSD)
010391	DWP12-W-A	8240	No	No LCS (Project MS/MSD); Water Matrix, only dealing with Soil & Soil Gas
011005	DWP13-W-A	8240	No	No LCS (Non-project MS/MSD); Water Matrix, only dealing with Soil & Soil Gas
011005	DWP14-40A	8015	Qualitative	No LCS; No Surrogate
011005	DWP14-40A	8020	Yes	No LCS (Project MS/MSD)
011005	DWP14-W-A	8240	No	No LCS (Non-project MS/MSD); Water Matrix, only dealing with Soil & Soil Gas
011005	DWP-15-30A	8015	Qualitative	No Surrogate
011005	DWP-15-30A	8020	Yes	No LCS (Project MS/MSD)
011005	DWP16-25A	8015	Qualitative	No Surrogate
011005	DWP16-25A	8020	Yes	No LCS (Project MS/MSD)
011295	HAB1-5A	8020	Yes	No LCS (Non-project MS/MSD)
011295	HAB1-5A	8240	Yes	No LCS (Non-project MS/MSD)
011295	HAB1-5A	8270	Yes	No MS/MSD
11461	GP1@15.5	8015 (TPH-G)	Qualitative	No Surrogate; No Chain-of-Custody
11461	GP1@15.5	8020	Yes	No Chain-of-Custody
11461	GP12@16.5	8015 (TPH-G)	Qualitative	No Surrogate; No Chain-of-Custody
11461	GP12@16.5	8015 (TPH-Ext)	Qualitative	No Surrogate; No Chain-of-Custody
11461	GP12@16.5	8020	Yes	No Chain-of-Custody
11461	GP12@6	8015 (TPH-Ext)	Qualitative	No Surrogate; No Chain-of-Custody
11461	GP12@6	8020	No	Data Not Provided
11461	GP13@6	8015 (TPH-Ext)	Qualitative	No Surrogate; No Chain-of-Custody
11461	GP13@6	8020	No	Data Not Provided
11461	GP14@10.5	8015 (TPH-G)	Qualitative	No Surrogate; No Chain-of-Custody

Table A-1
Del Amo Non RI/FS Data Review

SDG	Sample	Fraction	Useable?	Notes
11461	GP14@10.5	8015 (TPH-Ext)	Qualitative	No Surrogate; No Chain-of-Custody
11461	GP14@10.5	8020	Yes	No Chain-of-Custody
11461	GP15@6	8015 (TPH-G)	Qualitative	No Surrogate; No Chain-of-Custody
11461	GP15@6	8015 (TPH-Ext)	Qualitative	No Surrogate; No Chain-of-Custody
11461	GP15@6	8020	Yes	No Chain-of-Custody
11461	GP16@15.5	8015 (TPH-G)	Qualitative	No Surrogate; No Chain-of-Custody
11461	GP16@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate; No Chain-of-Custody
11461	GP16@15.5	8020	Yes	No Chain-of-Custody
11461	GP2@10.5	8015 (TPH-G)	Qualitative	No Surrogate; No Chain-of-Custody
11461	GP2@10.5	8020	Yes	No Chain-of-Custody
11461	GP3@15.5	8015 (TPH-G)	Qualitative	No Surrogate; No Chain-of-Custody
11461	GP3@15.5	8020	Yes	No Chain-of-Custody
11461	GP5@15.5	8015 (TPH-G)	Qualitative	No Surrogate; No Chain-of-Custody
11461	GP5@15.5	8020	Yes	No Chain-of-Custody
11468	GP11@5.5	8015 (TPH-G)	Qualitative	No Surrogate
11468	GP11@5.5	8020	Yes	
11468	GP11@15.5	8260	Yes	
11468	GP23@10.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11468	GP24@5.5	8015 (TPH-G)	Qualitative	No Surrogate
11468	GP24@5.5	8020	Yes	
11468	GP25@10.5	8260	Yes	
11468	GP25@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11468	GP25@15.5	8020	Yes	
11468	GP4@10.5	8015 (TPH-G)	Qualitative	No Surrogate
11468	GP4@10.5	8020	Yes	
11468	GP6@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11468	GP6@15.5	8020	Yes	
11468	GP6@20.5	8015 (TPH-G)	Qualitative	No Surrogate
11468	GP6@20.5	8020	Yes	
11468	GP6@5.5	8015 (TPH-G)	Qualitative	No Surrogate
11468	GP6@5.5	8020	Yes	
11468	GP7@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11468	GP7@15.5	8020	Yes	
11468	GP8@10.5	8015 (TPH-G)	Qualitative	No Surrogate
11468	GP8@10.5	8020	Yes	
11468	GP8@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11468	GP8@15.5	8020	Yes	
11468	GP8@20.5	8260	Yes	
11468	GP9@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11468	GP9@15.5	8020	Yes	
11468	GP9@5.5	8015 (TPH-G)	Qualitative	No Surrogate
11468	GP9@5.5	8020	Yes	
11470	GP10@10.5	8260	Yes	
11470	GP10@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11470	GP10@15.5	8020	Yes	
11470	GP10@5.5	8015 (TPH-G)	Qualitative	No Surrogate
11470	GP10@5.5	8020	Yes	
11470	GP18@10.5	8015 (TPH-G)	Qualitative	No Surrogate
11470	GP18@10.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11470	GP18@10.5	8020	Yes	
11470	GP19@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11470	GP19@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11470	GP19@15.5	8020	Yes	
11470	GP20@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11470	GP20@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11470	GP20@15.5	8020	Yes	
11470	GP22@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11470	GP22@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11470	GP22@15.5	8020	Yes	
11470	GP30@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11470	GP30@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11470	GP30@15.5	8020	Yes	
11470	GP32@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11470	GP32@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11470	GP32@15.5	8020	Yes	
11470	GP33@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11470	GP33@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11470	GP33@15.5	8020	Yes	
11470	GP34@10.5	8015 (TPH-G)	Qualitative	No Surrogate
11470	GP34@10.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11470	GP34@10.5	8020	Yes	
11470	GP35@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11470	GP35@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11470	GP35@15.5	8020	Yes	
11474	GP17@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11474	GP17@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11474	GP17@15.5	8020	Yes	
11474	GP21@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11474	GP21@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate

**Table A-1
Del Amo Non RI/FS Data Review**

SDG	Sample	Fraction	Useable?	Notes
11474	GP21@15.5	8020	Yes	
11474	GP21@5.5	8015 (TPH-G)	Qualitative	No Surrogate
11474	GP21@5.5	8020	Yes	
11474	GP26@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11474	GP26@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11474	GP26@15.5	8020	Yes	
11474	GP27@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11474	GP27@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11474	GP27@15.5	8020	Yes	
11474	GP28@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11474	GP28@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11474	GP28@15.5	8020	Yes	
11474	GP29@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11474	GP29@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11474	GP29@15.5	8020	Yes	
11474	GP31@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11474	GP31@15.5	8015 (TPH-Ext)	Qualitative	No Surrogate
11474	GP31@15.5	8020	Yes	
11474	GP36@15.5	8015 (TPH-G)	Qualitative	No Surrogate
11474	GP36@15.5	8020	Yes	
11474	HB1@5	418.1	Yes	
11474	HB1@5	8015 (TPH-G)	Qualitative	No Surrogate
11474	HB1@5	8015 (TPH-Fuel Screen)	Qualitative	No Surrogate
11474	HB1@5	8020	Yes	
101236	IMMW4-5	8015	Qualitative	No Surrogate
101236	IMMW4-5	8240	Yes	
101236	MMW4-10	8015	Qualitative	No Surrogate
101236	MMW4-10	8240	Yes	
101236	MMW4-15	8015	Qualitative	No Surrogate
101236	MMW4-15	8240	Yes	
101236	MMW4-35	8015	Qualitative	No Surrogate
101236	MMW4-35	8240	Yes	
101236	MMW4-40	8015	Qualitative	No Surrogate
101236	MMW4-40	8240	Yes	
101236	MMW4-5	8015	Qualitative	No Surrogate
101236	MMW4-5	8240	Yes	
101241	SB1-10A/10B	8015	No	No Surrogate; Location Unkown
101241	SB1-10A/10B	8240	No	Location Unkown
101241	SB1-15A/15B	8015	No	No Surrogate; Location Unkown
101241	SB1-15A/15B	8240	No	Location Unkown
101241	SB1-40A/40B	8015	No	No Surrogate; Location Unkown
101241	SB1-40A/40B	8240	No	Location Unkown
101241	SB1-5A	8015	No	No Surrogate; Location Unkown
101241	SB1-5A	8240	No	Location Unkown
101273	MMW1	8015	No	No Surrogate; Location Unkown
101273	MMW1	8240	No	Location Unkown
101273	MMW2	8015	No	No Surrogate; Location Unkown
101273	MMW2	8240	No	Location Unkown
101273	MMW3	8015	No	No Surrogate; Location Unkown
101273	MMW3	8240	No	Location Unkown
101273	MMW4	8015	No	No Surrogate; Location Unkown
101273	MMW4	8240	No	Location Unkown
102029	MMW1	8015	No	No MS/MSD; No Surrogate; Location Unkown
102029	MMW1	8240	No	No LCS; Location Unkown
102029	MMW2	8015	No	No MS/MSD; No Surrogate; Location Unkown
102029	MMW2	8240	No	No LCS; Location Unkown
102029	MMW3	8015	No	No MS/MSD; No Surrogate; Location Unkown
102029	MMW3	8240	No	No LCS; Location Unkown
102029	MMW4	8015	No	No MS/MSD; No Surrogate; Location Unkown
102029	MMW4	8240	No	No LCS; Location Unkown
900564	SG-1-B	8240	No	No LCS, No MS/MSD, No Method Blank
900564	SG-1-B	Gases	No	No Chain-of-Custody, No Method Reference
900564	SG-22-B	8240	No	No LCS, No MS/MSD, No Method Blank
900564	SG-22-B	Gases	No	No Chain-of-Custody, No Method Reference
M2-381	GPS00001	8260	Yes	
M2-381	GPS00002	8260	Yes	
M2-381	GPS00003	8260	Yes	
M2-381	GPS00004	8260	Yes	
M2-381	GPS00005	8260	Yes	
M2-381	GPS00006	8260	Yes	
M2-381	GPS00007	8260	Yes	
M2-381	GPS00008	8260	Yes	
M2-381	GPS00009	8260	Yes	
M2-381	GPS00010	8260	Yes	
M2-381	GPS00011	8260	Yes	
M2-381	GPS00012	8260	Yes	
M2-381	GPS00013	8260	Yes	
M2-381	GPS00014	8260	Yes	
M2-381	GPS00015	8260	Yes	

**Table A-1
Del Amo Non RI/FS Data Review**

SDG	Sample	Fraction	Useable?	Notes
M2-381	GPS00016	8260	Yes	
M2-382	GPS00017	8260	Yes	
M2-382	GPS00018	8260	Yes	
M2-382	GPS00019	8260	Yes	
M2-382	GPS00020	8260	Yes	
M2-382	GPS00021	8260	Yes	
M2-382	GPS00022	8260	Yes	
M2-382	GPS00023	8260	Yes	
M2-382	GPS00024	8260	Yes	
M2-382	GPS00025	8260	Yes	
M2-382	GPS00026	8260	Yes	
M2-382	GPS00027	8260	Yes	
M2-382	GPS00028	8260	Yes	
M2-382	GPS00029	8260	Yes	
M2-382	GPS00030	8260	Yes	
M2-382	GPS00031	8260	Yes	
M2-382	GPS00032	8260	Yes	