

LABORATORY DATA CONSULTANTS, INC.

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Anchor Environmental, LLC
1423 3rd Avenue, Suite 300
Seattle, WA 98101-2226
ATTN: Ms. Sue Snyder

October 5, 2006

SUBJECT: Terminal 4 Early Action, Data Validation

Dear Ms. Snyder,

Enclosed is the final validation report for the fraction listed below. This SDG was received on September 27, 2006. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 15535:

<u>SDG #</u>	<u>Fraction</u>
JW79	Diesel Range Organics

The data validation was performed under EPA Level III guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999

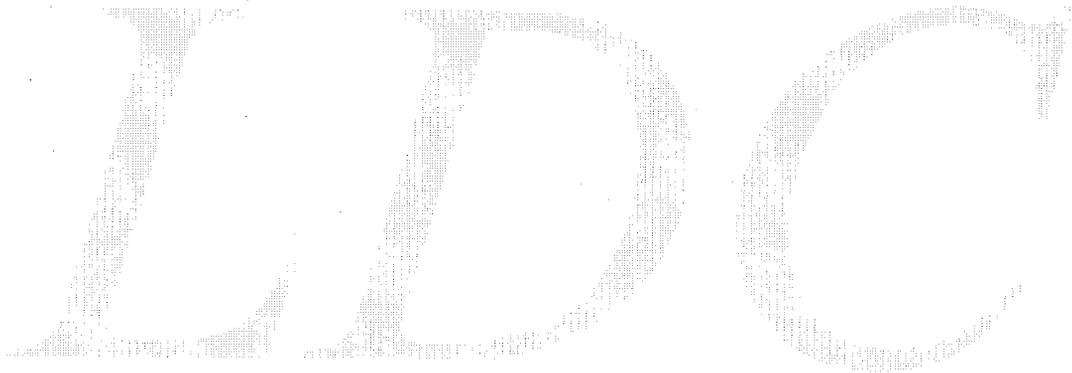
Please feel free to contact us if you have any questions.

Sincerely,


Stella S. Cuenco
Project Manager/Senior Chemist

**Terminal 4 Early Action
Data Validation Reports
LDC# 15535**

Diesel Range Organics & Motor Oil Range Organics



**Laboratory Data Consultants, Inc.
Data Validation Report**

Project/Site Name: Terminal 4 Early Action
Collection Date: July 18, 2006
LDC Report Date: October 5, 2006
Matrix: Sediment
Parameters: Diesel Range Organics & Motor Oil Range Organics
Validation Level: EPA Level III
Laboratory: Analytical Resources, Inc.
Sample Delivery Group (SDG): JW79

Sample Identification

T4-S3-01-J
T4-S3-01-K
T4-S3-02-G
T4-S3-02-J
T4-S3-02-H
T4-S3-01-JMS
T4-S3-01-JMSD

Introduction

This data review covers 7 sediment samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method NWTPH-Dx for Diesel Range Organics and Motor Oil Range Organics.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

The percent differences (%D) of the second source calibration standard were less than or equal to 15.0% for all compounds.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No diesel range organic or motor oil range organic contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

The QAPP reporting limits were met with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG JW79	Diesel range organics	Laboratory reporting limit reported at 5.0 mg/Kg.	Reporting limit should be reported at 0.25 mg/Kg per the QAPP.	None	P
All samples in SDG JW79	Motor oil range organics	Laboratory reporting limit reported at 10 mg/Kg.	Reporting limit should be reported at 0.5 mg/Kg per the QAPP.	None	P

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

No field blanks were identified in this SDG.

**Terminal 4 Early Action
 Diesel Range Organics & Motor Oil Range Organics - Data Qualification Summary -
 SDG JW79**

SDG	Sample	Compound	Flag	A or P	Reason
JW79	T4-S3-01-J T4-S3-01-K T4-S3-02-G T4-S3-02-J T4-S3-02-H T4-S3-02-F	Diesel range organics Motor oil range organics	None None	P	Compound quantitation and CRQLs

**Terminal 4 Early Action
 Diesel Range Organics & Motor Oil Range Organics - Laboratory Blank Data
 Qualification Summary - SDG JW79**

No Sample Data Qualified in this SDG

ORGANICS ANALYSIS DATA SHEET
TOTAL DIESEL RANGE HYDROCARBONS
NWTPHD by GC/FID
Page 1 of 1
Matrix: Sediment

QC Report No: JW79-Anchor Environmental
Project: T-4 EARLY ACTION
050332-01
Date Received: 07/21/06

Data Release Authorized:
Reported: 09/21/06 

ARI ID	Sample ID	Extraction Analysis		DL	Range	Result
		Date	Date			
MB-091906 06-16940	Method Blank HC ID: ---	09/19/06	09/20/06 FID3A	1.0	Diesel Motor Oil o-Terphenyl	< 5.0 U < 10 U 71.1%
JW79A 06-16940	T4-S3-01-J HC ID: DRO/RRO	09/19/06	09/20/06 FID3A	1.0	Diesel Motor Oil o-Terphenyl	250 800 75.0%
JW79B 06-16941	T4-S3-01-K HC ID: DRO/RRO	09/19/06	09/20/06 FID3A	1.0	Diesel Motor Oil o-Terphenyl	12 30 68.0%
JW79C 06-16942	T4-S3-02-G HC ID: DRO/RRO	09/19/06	09/20/06 FID3A	10	Diesel Motor Oil o-Terphenyl	260 450 60.7%
JW79D 06-16943	T4-S3-02-J HC ID: DRO/RRO	09/19/06	09/20/06 FID3A	1.0	Diesel Motor Oil o-Terphenyl	80 130 70.9%
JW79E 06-16944	T4-S3-02-H HC ID: DRO/RRO	09/19/06	09/20/06 FID3A	10	Diesel Motor Oil o-Terphenyl	150 260 65.3%

Reported in mg/kg (ppm)

Diesel quantitation on total peaks in the range from C12 to C24.
Motor Oil quantitation on total peaks in the range from C24 to C38.
HC ID: DRO/RRO indicates results of organics or additional hydrocarbons in
ranges are not identifiable.

10/5/06

LDC #: 15535A8

VALIDATION COMPLETENESS WORKSHEET

SDG #: JW79

Level III

Laboratory: Analytical Resources, Inc.

MRO

Date: 10/3/06

Page: 1 of 1

Reviewer: Q

2nd Reviewer: g

METHOD: GC Diesel Range Organics (NWTPH-Dx)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 7/18/06
IIa.	Initial calibration	A	
IIb.	Calibration verification <i>ICV</i>	A	
III.	Blanks	A	
IVa.	Surrogate recovery	A	
IVb.	Matrix spike/Matrix spike duplicates	A	
IVc.	Laboratory control samples	A	<i>ICS</i>
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	<i>SN</i>	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable
 N = Not provided/applicable
 SW = See worksheet

ND = No compounds detected
 R = Rinstate
 FB = Field blank

D = Duplicate
 TB = Trip blank
 EB = Equipment blank

Validated Samples:

1	T4-S3-01-J	<i>sd</i> 11	<i>UB-091906</i>	21		31	
2	T4-S3-01-K	12		22		32	
3	T4-S3-02-G	13		23		33	
4	T4-S3-02-J	14		24		34	
5	T4-S3-02-H	15		25		35	
6	T4-S3-01-JMS	16		26		36	
7	T4-S3-01-JMSD	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

