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ANNUAL 2010 GROUNDWATER MONITORING AND OZONE SYSTEM MAINTENANCE REPORT

DELTA WESTERN JUNEAU AIRPORT FUEL STORAGE
CHEVRON SITE 8-2307
9203 CESSNA DRIVE
JUNEAU, ALASKA
FILE ID: 1513.26.046

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CONESTOGA-ROVERS
& ASSOCIATES

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LIST OF ACRONYMS AND ABBREVIATIONS

ADEC	Alaska Department of Environmental Conservation
AST	aboveground storage tank
CRA	Conestoga-Rovers & Associates
DO	dissolved oxygen
DRO	diesel range organics
fbg	feet below grade
GRO	gasoline range organics
LCS	laboratory control samples
mg/l	milligrams per liter
MS	matrix spikes
ORP	oxygen reduction potential
P.G.	Professional Geologist
UST	underground storage tank

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) is submitting this *Annual 2010 Groundwater Monitoring and Ozone System Maintenance Report* to the Alaska Department of Environmental Conservation (ADEC) on behalf of the Chevron Environmental Management Company (Chevron) for Chevron site #8-2307 in Juneau, Alaska. CRA prepared this report summarizing the 2010 ozone injection system maintenance and groundwater sampling results. Site sampling was completed accordance with the May 2010 *Draft Field Sampling Guidance.* Groundwater monitoring and sampling details, analytical results, ozone system maintenance and geochemical analysis, data quality and conclusions are presented below.

1.1 SITE BACKGROUND

The site is a former bulk fuel terminal located on the northern portion of Juneau International Airport property at 9203 Cessna Drive in Juneau, Alaska (Figure 1). The former bulk terminal consisted of two 25,000-gallon aboveground storage tanks (ASTs) and one 25,000-gallon underground storage tank (UST). The ASTs contained jet fuel and the UST contained aviation gasoline. CRA installed a solar-powered ozone injection system in monitoring well MW-4 on August 28, 2007. The system is currently operating year-round. Site photographs are presented as Appendix A.

1.2 HYDROGEOLOGY

The site is located in southeast Alaska, situated on filled tidal wetlands at the southern terminus of the Mendenhall Valley. Historical static groundwater depths have ranged between 2.23 (MW-4) and 14.34 (MW-2) feet below grade (fbg) according to groundwater data from 2001 to present. Static groundwater depth was approximately 4.44 fbg (MW-4) on May 11, 2010 (Figure 2). Groundwater flow is historically northwest.

2.0 GROUNDWATER MONITORING AND SAMPLING

CRA gauged and sampled groundwater monitoring well MW-4 on May 11, 2010. The monitoring well was opened and the well cap was removed to allow the groundwater level to stabilize and equilibrate. The monitoring well was purged of approximately three well-casing volumes while temperature, dissolved oxygen (DO), oxidation reduction potential (ORP), pH, and conductivity were measured. Groundwater samples, including a duplicate sample, were collected using clean disposable bailers and

decanted into clean containers supplied by the analytical laboratory. The groundwater monitoring well was gauged and sampled in accordance with the ADEC's *Underground Storage Tanks Procedures Manual, Guidance for Treatment of Petroleum-Contaminated Soil and Water and Standard Sampling Procedures.* The samples were submitted under chain-of-custody to Lancaster Laboratories of Pennsylvania. CRA well sampling forms are presented as Appendix B.

Purged groundwater was stored in a sealed U.S. Department of Transportation 55-gallon drum. The drum was labeled with contents, date of generation, generator identification and consultant contact information. The purged groundwater will be disposed at Mendenhall Wastewater Treatment Facility in Juneau, Alaska.

3.0 ANALYTICAL RESULTS

3.1 GROUNDWATER ANALYTICAL METHODS

Collected groundwater samples were analyzed for the following:

- DRO by Alaska Series Method AK 102,
- Gasoline range organics (GRO) by Alaska Series Method AK 101.

3.2 GROUNDWATER SAMPLING RESULTS

Groundwater samples collected from monitoring well MW-4 contained 17 milligrams per liter (mg/l) DRO and 0.81 mg/l GRO. Groundwater analytical results are summarized in Table 1. Petroleum hydrocarbon concentration graphs are presented as Appendix C. The laboratory analytical report is presented as Appendix D.

4.0 OZONE SYSTEM MAINTENANCE AND GEOCHEMICAL ANALYSES

4.1 SYSTEM MAINTENANCE

CRA installed an ozone injection system in monitoring well MW-4 on August 28, 2007 to reduce dissolved-phase DRO concentrations in groundwater. CRA upgraded the ozone emitter on May 10, 2010. CRA replaced one broken solar panel, after which, each individual solar panel and battery was tested to confirm proper operation. Individual battery output was approximately 12.2 volts per battery. Solar panel output was approximately 0.6 volts per panel. The system was checked on August 11, 2010 and all components were found to be in working condition. All implemented safety equipment

(i.e. orange safety cones, snow poles, and caution tape) were intact and visible. The system is in operable condition and all components are functioning properly. Photos of solar panel installation are presented in Appendix A.

4.2 GROUNDWATER GEOCHEMICAL RESULTS

CRA collected field geochemical parameters and groundwater samples on May 11, 2010 to evaluate natural attenuation, and the ozone injection system's effect on subsurface conditions. Temperature, DO, ORP, conductivity and pH were analyzed in the field, and groundwater samples were analyzed for sulfate, nitrite, nitrate, and alkalinity. The geochemical analytical results are presented in Table 2.

5.0 DATA QUALITY

Groundwater samples from MW-4 were collected on May 11, 2010 and submitted under Chain-of-Custody to Lancaster Laboratories. The data quality was analyzed by a CRA Chemist. Based on the quality assurance/quality control review, the data submitted was judged to be acceptable for use with the qualifications noted. Below is a summary of the data quality. The ADEC Laboratory Data Review Checklist and Memorandum are presented as Appendix E.

All samples were prepared and/or analyzed within the required holding times with one exception. Nitrate nitrogen was analyzed outside the method specified hold time. Over time nitrite converts to nitrate and there would have been a high bias. Both nitrate nitrogen results were below laboratory detection limits. The sample results would not have been impacted, no qualification necessary. All samples were properly preserved and cooled after collection.

All appropriate samples and blanks were spiked with surrogate compounds prior to sample preparation and/or analysis in accordance with the organic methods. All surrogate spike recoveries met the associated method criteria indicating adequate analytical efficiency.

Method blanks were prepared and analyzed with the samples for all parameters. All blank results were below laboratory detection limits for the analytes of interest.

Laboratory control samples (LCS) were analyzed in all parameters. The LCS for GRO and DRO were analyzed in duplicate. All recoveries were within required control limits showing adequate analytical accuracy and precision.

Matrix spikes (MS) were prepared and analyzed for all parameters with the exception of DRO. All recoveries were within required control limits showing adequate analytical accuracy. Precision, for GRO and DRO, was determined to be acceptable based on LCS/LCSD recoveries. Precision for nitrate, nitrite, sulfate and alkalinity was determined to be acceptable based on laboratory duplicate recoveries.

Trip blanks were collected and analyzed with the investigative samples for GRO. All trip blank results were below laboratory detection limits for the compounds of interest.

A field duplicate was collected and submitted blind to the laboratory. The sample identification was MW-4 and its duplicate was DUP-1. A comparison of the results showed good analytical and sampling precision with one exception. The GRO relative percent difference was 35%. The GRO results for samples MW-4 and DUP-1 should be considered estimated.

6.0 CONCLUSIONS

DRO concentrations in groundwater continue to decrease. Ozone system maintenance included upgrading the ozone emitter and replacement of a previously damaged solar panel. CRA will assess the new ozone emitter's efficiency at reducing DRO concentration in MW-4, and collect groundwater samples to evaluate attenuation in 2011.

FIGURES

FIGURE 1: VICINITY MAP

FIGURE 2: GROUNDWATER ELEVATION MAP

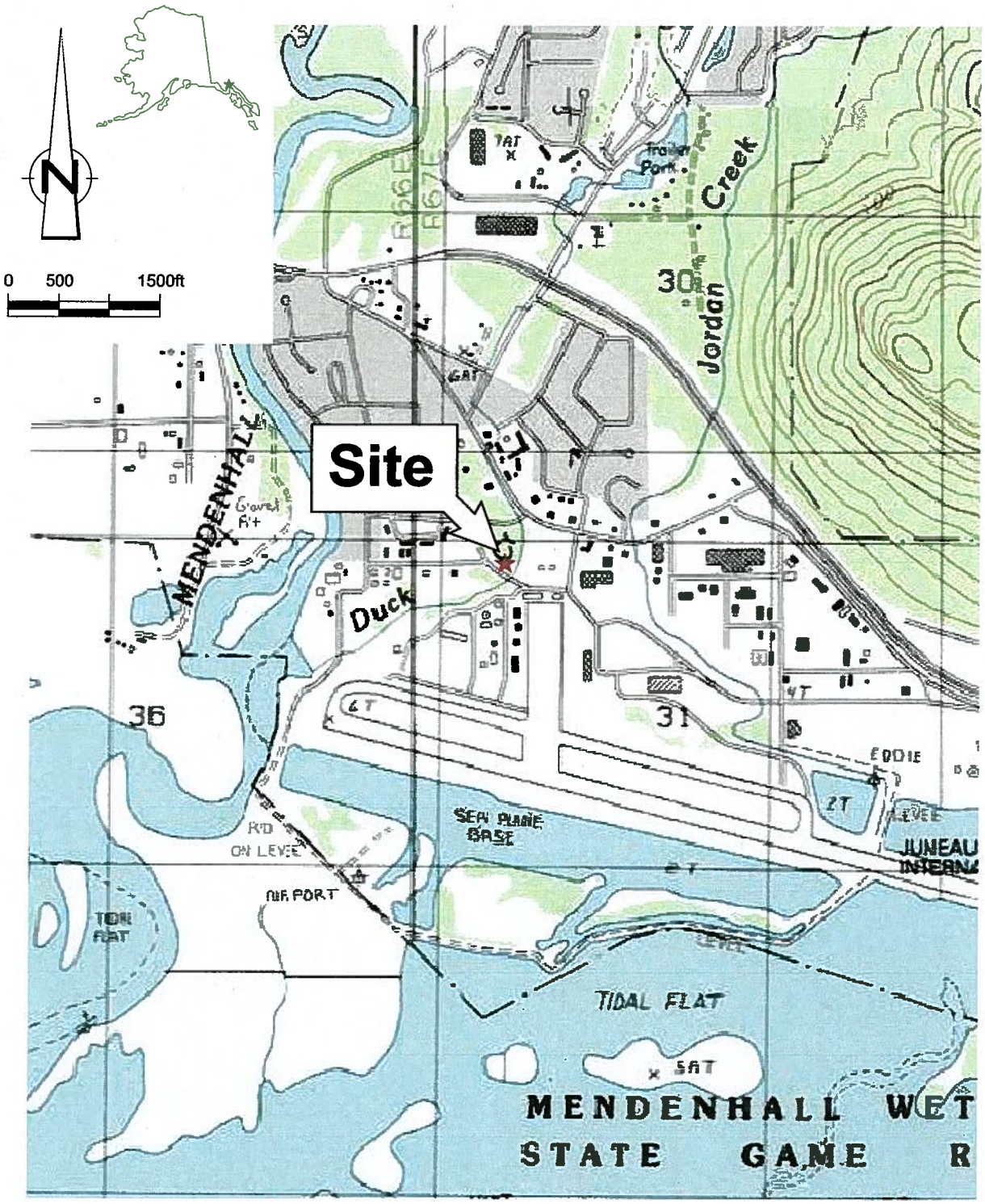
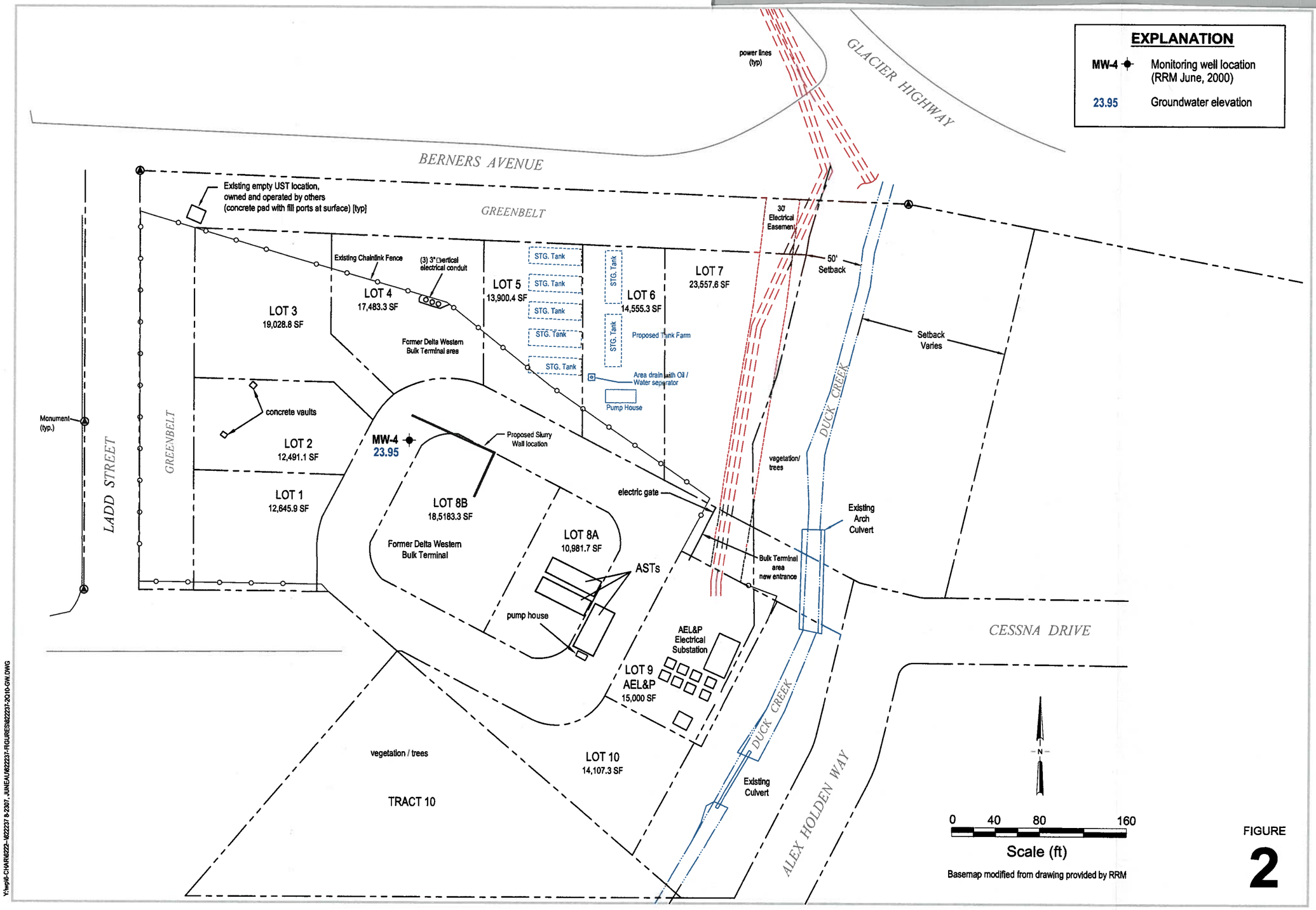


Figure 1

VICINITY MAP
FORMER DELTA WESTERN BULK TERMINAL 8-2307
9203 Cessna Drive
Juneau, Alaska

Y:\wp\6-CHAR\6222--\622237 8-2307, JUNEAU\622237-FIGURES\622237-VICINITY MAP.DWG



Groundwater Elevation Map

May 11, 2010

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FIGURE

2

Former Delta Western/ Chevron Bulk Terminal 8-2307

9203 Cessna Drive

Juneau, Alaska

Y:\wp16-CHAR\6222--\622237 8-2307, JUNEAU\622237-FIGURES\622237-2Q10-GW.DWG

TABLES

TABLE 1: GROUNDWATER ANALYTICAL RESULTS

TABLE 2: GEOCHEMICAL ANALYTICAL RESULTS

Table 1
Groundwater Analytical Results
Delta Western/Former Chevron Bulk Terminal 8-2307
9203 Cessna Drive
Juneau, Alaska

Location	Date	TOC	DTW	GWE	HYDROCARBONS RRO	DRO	GRO	PRIMARY VOCS Benzene	Toluene	Ethyl-benzene	Total Xylenes
	Units	ft msl	fbg	ft msl	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ADEC Groundwater Cleanup Levels[a]					1.1	1.5	2.2	0.005	1.0	0.7	10.0
MW-1	06/06/2000	25.19	8.55	16.64	<0.75	0.269	<0.05	<0.0005	<0.0005	<0.0005	<0.001
MW-1	12/09/2000	25.19	7.72	17.47	<0.75	0.201	<0.05	0.00025	0.00082	<0.0005	<0.001
MW-1	03/24/2001	25.19	8.48	16.71	-	0.298	<0.05	0.00214	<0.0005	<0.0005	<0.001
MW-1	06/19/2001	25.19	8.93	16.26	-	0.121	<0.05	0.0002	<0.0005	<0.0005	<0.001
MW-1	06/17/2002	25.19	8.60	16.59	-	0.181	<0.05	0.00115	<0.0005	<0.0005	<0.001
MW-1	12/11/2002	25.19	7.53	17.66	-	0.1	<0.05	<0.0002	<0.0005	<0.0005	<0.001
MW-1	06/25/2003	25.19	4.72	20.47	-	0.1	<0.05	0.00457	<0.0005	<0.0005	<0.001
MW-1	12/09/2003	25.19	8.43	16.76	-	0.139	<0.05	<0.0002	<0.0005	<0.0005	<0.001
MW-1	05/18/2004	25.19	9.38	15.81	-	0.391	<0.05	<0.0002	<0.0005	<0.0005	<0.001
MW-1	05/27/2005							Well Destroyed			
MW-2	06/06/2000	28.73	13.20	15.53	<0.75	0.22	<0.05	<0.0005	<0.0005	<0.0005	<0.001
MW-2	12/09/2000	28.73	12.12	16.61	<0.75 / <0.75	0.22	<0.05 / <0.05	0.000395 / 0.000353	0.000951 / 0.001	<0.0005 / <0.0005	<0.001 / 0.001
MW-2	03/24/2001	28.73	13.28	15.45	-	0.176	<0.05	<0.0002	<0.0005	<0.0005	<0.001
MW-2	06/19/2001	28.73	13.72	15.01	-	0.274	0.058	0.000213	<0.0005	<0.0005	0.0011
MW-2	06/17/2002	28.73	13.13	15.60	-	0.393	<0.05	<0.0002	<0.0005	<0.0005	<0.001
MW-2	12/11/2002	28.73	9.00	19.73	-	0.159	<0.05	<0.0002	<0.0005	<0.0005	0.001
MW-2	06/25/2003	28.73	14.34	14.39	-	0.209	0.08	<0.0002	<0.0005	<0.0005	<0.001
MW-2	12/09/2003	28.73	13.15	15.58	-	0.132	<0.05	<0.0002	<0.0005	<0.0005	0.001
MW-2	05/18/2004	28.73	9.40	19.33	-	0.391	<0.05	<0.0002	0.00062	<0.0005	0.00101
MW-2	05/27/2005							Well Destroyed			
MW-3	06/06/2000	28.21	12.09	16.12	<0.75	0.144	<0.05	<0.0005	<0.0005	<0.0005	<0.001
MW-3	12/10/2000	28.21	11.29	16.92	<0.75	0.439	<0.05	0.000223	<0.0005	<0.0005	<0.001
MW-3	03/24/2001	28.21	12.11	16.10	-	0.188	<0.05 / <0.05	<0.0002 / <0.0002	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001
MW-3	06/19/2001	28.21	12.53	15.68	-	0.163	<0.05 / <0.05	<0.0002 / <0.0002	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001
MW-3	06/17/2002	28.21	12.18	16.03	-	0.105	<0.05	<0.0002	<0.0005	<0.0005	<0.001
MW-3	12/11/2002	28.21	11.00	17.21	-	0.122	<0.05	<0.0002	<0.0005	<0.0005	<0.001
MW-3	06/25/2003	28.21	13.26	14.95	-	0.1	<0.05	0.00067	<0.0005	<0.0005	<0.001
MW-3	12/09/2003	28.21	11.98	16.23	-	0.186	<0.05	<0.0002	<0.0005	<0.0005	<0.001
MW-3	05/18/2004	28.21	12.97	15.24	-	0.391	<0.05	<0.0002	<0.0005	0.000528	0.00162
MW-3	05/27/2005							Well Destroyed			

Table 1
Groundwater Analytical Results
Delta Western/Former Chevron Bulk Terminal 8-2307
9203 Cessna Drive
Juneau, Alaska

Location	Date	TOC	DTW	GWE	HYDROCARBONS RRO	DRO	GRO	PRIMARY VOCS Benzene	Toluene	Ethyl-benzene	Total Xylenes
	Units	ft msl	fbg	ft msl	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ADEC Groundwater Cleanup Levels[a]					1.1	1.5	2.2	0.005	1.0	0.7	10.0
MW-4	06/19/2001	28.39	4.08	24.31	-	22.2	0.948	0.00148	<0.00125	0.00398	0.0821
MW-4	06/17/2002	28.39	4.17	24.22	-	33.2	1.05	0.001	<0.0005	0.0517	0.0979
MW-4	12/11/2002	28.39	2.25	26.14	-	29.3	0.921	0.0091	0.00125	0.0448	0.088
MW-4	06/25/2003	28.39	4.14	24.25	-	22.2	0.833	0.00128	0.00107	0.0485	0.0795
MW-4	12/09/2003	28.39	3.66	24.73	-	27.5	0.537	0.00149	<0.0025	0.0517	0.0547
MW-4	05/18/2004	28.39	4.74	23.65	-	12.8	2.2	0.00139	<0.001	0.0492	0.0786
MW-4	05/27/2005	28.39	5.50	22.89	-	24	0.51 / 0.52	0.0008 / 0.0008	<0.0005 / <0.0005	0.037 / 0.038	0.04 / 0.041
MW-4	06/01/2006	28.39	5.80	22.59	-	26	0.55	<0.0005	<0.0005	0.035	0.045
MW-4	08/28/2007	28.39	4.18	24.21	-	17	0.5 / 0.5	<0.001 / <0.001	<0.001 / <0.001	0.02 / 0.02	0.05 / 0.04
MW-4	06/24/2008	28.39	5.20	23.19	-	37	-	<0.001 / <0.001	0.001 / 0.001	0.02 / 0.02	0.03 / 0.03
MW-4	08/25/2008	28.39	2.23	26.16	-	9.12	-	<0.0005 / <0.0005	<0.0005 / <0.0005	0.0161 / 0.0142	0.0264 / 0.0211
MW-4	06/23/2009	28.39	6.41	21.98	-	12.2 / 13.1	0.578 / 0.476	-	-	-	-
MW-4	05/11/2010	28.39	4.44	23.95	-	17 / 13	0.57 J / 0.81 J	-	-	-	-
Trip Blank	12/09/2000	-	-	-	-	-	<0.05	<0.0002	<0.0005	<0.0005	<0.001
Trip Blank	03/24/2001	-	-	-	-	-	<0.05	<0.0002	<0.0005	<0.0005	<0.001
Trip Blank	06/19/2001	-	-	-	-	-	<0.05	<0.0002	<0.0005	<0.0005	<0.001
Trip Blank-1	12/09/2003	-	-	-	-	0.165	<0.05 / <0.05	<0.0002 / <0.0002	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001
Trip Blank-2	12/09/2003	-	-	-	-	-	<0.05	<0.0002	<0.0005	<0.0005	<0.001
Trip Blank	05/18/2004	-	-	-	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.0015
Trip Blank	06/01/2006	-	-	-	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.0015
Trip Blank	08/28/2007	-	-	-	-	-	<0.01	<0.001	<0.001	<0.001	<0.002
Trip Blank	06/24/2008	-	-	-	-	-	-	<0.001	<0.001	<0.001	<0.002
Trip Blank	08/25/2008	-	-	-	-	-	-	<0.0005	<0.0005	<0.0005	<0.001
Trip Blank	06/23/2009	-	-	-	-	-	<0.0100	-	-	-	-
Trip Blank	05/11/2010	-	-	-	-	-	<0.010	-	-	-	-

Table 1
Groundwater Analytical Results
Delta Western/Former Chevron Bulk Terminal 8-2307
9203 Cessna Drive
Juneau, Alaska

Location	Date	ADDITIONAL VOC'S VOCs
	Units	mg/L
ADEC Groundwater Cleanup Levels[a]		
MW-1	06/06/2000	ND
MW-1	12/09/2000	-
MW-1	03/24/2001	-
MW-1	06/19/2001	-
MW-1	06/17/2002	-
MW-1	12/11/2002	-
MW-1	06/25/2003	-
MW-1	12/09/2003	-
MW-1	05/18/2004	-
MW-1	05/27/2005	
MW-2	06/06/2000	ND
MW-2	12/09/2000	-
MW-2	03/24/2001	-
MW-2	06/19/2001	-
MW-2	06/17/2002	-
MW-2	12/11/2002	-
MW-2	06/25/2003	-
MW-2	12/09/2003	-
MW-2	05/18/2004	-
MW-2	05/27/2005	
MW-3	06/06/2000	ND
MW-3	12/10/2000	-
MW-3	03/24/2001	-
MW-3	06/19/2001	-
MW-3	06/17/2002	-
MW-3	12/11/2002	-
MW-3	06/25/2003	-
MW-3	12/09/2003	-
MW-3	05/18/2004	-
MW-3	05/27/2005	

Table 1
Groundwater Analytical Results
Delta Western/Former Chevron Bulk Terminal 8-2307
9203 Cessna Drive
Juneau, Alaska

Location	Date	ADDITIONAL VOC'S VOCs
	Units	mg/L
ADEC Groundwater Cleanup Levels[a]		
MW-4	06/19/2001	-
MW-4	06/17/2002	-
MW-4	12/11/2002	-
MW-4	06/25/2003	-
MW-4	12/09/2003	-
MW-4	05/18/2004	-
MW-4	05/27/2005	-
MW-4	06/01/2006	-
MW-4	08/28/2007	-
MW-4	06/24/2008	-
MW-4	08/25/2008	-
MW-4	06/23/2009	-
MW-4	05/11/2010	-
Trip Blank	12/09/2000	-
Trip Blank	03/24/2001	-
Trip Blank	06/19/2001	-
Trip Blank-1	12/09/2003	-
Trip Blank-2	12/09/2003	-
Trip Blank	05/18/2004	-
Trip Blank	06/01/2006	-
Trip Blank	08/28/2007	<0.0005
Trip Blank	06/24/2008	-
Trip Blank	08/25/2008	-
Trip Blank	06/23/2009	-
Trip Blank	05/11/2010	-

Table 1
Groundwater Analytical Results
Delta Western/Former Chevron Bulk Terminal 8-2307
2085 Alex Holden Way
Juneau, Alaska

Notes and Abbreviations

VOCs = Volatile Organic Compounds
TOC = Top of Casing
DTW = Depth to Water
GWE = Groundwater Elevation
RRO = Residual Range Organics AK103
DRO = Diesel Range Organics by Alaska Series Method AK102
GRO = Gasoline Range Organics by Alaska Series Method AK101
Benzene, Toluene, Ethylbenzene, and Total Xylenes by Environmental Protection Agency (EPA) Method 8021B or 8260B
Total Xylenes = Sum of m-, o-, and p-xylenes
ft msl = Feet Above Mean Sea Level
fbg = Feet Below Grade
mg/L = Milligrams per Liter
ADEC = Alaska Department of Environmental Conservation
[a] = Levels established in ADEC Table C Groundwater Cleanup Levels (18 AAC 75.345)
<x = Constituent not detected above x milligrams per liter
- = Not Measured/Not Analyzed
ND = Not detected above laboratory method detection limits
J = estimated value
x / y = Sample Results / Blind Duplicate Results
BOLD = Indicates concentration above the ADEC Table C Groundwater Cleanup Level

Table 2
Geochemical Analytical Results
Delta Western/Former Chevron Bulk Terminal 8-2307
9203 Cessna Drive
Juneau, Alaska

		MNA PARAMETERS						
Location	Date Units	Ferrous Iron mg/L	Nitrite/Nitrate mg/L	Carbon Dioxide mg/L	Alkalinity, Total (as CaCO3) mgCaCO3/L	Alkalinity, Bicarbonate mgCaCO3/L	Alkalinity, Carbonate mgCaCO3/L	Alkalinity, Hydroxide mgCaCO3/L
MW-4	06/24/2008	--	--	--	--	--	--	--
MW-4	08/26/2008	3.9	0.531	81.8	149	149	5	5
MW-4	06/23/2009	--	--	--	--	--	--	--
MW-4	10/12/2009	--	0.0910 J	--	137	137	<0.640	<0.640
MW-4	05/11/2010	--	ND	--	--	--	--	--

Table 2
Geochemical Analytical Results
Delta Western/Former Chevron Bulk Terminal 8-2307
9203 Cessna Drive
Juneau, Alaska

		MNA PARAMETERS					
Location	Date Units	Sulfate mg/L	DO*	pH*	Conductivity*	Alkalinity to pH 4.5 mgCaCO3/L	Alkalinity to pH 8.3 mgCaCO3/L
MW-4	06/24/2008	–	–	6.3	393.5	–	–
MW-4	08/26/2008	11.7	–	6.65	383.8	–	–
MW-4	06/23/2009	–	–	6.33	–		
MW-4	10/12/2009	0.920 J	2.81	6.91	-74.8	–	–
MW-4	05/11/2010	3.5 J / 3.6 J	24.38	6.63	0.340	113	ND

Notes and Abbreviations

MNA = Monitored natural attenuation

mgCaCO3/L = Milligrams calcium carbonate/Liter

* = Average of readings during purging

mg/L = Milligrams per Liter

<x = Constituent not detected above x milligrams per liter

- = Not Measured/Not Analyzed

J = estimated value

ND = Not detected above laboratory method detection limits

x / y = Sample Results / Blind Duplicate Results

BOLD = Indicates concentration above the ADEC Table C Groundwater Cleanup Level

APPENDIX A

SITE PHOTOGRAPHS

1. View of MW-4 and ozone injection system looking west.

2. Damaged solar panel.

3. New solar panel.

Appendix A

SITE PHOTOGRAPHS
FORMER DELTA WESTERN/CHEVRON BULK TERMINAL 8-2307
9203 CESSNA DRIVE
Juneau, Alaska

APPENDIX B

WELL SAMPLING FORMS

CONESTOGA-ROVERS & ASSOCIATES

WELL SAMPLING FORM
NON-VOLATILE SAMPLING

Site ID: 8-2307	CRA Mgr: A. Ellsmore	Well ID: MW-4
CRA Project No.: 622237	Date: 5/11/10	Field Staff: EP & DE
Street Address: 9203 Cesar Drive	City, State: Juneau ~~Anchorage~~, AK	Purging Device: Teflon Disp. Bailer ● / ○ ____
		Sampling Method: Teflon Disp. Bailer ● / ○ ____
Depth to Water: 4.44	Depth to Bottom: 9.31	Water Column Height: 4.87
Volume/ft: 0.16	1 Casing Volume: 0.80	3 Casing Volumes: 2.10
Well Diameter: 2"	Did Well Dewater?: NO	Total Gallons Purged: 3 gallons
Start Purge Time: 0715	Stop Purge Time: 0721	Total Time: 6 minutes

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

NO PURGE APPROVED BY ADEC? ☐ **YES** ☒ **NO** *(If NO, please enter parameters below.)*

Time	Volume Purged (gallons)	Temp. (°C) ± 10%	DO ± 10%	pH ± 0.1	Cond. (mS) ± 3%	ORP (mv) ± 10	Comments
0715	0.0	7.61	26.1	6.61	0.345	-7.0	
0717	0.8	7.25	25.1	6.61	0.339	-27.9	
0719	2.00	7.18	23.7	6.63	0.339	-25.6	
0721	3.00	7.12	22.6	6.65	0.337	-24.3	

**** A minimum of three parameters must be monitored and recorded. ****

NOTE: If well is purged dry, DO NOT collect sample until it has recharged to approximately 80% of its pre-purge volume.

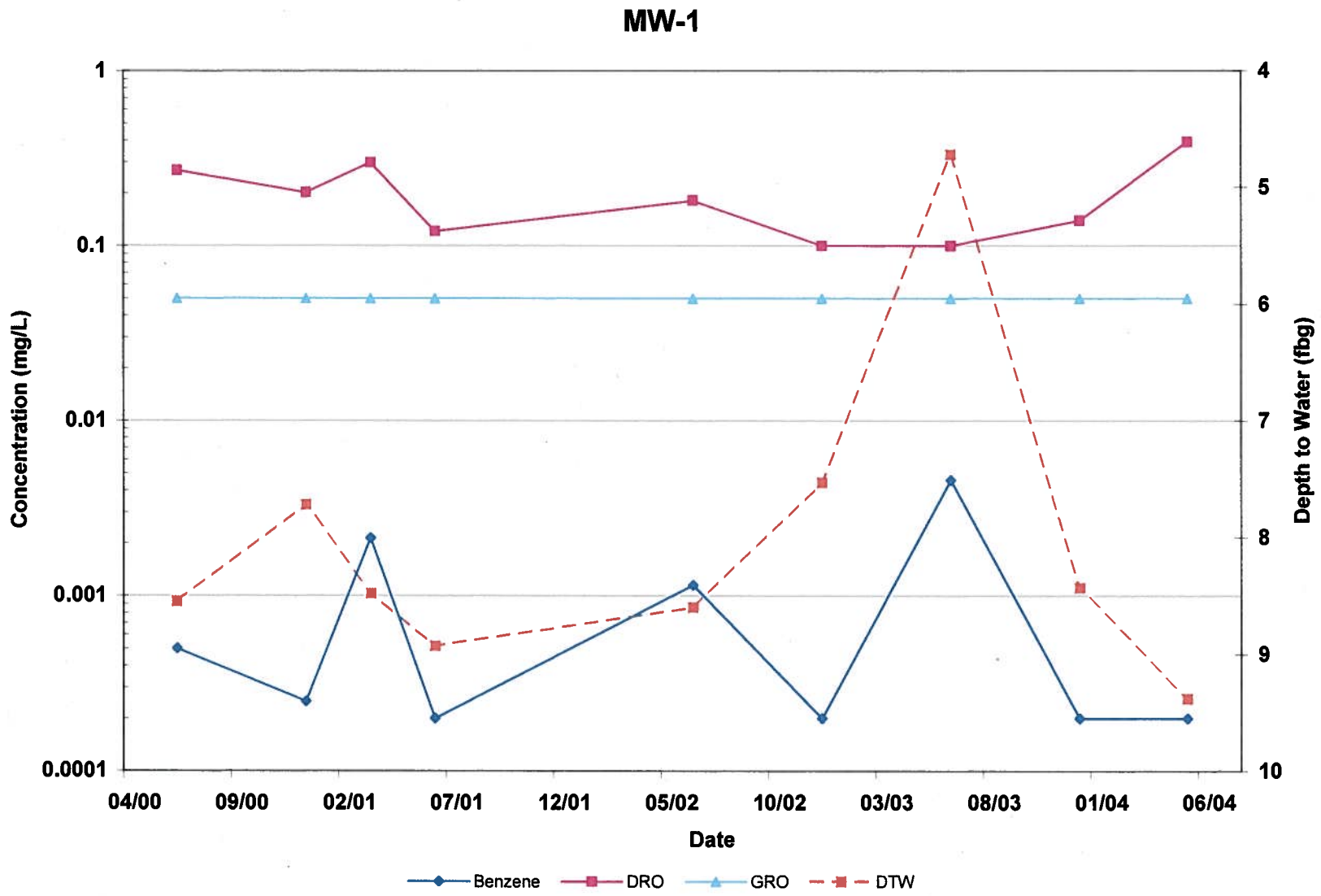
FIELD KIT RESULTS: Ferrous Iron _____ mg/L Nitrate _____ mg/L

Sample ID	Date	Time	Analytes / Analytical Method
MW-4-051110	5/11/10	0740	● DRO by AK102 ○ SVOCs by TCL8270 ○ PAHs by 8270 ○ RRO by AK103 ○ Lead by 6010 ○ PAHs by 8270SIM ● Alkalinity by 310.1 ○ Methane by RSK175 ● Nitrate/Nitrite by 353.2 ● Sulfate by 300 ○ ____ ● GRO AK101
Dup-1-051110	5/11/10	—	

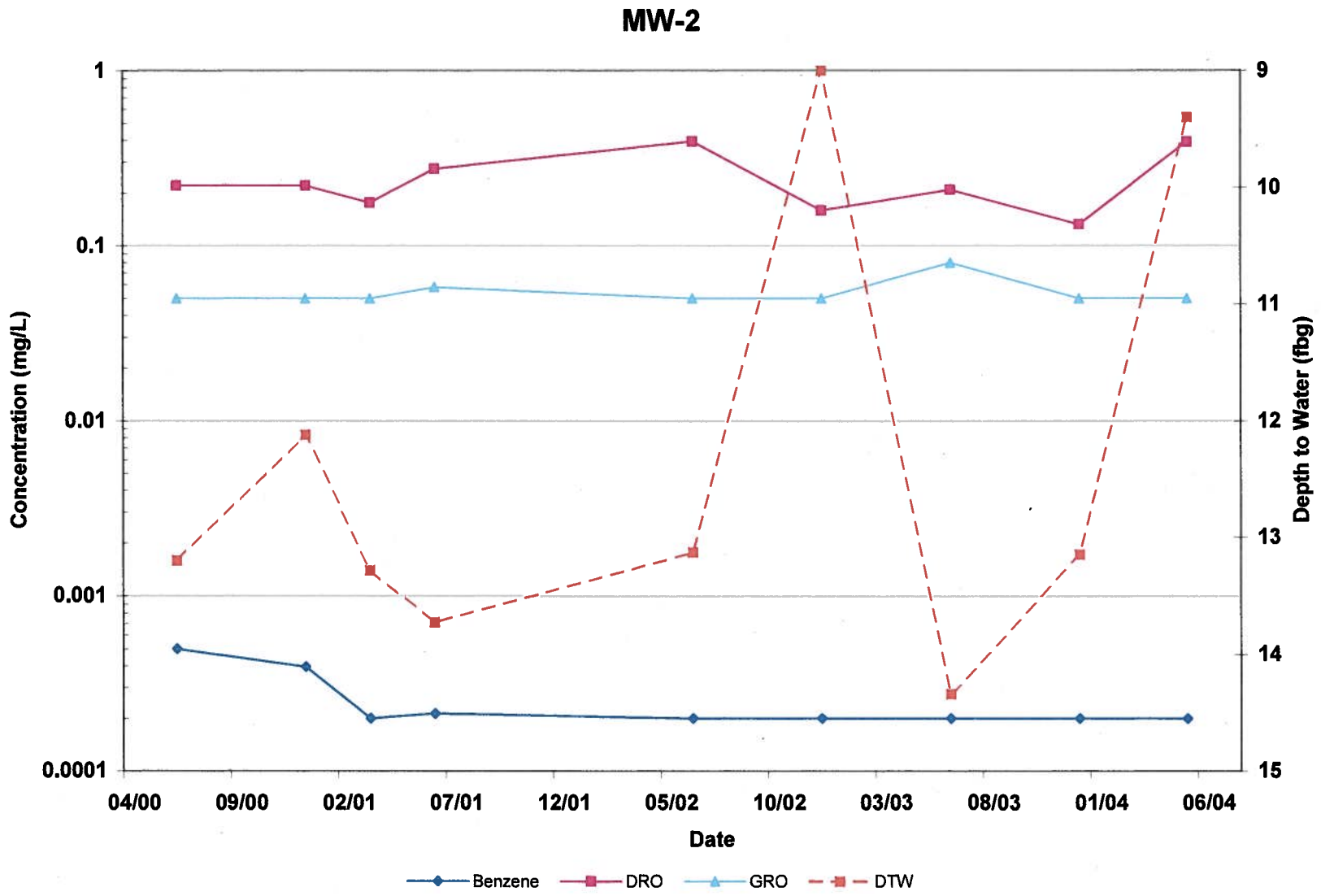
Additional Comments:

APPENDIX C

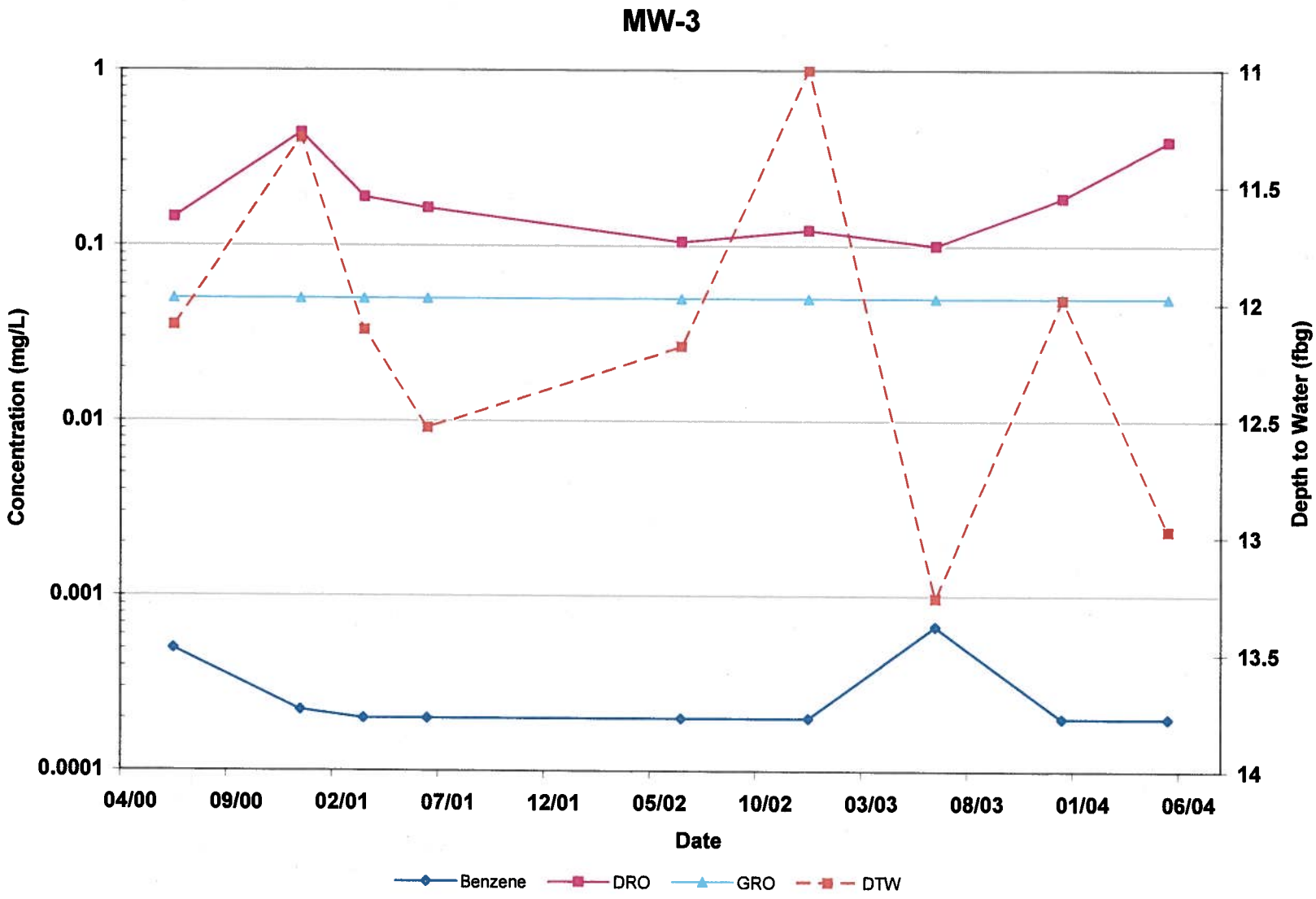
PETROLEUM HYDROCARBON CONCENTRATION GRAPHS



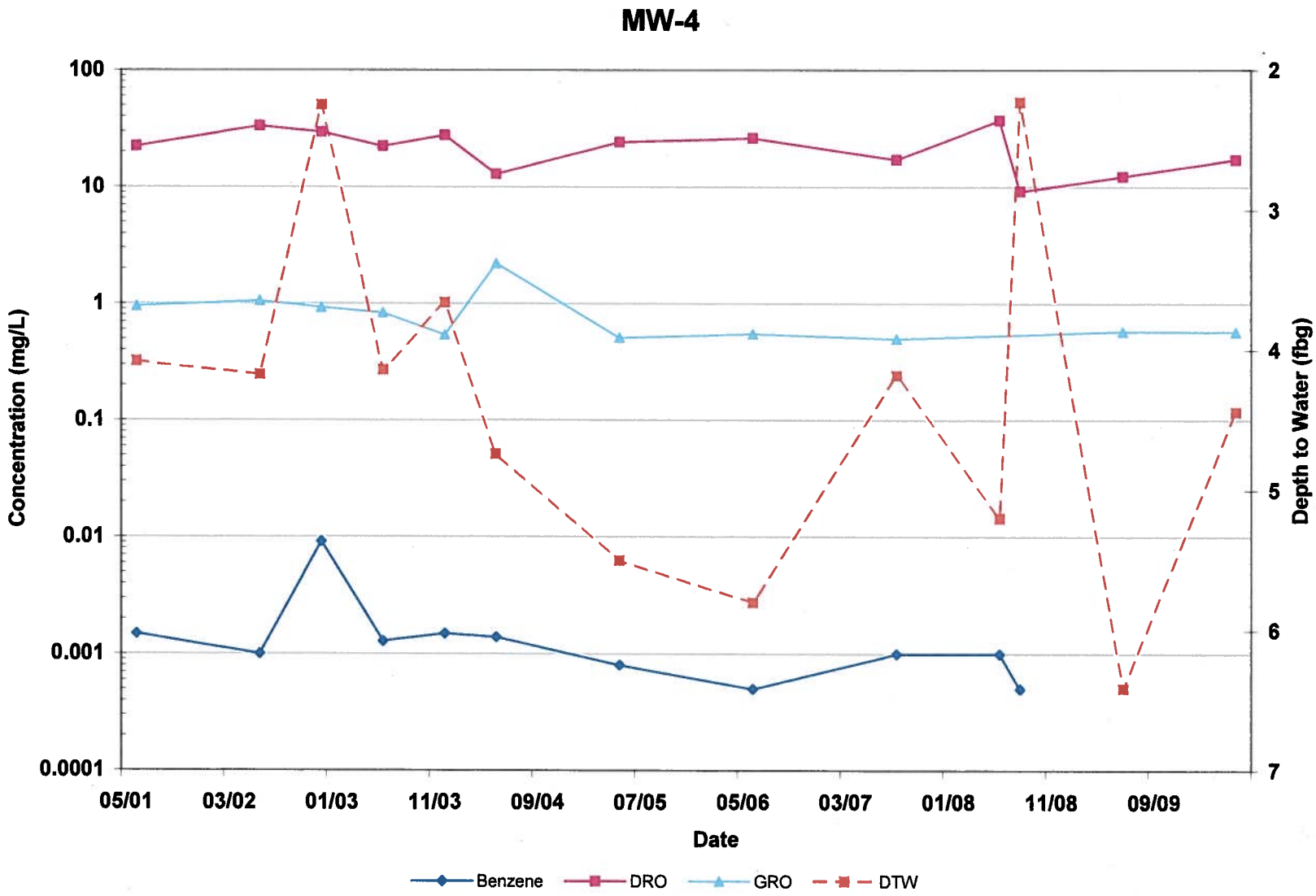
Delta Western/Former Chevron Bulk Terminal 8-2307
9203 Cessna Drive
Juneau, Alaska



Delta Western/Former Chevron Bulk Terminal 8-2307
9203 Cessna Drive
Juneau, Alaska



Delta Western/Former Chevron Bulk Terminal 8-2307
9203 Cessna Drive
Juneau, Alaska



Delta Western/Former Chevron Bulk Terminal 8-2307
9203 Cessna Drive
Juneau, Alaska

APPENDIX D

LABORATORY ANALYTICAL REPORT

APPENDIX E

ADEC LABORATORY DATA REVIEW CHECKLIST AND MEMORANDUM

Laboratory Data Review Checklist

Completed by: Jeffrey Cloud

Title: Project Chemist

Date: 6/3/10

CS Report Name:

Report Date: 6/2/10

Consultant Firm: Conestoga-Rovers & Associates

Laboratory Name: Lancaster Laboratories

Laboratory Report Number: 1194169

ADEC File Number:

ADEC RecKey Number:

1.L aboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

☒ Yes ☐ No Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

☐ Yes ☐ No Comments:

NA

2.Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

☒ Yes ☐ No Comments:

b. Correct analyses requested?

☒ Yes ☐ No Comments:

3.L aboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?

☒ Yes ☐ No Comments:

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

☒ Yes ☐ No Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

☒ Yes ☐ No Comments:

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

☐ Yes ☐ No Comments:

NA

e. Data quality or usability affected? Explain.

Comments:

NA

4.Cas e Narrative

a. Present and understandable?

☒ Yes ☐ No Comments:

b. Discrepancies, errors or QC failures identified by the lab?

☐ Yes ☒ No Comments:

c. Were all corrective actions documented?

☐ Yes ☐ No Comments:

NA

d. What is the effect on data quality/usability according to the case narrative?

Comments:

NA

5.Samples Results

a. Correct analyses performed/reported as requested on COC?

☒ Yes ☐ No Comments:

b. All applicable holding times met?

☐ Yes ☒ No Comments:

Nitrate nitrogen was analyzed outside the method specified hold time. Over time nitrite converts to nitrate and there would have been a high bias. Both nitrate nitrogen results were non-detect. The sample results would not have been impacted, no qualification necessary.

c. All soils reported on a dry weight basis?

☐ Yes ☐ No Comments:

NA

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

☒ Yes ☐ No Comments:

e. Data quality or usability affected?

Comments:

NA

6.QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

☒ Yes ☐ No Comments:

ii. All method blank results less than PQL?

☒ Yes ☐ No Comments:

iii. If above PQL, what samples are affected?

Comments:

NA

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

NA

v. Data quality or usability affected? Explain.

Comments:

NA

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

☒ Yes ☐ No Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

☒ Yes ☐ No Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

☒ Yes ☐ No Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

☒ Yes ☐ No Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

NA

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

NA

vii. Data quality or usability affected? (Use comment box to explain)
Comments:

NA

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

☒ Yes ☐ No Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

☒ Yes ☐ No Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

☐ Yes ☐ No Comments:

NA

iv. Data quality or usability affected? (Use the comment box to explain.)
Comments:

NA

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (if not, enter explanation below.)

☒ Yes ☐ No Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

☒ Yes ☐ No Comments:

iii. All results less than PQL?

☐ Yes ☐ No Comments:

Yes

iv. If above PQL, what samples are affected?

Comments:

NA

v. Data quality or usability affected? Explain.

Comments:

NA

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

☒ Yes ☐ No Comments:

ii. Submitted blind to lab?

☒ Yes ☐ No Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☐ Yes ☒ No Comments:

The GRO RPD was 35%.

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

The GRO results for samples MW-4 and DUP-1 should be considered estimated.

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

☐ Yes ☐ No ☒ Not Applicable

i. All results less than PQL?

☐ Yes ☐ No Comments:

NA

ii. If above PQL, what samples are affected?

Comments:

NA

iii. Data quality or usability affected? Explain.

Comments:

NA

7.Other Da ta Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

☐ Yes ☐ No Comments:

NA

CONESTOGA-ROVERS & ASSOCIATES

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Everett, WA 98203
Telephone: (425) 212-5100 Fax: (425) 212-5199
www.CRAworld.com

MEMORANDUM

TO:	ADEC	REF. NO.:	622237
FROM:	Jeffrey Cloud	DATE:	September 23, 2010
CC:	Andrew Ellsmore		Send via E-Mail and U.S. Mail
RE:	**QA/QC Review** **ChevronTexaco Site # 8-2307** **Job #1194169** **May 2010**		

INTRODUCTION

Groundwater samples were submitted to Lancaster Laboratories, located in Lancaster, Pennsylvania. Samples were analyzed for the methods requested on the Chain of Custody.

A full Level III data package was received from Lancaster Laboratories. The final results and supporting quality assurance/quality control (QA/QC) data were reviewed. Evaluation of the data was based on information obtained from the Chain of Custody forms, finished report forms, blank data, and spike recoveries.

QA/QC REVIEW

All samples were prepared and/or analyzed within the required holding times with one exception. Nitrate nitrogen was analyzed outside the method specified hold time. Over time nitrite converts to nitrate and there would have been a high bias. Both nitrate nitrogen results were non-detect. The sample results would not have been impacted, no qualification necessary. All samples were properly preserved and cooled after collection.

All appropriate samples and blanks were spiked with surrogate compounds prior to sample preparation and/or analysis in accordance with the organic methods. All surrogate spike recoveries met the associated method criteria indicating adequate analytical efficiency.

Method blanks were prepared and analyzed with the samples for all parameters. All blank results were non-detect for the analytes of interest.

Laboratory control samples (LCS) were analyzed for all parameters. The LCS for GRO and DRO were analyzed in duplicate. All recoveries were within required control limits showing adequate analytical accuracy and precision.

Matrix spikes (MS) were prepared and analyzed for all parameters with the exception of DRO. All recoveries were within required control limits showing adequate analytical accuracy. Precision, for GRO

and DRO, was determined to be acceptable based on LCS/LCSD recoveries. Precision for nitrate, nitrite, sulfate and alkalinity was determined to be acceptable based on laboratory duplicate recoveries.

Trip blanks were collected and analyzed with the investigative samples for GRO. All trip blank results were non-detect for the compounds of interest.

A field duplicate was collected and submitted blind to the laboratory. The sample ID was MW-4 and its duplicate was DUP-1. A comparison of the results showed good analytical and sampling precision with one exception. The GRO RPD was 35%. The GRO results for samples MW-4 and DUP-1 should be considered estimated.

CONCLUSION

Based on the QA/QC review, the data submitted were judged to be acceptable for use with the qualifications noted.

Lancaster Laboratories

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Type III Data Package

Prepared for:

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

Project: 82307
Water Samples
Collected on 05/11/10

SDG# AKD87

GROUP	SAMPLE NUMBERS
1194169	5977509-5977511

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-08A-TX

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Luz C Torres

Luz C Torres
Group Leader

Date 6/7/10

Any questions or concerns you might have regarding this data package should be directed to your client representative, Angela Miller at Ext. 1903.

Total Number of Pages 124

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SDG# AKD87

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Sample Reference List for SDG Number AKD87 with a Data Package Type of III

10880 - ChevronTexaco

Project: 82307

Lab Sample Number	Lab Sample Code	Client Sample Description
5977509	JUNM4	MW-4-051110 Grab Water Sample Facility# 82307
5977510	JUND1	DUP-1-051110 Grab Water Sample Facility# 82307
5977511	JUNTB	Trip_Blank-1 Water Sample Facility# 82307

Chevron Generic Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

LAB

011646

For Lancaster Laboratories use only
Acct. #: 10880 Sample #: 5977509-511 SCR#:

Group# 1194169

Facility #: 8-2307
Site Address: Juneau, AK
Chevron PM: Dan Carrier Lead Consultant:
Consultant/Office: CRA Denver
Consultant Prj. Mgr.: Andy Ellsmore
Consultant Phone #: 720-975-9120 Fax #:
Sampler: Eric Purcell
Service Order #: ☐ Non SAR:

Matrix: Soil; Water (☐ Potable ☐ NPDES); Oil ☐ Air ☐

Analyses Requested / Preservation Codes

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Oil	Air	Total Number of Containers	BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐	8260 full scan	Oxygenates	TPH GRO AK101	TPH D ☐ Extended Rng. ☐ Silica Gel Cleanup	Lead Total ☐ Diss. ☐ Method	VPH/EPH	NWTPH H HCID ☐ quantification	Alkalinity to pH 4.5	Sulfates	Nitrate	Nitrite
											H		H							H	
MW-4-051110	5/11/10	0740	X			X			10		X		X					X	X	X	X
DUP-1-051110	5/11/10	—	X			X			10		X		X					X	X	X	X
Trip Blank-1	—	—				X			2				X								

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds
8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

Comments / Remarks
- Report in mg/L and to MDL
- Refer to associated SSOW or contact CRA for method number for MNA parameters

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) ~~Standard Format~~
Disk Type III Other.

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	5/11/10	0830			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by Commercial Carrier: UPS ~~FedEx~~ Other			Received by: [signature]	5/11/10	0850
Temperature Upon Receipt 4.0 C°			Custody Seals Intact? Yes No		

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: CRA

Date of Receipt: 5/12/10

Time of Receipt: 0850

Source Code: 50-1

Unpacker Emp. No.: 1454

Shipping Container Sealed: YES NO

Custody Seal Present * : YES NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: Chilled Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	04128251	1.0-2	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
[illegible]	5/12/10	1020	Unpacking Storage
MaryBeth Reed	5/12/10	1102	Place in Storage or Entry
			Entry
			Entry

Issued by Dept. 6042 Management
2174.05

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01146 GC VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030B, December 1996.

01438 TPH-GRO AK water C6-C10

The volatile compounds are extracted by bubbling an inert gas through the sample and collecting them on a sorbent trap. The trap is thermally desorbed onto a capillary column and analysis is performed using gas chromatography with a flame ionization detector (FID) and, optionally, a photoionization detector (PID) in series. Quantitation for Gasoline Range Organics (GRO) is performed using the total peak area detected within the hydrocarbon range defined in the method.

Reference: Method AK101 for the Determination of Gasoline Range Organics, April 8, 2002

00219 Nitrite Nitrogen

Nitrite ions react with sulfanilamide to yield a diazo compound which couples with N-1-naphthylethylene diamine dihydrochloride to form a soluble, highly-colored dye. The result is determined colorimetrically.

Reference: Method 353.2, Methods for Chemical Analysis of Water and Wastes USEPA 600, Revision 2.0, 1993

00220 Nitrate Nitrogen

Nitrate ions are reduced to nitrite by passing through a cadium coil. The nitrite ions then react with sulfanilamide to yield a diazo compound which couples with N-1-naphthylethylene diamine dihydrochloride to form a soluble, highly-colored dye. The result is determined colorimetrically.

Reference: Method 353.2, Methods for Chemical Analysis of Water and Wastes USEPA 600, Revision 2.0, 1993

00228 Sulfate

A small volume of sample is introduced into an ion chromatograph. The anions are then separated and measured by a system consisting of a guard column, separator column, suppressor, and conductivity detector.

Reference: Method 300.0, Methods for Chemical Analysis of Water and Wastes USEPA 600, Revision 2.1, 1993

00201 Alkalinity to pH 8.3

Alkalinity is determined by titrating the sample with standardized sulfuric acid to pH of 8.3 for the phenolphthalein alkalinity.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 2320 B

00202 Alkalinity to pH 4.5

Alkalinity is determined by titrating the sample with standardized sulfuric acid to a pH of 4.5 for the total alkalinity.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 2320 B

01741 TPH-DRO AK water C10-C25

Sample extracts in methylene chloride are analyzed by capillary chromatography using flame ionization detection. Quantitation is performed using the total peak area detected within the hydrocarbon ranges defined in the method.

Reference: Alaska Method 102/103 for Determination of Diesel Range Organics, April 8, 2002.

02135 Extraction - DRO Water Special

An aliquot of sample is extracted with methylene chloride using either separatory funnel extraction or micro extraction technique.

Reference: Alaska Method 102/103 for Determination of Diesel Range Organics, April 8, 2002.

Analysis Report

Lancaster Laboratories

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

June 02, 2010

Project: 82307

Submittal Date: 05/12/2010
Group Number: 1194169
PO Number: 0015060864
Release Number: CARRIER
State of Sample Origin: AK

Client Sample Description	Lancaster Labs (LLI) #
MW-4-051110 Grab Water Sample	5977509
DUP-1-051110 Grab Water Sample	5977510
Trip_Blank-1 Water Sample	5977511

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	CRA	Attn: Nick Greco
ELECTRONIC COPY TO	Chevron	Attn: CRA EDD
ELECTRONIC COPY TO	CRA	Attn: Eric Purcell
ELECTRONIC COPY TO	CRA	Attn: Jeffrey Cloud
ELECTRONIC COPY TO	CRA	Attn: Sarah Gillette
ELECTRONIC COPY TO	CRA	Attn: Andy Ellsmore
1 COPY TO	Data Package Group	
ELECTRONIC COPY TO	Chevron	Attn: Luba Arandjelovic

AKD87 0386

Lancaster Laboratories, Inc.
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Lancaster Laboratories

Questions? Contact your Client Services Representative
Angela M Miller at (717) 656-2300 Ext. 1903

Respectfully Submitted,

Robert Heisey

Robert Heisey
Senior Specialist

ARD87 8887

Lancaster Laboratories, Inc.
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Lancaster Laboratories
2425 New Holland Pike • Lancaster, PA 17601

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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Analysis Report

Lancaster Laboratories

Sample Description: MW-4-051110 Grab Water Sample
Facility# 82307
Juneau International Airport - Juneau, AK

LLI Sample # WW 5977509
LLI Group # 1194169
Account # 10880

Project Name: 82307

Collected: 05/11/2010 07:40 by EP

Submitted: 05/12/2010 08:50
Reported: 06/02/2010 08:03
Discard: 07/03/2010

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

JUNM4 SDG#: AKD87-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	**mg/l**	
01438	TPH-GRO AK water C6-C10	n.a.	0.57	0.010	0.10	1
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/l**	**mg/l**	**mg/l**	
01741	TPH-DRO AK water C10-C25	n.a.	17	1.3	6.3	25
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	**mg/l**	
00228	Sulfate	14808-79-8	3.5 J	1.5	5.0	5
	EPA 353.2		**mg/l**	**mg/l**	**mg/l**	
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	0.10	1
00219	Nitrite Nitrogen	14797-65-0	N.D.	0.015	0.050	1
	SM20 2320 B		**mg/l as CaCO3**	**mg/l as CaCO3**	**mg/l as CaCO3**	
00202	Alkalinity to pH 4.5	n.a.	113	0.46	2.0	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	0.46	2.0	1

General Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01438	TPH-GRO AK water C6-C10	AK 101	1	10137A53A	05/19/2010 01:05	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	10137A53A	05/19/2010 01:05	Carrie E Miller	1
01741	TPH-DRO AK water C10-C25	AK 102/AK 103 04/08/02	1	101330021A	05/18/2010 11:48	Heather E Williams	25
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	1	101330021A	05/14/2010 08:50	Cynthia J Salvatori	1
00228	Sulfate	EPA 300.0	1	10146196601B	05/26/2010 19:57	Ashley M Adams	5
00220	Nitrate Nitrogen	EPA 353.2	1	10137106102A	05/17/2010 20:13	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	10132105101B	05/12/2010 20:18	Joseph E McKenzie	1
00202	Alkalinity to pH 4.5	SM20 2320 B	1	10133020201A	05/13/2010 12:30	Geraldine C Smith	1
00201	Alkalinity to pH 8.3	SM20 2320 B	1	10133020201A	05/13/2010 12:30	Geraldine C Smith	1

AKD87 0009

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2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

*=This limit was used in the evaluation of the final result

Analysis Report

Lancaster Laboratories

Sample Description: DUP-1-051110 Grab Water Sample
Facility# 82307
Juneau International Airport - Juneau, AK

LLI Sample # WW 5977510
LLI Group # 1194169
Account # 10880

Project Name: 82307

Collected: 05/11/2010 by EP

Submitted: 05/12/2010 08:50
Reported: 06/02/2010 08:03
Discard: 07/03/2010

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

JUND1 SDG#: AKD87-02FD

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC Volatiles		**AK 101**		**mg/l**	**mg/l**	**mg/l**	
01438	TPH-GRO AK water C6-C10		n.a.	0.81	0.010	0.10	1
GC Extractable TPH		**AK 102/AK 103 04/08/02**		**mg/l**	**mg/l**	**mg/l**	
01741	TPH-DRO AK water C10-C25		n.a.	13	1.0	5.1	20
Wet Chemistry		**EPA 300.0**		**mg/l**	**mg/l**	**mg/l**	
00228	Sulfate		14808-79-8	3.6 J	1.5	5.0	5
		EPA 353.2		**mg/l**	**mg/l**	**mg/l**	
00220	Nitrate Nitrogen		14797-55-8	N.D.	0.040	0.10	1
00219	Nitrite Nitrogen		14797-65-0	N.D.	0.015	0.050	1
		SM20 2320 B		**mg/l as CaCO3**	**mg/l as CaCO3**	**mg/l as CaCO3**	
00202	Alkalinity to pH 4.5		n.a.	119	0.46	2.0	1
00201	Alkalinity to pH 8.3		n.a.	N.D.	0.46	2.0	1

General Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
01438	TPH-GRO AK water C6-C10	AK 101	1	10137A53A	05/19/2010	01:29	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	10137A53A	05/19/2010	01:29	Carrie E Miller	1
01741	TPH-DRO AK water C10-C25	AK 102/AK 103 04/08/02	1	101330021A	05/18/2010	12:16	Heather E Williams	20
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	1	101330021A	05/14/2010	08:50	Cynthia J Salvatori	1
00228	Sulfate	EPA 300.0	1	10146196601B	05/26/2010	20:13	Ashley M Adams	5
00220	Nitrate Nitrogen	EPA 353.2	1	10137106102A	05/17/2010	20:14	Venia B McFadden	1
00219	Nitrite Nitrogen	EPA 353.2	1	10132105101B	05/12/2010	20:21	Joseph E McKenzie	1
00202	Alkalinity to pH 4.5	SM20 2320 B	1	10133020201A	05/13/2010	12:30	Geraldine C Smith	1
00201	Alkalinity to pH 8.3	SM20 2320 B	1	10133020201A	05/13/2010	12:30	Geraldine C Smith	1

AKD87 0010

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Analysis Report

Lancaster Laboratories

Sample Description: Trip_Blank-1 Water Sample
Facility# 82307
Juneau International Airport - Juneau, AK

LLI Sample # WW 5977511
LLI Group # 1194169
Account # 10880

Project Name: 82307

Collected: 05/11/2010

Submitted: 05/12/2010 08:50
Reported: 06/02/2010 08:03
Discard: 07/03/2010

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

JUNTB SDG#: AKD87-03TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	**mg/l**	
01438	TPH-GRO AK water C6-C10	n.a.	N.D.	0.010	0.10	1

General Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01438	TPH-GRO AK water C6-C10	AK 101	1	10137A53A	05/18/2010 23:03	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	10137A53A	05/18/2010 23:03	Carrie E Miller	1

AKD87 0011

Lancaster Laboratories, Inc.
2425 New Holland Pike
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Lancaster, PA 17605-2425
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*=This limit was used in the evaluation of the final result

Volatiles by GC Data

AKD87 8812

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: ChevronTexaco
SDG: AKD87

LANCASTER LABORATORIES
Alaska AK101 GRO

		MATRIX		
LLI SAMPLE #	**SAMPLE CODE**	**WATER**	**SOLID**	**COMMENT**
BLANKA	BLKX0	X		Method Blank
LCSB	LCS2Q	X		Lab Control Spike
LCSDB	LCSDFA	X		Lab Control Spike Dup
5977509	JUNM4	X		
5977510	JUND1	X		
5977511	JUNTB	X		
Lab Submitted QC				
5978714	FIR15	X		Unspiked
5978714MS	FIR15MS	X		Matrix Spike

A. Sample Preparation:
No problems were encountered with the preparation of the samples.

B. Analysis:
No problems were encountered. All continuing calibration data are within method specifications.

C. Quality Control:
Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method or by the client.

For preparation/method blank results >LOQ, corrective action is not required if the sample result is >10 times the blank concentration, unless otherwise specified in the method or by the client.

Surrogate recoveries that are outside the QC window are confirmed unless attributed to a dilution or otherwise noted.

See the Conformance/Nonconformance Summary for the QC information.

D. Data Interpretation:
No further interpretation is needed.

Data codes:
Data that indicates that manual integration was required would include the following codes:
1 = missed peak and 2 = improper baseline. The peaks that have been manually changed are indicated with an "M" on the raw data.

Narrative reviewed and approved by:

Dana Kauffman, Manager Data Deliverables **Date** 6/4/10

AKD87 0014

Lancaster Laboratories

GC ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY

SDG: AKD87

	Indicate Yes, No, N/A
1. Chromatograms labeled / Compounds identified (Field Samples & Method Blanks)	YES
2. Retention times for chromatograms provided	YES
3. Standards summary meet criteria	YES
4. Calibration - Initial calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis.	YES
5. Blank contamination If yes, list compounds and concentrations in each blank: N/A	NO
6. Surrogate recoveries meet criteria If not met, list those compounds and the recoveries that fall outside the acceptable range: If not met, were the calculations checked and the results qualified as "estimated"? N/A	YES
7. Matrix Spike / Matrix Spike Duplicate recoveries meet criteria. If not met, list those compounds and the recoveries that fall outside the acceptable range:	YES
8. Retention time summaries for primary and confirmation analyses meet criteria	N/A
9. Were samples run on dissimilar columns?	N/A
10. Extraction holding time met If not met, list number of days exceeded for each sample: N/A	N/A
11. Analysis holding time met If not met, list number of days exceeded for each sample: N/A	YES

Additional Comments: None.

Summary reviewed and approved by:

Dana Kauffman, Manager Data Deliverables 6/4/10 **Date**

AKD87 0015

QC Summary

1D

ORGANICS ANALYSIS DATA SHEET

SAMPLE CODE NO.

BLKX0

Lab Name: Lancaster Laboratories **Contract:** **Batchnumber:** 10137A53A

Lab Code: **Case No.:** **SAS No.:** **SDG No.:**

Matrix: (soil/water) WATER **Lab Sample ID:** BLANKA

Sample wt/vol: 1 **(g/ml)** **Lab File ID:** 53137B.0004.RAW

% Moisture: **Decanted: (Y/N)** **Date Received:**

Extraction: (SepF/Cont/Sonc) **Date Extracted:**

Concentrated Extract Volume: 1000 **(uL)** **Date Analyzed:** 5/18/2010

Injection Volume: 1 **(uL)** **Dilution Factor:** 1

GPC Cleanup: (Y/N) N **pH:** **Sulfur Cleanup: (Y/N)** N

CAS NO.	COMPOUND	CONCENTRATION UNITS (UG/L or UG/KG) ug/l	Q
PHCG	GRO	10	U

AKD87 0017

FORM I

2E
WATER SURROGATE RECOVERY

Lab Name: Lancaster Laboratories | Contract:

Lab Code: | Case No.: | SAS No: | SDG No.: AKD87

GC Column (1): J&W DB-VRX ID: 75 | GC Column (2): | ID:

Batchnumber: 10137A53

SAMPLE	SAMPLE CODE NO.	TFTF 1 % REC #	TFTF 2 % REC #	TOT OUT
5977509	JUNM4	79		0
5977510	JUND1	77		0
5977511	JUNTB	79		0
5978714	FIR15	76		0
5978714 MS	FIR15MS	89		0
BLANKA	BLKX0	76		0
LCSB	LCS2Q	93		0
LCSDB	LCSDFA	94		0

	ADVISORY QC LIMITS	NOMIN CONCI
TFTF = Trifluorotoluene-F	(60 - 120)	30

AKD87 0010

Column to be used to flag recovery values
* Values outside of QC Limits
D Surrogate diluted out

Lancaster Laboratories

Quality Control Summary
SDG# AKD87

Matrix Spike/Matrix Spike Duplicate
VOLATILES BY GC

Batchnumber: 10137A53A
Matrix: LIQUID
Analysis: 01438 TPH-GRO AK water C6-C10

Compound	Spike Added ug/l	Unspiked Conc ug/l	MS Conc ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	%Rec Limits	%RPD	%RPD Limit
TPH-GRO AK water C6-C10	1,100.00	12 J	1,100		99		60-120		

* = Value outside quality control limits

AKD87 0019

Lancaster Laboratories

Quality Control Summary

SDG# AKD87

Lab Control/Lab Control Duplicate

VOLATILES BY GC

Batchnumber: 10137A53A

Matrix: LIQUID

Analysis: 01438 TPH-GRO AK water C6-C10

Compound	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limit
TPH-GRO AK water C6-C	1,100.00	1,200	1,200	109	109	60-120	0	20

* = Value outside quality control limits.

AKD87 0020

4C

METHOD BLANK SUMMARY

SAMPLE CODE NO.

BLKX0

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: AKD87

Lab Sample ID BLANKA Batch 10137A53A Lab File ID: 53137B.0004.R

Matrix: (soil/water) WATER Extraction: (SepF/Cont/Sonc)

Sulfur Cleanup: (Y/N) N Date Extracted:

Date Analyzed (1): 5/18/2010 Date Analyzed (2):

Time Analyzed (1): 21:02:45 Time Analyzed (2):

Instrument ID (1): 10995F Instrument ID (2):

GC Column: J&W DB-VRX ID: 75 (mm) GC Column: ID: (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD

	SAMPLE CODE NO.	LAB SAMPLEID	DATE ANALYZED 1	DATE ANALYZED 2
01	JUNM4	5977509	5/19/2010	
02	JUND1	5977510	5/19/2010	
03	JUNTB	5977511	5/18/2010	
04	FIR15	5978714	5/19/2010	
05	FIR15MS	5978714	5/19/2010	
06	BLKX0	BLANKA	5/18/2010	
07	LCS2Q	LCSB	5/18/2010	
08	LCSDFA	LCSDB	5/18/2010	

AKD87 0021

COMMENTS:

FORM IV PEST

Sample Data

Lancaster Laboratories

LOQ and MDL by Analysis Number

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
01438: TPH-GRO AK water C6-C10			
TPH-GRO AK water C6-C10	10	100	ug/l

AKD87 0023

Lancaster Laboratories-Range Data Summary

Sample Name: 5977509 JUNM4 Sample ID: AA **Batchnumber:** 10137A53A
Sample Amount: 1. Total Volume: 1. ml Analyst: 1991 SDG: AKD87 State: AK
Analyses: 01438

Injection Summary

Injected on : 5/19/2010 01:05:27
Instrument : CP53--10995F
Result file : 53137B.0014.RAW
Calibration files : ALK53344.cal
Method files : ALK53344.MET
Setting : ALK53344

Surrogate Recoveries

SURR-TFT-F 78.8% (60-120) Conc.: 23.640642
SURR-1C3FB

Range	Retention Times	Area	Amount	LOQ	MDL	Flags	Units
☐ SURR-TFT-F	5.01 (4.97 - 5.04)	490145	23.6406				ppb
☐ SURR-1C3FB	6.62 (6.58 - 6.65)	659307	31.3701				ppb
☐ GRO	3.57 - 8.59	11059236	573.4829	100	10		ppb

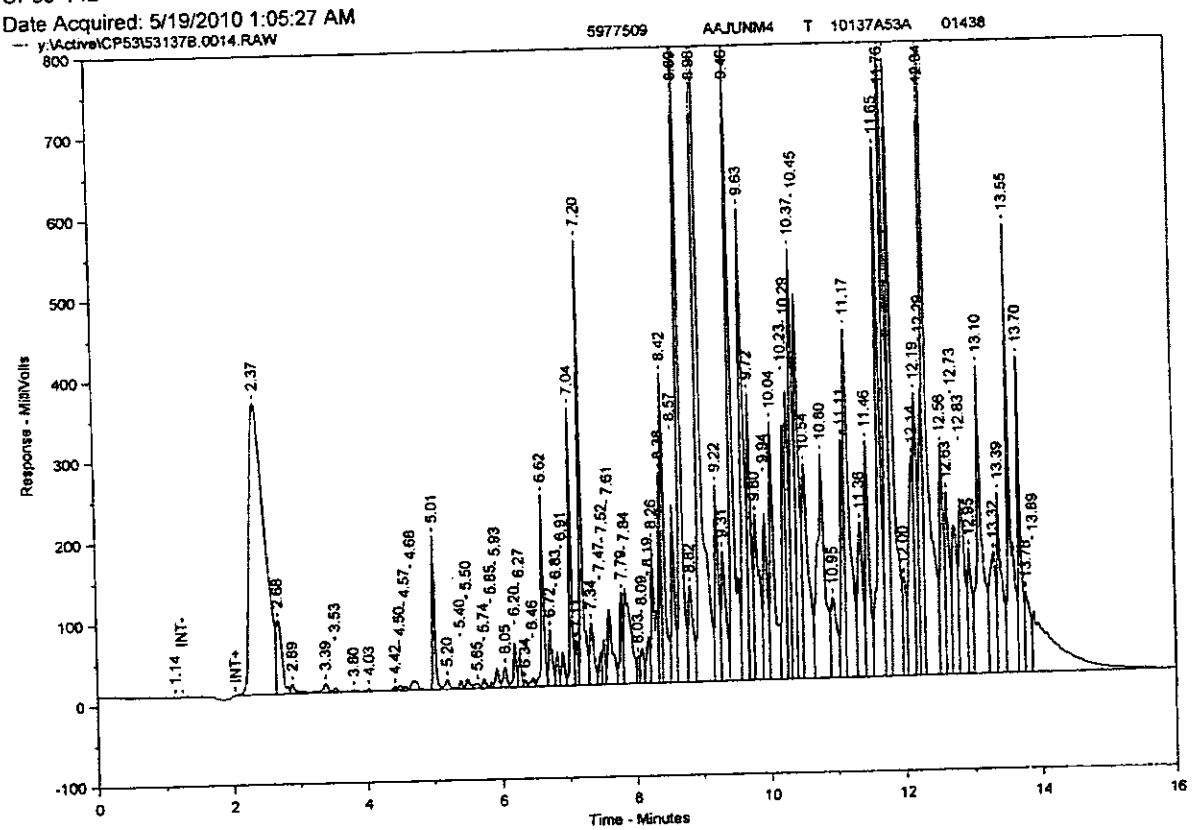
Comments:

AKD87 0024

Reviewed by: CMM1991 Date: 5/19/10
Verified by: MCSN18 Date: 5/19/10

5/19/10 1:24

5977509 AAJUNM4 T 10137A53A 01438
CP53 FID 10995F 53137B.0014.RAW
Date Acquired: 5/19/2010 1:05:27 AM



5977509 AAJUNM4 T 10137A53A 01438
Date Acquired: 5/19/2010 1:05:27 AM
Raw File: 53137B.0014.RAW
Analyst:
Dilution Factor: 1

Instrument: CP53 10995F
Units: ug/L
Method File: ALK53344.MET
Column: 30 M DB-VRX x 0.45mm x 2.55 um

Threshold: 3

Peak Table using calibration : ALK53344.cal- Version 24
Number of Compounds: 3

Component Name	Ret. Time	Exp. Ret Time	Amount ug/L	Peak Area (A)*	Peak Height (H)
	1.14	0.00	0.00	2101	481.851
	2.37	0.00	0.00	5694124	360549.8
	2.68	0.00	0.00	549999	90684.91
	2.89	0.00	0.00	70749	12242.02
	3.39	0.00	0.00	60721	11735.9
	3.53	0.00	0.00	24304	5498.046
	3.80	0.00	0.00	11198	2673.057
	4.03	0.00	0.00	11551	3705.6
	4.42	0.00	0.00	19761	4785.138
	4.50	0.00	0.00	20331	6390.371
	4.57	0.00	0.00	20178	4809.014
	4.68	0.00	0.00	82479	11517.01
SURR-TFT-F	5.01	5.00	23.64	490145	190513.3
	5.20	0.00	0.00	59236	12380.78
	5.40	0.00	0.00	29539	10956.03
	5.50	0.00	0.00	47739	12272.15
	5.65	0.00	0.00	30334	5978.983
	5.74	0.00	0.00	39151	11064.84

ARD87 0025

Printed on 5/19/2010 1:23:51 AM

Component Name	Ret. Time	Exp. Ret Time	Amount ug/L	Peak Area (A)*	Peak Height (H)
	5.85	0.00	0.00	18639	7234.35
	5.93	0.00	0.00	87977	24911.25
	6.05	0.00	0.00	96047	25873.2
	6.20	0.00	0.00	159959	54819.61
	6.27	0.00	0.00	117167	42830.45
	6.34	0.00	0.00	21783	8066.242
	6.46	0.00	0.00	44711	10677.01
SURR-1C3FB	6.62	6.61	31.37	659307	237775.4
	6.72	0.00	0.00	253791	69691.68
	6.83	0.00	0.00	125855	41689.64
	6.91	0.00	0.00	142337	41464.35
	7.04	0.00	0.00	803459	343946.3
	7.11	0.00	0.00	155445	55497.19
	7.20	0.00	0.00	1489379	551296
	7.34	0.00	0.00	321304	77470.1
	7.47	0.00	0.00	118292	40005.52
	7.52	0.00	0.00	145634	56102.22
	7.61	0.00	0.00	462003	92578.35
	7.79	0.00	0.00	363747	113209.2
	7.84	0.00	0.00	803794	118443.1
	8.03	0.00	0.00	109630	34162.16
	8.09	0.00	0.00	155208	43297.82
	8.19	0.00	0.00	224350	57103.48
	8.26	0.00	0.00	701513	170192.9
	8.38	0.00	0.00	647808	260294.6
	8.42	0.00	0.00	1202770	382181.5
	8.57	0.00	0.00	765684	220127.6
	8.69	0.00	0.00	3122882	1030304
	8.82	0.00	0.00	577915	118954.8
	8.98	0.00	0.00	5906963	1700055
	9.22	0.00	0.00	885576	243182.4
	9.31	0.00	0.00	735012	161354
	9.46	0.00	0.00	2955115	829660.9
	9.63	0.00	0.00	2229410	583459.3
	9.72	0.00	0.00	1162552	355683.6
	9.80	0.00	0.00	1088564	205208.3
	9.94	0.00	0.00	860666	205389.5
	10.04	0.00	0.00	1405322	319846.4
	10.23	0.00	0.00	1161293	314953.5
	10.29	0.00	0.00	1149544	355673.1
	10.37	0.00	0.00	1954801	531849.8
	10.45	0.00	0.00	1722050	477005
	10.54	0.00	0.00	1599991	265408.3
	10.80	0.00	0.00	2116552	277359.2
	10.95	0.00	0.00	593922	99248.4
	11.11	0.00	0.00	1085043	294640.3
	11.17	0.00	0.00	2242068	431973.1
	11.36	0.00	0.00	991545	190918.5
	11.46	0.00	0.00	1112674	292539.9
	11.65	0.00	0.00	2633526	654468.9
	11.76	0.00	0.00	2870818	883961.5
	11.84	0.00	0.00	3166884	765619.7
	12.00	0.00	0.00	444694	122024.7
	12.14	0.00	0.00	1414010	270762
	12.19	0.00	0.00	1158787	349924.4
	12.29	0.00	0.00	1361511	355503.9
	12.34	0.00	0.00	4573461	1294512
	12.56	0.00	0.00	1121589	284229.7
	12.63	0.00	0.00	958910	225344.3
	12.73	0.00	0.00	923149	183506.2
	12.83	0.00	0.00	1237520	216673.4
	12.95	0.00	0.00	639236	154603.6
	13.10	0.00	0.00	2149682	381516.6
	13.32	0.00	0.00	980998	150126.5
	13.39	0.00	0.00	1030873	223214
	13.55	0.00	0.00	2023516	557219.5

Component Name	Ret. Time	Exp. Ret Time	Amount ug/L	Peak Area (A)*	Peak Height (H)
	13.70	0.00	0.00	1103515	392992.6
	13.78	0.00	0.00	532802	100340.2
	13.89	0.00	0.00	1840329	74589.91
	16.12	0.00	0.00	2688	647.8691

RT Start	RT Stop	Unadj GRO	Total Surr.	Adj. GRO
3.57	8.59	11059240	1149452	9909784

Surrogate Percent Recovery: 78.80214

Total GRO Area: 9909784.00
Total GRO Concentration: 573.49 ug/L

File: y:\Active\CP53\53137B.0014.RAW

Lancaster Laboratories-Range Data Summary

Sample Name: 5977510 JUND1 Sample ID: AA **Batchnumber:** 10137A53A
Sample Amount: 1. Total Volume: 1. ml Analyst: 1991 SDG: AKD87 State: AK
Analyses: 01438

Injection Summary

Injected on : 5/19/2010 01:29:37
Instrument : CP53--10995F
Result file : 53137B.0015.RAW
Calibration files : ALK53344.cal
Method files : ALK53344.MET
Setting : ALK53344

Surrogate Recoveries

SURR-TFT-F 76.6% (60-120) Conc.: 22.985014
SURR-1C3FB

Range	Retention Times	Area	Amount	LOQ	MDL	Flags	Units
SURR-TFT-F	5.02 (4.97 - 5.04)	476551	22.9850				ppb
SURR-1C3FB	6.62 (6.58 - 6.65)	711238	33.8410				ppb
GRO	3.57 - 8.59	15185772	810.0685	100	10		ppb

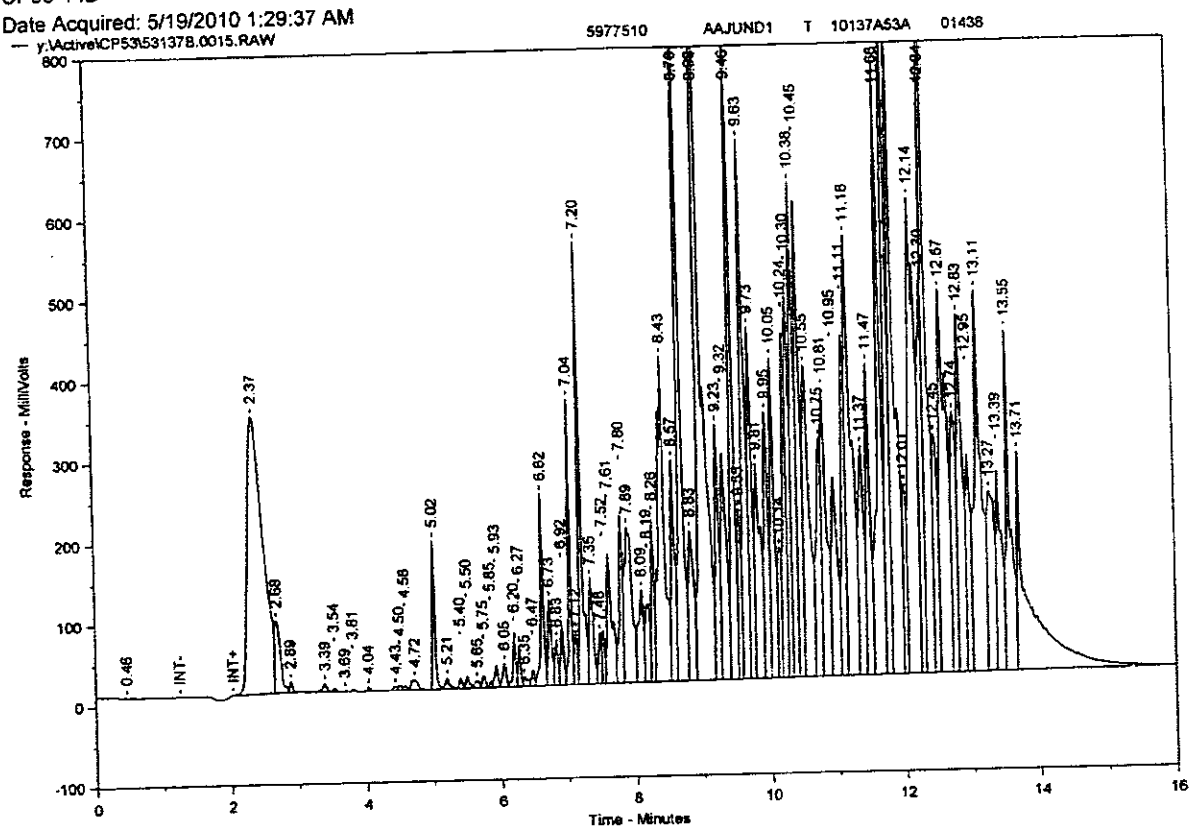
Comments:

AKD87 0828

Reviewed by: cm1991 Date: 5/19/10
Verified by: MCS6128 Date: 5/19/10

5/19/10 1:48

5977510 AAJUND1 T 10137A53A 01438
CP53 FID 10995F 53137B.0015.RAW
Date Acquired: 5/19/2010 1:29:37 AM



5977510 AAJUND1 T 10137A53A 01438
Date Acquired: 5/19/2010 1:29:37 AM
Raw File: 53137B.0015.RAW
Analyst:
Dilution Factor: 1

Instrument: CP53 10995F
Units: ug/L
Method File: ALK53344.MET
Column: 30 M DB-VRX x 0.45mm x 2.55 um

Threshold: 3

Peak Table using calibration : ALK53344.cal- Version 24
Number of Compounds: 3

Component Name	Ret. Time	Exp. Ret Time	Amount ug/L	Peak Area (A)*	Peak Height (H)
	0.46	0.00	0.00	2924	393.1671
	2.37	0.00	0.00	5525593	343623.2
	2.68	0.00	0.00	526345	89781.16
	2.89	0.00	0.00	44282	13362.92
	3.39	0.00	0.00	49403	10385.22
	3.54	0.00	0.00	14639	4721.198
	3.69	0.00	0.00	4778	1341.052
	3.81	0.00	0.00	10871	3475.26
	4.04	0.00	0.00	15302	4963.344
	4.43	0.00	0.00	17750	4503.985
	4.50	0.00	0.00	20195	6854.776
	4.58	0.00	0.00	19945	4430.592
	4.72	0.00	0.00	85944	12222.76
SURR-TFT-F	5.02	5.00	22.99	476552	185062.3
	5.21	0.00	0.00	63469	13859.94
	5.40	0.00	0.00	35833	13293.46
	5.50	0.00	0.00	54576	14880.12
	5.65	0.00	0.00	43890	9210.774

AKD87 0029

Printed on 5/19/2010 1:47:54 AM

Component Name	Ret. Time	Exp. Ret Time	Amount ug/L	Peak Area (A)*	Peak Height (H)
	5.75	0.00	0.00	52493	15187.67
	5.85	0.00	0.00	19503	8102.605
	5.93	0.00	0.00	99929	27833.64
	6.05	0.00	0.00	111079	29638.81
	6.20	0.00	0.00	193356	67560.1
	6.27	0.00	0.00	137261	49861.41
	6.35	0.00	0.00	54619	11883.28
	6.47	0.00	0.00	58357	19856.82
SURR-1C3FB	6.62	6.61	33.84	711238	238483.4
	6.73	0.00	0.00	380981	106581.1
	6.83	0.00	0.00	183878	56367.07
	6.92	0.00	0.00	250134	73871.64
	7.04	0.00	0.00	869479	355260.5
	7.12	0.00	0.00	193805	66995
	7.20	0.00	0.00	1595765	549647.9
	7.35	0.00	0.00	538139	131129.8
	7.48	0.00	0.00	190436	62457.93
	7.52	0.00	0.00	167778	65403.26
	7.61	0.00	0.00	844551	160420.3
	7.80	0.00	0.00	767235	208127.8
	7.89	0.00	0.00	1468172	192783
	8.09	0.00	0.00	617420	114526.3
	8.19	0.00	0.00	462801	97080.7
	8.26	0.00	0.00	577536	202031.4
	8.43	0.00	0.00	2741154	403310.5
	8.57	0.00	0.00	1049570	275187.3
	8.70	0.00	0.00	3816895	1104173
	8.83	0.00	0.00	981167	186623.6
	8.98	0.00	0.00	7417681	1739257
	9.23	0.00	0.00	1233784	316213.3
	9.32	0.00	0.00	1511014	281108.8
	9.46	0.00	0.00	2935825	867674.4
	9.55	0.00	0.00	701521	210913.5
	9.63	0.00	0.00	2677468	667768.2
	9.73	0.00	0.00	1518313	435437.1
	9.81	0.00	0.00	1555281	266366.3
	9.95	0.00	0.00	1470473	329707.7
	10.05	0.00	0.00	1574775	396065.1
	10.14	0.00	0.00	609362	160974.3
	10.24	0.00	0.00	1632660	425612.1
	10.30	0.00	0.00	1688590	481977.7
	10.38	0.00	0.00	2333053	612981.8
	10.45	0.00	0.00	2278817	588326.2
	10.55	0.00	0.00	2456700	385677.2
	10.75	0.00	0.00	1533617	295150.8
	10.81	0.00	0.00	1829973	357463.6
	10.95	0.00	0.00	1463590	246185.9
	11.11	0.00	0.00	1725087	421043.6
	11.18	0.00	0.00	3499074	545271.6
	11.37	0.00	0.00	1506125	284079.6
	11.47	0.00	0.00	1676642	385090.1
	11.66	0.00	0.00	3623305	758284.2
	11.77	0.00	0.00	3504931	1010421
	11.85	0.00	0.00	4618886	873518.8
	12.01	0.00	0.00	838051	235441.8
	12.14	0.00	0.00	4689506	588357.4
	12.30	0.00	0.00	1985729	485273.9
	12.34	0.00	0.00	4826224	1445879
	12.45	0.00	0.00	1349463	295765.3
	12.57	0.00	0.00	3712221	472845.3
	12.74	0.00	0.00	1630560	322175.9
	12.83	0.00	0.00	2334775	441942.8
	12.95	0.00	0.00	1244531	268812.7
	13.11	0.00	0.00	3433431	471712.2
	13.27	0.00	0.00	1671755	223607.5
	13.39	0.00	0.00	1372794	247681.8

AKD87 0030

Component Name	Ret. Time	Exp. Ret Time	Amount ug/L	Peak Area (A)*	Peak Height (H)
	13.55	0.00	0.00	2079534	421047.4
	13.71	0.00	0.00	3531682	270866.4

RT Start	RT Stop	Unadj GRO	Total Surr.	Adj. GRO
3.57	8.59	15185770	1187789	13997980

Surrogate Percent Recovery: 76.61671

Total GRO Area: 13997980.00
Total GRO Concentration: 810.08 ug/L

File: y:\Active\CP53\53137B.0015.RAW

AKD87 0031

Lancaster Laboratories-Range Data Summary

Sample Name: 5977511 JUNTB Sample ID: AA **Batchnumber:** 10137A53A
Sample Amount: 1. Total Volume: 1. ml Analyst: 1991 SDG:AKD87 State: AK
Analyses: 01438

Injection Summary

Injected on : 5/18/2010 23:03:59
Instrument : CP53--10995F
Result file : 53137B.0009.RAW
Calibration files : ALK53344.cal
Method files : ALK53344.MET
Setting : ALK53344

Surrogate Recoveries

SURR-TFT-F 79.1% (60-120) Conc.: 23.735849
SURR-1C3FB

Range	Retention Times	Area	Amount	LOQ	MDL	Flags	Units
☐ SURR-TFT-F	5.01 (4.97 - 5.04)	492119	23.7358				ppb
☐ SURR-1C3FB	6.62 (6.58 - 6.65)	504399	23.9995				ppb
☐ GRO	3.57 - 8.59	1059654	3.6537	<100	<10		ppb

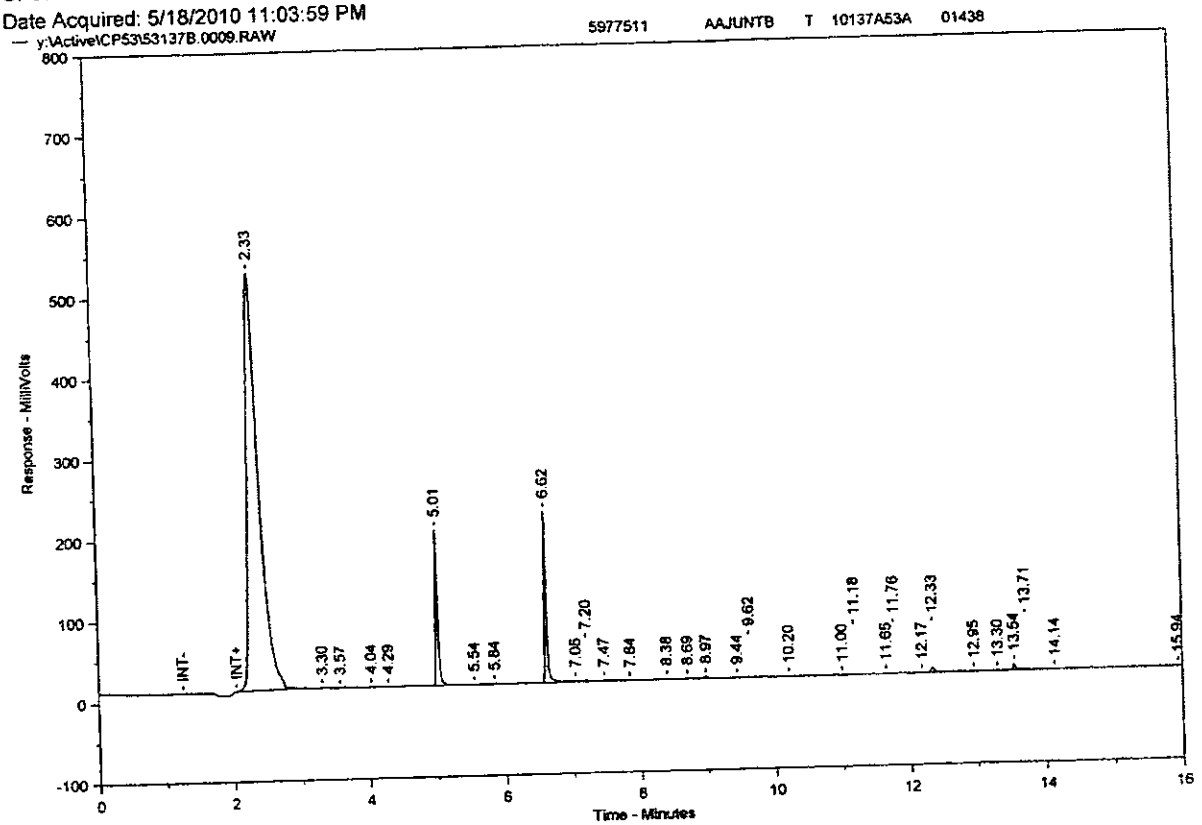
Comments:

AKD87 0032

Reviewed by: Clm1991 Date: 5/19/10
Verified by: MLS268 Date: 5/19/10

5/18/10 23:23

5977511 AAJUNTB T 10137A53A 01438
CP53 FID 10995F 53137B.0009.RAW
Date Acquired: 5/18/2010 11:03:59 PM



5977511 AAJUNTB T 10137A53A 01438
Date Acquired: 5/18/2010 11:03:59 PM
Raw File: 53137B.0009.RAW
Analyst:
Dilution Factor: 1
Instrument: CP53 10995F
Units: ug/L
Method File: ALK53344.MET
Column: 30 M DB-VRX x 0.45mm x 2.55 um

Threshold: 3

Peak Table using calibration : ALK53344.cal- Version 24
Number of Compounds: 3

Component Name	Ret. Time	Exp. Ret Time	Amount ug/L	Peak Area (A)*	Peak Height (H)
	2.33	0.00	0.00	6277000	517087.1
	3.30	0.00	0.00	1642	656.4614
	3.57	0.00	0.00	994	325.2295
	4.04	0.00	0.00	5048	1236.239
	4.29	0.00	0.00	1750	368.7596
SURR-TFT-F	5.01	5.00	23.74	492119	192835.8
	5.54	0.00	0.00	4625	446.2485
	5.84	0.00	0.00	2748	989.0447
SURR-1C3FB	6.62	6.61	24.00	504399	212427.2
	7.05	0.00	0.00	9357	1548.311
	7.20	0.00	0.00	12270	2290.402
	7.47	0.00	0.00	9974	1698.942
	7.84	0.00	0.00	3026	409.8107
	8.38	0.00	0.00	14339	982.0084
	8.69	0.00	0.00	6680	1101.061
	8.97	0.00	0.00	22790	2545.169
	9.44	0.00	0.00	3860	703.9744
	9.62	0.00	0.00	3342	520.3824

0ND87 0033

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Component Name	Ret. Time	Exp. Ret Time	Amount ug/L	Peak Area (A)*	Peak Height (H)
	10.20	0.00	0.00	3175	586.2415
	11.00	0.00	0.00	1098	346.711
	11.18	0.00	0.00	5655	725.9174
	11.65	0.00	0.00	4369	824.1957
	11.76	0.00	0.00	1989	667.0579
	12.17	0.00	0.00	4549	462.511
	12.33	0.00	0.00	23086	5714.676
	12.95	0.00	0.00	1614	346.3472
	13.30	0.00	0.00	5044	550.6285
	13.54	0.00	0.00	23456	8158.306
	13.71	0.00	0.00	6970	1306.603
	14.14	0.00	0.00	1058	377.7932
	15.94	0.00	0.00	1663	290.6854
	16.88	0.00	0.00	765	310.3084
	17.57	0.00	0.00	693	299.9175

RT Start	RT Stop	Unadj GRO	Total Surr.	Adj. GRO
3.57	8.59	1059654	996517	63137

Surrogate Percent Recovery: 79.1195

Total GRO Area: 63136.69
Total GRO Concentration: 3.65 ug/L

File: y:\Active\CP53\53137B.0009.RAW

AKD87 0034

Standards Data

6D

INITIAL CALIBRATION - RETENTION TIME SUMMARY

Lab Name: Lancaster Laboratories
Contract:
Lab Code:
Case No.:
SAS No.:
SDG No.:
Instrument: 10995F
Calibration File: ALK53344
GC Column (1) : J&W DB-VRX ID: 75 (mm)
Update File:
Date(s) Analyzed: 12/12/2009 12/12/2009

COMPOUND	RT OF STANDARDS							MIDPOINT	RT WINDOW	
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6	LEVEL 7	RT	FROM	TO
1-Chloro-3-fluorobenzene	6.62	6.61	6.62	6.62	6.61	6.62	6.62	6.61	6.58	6.65
Trifluorotoluene-F	5.00	5.00	5.01	5.01	5.01	5.03		5.00	4.97	5.04

AKD87 0036

FORM VI-1

6E

INITIAL CALIBRATION - CALIBRATION FACTOR SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 10995F Calibration File: ALK53344

GC Column (1) : J&W DB-VRX ID: 75 (mm) Date(s) Analyzed: 12/12/2009 12/12/2009

COMPOUND	CALIBRATION FACTORS								%RSD
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6	LEVEL 7	MEAN	
1-Chloro-3-fluorobenzene	1.74E+04	1.78E+04	1.83E+04	1.85E+04	2.05E+04	2.67E+04	2.80E+04	2.10E+04	21.2
Trifluorotoluene-F	2.07E+04	2.03E+04	1.97E+04	2.10E+04	2.19E+04			2.07E+04	4.0

Average % RSD: 12.6

MLS 12/16/09

AKD87 0037

FORM VI-2

6F

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Instrument: 10995F Calibration File: ALK53344

GC Column (1) : J&W DB-VRX ID: 75 (mm) Date(s) Analyzed: 12/12/2009 12/12/2009

COMPOUND	PEAK	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT (ug/l)	PEAK AREA	%RSD
GRO	1		3.57	8.59	18418	17280	1	21.5	395979	3.4
					17360		2	53.6	930478	
					17552		3	107.3	1883334	
					16661		4	536.4	8936774	
					17074		5	1072.8	18316560	
					17171		6	2682	46051888	
					16724		7	5364	89706600	

TR 2268
12/14/09

MISNR8
12/14/09

AKD87 0038

FORM VI-3

7E

CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories
Contract:
Lab Code:
Case No.:
SAS No.:
SDG No.:
Instrument: 10995F
Detector: FID
Init. Calib Date(s): 12/12/09 12/12/09
GC Column (1) : J&W DB-VRX ID: 75 (mm)
Date Analyzed: 12/14/09
Lab File ID: 53348B.0007.RAW
Time Analyzed: 17:52
Lab Standard ID: GICVXAV
Initial Calibration: ALK53344
Method: ALASKA

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT	NOM AMOUNT	%D	Limits
GRO		3.57	8.59	1140.09	1100.00	3.6	-25 to +25

Average of %D: 3.6

AKD87 0039

FORM VII

7E

CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories
Contract:
Lab Code: Case No.:
SAS No.: SDG No.:
Instrument: 10995F
Init. Calib Date(s):05/18/10 05/19/10
GC Column (1) : J&W DB-VRX ID: 75 (mm)
Date Analyzed: 05/18/10
Lab File ID: 53137B.0003.RAW
Time Analyzed: 20:38
Lab Standard ID: WGCCXVZ
Initial Calibration:ALK53344

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
GRO		3.57	8.59	594.31	530.00	12.1
Trifluorotoluene-F	5.01	4.97	5.04	27.16	30.00	-9.5
1-Chloro-3-fluorobenzene	6.62	6.58	6.65	26.97	30.00	-10.1
					Average of %D:	10.6

ARD87 8848

FORM VII

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories
Contract:
Lab Code: Case No.: SAS No.: SDG No.:
Instrument: 10995F
Init. Calib Date(s):05/18/10 05/19/10
GC Column (1) : J&W DB-VRX ID: 75 (mm)
Date Analyzed: 05/19/10
Time Analyzed: 3:31
Lab File ID: 53137B.0020.RAW
Initial Calibration:ALK53344
Lab Standard ID: WGCCXWW

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
GRO		3.57	8.59	540.34	530.00	2.0
Trifluorotoluene-F	5.01	4.97	5.04	26.36	30.00	-12.1
1-Chloro-3-fluorobenzene	6.62	6.58	6.65	25.97	30.00	-13.4
					Average of %D:	9.2

AKDS7 0041

FORM VII

7E
CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories
Contract:
Lab Code: Case No.:
SAS No.: SDG No.:
Instrument: 10995F
Init. Calib Date(s):05/19/10 05/19/10
GC Column (1) : J&W DB-VRX ID: 75 (mm)
Date Analyzed: 05/19/10
Lab File ID: 53137B.0033.RAW
Time Analyzed: 8:45
Lab Standard ID: WGCCXWX
Initial Calibration:ALK53344

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
GRO		3.57	8.59	543.11	530.00	2.5
Trifluorotoluene-F	5.02	4.97	5.04	26.50	30.00	-11.7
1-Chloro-3-fluorobenzene	6.62	6.58	6.65	26.08	30.00	-13.1

Average of %D: 9.1

AKD87 0042

FORM VII

8D
ANALYTICAL SEQUENCE

Sequence: 53345B | Lab Name: Lancaster laboratories | Contract:

Lab Code: | Case No.: | SAS No: | SDG No.:

GC Column: JW DB-VRX | ID: 75

Instrument: 10995F

THIS ANALYTICAL SEQUENCE OF BLANKS, SAMPLES AND STANDARDS IS GIVEN BELOW:

	Sample Code No.	Lab Sample ID	Date Analyzed	Time Analyzed	Calibration File	TFTF
001	GRO MBJ	GRO MARKER	12/12/2009	04:14:11	GX53344	5.01
002	WGRO1AA	WGRO10925AS	12/12/2009	05:26:06	ALK53344	5.00
003	WGRO2AA	WGRO20925AP	12/12/2009	05:50:03	ALK53344	5.00
004	WGRO3AA	WGRO30925AQ	12/12/2009	06:14:02	ALK53344	5.01
005	WGRO4AA	WGRO40925AO	12/12/2009	06:37:59	ALK53344	5.01
006	WGRO5AA	WGRO50925AP	12/12/2009	07:02:02	ALK53344	5.01
007	WGRO6AA	WGRO60925AO	12/12/2009	07:25:58	ALK53344	5.03
008	WGRO7AA	WGRO70925AL	12/12/2009	08:13:51	ALK53344	
009	GMDLXAV	GMDLX0925J	12/14/2009	13:46:55	ALK53344	5.02
010	GICVXAU not used	GICVX0925O	12/14/2009	14:10:50	ALK53344	5.01

	ICAL Dates		ICAL RT	QC Limits
ALK53344	12/12/2009 - 12/12/2009	TFTF = Trifluorotoluene-F	5.	(4.97 - 5.04 Minutes)
GX53344	12/12/2009 - 12/12/2009	TFTF = Trifluorotoluene-F	5.02	(4.99 - 5.05 Minutes)

ARD87 0043

FORM VIII PEST

8D
ANALYTICAL SEQUENCE

Sequence: 53348 Lab Name: Lancaster laboratories Contract:

Lab Code: Case No.: SAS No: SDG No.:

GC Column: JW DB-VRX ID: 75

Instrument: 10995P

THIS ANALYTICAL SEQUENCE OF BLANKS, SAMPLES AND STANDARDS IS GIVEN BELOW:

	Sample Code No.	Lab Sample ID	Date Analyzed	Time Analyzed	Calibration File	TFTP
001	AA	GRO RT MARKI	12/14/2009	15:27:50	[8021]53344	5.02
002	WCCPXOE	WCCPX0925JQ	12/14/2009	15:51:55	[8021]53344	5.00
003	WGCCXNH	WGCCX0925NP	12/14/2009	16:16:10	[8021]53344	5.01
004	BLKMT	BLANKA	12/14/2009	16:40:21	[8021]53344	5.01
005	LCSQF	LCSA	12/14/2009	17:04:31	[8021]53344	5.01
006	LCSDMC	LCSDA	12/14/2009	17:28:20	[8021]53344	5.01
007	LCSQG (GTCY 4AU)	LCSB (GTCU4 0920P)	12/14/2009	17:52:41	[8021]53344	5.01
008	LCSDMD	LCSDB	12/14/2009	18:17:05	[8021]53344	5.01
009	SEWTB	5862146	12/14/2009	18:41:20	[8021]53344	5.01
010	306TB	5862148	12/14/2009	19:55:10	[8021]53344	5.01
011	SEW10	5862144	12/14/2009	20:19:16	[8021]53344	5.02
012	DUT15	5857597	12/14/2009	20:43:39	[8021]53344	5.01
013	SEWM8	5862143	12/14/2009	21:07:38	[8021]53344	5.02
014	SEWP1	5862147	12/14/2009	21:48:27	[8021]53344	5.02
015	30613	5862149	12/14/2009	22:12:43	[8021]53344	5.01
016	SEW9R	5862142	12/14/2009	22:37:02	[8021]53344	5.01
017	SEW10MS	5862144	12/14/2009	23:01:22	[8021]53344	5.02
018	DUT15MS	5857597	12/14/2009	23:25:47	[8021]53344	5.01
019	WGCCXNH	WGCCX0925NP	12/14/2009	23:50:01	[8021]53344	5.02
020	SEWBD	5862145	12/15/2009	00:13:54	[8021]53344	5.01
021	3067A	5862150	12/15/2009	00:38:17	[8021]53344	5.01
022	30614	5862151	12/15/2009	01:02:35	[8021]53344	5.01
023	306M7	5862152	12/15/2009	01:26:51	[8021]53344	5.01
024	306BD	5862153	12/15/2009	01:51:08	[8021]53344	5.01
025	DUT14	5857598	12/15/2009	02:15:28	[8021]53344	5.01
026	DUT07	5857599	12/15/2009	02:39:50	[8021]53344	5.01
027	DUT13	5857600	12/15/2009	03:04:09	[8021]53344	5.01
028	DUT03	5857601	12/15/2009	03:28:27	[8021]53344	5.01

③ 12/7/10

	ICAL Dates		ICAL RT	QC Limits
[8021]53344	12/10/2009 - 12/12/2009	TFTP = Trifluorotoluene-P	5.01	(4.98 - 5.05 Minutes)

AKD87 0044

FORM VIII PEST

8D
ANALYTICAL SEQUENCE

Sequence: 53348 Lab Name: Lancaster laboratories Contract:

Lab Code: Case No.: SAS No: SDG No.:

GC Column: JW DB-VRX ID: 75

Instrument: 10995P

THIS ANALYTICAL SEQUENCE OF BLANKS, SAMPLES AND STANDARDS IS GIVEN BELOW:

	Sample Code No.	Lab Sample ID	Date Analyzed	Time Analyzed	Calibration File	TFTP
029	DUTD1	5857602	12/15/2009	03:52:45	[8021]53344	5.02
030	DUTD2	5857603	12/15/2009	04:17:06	[8021]53344	5.01
031	WCCPXOE	WCCPX0925JQ	12/15/2009	04:41:25	[8021]53344	5.01
032	WGCCXNH	WGCCX0925NP	12/15/2009	10:46:38	[8021]53344	5.01
033	CBLKTQ	CBLK	12/15/2009	11:10:43	[8021]53344	5.01
034	DUT14	5857598	12/15/2009	11:35:04	[8021]53344	5.01
035	SEWBD	5862145	12/15/2009	11:59:30	[8021]53344	5.01
036	3067A	5862150	12/15/2009	12:23:53	[8021]53344	5.01
037	30614	5862151	12/15/2009	12:48:19	[8021]53344	5.01
038	306M7	5862152	12/15/2009	13:12:17	[8021]53344	5.01
039	306BD	5862153	12/15/2009	13:36:10	[8021]53344	5.01
040	SEW9R	5862142	12/15/2009	14:00:34	[8021]53344	5.01
041	WGCCXNH	WGCCX0925NP	12/15/2009	14:24:52	[8021]53344	5.01

	ICAL Dates		ICAL RT	QC Limits
[8021]53344	12/10/2009 - 12/12/2009	TFTP = Trifluorotoluene-P	5.01	(4.98 - 5.05 Minutes)

AKD87 0045

FORM VIII PEST

8D
ANALYTICAL SEQUENCE

Sequence: 53137B

Lab Name: Lancaster laboratories

Contract:

Lab Code:

Case No.:

SAS No:

SDG No.:

GC Column: JW DB-VRX

ID: 75

Instrument: 10995F

THIS ANALYTICAL SEQUENCE OF BLANKS, SAMPLES AND STANDARDS IS GIVEN BELOW:

	Sample Code No.	Lab Sample ID	Date Analyzed	Time Analyzed	Calibration File	TFTF
001	AA	GRO MARKER	05/18/2010	19:50:23	ALK53344	5.02
002	WCCPXMU	WCCPX1025CN	05/18/2010	20:14:23	ALK53344	5.01
003	WGCCXVZ	WGCCX1025DC	05/18/2010	20:38:36	ALK53344	5.01
004	BLKX0	BLANKA	05/18/2010	21:02:45	ALK53344	5.01
005	LCS2P	LCSA	05/18/2010	21:27:01	ALK53344	5.01
006	LCSDF9	LCSDA	05/18/2010	21:51:14	ALK53344	5.01
007	LCS2Q	LCSB	05/18/2010	22:15:26	ALK53344	5.01
008	LCSDFA	LCSDB	05/18/2010	22:39:42	ALK53344	5.01
009	JUNTB	5977511	05/18/2010	23:03:59	ALK53344	5.01
010	FIRTB	5978718	05/18/2010	23:28:15	ALK53344	5.01
011	ROCT1	5979962	05/18/2010	23:52:29	ALK53344	5.01
012	FIR15	5978714	05/19/2010	00:16:48	ALK53344	5.01
013	MAA13	5980619	05/19/2010	00:41:13	ALK53344	5.01
014	JUNM4	5977509	05/19/2010	01:05:27	ALK53344	5.01
015	JUND1	5977510	05/19/2010	01:29:37	ALK53344	5.02
016	FIRM5	5978708	05/19/2010	01:53:52	ALK53344	5.01
017	FIRM8	5978710	05/19/2010	02:18:13	ALK53344	5.01
018	FIRM9	5978711	05/19/2010	02:42:26	ALK53344	5.01
019	WCCPXMV	WCCPX1025CN	05/19/2010	03:06:46	ALK53344	5.01
020	WGCCXWW	WGCCX1025DD	05/19/2010	03:31:00	ALK53344	5.01
021	FIR12	5978712	05/19/2010	03:55:19	ALK53344	5.02
022	FIR14	5978713	05/19/2010	04:19:36	ALK53344	5.01
023	FIR16	5978715	05/19/2010	04:43:45	ALK53344	5.01
024	FIR17	5978716	05/19/2010	05:07:57	ALK53344	5.01
025	FIRBD	5978717	05/19/2010	05:32:12	ALK53344	5.01
026	ROCIN	5979958	05/19/2010	05:56:26	ALK53344	5.01
027	ROCM1	5979959	05/19/2010	06:20:38	ALK53344	5.01
028	ROCM2	5979960	05/19/2010	06:44:51	ALK53344	5.01
029	ROCEF	5979961	05/19/2010	07:09:00	ALK53344	5.01
030	FIRM7	5978709	05/19/2010	07:33:08	ALK53344	5.01
031	MAA13MS	5980619	05/19/2010	07:57:21	ALK53344	5.01
032	FIR15MS	5978714	05/19/2010	08:21:32	ALK53344	5.01
033	WGCCXWX	WGCCX1025DD	05/19/2010	08:45:41	ALK53344	5.02

ICAL RT QC Limits

5. (4.97 - 5.04 Minutes)

ICAL Dates

12/12/2009 - 12/12/2009

TFTF = Trifluorotoluene-F

ALK53344

AKD87 0046

FORM VIII PEST

Raw QC Data

Lancaster Laboratories-Range Data Summary

Sample Name: BLANKA BLKX0 Sample ID: AA **Batchnumber:** 10137A53A
Sample Amount: 1. Total Volume: 1. ml Analyst: 1991 SDG: State:
Analyses: 01438 01440 01551 01588

Injection Summary

Injected on : 5/18/2010 21:02:45
Instrument : CP53--10995F
Result file : 53137B.0004.RAW
Calibration files : ALK53344.cal
Method files : ALK53344.MET
Setting : ALK53344

Surrogate Recoveries

SURR-TFT-F 75.8% (60-120) Conc.: 22.735815
SURR-1C3FB

Range	Retention Times	Area	Amount	LOQ	MDL	Flags	Units
SURR-TFT-F	5.01 (4.97 - 5.04)	471385	22.7358				ppb
SURR-1C3FB	6.62 (6.58 - 6.65)	489209	23.2767				ppb
GRO	3.57 - 8.59	979732	1.1076	<100	<10		ppb

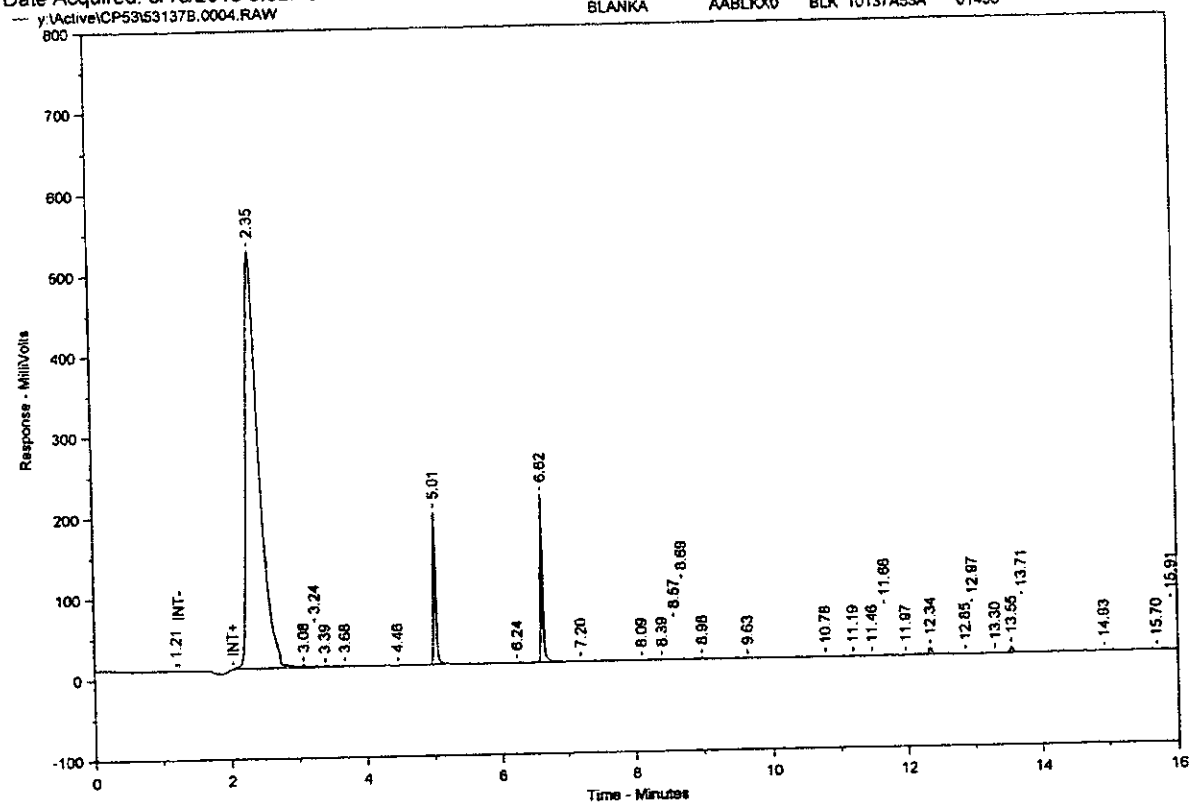
Comments:

AKD87 0040

Reviewed by: cem1991 Date: 5/19/10
Verified by: MLSHE8 Date: 5/19/10

5/18/10 21:22

BLANKA AABLKX0 BLK 10137A53A 01438
CP53 FID 10995F 53137B.0004.RAW
Date Acquired: 5/18/2010 9:02:45 PM



BLANKA AABLKX0 BLK 10137A53A 01438
Date Acquired: 5/18/2010 9:02:45 PM
Raw File: 53137B.0004.RAW
Analyst:
Dilution Factor: 1
Instrument: CP53 10995F
Units: ug/L
Method File: ALK53344.MET
Column: 30 M DB-VRX x 0.45mm x 2.55 um

Threshold: 3

Peak Table using calibration : ALK53344.cal- Version 24
Number of Compounds: 3

Component Name	Ret. Time	Exp. Ret Time	Amount ug/L	Peak Area (A)*	Peak Height (H)
	1.21	0.00	0.00	574	289.9816
	2.35	0.00	0.00	6855963	517291.8
	3.08	0.00	0.00	15979	3052.455
	3.24	0.00	0.00	8260	1410.368
	3.39	0.00	0.00	11645	996.4833
	3.68	0.00	0.00	4090	942.4476
	4.46	0.00	0.00	2181	342.7006
SURR-TFT-F	5.01	5.00	22.74	471385	188305.3
	6.24	0.00	0.00	1194	305.9082
SURR-1C3FB	6.62	6.61	23.28	489209	207552.1
	7.20	0.00	0.00	5103	1251.06
	8.09	0.00	0.00	1257	461.8633
	8.39	0.00	0.00	2505	480.4328
	8.57	0.00	0.00	2810	589.5791
	8.69	0.00	0.00	6609	965.5364
	8.98	0.00	0.00	12468	1926.533
	9.63	0.00	0.00	1965	430.9426
	10.78	0.00	0.00	2233	489.1791

AKD87 0049

Component Name	Ret. Time	Exp. Ret Time	Amount ug/L	Peak Area (A)*	Peak Height (H)
	11.19	0.00	0.00	1335	425.5208
	11.46	0.00	0.00	2787	414.0439
	11.66	0.00	0.00	1261	371.0326
	11.97	0.00	0.00	1464	335.2194
	12.34	0.00	0.00	31599	7968.81
	12.85	0.00	0.00	3630	440.2167
	12.97	0.00	0.00	3321	492.9171
	13.30	0.00	0.00	4303	693.3014
	13.55	0.00	0.00	23229	8158.702
	13.71	0.00	0.00	4005	889.1935
	14.93	0.00	0.00	1478	448.9075
	15.70	0.00	0.00	1008	491.8973
	15.91	0.00	0.00	2097	503.9332
	16.32	0.00	0.00	839	327.6223

RT Start	RT Stop	Unadj GRO	Total Surr.	Adj. GRO
3.57	8.59	979732	960593	19139

Surrogate Percent Recovery: 75.78605

Total GRO Area: 19138.81
Total GRO Concentration: 1.11 ug/L

File: y:\Active\CP53\53137B.0004.RAW

AKD87 0050

Preparation Logs

Batchlog Summary 10137A53A

QC	ID	Sample Code	Amt	SS/IS S	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	SW	DF	PH	BC	Comments
5978714MS	AA	FIR15MS	1.00	SS1013425B	0.0002	MS1011925A	0.000220	1.00		1.00	≤2	104B	
5980619MS	AA	MAA13MS	1.00	SS1013425B	0.0002	MS1013425A	0.002000	1.00		1.00	≤2	104B	
BLANKA	AA	BLKX0	1.00	SS1013425B	0.0002			1.00		1.00			
LCSA	AA	LCS2P	1.00	SS1013425B	0.0002	MS1013425A	0.002000	1.00		1.00			
LCSB	AA	LCS2Q	1.00	SS1013425B	0.0002	MS1011925A	0.000220	1.00		1.00			
LCSDA	AA	LCSDF9	1.00	SS1013425B	0.0002	MS1013425A	0.002000	1.00		1.00			
LCSDB	AA	LCSDFA	1.00	SS1013425B	0.0002	MS1011925A	0.000220	1.00		1.00			

Sample#	ID	Sample Code	Amt	SS/IS Std.	Amt (mL)	FV (mL)	SW	DF	PH	BC	HS	Due Date	Hold Date	P	Analyses	Comments
5977509	AA	JUNM4	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/20	5/25	P	01438	
5977510	AA	JUND1	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/20	5/25	P	01438	
5977511	AA	JUNTB	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/20	5/25	P	01438	
5978708	AA	FIRM5	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/21	5/25	P	01440 01588	
5978709	AA	FIRM7	1.00	SS1013425B	0.0020	1.00		10.00	≤2	104A	☒	5/21	5/25	P	01440 01588	
5978710	AA	FIRM8	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/21	5/25	P	01440 01588	
5978711	AA	FIRM9	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/21	5/25	P	01440 01588	
5978712	AA	FIR12	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/21	5/25	P	01440 01588	
5978713	AA	FIR14	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/21	5/25	P	01440 01588	
5978714	AA	FIR15	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/21	5/25	P	01440 01588	
5978715	AA	FIR16	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/21	5/25	P	01440 01588	
5978716	AA	FIR17	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/21	5/25	P	01440 01588	
5978717	AA	FIRBD	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/21	5/25	P	01440 01588	
5978718	AA	FIRTB	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/21	5/25	P	01440 01588	
5979958	AA	ROCIN	1.00	SS1013425B	0.0002	1.00		1.00	≤2	026A	☒	5/19	5/26	S	01588	
5979959	AA	ROCM1	1.00	SS1013425B	0.0002	1.00		1.00	≤2	026A	☒	5/19	5/26	S	01588	
5979960	AA	ROCM2	1.00	SS1013425B	0.0002	1.00		1.00	≤2	026A	☒	5/19	5/26	S	01588	
5979961	AA	ROCEF	1.00	SS1013425B	0.0002	1.00		1.00	≤2	026A	☒	5/19	5/26	S	01588	
5979962	AA	ROCT1	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/19	5/26	S	01588	
5980619	AA	MAA13	1.00	SS1013425B	0.0002	1.00		1.00	≤2	104A	☒	5/24	5/26	P	01440 01551	

Spike Solutions:

MS1011925A	Waters GRO Spike #2
MS1013425A	Waters MI working Spike
SS1013425B	Waters 2 Component Surr. Sol.

Analyst: CeM1991

Date: 5/14/10

Verifier: MISN28

Date: 5/19/10

Comments

19 (3) MISN28 5/19/10

AKD87 0852

TPH-DRO (AK) Data

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: ChevronTexaco
SDG: AKD87

LANCASTER LABORATORIES
TPH-DRO (AK)

		MATRIX		
LLI SAMPLE #	**SAMPLE CODE**	**WATER**	**SOLID**	**COMMENT**
BLANKA	PBLKTW	X		Method Blank
LCSA	LCSZV	X		Lab Control Spike
LCSDA	LCSDDA	X		Lab Control Spike Dup
5977509	JUNM4	X		DF25
5977510	JUND1	X		DF20

A. Sample Preparation:
No problems were encountered with the preparation of the samples.

B. Analysis:
Due to software limitations, a form 7 (check standard summary) cannot be automatically generated. Raw data containing this information is in the standards section of this data package. No problems were encountered during analysis. All continuing calibration data are within specifications.

C. Quality Control:
Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method or by the client.

For preparation/method blank results >LOQ, corrective action is not required if the sample result is >10 times the blank concentration, unless otherwise specified in the method or by the client.

Surrogate recoveries that are outside the QC window are confirmed unless attributed to a dilution or otherwise noted.

See the Conformance/Nonconformance Summary for the QC information.

D. Data Interpretation:

Data indicating manual integration requires the following codes:
1 = missed peak
2 = improper baseline
The peaks/area that have been manually changed are indicated with an "M" on the raw data.
No further interpretation is needed.

Narrative reviewed and approved by:

Dana Kauffman, Manager Data Deliverables — **Date** 6/4/10

AKD87 0055

Lancaster Laboratories

GC ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY

SDG: AKD87

	Indicate Yes, No, N/A
1. Chromatograms labeled / Compounds identified (Field Samples & Method Blanks)	YES
2. Retention times for chromatograms provided	YES
3. Standards summary meet criteria	YES
4. Calibration - Initial calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis.	YES
5. Blank contamination If yes, list compounds and concentrations in each blank: N/A	NO
6. Surrogate recoveries meet criteria If not met, list those compounds and the recoveries that fall outside the acceptable range: If not met, were the calculations checked and the results qualified as "estimated"? N/A	YES
7. Matrix Spike / Matrix Spike Duplicate recoveries meet criteria. If not met, list those compounds and the recoveries that fall outside the acceptable range: See Additional comments:	N/A
8. Retention time summaries for primary and confirmation analyses meet criteria	N/A
9. Were samples run on dissimilar columns?	N/A
10. Extraction holding time met If not met, list number of days exceeded for each sample: N/A	N/A
11. Analysis holding time met If not met, list number of days exceeded for each sample: N/A	YES

Additional Comments: A LCS/LCSD was performed for this analysis. All LCS/LCSD data are within specifications.

Summary reviewed and approved by:

Dana Kauffman, Manager Data Deliverables — **Date** 6/4/10

AKD87 0056

QC Summary

1D

ORGANICS ANALYSIS DATA SHEET

SAMPLE CODE NO.

PBLKTW

Lab Name: Lancaster Laboratories **Contract:** **Batchnumber:** 101330021A

Lab Code: **Case No.:** **SAS No.:** **SDG No.:**

Matrix: (soil/water) WATER **Lab Sample ID:** BLANKA

Sample wt/vol: 1000 **(g/ml)** ml **Lab File ID:** L134.10R

% Moisture: **Decanted: (Y/N)** **Date Received:**

Extraction: (SepF/Cont/Sonc) SEPF **Date Extracted:** 5/14/2010

Concentrated Extract Volume: 1000 **(uL)** **Date Analyzed:** 5/14/2010

Injection Volume: 1 **(uL)** **Dilution Factor:** 1

GPC Cleanup: (Y/N) N **pH:** **Sulfur Cleanup: (Y/N)** N

CAS NO.	COMPOUND	CONCENTRATION UNITS (UG/L or UG/KG) mg/l	Q
C10-<C25 DRO	C10-<C25 DRO	0.050	U

AKD87 0058

2E
WATER SURROGATE RECOVERY

Lab Name: Lancaster Laboratories | Contract:

Lab Code: | Case No.: | SAS No: | SDG No.: AKD87

GC Column (1): RTX-5 | ID: .53 | GC Column (2): | ID:

Batchnumber: 101330021

SAMPLE	SAMPLE CODE NO.	O-TP 1 % REC #	O-TP 2 % REC #	TOT OUT
5977509	JUNM4	92		0
5977510	JUND1	90		0
BLANKA	PBLKTW	87		0
LCSA	LCSZV	97		0
LCSDA	LCSDDA	96		0

	ADVISORY QC LIMITS	NOMI CONCI
QC:	(60 - 120)	0.0120
Samples:	(50 - 150)	0.0120

O-TP = o-Terphenyl

Column to be used to flag recovery values
* Values outside of QC Limits
D Surrogate diluted out

AKD87 0059

FORM II - 1

Lancaster Laboratories

Quality Control Summary
SDG# AKD87 MS 6/2/10
Lab Control/Lab Control Duplicate
EPH/MISC GC

Batchnumber: 101330021A
Matrix: LIQUID
Analysis: 01741 TPH-DRO AK water C10-C25

Compound	Spike Added mg/l	LCS Conc mg/l	LCSD Conc mg/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limit
TPH-DRO AK water C10-(	0.80	0.68	0.67	85	84	75-125	1	20

* = Value outside quality control limits.

AKD87 0060

4C

METHOD BLANK SUMMARY

SAMPLE CODE NO.

PBLKTW

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: AKD87

Lab Sample ID BLANKA Batch 101330021A Lab File ID: L134.10R

Matrix: (soil/water) WATER Extraction: (SepF/Cont/Sonc) SEPF

Sulfur Cleanup: (Y/N) N Date Extracted: 5/14/2010

Date Analyzed (1): 5/14/2010 Date Analyzed (2):

Time Analyzed (1): 17:18:18 Time Analyzed (2):

Instrument ID (1): H5386A Instrument ID (2):

GC Column: RTX-5 ID: 0.53 (mm) GC Column: ID: (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD

	SAMPLE CODE NO.	LAB SAMPLEID	DATE ANALYZED 1	DATE ANALYZED 2
01	JUNM4	5977509	5/18/2010	
02	JUND1	5977510	5/18/2010	
03	PBLKTW	BLANKA	5/14/2010	
04	LCSZV	LCSA	5/14/2010	
05	LCSDDA	LCSDA	5/14/2010	

AKD87 0061

COMMENTS: _____

FORM IV PEST

Sample Data

Lancaster Laboratories

LOQ and MDL by Analysis Number
Analysis: 01741
Department: 32

Component	MDL	LOQ	Units
01741: TPH-DRO AK water C10-C25			
TPH-DRO AK water C10-C25	0.050	0.25	mg/l

AKD87 0863

Lancaster Laboratories Range Data Summary

Sample Name: 5977509DF25 JUNM4 Sample ID: AB **Batchnumber:** 101330021A
Sample Amount: 996. Total Volume: 25. ml Analyst: 2027 SDG: AKD87 State: AK
Analyses: 01741

Injection Summary

Injected on : 5/18/2010 11:48:44
Instrument : CP24--H5386A
Result file : L137.36R
Calibration files : AKDL131A.CAL
Method files : AKDLSUM.MET REAKDL.MET
Setting : AKDL131A

Surrogate Recoveries

O-TERPHENYL SURR 92% (50-150) Conc.: 11.081

Range	Retention Times	Area	Amount	LOQ	MDL	Flags	Units
C10-<C25 DRO	2.52 - 12.08	18617697	17.3493	6.2751	1.255		ppm
o-Terphenyl SURR	9.84 (9.82 - 9.92)	14020	11.0810				ppb

Comments:

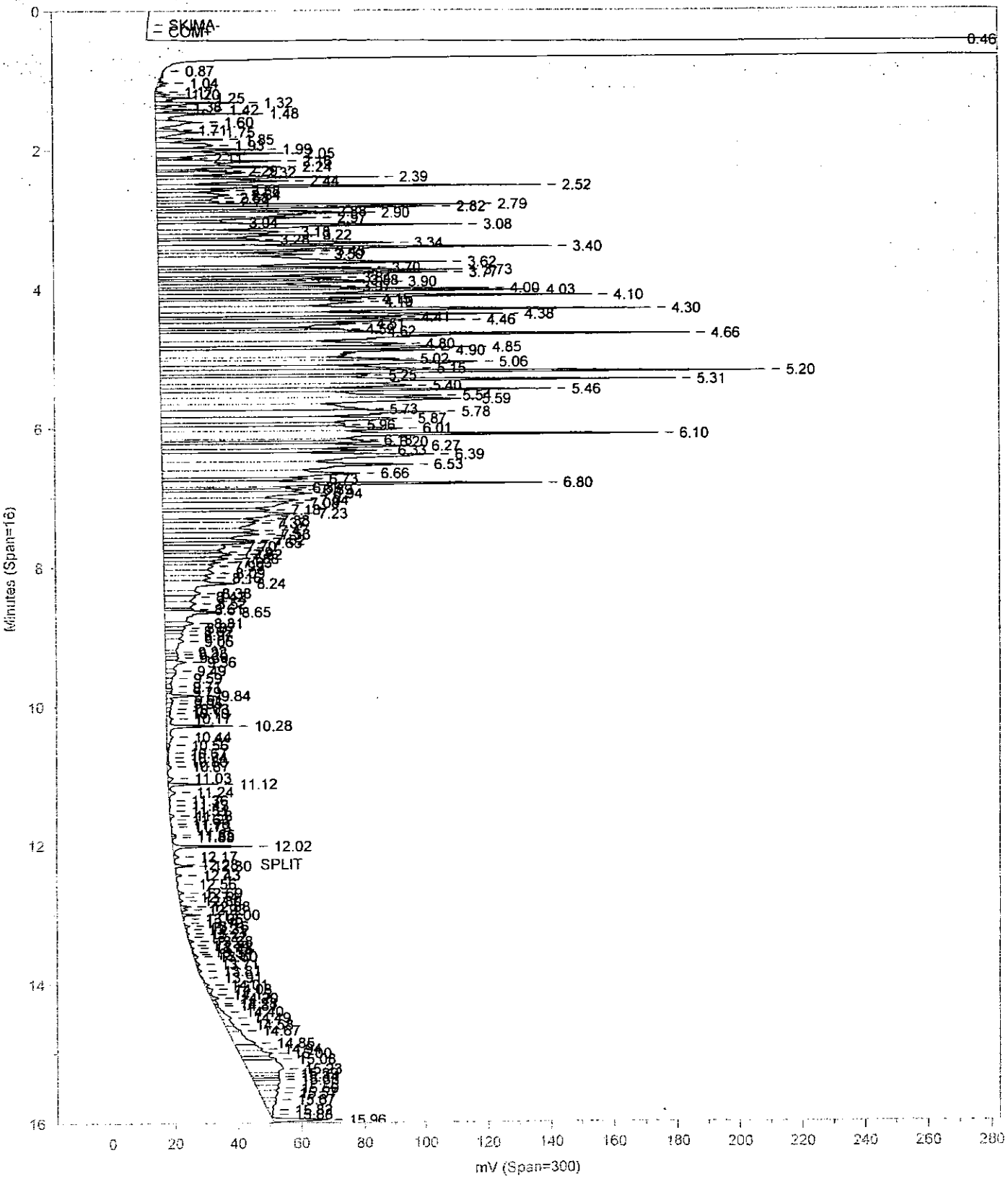
AKD87 0064

Reviewed by: UMW2011 Date: 6/8/10
Verified by: Date: 5-19-10

AK 102/103

5977509DF25 ABJUNM4 T 101330021A 01741

C:\CPWIN\DATA1\L137.36R



Instrument ID:CP24--H5386A

Injected on: 5/18/2010 11:48:43 AM

Volume Inj. per Column: 1

GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C

Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN

Sample Amount: 996

Dilution Factor: 25

AKD87 0065

AK 102/103

Sample ID: 5977509DF25 ABJUNM4 T 101330021A 01741
Instrument ID:CP24--H5386A Injected on: 5/18/2010 11:48:43 AM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 996 Dilution Factor: 25
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPB	Peak Area	Peak Width (min)	Peak Height
27	2.643	C10		75097	.049	23144
133	9.844	o-Terphenyl SURR	15.8599	20067	.023	10808
159	12.167	C25		3885	.031	1644

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %
1	2.520	12.080	15.796	100.000	18617690.0	89.492
2	9.820	9.920	15.796	100.000	26744.7	0.129

Total slice amount= 31.593 Total slice area= 18644440.0
Total slice amount %= 200.0 Total slice area %= 89.6

********** RESULTS TABLE **********

C10-<C25 DRO AREA = 1.861769E+07
C10-<C25 AMT = 17.33739

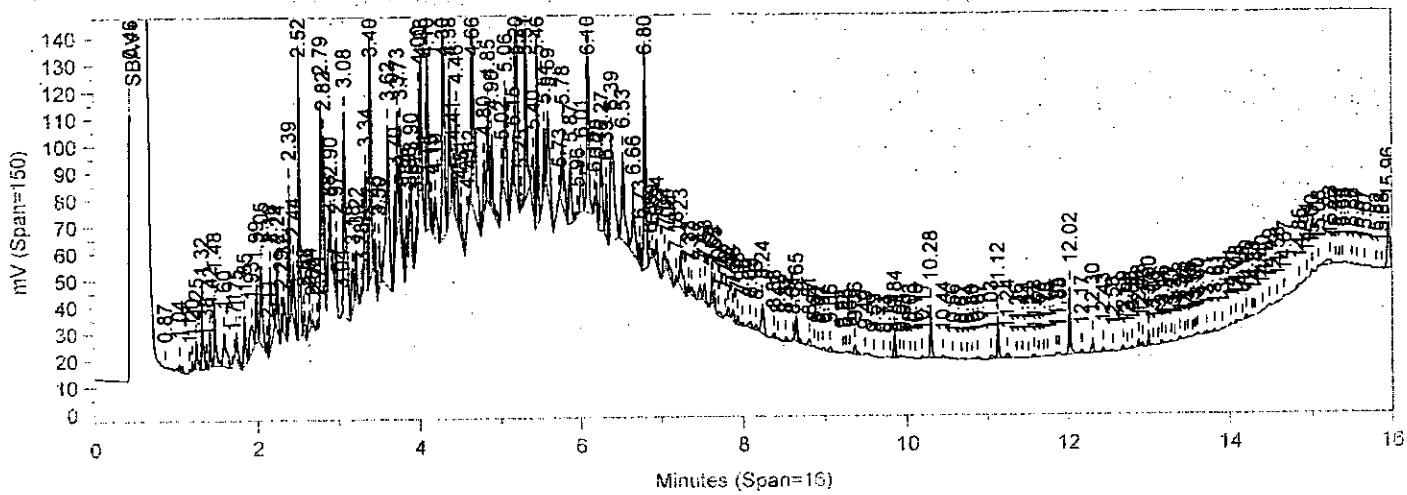
FILES:
Area File: C:\CPWIN\DATA1\L137.36A
Method File: C:\CPWIN\DATA1\AKDLSUM.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\AKDLSUM.FMT
Area file created on: 5/18/2010 12:04:52 PM
File reported on: 5/18/2010 at 12:04:53 PM

AKD87 0066

AK 102/103

5977509DF25 ABJUNM4 T 101330021A 01741

C:\CPWIN\DATA1\L137.36R



Sample Name:5977509DF25 ABJUNM4 T 101330021A 01741A

Instrument ID:CP24--H5386A
Injected on: 5/18/2010 11:48:43 AM
Volume Inj. per Column: 1
GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 996
Dilution Factor: 25
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPM	Peak Area	Peak Width (min)	Peak Height
27	2.643	C10	.	17246	.049	7626
133	9.844	o-Terphenyl SURR	.0110812	14020	.023	9412
159	12.167	C25	.	2894	.031	1440

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %

Total slice amount= 0.000
Total slice amount %= 0.0

Total slice area= 0.0
Total slice area %= 0.0

O-TERPHENYL % RECOVERY = 91.97402 %

FILES:
Area File: C:\CPWIN\DATA1\L137.36A
Method File: C:\CPWIN\DATA1\REAKDL.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\REAKDL.FMT
Area file created on: 5/18/2010 12:05:04 PM
File reported on: 5/18/2010 at 12:05:07 PM

AKD87 0067

Lancaster Laboratories Range Data Summary

Sample Name: 5977510DF20 JUND1 Sample ID: AB **Batchnumber:** 101330021A
Sample Amount: 987. Total Volume: 20. ml Analyst: 2027 SDG:AKD87 State: AK
Analyses: 01741

Injection Summary

Injected on : 5/18/2010 12:16:12
Instrument : CP24--H5386A
Result file : L137.37R
Calibration files : AKDL131A.CAL
Method files : AKDLSUM.MET REAKDL.MET
Setting : AKDL131A

Surrogate Recoveries

O-TERPHENYL SURR 89.7% (50-150) Conc.: 10.903

Range	Retention Times	Area	Amount	LOQ	MDL	Flags	Units
C10-<C25 DRO	2.52 - 12.08	16787248	12.6256	5.0659	1.0132		ppm
o-Terphenyl SURR	9.84 (9.82 - 9.92)	17088	10.9030				ppb

Comments:

AKD87 0068

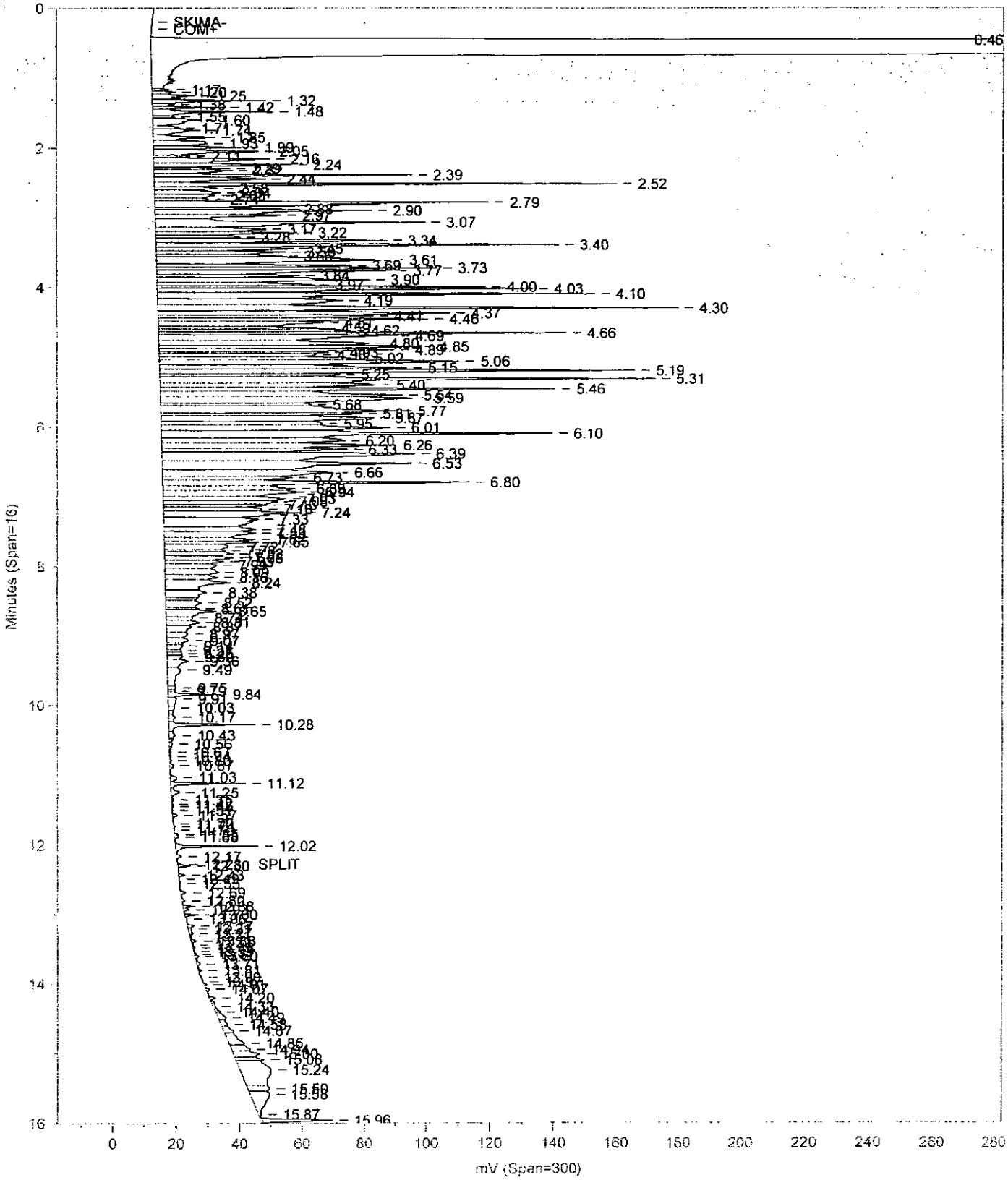
Reviewed by: [illegible] Date: 5/18/10
Verified by: [illegible] Date: 5-19-10

5/18/10 17:27

AK 102/103

5977510DF20 ABJUND1 T 101330021A 01741

C:\CPWIN\DATA1\L137.37R



Instrument ID:CP24--H5386A Injected on: 5/18/2010 12:16:11 PM

Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C

Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN

Sample Amount: 987 Dilution Factor: 20

AKD87 0869

AK 102/103

Sample ID: 5977510DF20 ABJUND1 T 101330021A 01741
Instrument ID:CP24--H5386A Injected on: 5/18/2010 12:16:11 PM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 987 Dilution Factor: 20
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPB	Peak Area	Peak Width (min)	Peak Height
26	2.643	C10		63925	.046	20593
130	9.843	o-Terphenyl SURR	16.7654	26276	.023	13674
155	12.167	C25		3809	.033	1637

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %
1	2.520	12.080	16.547	100.000	16787250.0	53.437
2	9.820	9.920	16.547	100.000	43311.0	0.138

Total slice amount= 33.095 Total slice area= 16830560.0
Total slice amount %= 200.0 Total slice area %= 53.6

********** RESULTS TABLE **********

C10-<C25 DRO AREA = 1.678725E+07
C10-<C25 AMT = 12.60585

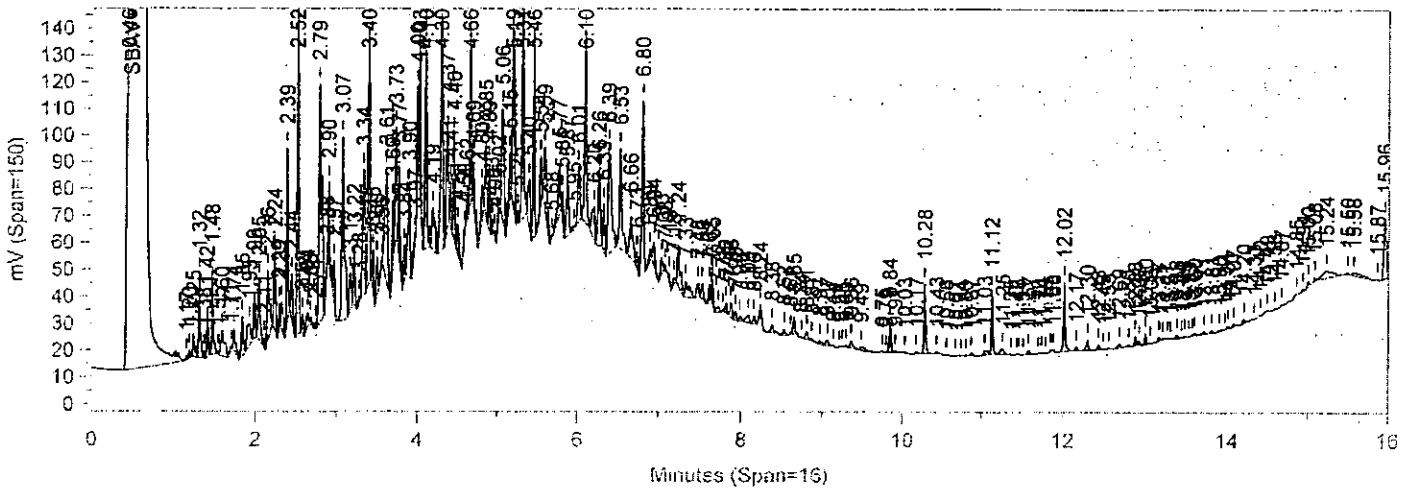
FILES:
Area File: C:\CPWIN\DATA1\L137.37A
Method File: C:\CPWIN\DATA1\AKDLSUM.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\AKDLSUM.FMT
Area file created on: 5/18/2010 12:32:18 PM
File reported on: 5/18/2010 at 12:32:20 PM

AKD87 0070

AK 102/103

5977510DF20 ABJUND1 T 101330021A 01741

C:\CPWIN\DATA1\L137.37R



Sample Name:5977510DF20 ABJUND1 T 101330021A 01741A

Instrument ID:CP24--H5386A Injected on: 5/18/2010 12:16:11 PM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 987 Dilution Factor: 20
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPM	Peak Area	Peak Width (min)	Peak Height
26	2.643	C10	.	12450	.046	5270
130	9.843	o-Terphenyl SURR	.010903	17088	.023	11705
155	12.167	C25	.	3120	.033	1508

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %

Total slice amount= 0.000 Total slice area= 0.0
Total slice amount %= 0.0 Total slice area %= 0.0

O-TERPHENYL % RECOVERY = 89.67755 %

FILES:
Area File: C:\CPWIN\DATA1\L137.37A
Method File: C:\CPWIN\DATA1\REAKDL.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\REAKDL.FMT
Area file created on: 5/18/2010 12:32:32 PM
File reported on: 5/18/2010 at 12:32:34 PM

AKD87 0871

Standards Data

Calibration File Name: **C:\CPWIN\DATA1\AKDL131A.CAL** Version = 3
External standard calibration
No injection volume correction
No sample weight correction
Area reject threshold = 0
Reference peak area reject threshold = 0
Amount units = PPM
4 components with 5 levels each

5/12/10

1 DRO RF C10-<C25
Retention time = 0.001 min., Search window = 0.000 min.
Low alarm amount = 0, High alarm amount = 0
Group number = 0, Component constant = 26915.25
No retention time reference component
Single peak quantification by area

Used 431.02-12R
431.20R MDL
431.22R ICV

Level	Amount	Area	Area/Amt	Source	Date and time
1	100.000	2485890.0	24858.9	Manual	5/12/2010 1:00:3
2	400.000	10763020.0	26907.55	Manual	5/12/2010 1:00:3
3	800.000	21697840.0	27122.3	Manual	5/12/2010 1:00:3
4	1600.000	45813010.0	28633.13	Manual	5/12/2010 1:00:3
5	3200.000	86573980.0	27054.37	Manual	5/12/2010 1:00:3

✓ [illegible]/375
5-12-10

Calibration formula: Y = 26915.25 X
Fit type = Avg CF with equal weighting, forced to origin
Coefficient of determination = 0.9983, Average error = 3.07%
Average CF = 26915.2500 with RSD = 5.00%

2 C10
Retention time = 2.620 min., Search window = 0.050 min.
Low alarm amount = 0, High alarm amount = 0
Group number = 0, Component constant = 0
No retention time reference component
Single peak quantification by area

Level	Amount	Area	Area/Amt	Source	Date and time
1	1.000	0.0	0	Manual	5/12/2010 1:00:3
2	-1.000	0		Manual	5/12/2010 1:00:3
3	-1.000	0		Manual	5/12/2010 1:00:3
4	-1.000	0		Manual	5/12/2010 1:00:3
5	-1.000	0		Manual	5/12/2010 1:00:3

Calibration formula: No data points to graph
Fit type = Avg CF with equal weighting, forced to origin
Coefficient of determination = 1.0000, Average error = 100.00%
Average CF = 0.0000 with RSD = 0.00%

3 o-Terphenyl SURR
Retention time = 9.870 min., Search window = 0.050 min.
Low alarm amount = 0, High alarm amount = 0
Group number = 0, Component constant = 31758.16

AKD87 0073

No retention time reference component
Single peak quantification by area

Level	Amount	Area	Area/Amt	Source	Date and time
1	2.000	64465.0	32232.5	Manual	5/12/2010 1:19:3
2	8.000	253254.0	31656.75	Manual	5/12/2010 1:00:2
3	16.000	504501.0	31531.31	Manual	5/12/2010 1:00:2
4	20.000	635116.0	31755.8	Manual	5/12/2010 1:00:2
5	40.000	1264578.0	31614.45	Manual	5/12/2010 1:00:2

Calibration formula: Y = 31758.16 X
Fit type = Avg CF with equal weighting, forced to origin
Coefficient of determination = 0.9999, Average error = 0.60%
Average CF = 31758.1600 with RSD = 0.87%

4 C25
Retention time = 12.180 min., Search window = 0.100 min.
Low alarm amount = 0, High alarm amount = 0
Group number = 0, Component constant = 0
No retention time reference component
Single peak quantification by area

Level	Amount	Area	Area/Amt	Source	Date and time
1	1.000	0.0	0	Manual	5/12/2010 1:19:3
2	-1.000	0		Manual	5/12/2010 1:00:2
3	-1.000	0		Manual	5/12/2010 1:00:2
4	-1.000	0		Manual	5/12/2010 1:00:2
5	-1.000	0		Manual	5/12/2010 1:00:2

Calibration formula: No data points to graph
Fit type = Avg CF with equal weighting, forced to origin
Coefficient of determination = 1.0000, Average error = 100.00%
Average CF = 0.0000 with RSD = 0.00%

AKD87 0074

AK 102/103

Sample ID: AKCDX1032A AVAKCDXAV CCAL 1013099999
Instrument ID:CP24--H5386A Injected on: 5/12/2010 4:58:32 AM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 1 Dilution Factor: 1
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPM	Peak Area	Peak Width (min)	Peak Height
27	2.627	C10	.	42001	.023	19237
136	9.869	o-Terphenyl SURR	15.6736	446502	.025	236806
160	12.183	C25	.	2051	.034	771

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %
1	2.520	12.080	15.674	100.000	13786480.0	52.418
2	9.820	9.920	15.674	100.000	446502.2	1.698

Total slice amount= 31.347 Total slice area= 14232980.0
Total slice amount %= 200.0 Total slice area %= 54.1

********** RESULTS TABLE **********

C10 - <C25 DRO AMT = 495.6289

$\frac{495.6289}{500} - 1 \times 100 = -.87\%$

% Level 2 DRO Difference = 23.90723

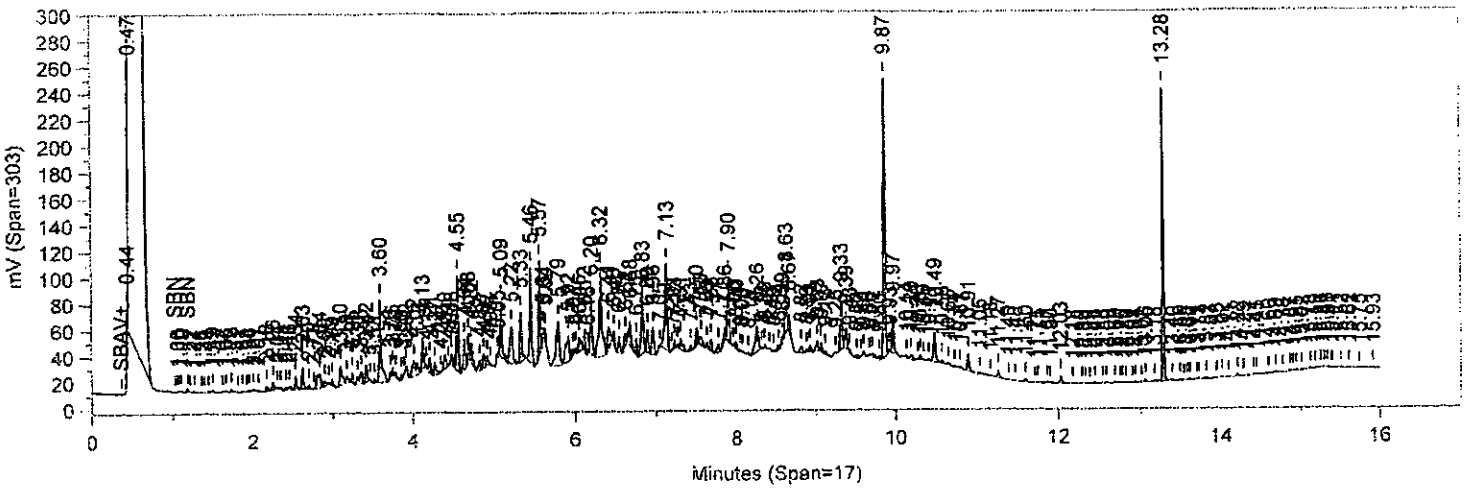
% Level 3 DRO Difference = -38.04638

% Level 4 DRO Difference = -69.02319

FILES:
Area File: C:\CPWIN\DATA1\L131.22A
Method File: C:\CPWIN\DATA1\AKDLSTD.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\AKDLSTD.FMT
Area file created on: 5/12/2010 1:03:14 PM
File reported on: 5/12/2010 at 1:03:15 PM

AKD87 0075.

AK 102/103 SURROGATE
AKCDX1032A AVAKCDXAV CCAL 1013099999
C:\CPWIN\DATA1\L131.22R



Sample Name:AKCDX1032A AVAKCDXAV CCAL 1013099999A

Instrument ID:CP24--H5386A
Injected on: 5/12/2010 4:58:32 AM
Volume Inj. per Column: 1
GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 1
Dilution Factor: 1
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPM	Peak Area	Peak Width (min)	Peak Height
27	2.627	C10	.	26349	.023	16779
136	9.869	o-Terphenyl SURR	10.6486	338181	.025	215302
162	12.183	C25	.	1288	.034	639

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %
1	9.820	9.920	10.649	100.000	338181.2	2.276

Total slice amount= 10.649
Total slice amount %= 100.0
Total slice area= 338181.2
Total slice area %= 2.3

o-Terphenyl Level 2 % Difference = 6.486392 %

o-Terphenyl Level 3 % Difference = -46.75681 %

o-Terphenyl Level 4 % Difference = -73.3784 %

FILES:
Area File: C:\CPWIN\DATA1\L131.22A
Method File: C:\CPWIN\DATA1\REAKDLST.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\REAKDLST.FMT
Area file created on: 5/12/2010 1:23:38 PM
File reported on: 5/12/2010 at 1:23:39 PM

AK 102/103 RT

Sample ID: AKRTX1032A EAAKRTXEA CCAL 1013299999
Instrument ID:CP24--H5386A Injected on: 5/14/2010 12:22:34 PM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 1 Dilution Factor: 1
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPM	Peak Area	Peak Width (min)	Peak Height
16	2.618	C10	.	246197	.021	179836
62	9.864	o-Terphenyl SURR	10.0462	319050	.024	208741
89	11.901	C24	.	285751	.018	257508
92	12.182	C25	.	282220	.018	247735
108	13.28	N-TRIACONTANE-D62	4.9717	128839	.019	109030
121	14.601	C36	.	124835	.022	90817

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %
1	9.820	9.920	10.046	66.895	319049.9	2.234
2	13.230	13.330	4.972	33.105	128839.4	0.902

Total slice amount= 15.018 Total slice area= 447889.4
Total slice amount %= 100.0 Total slice area %= 3.1

********** RESULTS TABLE **********

TZ (C24 - C25) = 20.24241

FILES:
Area File: C:\CPWIN\DATA1\L133.52A
Method File: C:\CPWIN\DATA1\AKRTL.MET
Calibration File: C:\CPWIN\DATA1\AKRL131A.CAL
Format File: C:\CPWIN\DATA1\AKRTL.FMT
Area file created on: 5/14/2010 12:38:42 PM
File reported on: 5/14/2010 at 12:38:44 PM

AKD87 0277

AK 102/103

Sample ID: AKFL31032A NWAKFL3NW CCAL 1013299999
Instrument ID:CP24--H5386A Injected on: 5/14/2010 1:16:00 PM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 1 Dilution Factor: 1
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPM	Peak Area	Peak Width (min)	Peak Height
27	2.619	C10	.	147755	.023	81996
141	9.865	o-Terphenyl SURR	25.271	802561	.024	467929
171	12.18	C25	.	11269	.021	6551

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %
1	2.520	12.080	25.271	100.000	21170300.0	60.300
2	9.820	9.920	25.271	100.000	802561.1	2.286

Total slice amount= 50.542 Total slice area= 21972860.0
Total slice amount %= 200.0 Total slice area %= 62.6

********** RESULTS TABLE **********

C10 - <C25 DRO AMT = 756.736

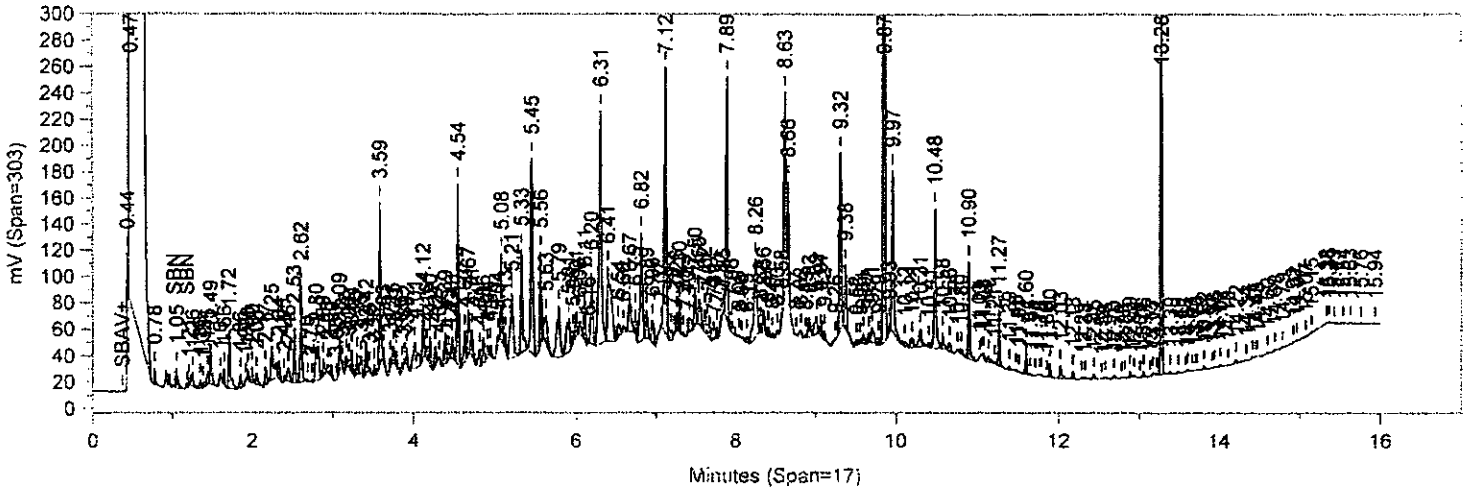
% Level 2 DRO Difference = 89.18401

% Level 3 DRO Difference = -5.407995

% Level 4 DRO Difference = -52.704

FILES:
Area File: C:\CPWIN\DATA1\L133.53A
Method File: C:\CPWIN\DATA1\AKDLSTD.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\AKDLSTD.FMT
Area file created on: 5/14/2010 1:32:10 PM
File reported on: 5/14/2010 at 1:32:11 PM

AK 102/103 SURROGATE
AKFL31032A NWAKFL3NW CCAL 1013299999
C:\CPWIN\DATA1\L133.53R



Sample Name:AKFL31032A NWAKFL3NW CCAL 1013299999A

Instrument ID:CP24--H5386A Injected on: 5/14/2010 1:16:00 PM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 1 Dilution Factor: 1
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPM	Peak Area	Peak Width (min)	Peak Height
25	2.619	C10	.	115120	.023	76955
140	9.865	o-Terphenyl SURR	20.8247	661354	.024	437268
170	12.18	C25	.	8215	.021	6048

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %
1	9.820	9.920	20.825	100.000	661353.6	3.444

Total slice amount= 20.825 Total slice area= 661353.6
Total slice amount %= 100.0 Total slice area %= 3.4

o-Terphenyl Level 2 % Difference = 108.2468 %

o-Terphenyl Level 3 % Difference = 4.123414 % ✓

o-Terphenyl Level 4 % Difference = -47.93829 %

FILES:
Area File: C:\CPWIN\DATA1\L133.53A
Method File: C:\CPWIN\DATA1\REAKDLST.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\REAKDLST.FMT
Area file created on: 5/14/2010 1:32:26 PM
File reported on: 5/14/2010 at 1:32:27 PM

AK 102/103

Sample ID: AKFL41032A MHAKFL4MH CCAL 1013399999
Instrument ID:CP24--H5386A Injected on: 5/14/2010 5:42:26 PM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 1 Dilution Factor: 1
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPM	Peak Area	Peak Width (min)	Peak Height
30	2.617	C10	.	308933	.021	168472
145	9.868	o-Terphenyl SURR	51.0125	1620064	.024	914611
173	12.179	C25	.	25004	.02	12587

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %
1	2.520	12.080	51.013	100.000	44235700.0	74.022
2	9.820	9.920	51.013	100.000	1620064.0	2.711

Total slice amount= 102.025 Total slice area= 45855760.0
Total slice amount %= 200.0 Total slice area %= 76.7

********** RESULTS TABLE **********

C10 - <C25 DRO AMT = 1583.327

% Level 2 DRO Difference = 295.8317

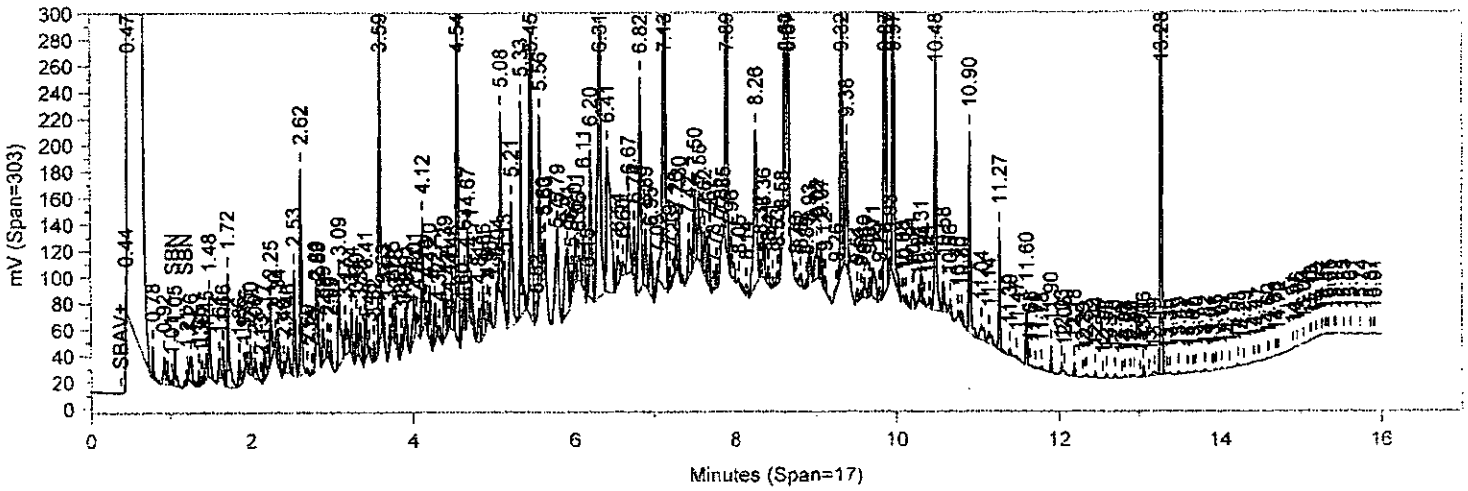
% Level 3 DRO Difference = 97.91582

% Level 4 DRO Difference = -1.042086

FILES:
Area File: C:\CPWIN\DATA1\L134.11A
Method File: C:\CPWIN\DATA1\AKDLSTD.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\AKDLSTD.FMT
Area file created on: 5/14/2010 5:58:34 PM
File reported on: 5/14/2010 at 5:58:36 PM

AKD87 0888

AK 102/103 SURROGATE
AKFL41032A MHAKFL4MH CCAL 1013399999
C:\CPWIN\DATA1\L134.11R



Sample Name:AKFL41032A MHAKFL4MH CCAL 1013399999A

Instrument ID:CP24--H5386A Injected on: 5/14/2010 5:42:26 PM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 1 Dilution Factor: 1
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPM	Peak Area	Peak Width (min)	Peak Height
29	2.617	C10	.	229761	.021	156731
144	9.868	o-Terphenyl SURR	41.2327	1309474	.024	847276
172	12.179	C25	.	13845	.019	10951

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %
1	9.820	9.920	41.233	100.000	1309474.0	4.843

Total slice amount= 41.233 Total slice area= 1309474.0
Total slice amount %= 100.0 Total slice area %= 4.8

o-Terphenyl Level 2 % Difference = 312.3267 %

o-Terphenyl Level 3 % Difference = 106.1634 %

o-Terphenyl Level 4 % Difference = 3.081679 %

FILES:
Area File: C:\CPWIN\DATA1\L134.11A
Method File: C:\CPWIN\DATA1\REAKDLST.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\REAKDLST.FMT
Area file created on: 5/14/2010 5:58:48 PM
File reported on: 5/14/2010 at 5:58:49 PM

AKD87 0081

AK 102/103

Sample ID: AKFL41032A MIAKFL4MI CCAL 1013699999
Instrument ID:CP24--H5386A Injected on: 5/18/2010 11:21:16 AM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 1 Dilution Factor: 1
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPM	Peak Area	Peak Width (min)	Peak Height
30	2.604	C10	.	295869	.023	158969
140	9.851	o-Terphenyl SURR	49.9667	1586849	.024	883839
170	12.169	C25	.	23024	.021	12100

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %
1	2.520	12.080	49.967	100.000	42851760.0	72.737
2	9.820	9.920	49.967	100.000	1783326.0	3.027

Total slice amount= 99.933 Total slice area= 44635090.0
Total slice amount %= 200.0 Total slice area %= 75.8

********** RESULTS TABLE **********

C10 - <C25 DRO AMT = 1525.843

% Level 2 DRO Difference = 281.4607

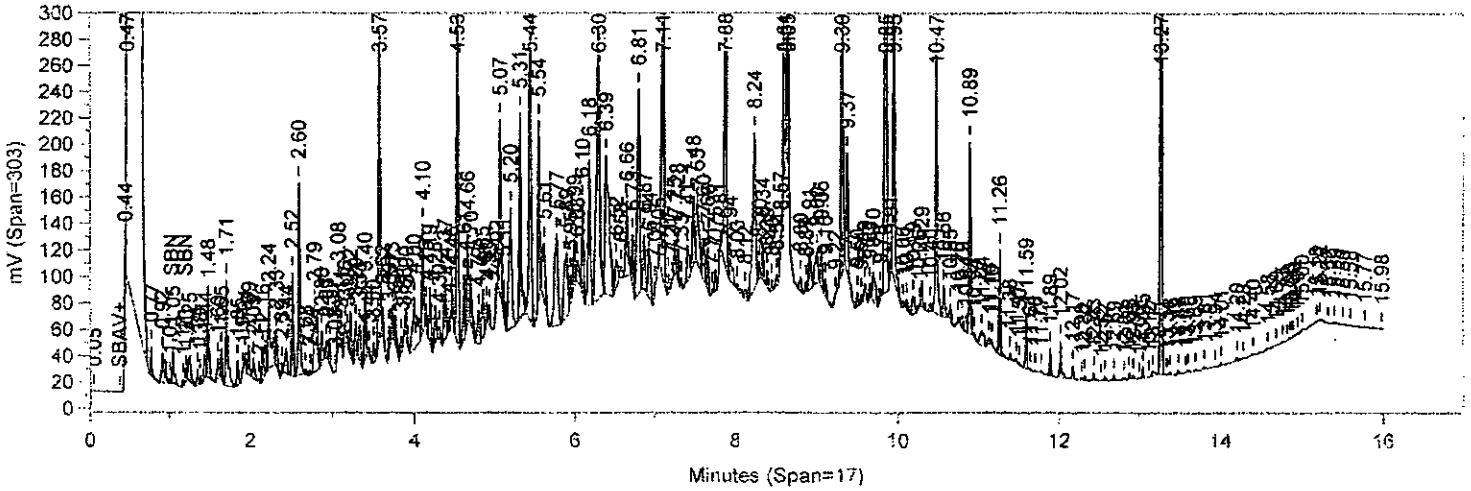
% Level 3 DRO Difference = 90.73035

% Level 4 DRO Difference = -4.634828

FILES:
Area File: C:\CPWIN\DATA1\L137.35A
Method File: C:\CPWIN\DATA1\AKDLSTD.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\AKDLSTD.FMT
Area file created on: 5/18/2010 11:37:24 AM
File reported on: 5/18/2010 at 11:37:27 AM

AKD87 0082

AK 102/103 SURROGATE
AKFL41032A MIAKFL4MI CCAL 1013699999
C:\CPWIN\DATA1\L137.35R



Sample Name:AKFL41032A MIAKFL4MI CCAL 1013699999A

Instrument ID:CP24–H5386A Injected on: 5/18/2010 11:21:16 AM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 1 Dilution Factor: 1
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPM	Peak Area	Peak Width (min)	Peak Height
30	2.604	C10	.	223828	.023	147665
141	9.851	o-Terphenyl SURR	39.2266	1245765	.024	815203
171	12.169	C25	.	13985	.021	10727

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %
1	9.820	9.920	39.227	100.000	1261683.0	4.761

Total slice amount= 39.227 Total slice area= 1261683.0
Total slice amount %= 100.0 Total slice area %= 4.8

o-Terphenyl Level 2 % Difference = 292.266 %

o-Terphenyl Level 3 % Difference = 96.133 %

o-Terphenyl Level 4 % Difference = -1.933497 %

FILES:
Area File: C:\CPWIN\DATA1\L137.35A
Method File: C:\CPWIN\DATA1\REAKDLST.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\REAKDLST.FMT
Area file created on: 5/18/2010 11:37:38 AM
File reported on: 5/18/2010 at 11:37:40 AM

AKD87 0883

AK 102/103

Sample ID: AKFL21032A NPAKFL2NP CCAL 1013699999
Instrument ID:CP24--H5386A Injected on: 5/18/2010 5:00:38 PM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 1 Dilution Factor: 1
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPM	Peak Area	Peak Width (min)	Peak Height
27	2.603	C10	.	75020	.023	39384
138	9.844	o-Terphenyl SURR	11.922	378622	.024	218003
166	12.168	C25	.	6125	.023	3623

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %
1	2.520	12.080	11.922	100.000	10124230.0	42.794
2	9.820	9.920	11.922	100.000	423201.8	1.789

Total slice amount= 23.844 Total slice area= 10547440.0
Total slice amount %= 200.0 Total slice area %= 44.6

********** RESULTS TABLE **********

C10 - <C25 DRO AMT = 360.4288

% Level 2 DRO Difference = -9.892797

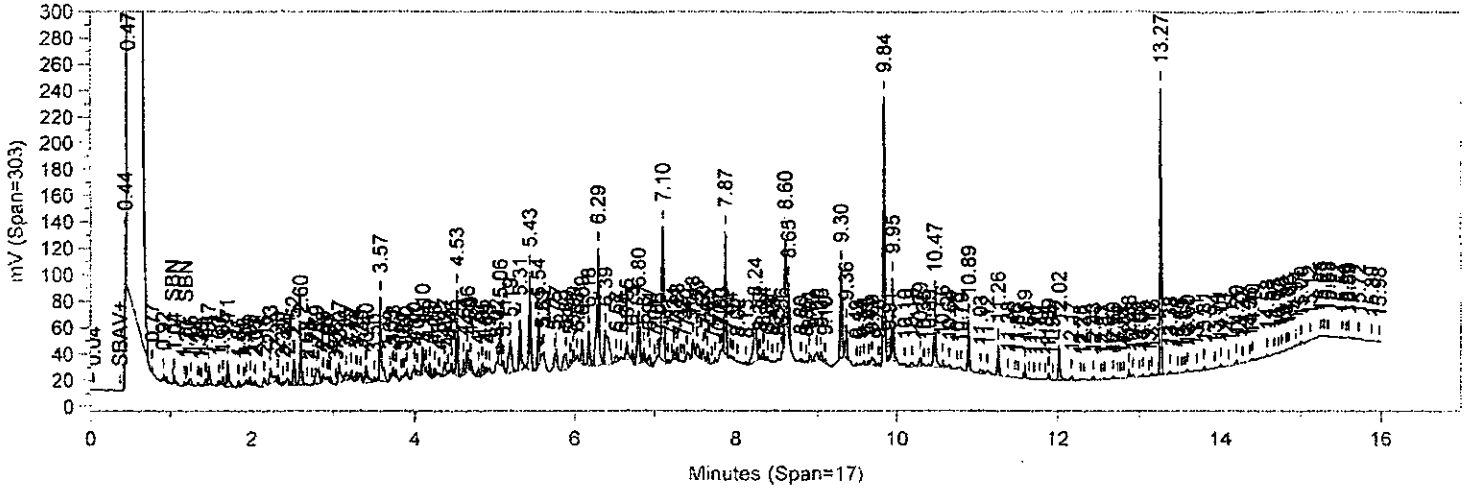
% Level 3 DRO Difference = -54.9464

% Level 4 DRO Difference = -77.4732

FILES:
Area File: C:\CPWIN\DATA1\L137.47A
Method File: C:\CPWIN\DATA1\AKDLSTD.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\AKDLSTD.FMT
Area file created on: 5/18/2010 5:16:46 PM
File reported on: 5/18/2010 at 5:16:48 PM

AKD87 0884

AK 102/103 SURROGATE
AKFL21032A NPAKFL2NP CCAL 1013699999
C:\CPWIN\DATA1\L137.47R



Sample Name:AKFL21032A NPAKFL2NP CCAL 1013699999A

Instrument ID:CP24--H5386A Injected on: 5/18/2010 5:00:38 PM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 1 Dilution Factor: 1
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPM	Peak Area	Peak Width (min)	Peak Height
28	2.603	C10	.	56731	.023	36509
140	9.844	o-Terphenyl SURR	9.7955	311088	.024	204379
168	12.168	C25	.	5568	.023	3528

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %
1	9.820	9.920	9.796	100.000	316089.4	2.104

Total slice amount= 9.796 Total slice area= 316089.4
Total slice amount %= 100.0 Total slice area %= 2.1

o-Terphenyl Level 2 % Difference = -2.044791 %

o-Terphenyl Level 3 % Difference = -51.0224 %

o-Terphenyl Level 4 % Difference = -75.5112 %

FILES:
Area File: C:\CPWIN\DATA1\L137.47A
Method File: C:\CPWIN\DATA1\REAKDLST.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\REAKDLST.FMT
Area file created on: 5/18/2010 5:17:00 PM
File reported on: 5/18/2010 at 5:17:01 PM

AKD87 0885

Lancaster Laboratories

CHROM PERFECT SEQUENCE FILE

Sequence File: \\cp24\C-Drive\CPWIN\DATA1\L131.seq
Chromatography Directory: \\cp24\C-Drive\CPWIN\DATA1
Method Directory: \\cp24\C-Drive\CPWIN\DATA1
Number of Entries: 65

	Samplename	Code	ID	FileName	Method	Samp Amt	DF	Int Std	C	Batch Number	Analysis
1	CONDITIONER	MISC	AA	L131.01R	AKDLSTD.MET	1	1	1	0	1013099999	
2	AKRTX1032A	CCAL	DX	L131.02R	AKRTL.MET	1	1	1	0	1013099999	
3	AKSS11032A	ICAL	AA	L131.03R	AKRLSTD.MET	1	1	1	0	1013099999	
4	AKSS21032A	ICAL	AA	L131.04R	AKRLSTD.MET	1	1	1	0	1013099999	
5	AKSS31032A	ICAL	AA	L131.05R	AKRLSTD.MET	1	1	1	0	1013099999	
6	AKSS41032A	ICAL	AA	L131.06R	AKRLSTD.MET	1	1	1	0	1013099999	
7	AKSS51032A	ICAL	AA	L131.07R	AKRLSTD.MET	1	1	1	0	1013099999	
8	1FUL11032B	ICAL	AA	L131.08R	AKDLSTD.MET	1	1	1	0	1013099999	
9	1FUL21032C	ICAL	AA	L131.09R	AKDLSTD.MET	1	1	1	0	1013099999	
10	1FUL31032C	ICAL	AA	L131.10R	AKDLSTD.MET	1	1	1	0	1013099999	
11	1FUL41032C	ICAL	AA	L131.11R	AKDLSTD.MET	1	1	1	0	1013099999	
12	1FUL51032B	ICAL	AA	L131.12R	AKDLSTD.MET	1	1	1	0	1013099999	
13	MECL2	MISC	AA	L131.13R	AKDLSTD.MET	1	1	1	0	1013099999	
14	AKSW11032A	ICAL	AA	L131.14R	AKRLSTD.MET	1	1	1	0	1013099999	
15	AKSW21032A	ICAL	AA	L131.15R	AKRLSTD.MET	1	1	1	0	1013099999	
16	AKSW31032A	ICAL	AA	L131.16R	AKRLSTD.MET	1	1	1	0	1013099999	
17	AKSW41032A	ICAL	AA	L131.17R	AKRLSTD.MET	1	1	1	0	1013099999	
18	AKSW51032A	ICAL	AA	L131.18R	AKRLSTD.MET	1	1	1	0	1013099999	
19	MECL2	MISC	AA	L131.19R	AKDLSTD.MET	1	1	1	0	1013099999	
20	1MDLX1032A	CCAL	GL	L131.20R	AKDLSTD.MET	1	1	1	0	1013099999	
21	AKMDX1032A	CCAL	BT	L131.21R	AKRLSTD.MET	1	1	1	0	1013099999	
22	AKCDX1032A	CCAL	AV	L131.22R	AKDLSTD.MET	1	1	1	0	1013099999	
23	AKCRX1032A	CCAL	AW	L131.23R	AKRLSTD.MET	1	1	1	0	1013099999	
24	AKCK31032A	CCAL	KA	L131.24R	AKRLSTD.MET	1	1	1	0	1012999999	
25	5971367DF5	T	AB	L131.25R	AKRLSUM.MET	25	5	1	0	101260014A	01738
26	5971368DF2	T	AB	L131.26R	AKRLSUM.MET	25	2	1	0	101260014A	01738
27	5971358DF10	T	AB	L131.27R	AKRLSUM.MET	25	10	1	0	101260014A	01738
28	5971359DF5	T	AB	L131.28R	AKRLSUM.MET	25	5	1	0	101260014A	01738
29	5971371DF10	T	AB	L131.29R	AKRLSUM.MET	25	10	1	0	101260014A	01738
30	5971372DF10	T	AB	L131.30R	AKRLSUM.MET	25	10	1	0	101260014A	01738
31	5971376DF10	T	AB	L131.31R	AKRLSUM.MET	25	10	1	0	101260014A	01738
32	5971356DF50	T	AC	L131.32R	AKRLSUM.MET	25	50	1	0	101260014A	01738
33	5971357DF50	T	AC	L131.33R	AKRLSUM.MET	25	50	1	0	101260014A	01738
34	5971360DF50	T	AC	L131.34R	AKRLSUM.MET	25	50	1	0	101260014A	01738
35	AKCK21032A	CCAL	KR	L131.35R	AKRLSTD.MET	1	1	1	0	1012999999	
36	5971361DF25	T	AC	L131.36R	AKRLSUM.MET	25	25	1	0	101260014A	01738
37	5971362DF25	T	AC	L131.37R	AKRLSUM.MET	25	25	1	0	101260014A	01738
38	5971363DF50	T	AC	L131.38R	AKRLSUM.MET	25	50	1	0	101260014A	01738
39	5971364DF50	T	AC	L131.39R	AKRLSUM.MET	25	50	1	0	101260014A	01738
40	5971365DF50	T	AC	L131.40R	AKRLSUM.MET	25	50	1	0	101260014A	01738
41	5971370DF2	T	AB	L131.41R	AKRLSUM.MET	25	2	1	0	101260014A	01738
42	5971370MSDF2	MS	AB	L131.42R	AKRLSUM.MET	25	2	1	0	101260014A	01738
43	5971370MSDDF2	MSD	AB	L131.43R	AKRLSUM.MET	25	2	1	0	101260014A	01738
44	AKCK41032A	CCAL	IJ	L131.44R	AKRLSTD.MET	1	1	1	0	1012999999	
45	BLANKA 5/8/10	BLK	AA	L131.45R	AKRLSUM.MET	25	1	1	0	101270012A	01738
46	LCSA 5/8/10	LCS	AA	L131.46R	AKRLSUM.MET	25	1	1	0	101270012A	01738
47	LCSDA 5/8/10	LCSD	AA	L131.47R	AKRLSUM.MET	25	1	1	0	101270012A	01738
48	5971380	T	AA	L131.48R	AKRLSUM.MET	25	1	1	0	101270012A	01738
49	5971384	T	AA	L131.49R	AKRLSUM.MET	25	1	1	0	101270012A	01738
50	5971382DF2	T	AC	L131.50R	AKRLSUM.MET	25	2	1	0	101270012A	01738

AMD01 0886

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CHROM PERFECT SEQUENCE FILE

Sequence File: \\cp24\C-Drive\CPWIN\DATA1\L131.seq

Chromatography Directory: \\cp24\C-Drive\CPWIN\DATA1

Method Directory: \\cp24\C-Drive\CPWIN\DATA1

Number of Entries: 65

	Samplename	Code	ID	FileName	Method	Samp Amt	DF	Int Std	C	Batch Number	Analysis
51	5971383	T	AA	L131.51R	AKRLSUM.MET	25	1	1	0	101270012A	01738
52	5971378DF5	T	AC	L131.52R	AKRLSUM.MET	25	5	1	0	101270012A	01738
53	5971378MSDF5	MS	AC	L131.53R	AKRLSUM.MET	25	5	1	0	101270012A	01738
54	5971378MSDDF5	MSD	AC	L131.54R	AKRLSUM.MET	25	5	1	0	101270012A	01738
55	AKCK31032A	CCAL	KB	L131.55R	AKRLSTD.MET	1	1	1	0	1012999999	
56	5971379DF10	T	AC	L131.56R	AKRLSUM.MET	25	10	1	0	101270012A	01738
57	5971381DF5	T	AC	L131.57R	AKRLSUM.MET	25	5	1	0	101270012A	01738
58	5971385DF5	T	AC	L131.58R	AKRLSUM.MET	25	5	1	0	101270012A	01738
59	5971386DF5	T	AC	L131.59R	AKRLSUM.MET	25	5	1	0	101270012A	01738
60	5971387DF10	T	AC	L131.60R	AKRLSUM.MET	25	10	1	0	101270012A	01738
61	5971388DF5	T	AC	L131.61R	AKRLSUM.MET	25	5	1	0	101270012A	01738
62	5971389DF10	T	AC	L131.62R	AKRLSUM.MET	25	10	1	0	101270012A	01738
63	5971390DF5	T	AC	L131.63R	AKRLSUM.MET	25	5	1	0	101270012A	01738
64	AKCK41032A	CCAL	IK	L131.64R	AKRLSTD.MET	1	1	1	0	1012999999	
65	AKRTX1032A	CCAL	DY	L131.65R	AKRTL.MET	1	1	1	0	1013099999	

AKD87 0087

Set-up by: Heather Williams Date: 6/12/10

5/12/10

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CHROM PERFECT SEQUENCE FILE

Sequence File: \\cp24\C-Drive\CPWIN\DATA1\L133.seq

Chromatography Directory: \\cp24\C-Drive\CPWIN\DATA1

Method Directory: \\cp24\C-Drive\CPWIN\DATA1

Number of Entries: 53

	Samplename	Code	ID	FileName	Method	Samp Amt	DF	Int Std	C	Batch Number	Analysis
1	CONDITIONER	MISC	AA	L133.01R	CTLSTD.MET	1	1	1	0	1013299999	
2	CNIC30932B	CCAL	UC	L133.02R	CTLSTD.MET	1	1	1	0	1013299999	
3	BLANKA 5/10/10S	BLK	AB	L133.03R	CTLSUM.MET	30	1	1	0	101300015A	02769
4	LCSA 5/10/10S	LCS	AB	L133.04R	CTLSUM.MET	30	1	1	0	101300015A	02769
5	5966344RS	T	AB	L133.05R	CTLSUM.MET	30	1	1	0	101300015A	02769
6	5966344 5/10/10S	DUP	AB	L133.06R	CTLSUM.MET	30	1	1	0	101300015A	02769
7	5966344RMSS	MS	AB	L133.07R	CTLSUM.MET	30	1	1	0	101300015A	02769
8	CNIC40932B	CCAL	SJ	L133.08R	CTLSTD.MET	1	1	1	0	1013299999	
9	AKRTX1032A	CCAL	DZ	L133.09R	AKRTL.MET	1	1	1	0	1013299999	
10	AKFL21032A	CCAL	NL	L133.10R	AKDLSTD.MET	1	1	1	0	1013299999	
11	BLANKA 5/12/10	BLK	AA	L133.11R	AKDLSUM.MET	1000	1	1	0	101320008A	01741
12	LCSA 5/12/10	LCS	AA	L133.12R	AKDLSUM.MET	1000	1	1	0	101320008A	01741
13	LCSDA 5/12/10	LCSD	AA	L133.13R	AKDLSUM.MET	1000	1	1	0	101320008A	01741
14	5976898	T	AA	L133.14R	AKDLSUM.MET	990	1	1	0	101320008A	01741
15	5976899	T	AA	L133.15R	AKDLSUM.MET	990	1	1	0	101320008A	01741
16	5976900	T	AA	L133.16R	AKDLSUM.MET	100	1	1	0	101320008A	01741
17	LCSA 5/12/10	LCS	AA	L133.17R	AKDLSUM.MET	25	1	1	0	101320011A	01742
18	LCSDA 5/12/10	LCSD	AA	L133.18R	AKDLSUM.MET	25	1	1	0	101320011A	01742
19	BLANKA 5/12/10	BLK	AA	L133.19R	AKDLSUM.MET	25	1	1	0	101320011A	01742
20	5975347	T	AA	L133.20R	AKDLSUM.MET	25	1	1	0	101320011A	01742
21	AKFL31032A	CCAL	NV	L133.21R	AKDLSTD.MET	1	1	1	0	1013299999	
22	5975347MS	MS	AA	L133.22R	AKDLSUM.MET	25	1	1	0	101320011A	01742
23	5975347MSD	MSD	AA	L133.23R	AKDLSUM.MET	25	1	1	0	101320011A	01742
24	5975348	T	AA	L133.24R	AKDLSUM.MET	25	1	1	0	101320011A	01742
25	5975349	T	AA	L133.25R	AKDLSUM.MET	25	1	1	0	101320011A	01742
26	5975350	T	AA	L133.26R	AKDLSUM.MET	25	1	1	0	101320011A	01742
27	5975351	T	AA	L133.27R	AKDLSUM.MET	25	1	1	0	101320011A	01742
28	MECL2	MISC	AA	L133.28R	AKDLSTD.MET	1	1	1	0	1013299999	
29	LCSA 5/11/10	LCS	AA	L133.29R	AKDLSUM.MET	1000	1	1	0	101310001A	01741
30	LCSDA 5/11/10	LCSD	AA	L133.30R	AKDLSUM.MET	1000	1	1	0	101310001A	01741
31	BLANKA 5/11/10	BLK	AA	L133.31R	AKDLSUM.MET	1000	1	1	0	101310001A	01741
32	AKFL41032A	CCAL	MF	L133.32R	AKDLSTD.MET	1	1	1	0	1013299999	
33	5974502	T	AA	L133.33R	AKDLSUM.MET	990	1	1	0	101310001A	01741
34	5974503	T	AA	L133.34R	AKDLSUM.MET	960	1	1	0	101310001A	01741
35	5974504	T	AA	L133.35R	AKDLSUM.MET	983	1	1	0	101310001A	01741
36	5974505	T	AA	L133.36R	AKDLSUM.MET	1035	1	1	0	101310001A	01741
37	5974506	T	AA	L133.37R	AKDLSUM.MET	975	1	1	0	101310001A	01741
38	5975519	T	AA	L133.38R	AKDLSUM.MET	990	1	1	0	101310001A	01741
39	5975520	T	AA	L133.39R	AKDLSUM.MET	997	1	1	0	101310001A	01741
40	5975521	T	AA	L133.40R	AKDLSUM.MET	980	1	1	0	101310001A	01741
41	5975522	T	AA	L133.41R	AKDLSUM.MET	973	1	1	0	101310001A	01741
42	5975523	T	AA	L133.42R	AKDLSUM.MET	985	1	1	0	101310001A	01741
43	AKFL21032A	CCAL	NM	L133.43R	AKDLSTD.MET	1	1	1	0	1013299999	
44	5975525	T	AA	L133.44R	AKDLSUM.MET	980	1	1	0	101310001A	01741
45	5975533	T	AA	L133.45R	AKDLSUM.MET	978	1	1	0	101310001A	01741
46	5975353	T	AA	L133.46R	AKDLSUM.MET	970	1	1	0	101310001A	01741
47	5975524	T	AA	L133.47R	AKDLSUM.MET	978	1	1	0	101310001A	01741
48	5975526	T	AA	L133.48R	AKDLSUM.MET	970	1	1	0	101310001A	01741
49	5975527	T	AA	L133.49R	AKDLSUM.MET	990	1	1	0	101310001A	01741
50	5975528	T	AA	L133.50R	AKDLSUM.MET	968	1	1	0	101310001A	01741

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CHROM PERFECT SEQUENCE FILE

Sequence File: \\cp24\C-Drive\CPWIN\DATA1\L133.seq

Chromatography Directory: \\cp24\C-Drive\CPWIN\DATA1

Method Directory: \\cp24\C-Drive\CPWIN\DATA1

Number of Entries: 53

	Samplename	Code	ID	FileName	Method	Samp Amt	DF	Int Std	C	Batch Number	Analysis
51	AKFL31032A	CCAL	NW	L133.51R	AKDLSTD.MET	1	1	1	0	1013299999	
52	AKRTX1032A	CCAL	EA	L133.52R	AKRTL.MET	1	1	1	0	1013299999	
53	AKFL31032A	CCAL	NW	L133.53R	AKDLSTD.MET	1	1	1	0	1013299999	

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Set-up by: [signature] Date: 5/14/10

5/14/10

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CHROM PERFECT SEQUENCE FILE

Sequence File: \\cp24\C-Drive\CPWIN\DATA1\I134.seq
Chromatography Directory: \\cp24\C-Drive\CPWIN\DATA1
Method Directory: \\cp24\C-Drive\CPWIN\DATA1
Number of Entries: 99

	Samplename	Code	ID	FileName	Method	Samp Amt	DF	Int Std	C	Batch Number	Analysis
1	5974504DF10	T	AB	I134.01R	AKDLSUM.MET	983	10	1	0	101310001A	01741
2	5974506DF10	T	AB	I134.02R	AKDLSUM.MET	975	10	1	0	101310001A	01741
3	5975353DF5	T	AB	I134.03R	AKDLSUM.MET	970	5	1	0	101310001A	01741
4	5975520DF50	T	AB	I134.04R	AKDLSUM.MET	997	50	1	0	101310001A	01741
5	5975526DF5	T	AB	I134.05R	AKDLSUM.MET	970	5	1	0	101310001A	01741
6	5975527DF10	T	AB	I134.06R	AKDLSUM.MET	990	10	1	0	101310001A	01741
7	5975528DF10	T	AB	I134.07R	AKDLSUM.MET	968	10	1	0	101310001A	01741
8	LCSA 5/14/10	LCS	AA	I134.08R	AKDLSUM.MET	1000	1	1	0	101330021A	01741
9	LCSDA 5/14/10	LCSD	AA	I134.09R	AKDLSUM.MET	1000	1	1	0	101330021A	01741
10	BLANKA 5/14/10	BLK	AA	I134.10R	AKDLSUM.MET	1000	1	1	0	101330021A	01741
11	AKFL41032A	CCAL	MH	I134.11R	AKDLSTD.MET	1	1	1	0	1013399999	
12	5977509	T	AA	I134.12R	AKDLSUM.MET	996	1	1	0	101330021A	01741
13	5977510	T	AA	I134.13R	AKDLSUM.MET	987	1	1	0	101330021A	01741
14	5977698	T	AA	I134.14R	AKDLSUM.MET	970	1	1	0	101330021A	01741
15	5977699	T	AA	I134.15R	AKDLSUM.MET	990	1	1	0	101330021A	01741
16	5977853	T	AA	I134.16R	AKDLSUM.MET	1053	1	1	0	101330021A	01741
17	5977854	T	AA	I134.17R	AKDLSUM.MET	1055	1	1	0	101330021A	01741
18	5977855	T	AA	I134.18R	AKDLSUM.MET	1051	1	1	0	101330021A	01741
19	5977856	T	AA	I134.19R	AKDLSUM.MET	1035	1	1	0	101330021A	01741
20	5977858	T	AA	I134.20R	AKDLSUM.MET	1050	1	1	0	101330021A	01741
21	5977859	T	AA	I134.21R	AKDLSUM.MET	1046	1	1	0	101330021A	01741
22	AKFL21032A	CCAL	NN	I134.22R	AKDLSTD.MET	1	1	1	0	1013399999	
23	5977860	T	AA	I134.23R	AKDLSUM.MET	1052	1	1	0	101330021A	01741
24	5977862	T	AA	I134.24R	AKDLSUM.MET	1051	1	1	0	101330021A	01741
25	5977861	T	AA	I134.25R	AKDLSUM.MET	1046	1	1	0	101330021A	01741
26	5977695	T	AA	I134.26R	AKDLSUM.MET	1019	1	1	0	101330021A	01741
27	5977696	T	AA	I134.27R	AKDLSUM.MET	983	1	1	0	101330021A	01741
28	MECL2	MISC	AA	I134.28R	AKDLSTD.MET	1	1	1	0	1013399999	
29	5977697	T	AA	I134.29R	AKDLSUM.MET	985	1	1	0	101330021A	01741
30	MECL2	MISC	AA	I134.30R	AKDLSTD.MET	1	1	1	0	1013399999	
31	5977857	T	AA	I134.31R	AKDLSUM.MET	1040	1	1	0	101330021A	01741
32	MECL2	MISC	AA	I134.32R	AKDLSTD.MET	1	1	1	0	1013399999	
33	AKFL31032A	CCAL	NX	I134.33R	AKDLSTD.MET	1	1	1	0	1013399999	
34	AKCK21032A	CCAL	KT	I134.34R	AKRLSTD.MET	1	1	1	0	1013399999	
35	BLANKA 5/12/10	BLK	AA	I134.35R	AKRLSUM.MET	25	1	1	0	101310015A	01738
36	LCSA 5/12/10	LCS	AA	I134.36R	AKRLSUM.MET	25	1	1	0	101310015A	01738
37	LCSDA 5/12/10	LCSD	AA	I134.37R	AKRLSUM.MET	25	1	1	0	101310015A	01738
38	5975364	T	AA	I134.38R	AKRLSUM.MET	25	1	1	0	101310015A	01738
39	5975367	T	AA	I134.39R	AKRLSUM.MET	25	1	1	0	101310015A	01738
40	5975371	T	AA	I134.40R	AKRLSUM.MET	25	1	1	0	101310015A	01738
41	5975359	T	AA	I134.41R	AKRLSUM.MET	25	1	1	0	101310015A	01738
42	5975360	T	AA	I134.42R	AKRLSUM.MET	25	1	1	0	101310015A	01738
43	5975365	T	AA	I134.43R	AKRLSUM.MET	25	1	1	0	101310015A	01738
44	5975372	T	AA	I134.44R	AKRLSUM.MET	25	1	1	0	101310015A	01738
45	AKCK31032A	CCAL	KD	I134.45R	AKRLSTD.MET	1	1	1	0	1013399999	
46	5975356	T	AA	I134.46R	AKRLSUM.MET	25	1	1	0	101310015A	01738
47	5975362	T	AA	I134.47R	AKRLSUM.MET	25	1	1	0	101310015A	01738
48	5975363	T	AA	I134.48R	AKRLSUM.MET	25	1	1	0	101310015A	01738
49	5975370	T	AA	I134.49R	AKRLSUM.MET	25	1	1	0	101310015A	01738
50	5975355	T	AA	I134.50R	AKRLSUM.MET	25	1	1	0	101310015A	01738

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CHROM PERFECT SEQUENCE FILE

Sequence File: \\cp24\C-Drive\CPWIN\DATA1\I134.seq
Chromatography Directory: \\cp24\C-Drive\CPWIN\DATA1
Method Directory: \\cp24\C-Drive\CPWIN\DATA1
Number of Entries: 99

	Samplename	Code	ID	FileName	Method	Samp Amt	DF	Int Std	C	Batch Number	Analysis
51	5975355MS	MS	AA	I134.51R	AKRLSUM.MET	25	1	1	0	101310015A	01738
52	5975355MSD	MSD	AA	I134.52R	AKRLSUM.MET	25	1	1	0	101310015A	01738
53	5975366	T	AA	I134.53R	AKRLSUM.MET	25	1	1	0	101310015A	01738
54	MECL2	MISC	AA	I134.54R	AKRLSTD.MET	1	1	1	0	1013399999	
55	MECL2	MISC	AA	I134.55R	AKRLSTD.MET	1	1	1	0	1013399999	
56	AKCK41032A	CCAL	IM	I134.56R	AKRLSTD.MET	1	1	1	0	1013399999	
57	5975368	T	AA	I134.57R	AKRLSUM.MET	25	1	1	0	101310015A	01738
58	MECL2	MISC	AA	I134.58R	AKRLSTD.MET	1	1	1	0	1013399999	
59	MECL2	MISC	AA	I134.59R	AKRLSTD.MET	1	1	1	0	1013399999	
60	5975357	T	AA	I134.60R	AKRLSUM.MET	25	1	1	0	101310015A	01738
61	MECL2	MISC	AA	I134.61R	AKRLSTD.MET	1	1	1	0	1013399999	
62	MECL2	MISC	AA	I134.62R	AKRLSTD.MET	1	1	1	0	1013399999	
63	5975358	T	AA	I134.63R	AKRLSUM.MET	25	1	1	0	101310015A	01738
64	MECL2	MISC	AA	I134.64R	AKRLSTD.MET	1	1	1	0	1013399999	
65	MECL2	MISC	AA	I134.65R	AKRLSTD.MET	1	1	1	0	1013399999	
66	AKCK21032A	CCAL	KU	I134.66R	AKRLSTD.MET	1	1	1	0	1013399999	
67	5975361	T	AA	I134.67R	AKRLSUM.MET	25	1	1	0	101310015A	01738
68	MECL2	MISC	AA	I134.68R	AKRLSTD.MET	1	1	1	0	1013399999	
69	MECL2	MISC	AA	I134.69R	AKRLSTD.MET	1	1	1	0	1013399999	
70	AKCK31032A	CCAL	KE	I134.70R	AKRLSTD.MET	1	1	1	0	1013399999	
71	BLANKA 5/14/10	BLK	AA	I134.71R	AKRLSUM.MET	25	1	1	0	101330023A	01738
72	LCSA 5/14/10	LCS	AA	I134.72R	AKRLSUM.MET	25	1	1	0	101330023A	01738
73	LCSDA 5/14/10	LCSD	AA	I134.73R	AKRLSUM.MET	25	1	1	0	101330023A	01738
74	5977942	T	AA	I134.74R	AKRLSUM.MET	25	1	1	0	101330023A	01738
75	5977944	T	AA	I134.75R	AKRLSUM.MET	25	1	1	0	101330023A	01738
76	5977947	T	AA	I134.76R	AKRLSUM.MET	25	1	1	0	101330023A	01738
77	5977948	T	AA	I134.77R	AKRLSUM.MET	25	1	1	0	101330023A	01738
78	5977949	T	AA	I134.78R	AKRLSUM.MET	25	1	1	0	101330023A	01738
79	5977950	T	AA	I134.79R	AKRLSUM.MET	25	1	1	0	101330023A	01738
80	MECL2	MISC	AA	I134.80R	AKRLSTD.MET	1	1	1	0	1013399999	
81	AKCK21032A	CCAL	KV	I134.81R	AKRLSTD.MET	1	1	1	0	1013399999	
82	5977940	T	AA	I134.82R	AKRLSUM.MET	25	1	1	0	101330023A	01738
83	5977935	T	AA	I134.83R	AKRLSUM.MET	25	1	1	0	101330023A	01738
84	5977936	T	AA	I134.84R	AKRLSUM.MET	25	1	1	0	101330023A	01738
85	5977941	T	AA	I134.85R	AKRLSUM.MET	25	1	1	0	101330023A	01738
86	5977943	T	AA	I134.86R	AKRLSUM.MET	25	1	1	0	101330023A	01738
87	5977945	T	AA	I134.87R	AKRLSUM.MET	25	1	1	0	101330023A	01738
88	5977934	T	AA	I134.88R	AKRLSUM.MET	25	1	1	0	101330023A	01738
89	5977934MS	MS	AA	I134.89R	AKRLSUM.MET	25	1	1	0	101330023A	01738
90	5977934MSD	MSD	AA	I134.90R	AKRLSUM.MET	25	1	1	0	101330023A	01738
91	MECL2	MISC	AA	I134.91R	AKRLSTD.MET	1	1	1	0	1013399999	
92	AKCK41032A	CCAL	IO	I134.92R	AKRLSTD.MET	1	1	1	0	1013399999	
93	5977937	T	AA	I134.93R	AKRLSUM.MET	25	1	1	0	101330023A	01738
94	5977938	T	AA	I134.94R	AKRLSUM.MET	25	1	1	0	101330023A	01738
95	5977939	T	AA	I134.95R	AKRLSUM.MET	25	1	1	0	101330023A	01738
96	5977946	T	AA	I134.96R	AKRLSUM.MET	25	1	1	0	101330023A	01738
97	MECL2	MISC	AA	I134.97R	AKRLSTD.MET	1	1	1	0	1013399999	
98	AKCK31032A	CCAL	KF	I134.98R	AKRLSTD.MET	1	1	1	0	1013399999	
99	AKRTX1032A	CCAL	EB	I134.99R	AKRTL.MET	1	1	1	0	1013399999	

AKD87 0891

Set-up by: Heather Williams Date: 5/17/10

5/17/10

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CHROM PERFECT SEQUENCE FILE

Sequence File: \\cp24\C-Drive\CPWIN\DATA1\L137.seq
Chromatography Directory: \\cp24\C-Drive\CPWIN\DATA1
Method Directory: \\cp24\C-Drive\CPWIN\DATA1
Number of Entries: 98

	Samplename	Code	ID	FileName	Method	Samp Amt	DF	Int Std	C	Batch Number	Analysis
1	CONDITIONER	MISC	AA	L137.01R	AKRLSTD.MET	1	1	1	0	1013699999	
2	AKRTX1032A	CCAL	EC	L137.02R	AKRTL.MET	1	1	1	0	1013699999	
3	AKCK41032A	CCAL	IP	L137.03R	AKRLSTD.MET	1	1	1	0	1013699999	
4	AKCK41032A	CCAL	IP	L137.04R	AKRLSTD.MET	1	1	1	0	1013699999	
5	BLANKA 5/12/10	BLK	AA	L137.05R	AKRLSUM.MET	25	1	1	0	101310015A	01738
6	BLANKA 5/14/10	BLK	AA	L137.06R	AKRLSUM.MET	25	1	1	0	101330023A	01738
7	5975355DF2	T	AB	L137.07R	AKRLSUM.MET	25	2	1	0	101310015A	01738
8	5975355MSDF2	MS	AB	L137.08R	AKRLSUM.MET	25	2	1	0	101310015A	01738
9	5975355MSDDF2	MSD	AB	L137.09R	AKRLSUM.MET	25	2	1	0	101310015A	01738
10	5975358DF10	T	AB	L137.10R	AKRLSUM.MET	25	10	1	0	101310015A	01738
11	5975359DF2	T	AB	L137.11R	AKRLSUM.MET	25	2	1	0	101310015A	01738
12	5975360DF2	T	AB	L137.12R	AKRLSUM.MET	25	2	1	0	101310015A	01738
13	5975361DF10	T	AB	L137.13R	AKRLSUM.MET	25	10	1	0	101310015A	01738
14	5975362DF5	T	AB	L137.14R	AKRLSUM.MET	25	5	1	0	101310015A	01738
15	AKCK21032A	CCAL	KW	L137.15R	AKRLSTD.MET	1	1	1	0	1013699999	
16	5975363DF2	T	AB	L137.16R	AKRLSUM.MET	25	2	1	0	101310015A	01738
17	5975367DF2	T	AB	L137.17R	AKRLSUM.MET	25	2	1	0	101310015A	01738
18	5975370DF2	T	AB	L137.18R	AKRLSUM.MET	25	2	1	0	101310015A	01738
19	5975372DF2	T	AB	L137.19R	AKRLSUM.MET	25	2	1	0	101310015A	01738
20	5977934DF100	T	AB	L137.20R	AKRLSUM.MET	25	100	1	0	101330023A	01738
21	5977934MSDF100	MS	AB	L137.21R	AKRLSUM.MET	25	100	1	0	101330023A	01738
22	5977934MSDDF100	MSD	AB	L137.22R	AKRLSUM.MET	25	100	1	0	101330023A	01738
23	5977935DF50	T	AB	L137.23R	AKRLSUM.MET	25	50	1	0	101330023A	01738
24	5977936DF100	T	AB	L137.24R	AKRLSUM.MET	25	100	1	0	101330023A	01738
25	5977937DF5	T	AB	L137.25R	AKRLSUM.MET	25	5	1	0	101330023A	01738
26	AKCK31032A	CCAL	KG	L137.26R	AKRLSTD.MET	1	1	1	0	1013699999	
27	5977938DF5	T	AB	L137.27R	AKRLSUM.MET	25	5	1	0	101330023A	01738
28	5977939DF5	T	AB	L137.28R	AKRLSUM.MET	25	5	1	0	101330023A	01738
29	5977940DF2	T	AB	L137.29R	AKRLSUM.MET	25	2	1	0	101330023A	01738
30	5977941DF5	T	AB	L137.30R	AKRLSUM.MET	25	5	1	0	101330023A	01738
31	5977943DF50	T	AB	L137.31R	AKRLSUM.MET	25	50	1	0	101330023A	01738
32	5977945DF2	T	AB	L137.32R	AKRLSUM.MET	25	2	1	0	101330023A	01738
33	5977946DF2	T	AB	L137.33R	AKRLSUM.MET	25	2	1	0	101330023A	01738
34	AKCK41032A	CCAL	IQ	L137.34R	AKRLSTD.MET	1	1	1	0	1013699999	
35	AKFL41032A	CCAL	MI	L137.35R	AKDLSTD.MET	1	1	1	0	1013699999	
36	5977509DF25	T	AB	L137.36R	AKDLSUM.MET	996	25	1	0	101330021A	01741
37	5977510DF20	T	AB	L137.37R	AKDLSUM.MET	987	20	1	0	101330021A	01741
38	5977698DF2	T	AB	L137.38R	AKDLSUM.MET	970	2	1	0	101330021A	01741
39	5977699DF2	T	AB	L137.39R	AKDLSUM.MET	990	2	1	0	101330021A	01741
40	5975358DF20	T	AC	L137.40R	AKRLSUM.MET	25	20	1	0	101310015A	01738
41	5975361DF20	T	AC	L137.41R	AKRLSUM.MET	25	20	1	0	101310015A	01738
42	AKCK21032A	CCAL	KX	L137.42R	AKRLSTD.MET	1	1	1	0	1013799999	
43	5977855DF10	T	AB	L137.43R	AKDLSUM.MET	1051	10	1	0	101330021A	01741
44	5977857DF10	T	AB	L137.44R	AKDLSUM.MET	1040	10	1	0	101330021A	01741
45	5977859DF2	T	AB	L137.45R	AKDLSUM.MET	1046	2	1	0	101330021A	01741
46	5977862DF10	T	AB	L137.46R	AKDLSUM.MET	1051	10	1	0	101330021A	01741
47	AKFL21032A	CCAL	NP	L137.47R	AKDLSTD.MET	1	1	1	0	1013699999	
48	BLANKA 5/17/10	BLK	AA	L137.48R	AKDLSUM.MET	1000	1	1	0	101350012A	01741
49	LCSA 5/17/10	LCS	AA	L137.49R	AKDLSUM.MET	1000	1	1	0	101350012A	01741
50	LCSDA 5/17/10	LCSD	AA	L137.50R	AKDLSUM.MET	1000	1	1	0	101350012A	01741

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CHROM PERFECT SEQUENCE FILE

Sequence File: \\cp24\C-Drive\CPWIN\DATA1\L137.seq
Chromatography Directory: \\cp24\C-Drive\CPWIN\DATA1
Method Directory: \\cp24\C-Drive\CPWIN\DATA1
Number of Entries: 98

	Samplename	Code	ID	FileName	Method	Samp Amt	DF	Int Std	C	Batch Number	Analysis
51	5978709	T	AA	L137.51R	AKDLSUM.MET	1066	1	1	0	101350012A	01741
52	5978711	T	AA	L137.52R	AKDLSUM.MET	1061	1	1	0	101350012A	01741
53	5978712	T	AA	L137.53R	AKDLSUM.MET	1050	1	1	0	101350012A	01741
54	5978713	T	AA	L137.54R	AKDLSUM.MET	1060	1	1	0	101350012A	01741
55	5978714	T	AA	L137.55R	AKDLSUM.MET	1060	1	1	0	101350012A	01741
56	5978715	T	AA	L137.56R	AKDLSUM.MET	1069	1	1	0	101350012A	01741
57	5978716	T	AA	L137.57R	AKDLSUM.MET	1041	1	1	0	101350012A	01741
58	AKFL31032A	CCAL	NY	L137.58R	AKDLSTD.MET	1	1	1	0	1013699999	
59	5978717	T	AA	L137.59R	AKDLSUM.MET	1055	1	1	0	101350012A	01741
60	5978710	T	AA	L137.60R	AKDLSUM.MET	1035	1	1	0	101350012A	01741
61	MECL2	MISC	AA	L137.61R	AKDLSTD.MET	1	1	1	0	1013699999	
62	MECL2	MISC	AA	L137.62R	AKDLSTD.MET	1	1	1	0	1013699999	
63	5978708	T	AA	L137.63R	AKDLSUM.MET	1009	1	1	0	101350012A	01741
64	MECL2	MISC	AA	L137.64R	AKDLSTD.MET	1	1	1	0	1013699999	
65	MECL2	MISC	AA	L137.65R	AKDLSTD.MET	1	1	1	0	1013699999	
66	MECL2	MISC	AA	L137.66R	AKDLSTD.MET	1	1	1	0	1013699999	
67	AKFL41032A	CCAL	MJ	L137.67R	AKDLSTD.MET	1	1	1	0	1013699999	
68	AKCK41032A	CCAL	IR	L137.68R	AKRLSTD.MET	1	1	1	0	1013799999	
69	BLANKA 5/18/10	BLK	AA	L137.69R	AKRLSUM.MET	25	1	1	0	101370018A	01738
70	LCSA 5/18/10	LCS	AA	L137.70R	AKRLSUM.MET	25	1	1	0	101370018A	01738
71	LCSDA 5/18/10	LCSD	AA	L137.71R	AKRLSUM.MET	25	1	1	0	101370018A	01738
72	5981169	T	AA	L137.72R	AKRLSUM.MET	25	1	1	0	101370018A	01738
73	5981171	T	AA	L137.73R	AKRLSUM.MET	25	1	1	0	101370018A	01738
74	5981164	T	AA	L137.74R	AKRLSUM.MET	25	1	1	0	101370018A	01738
75	5981165	T	AA	L137.75R	AKRLSUM.MET	25	1	1	0	101370018A	01738
76	5981170	T	AA	L137.76R	AKRLSUM.MET	25	1	1	0	101370018A	01738
77	5981172	T	AA	L137.77R	AKRLSUM.MET	25	1	1	0	101370018A	01738
78	MECL2	MISC	AA	L137.78R	AKDLSTD.MET	1	1	1	0	1013699999	
79	AKCK31032A	CCAL	KH	L137.79R	AKRLSTD.MET	1	1	1	0	1013799999	
80	5981161	T	AA	L137.80R	AKRLSUM.MET	25	1	1	0	101370018A	01738
81	5981162	T	AA	L137.81R	AKRLSUM.MET	25	1	1	0	101370018A	01738
82	5981163	T	AA	L137.82R	AKRLSUM.MET	25	1	1	0	101370018A	01738
83	5981168	T	AA	L137.83R	AKRLSUM.MET	25	1	1	0	101370018A	01738
84	5981166	T	AA	L137.84R	AKRLSUM.MET	25	1	1	0	101370018A	01738
85	5981160	T	AA	L137.85R	AKRLSUM.MET	25	1	1	0	101370018A	01738
86	5981167	T	AA	L137.86R	AKRLSUM.MET	25	1	1	0	101370018A	01738
87	MECL2	MISC	AA	L137.87R	AKDLSTD.MET	1	1	1	0	1013699999	
88	MECL2	MISC	AA	L137.88R	AKDLSTD.MET	1	1	1	0	1013699999	
89	AKCK21032A	CCAL	KY	L137.89R	AKRLSTD.MET	1	1	1	0	1013799999	
90	5981157DF2	T	AB	L137.90R	AKRLSUM.MET	25	2	1	0	101370018A	01738
91	5981157MSDF2	MS	AB	L137.91R	AKRLSUM.MET	25	2	1	0	101370018A	01738
92	5981157MSDDF2	MSD	AB	L137.92R	AKRLSUM.MET	25	2	1	0	101370018A	01738
93	5981158DF5	T	AB	L137.93R	AKRLSUM.MET	25	5	1	0	101370018A	01738
94	5981159DF5	T	AB	L137.94R	AKRLSUM.MET	25	5	1	0	101370018A	01738
95	MECL2	MISC	AA	L137.95R	AKDLSTD.MET	1	1	1	0	1013699999	
96	MECL2	MISC	AA	L137.96R	AKDLSTD.MET	1	1	1	0	1013699999	
97	AKCK41032A	CCAL	IS	L137.97R	AKRLSTD.MET	1	1	1	0	1013799999	
98	AKRTX1032A	CCAL	ED	L137.98R	AKRTL.MET	1	1	1	0	1013699999	

AKD87 0093

Set-up by: Heather Williams Date: 5/19/10

5/19/10

Raw QC Data

Lancaster Laboratories-Range Data Summary

Sample Name: BLANKA 5/14/10 PBLKTW Sample ID: AA **Batchnumber:** 101330021A
Sample Amount: 1000. Total Volume: 1. ml Analyst: 2027 SDG: State:
Analyses: 01741

Injection Summary

Injected on : 5/14/2010 17:18:18
Instrument : CP24--H5386A
Result file : L134.10R
Calibration files : AKDL131A.CAL
Method files : AKDLSUM.MET REAKDL.MET
Setting : AKDL131A

Surrogate Recoveries

O-TERPHENYL SURR 86.6% (50-150) Conc.: 10.387

Range	Retention Times	Area	Amount	LOQ	MDL	Flags	Units
C10-<C25 DRO	2.52 - 12.08	603542	0.0102	<0.25	<0.05		ppm
o-Terphenyl SURR	9.86 (9.82 - 9.92)	329857	10.3870				ppb

Comments:

AKD87 0095

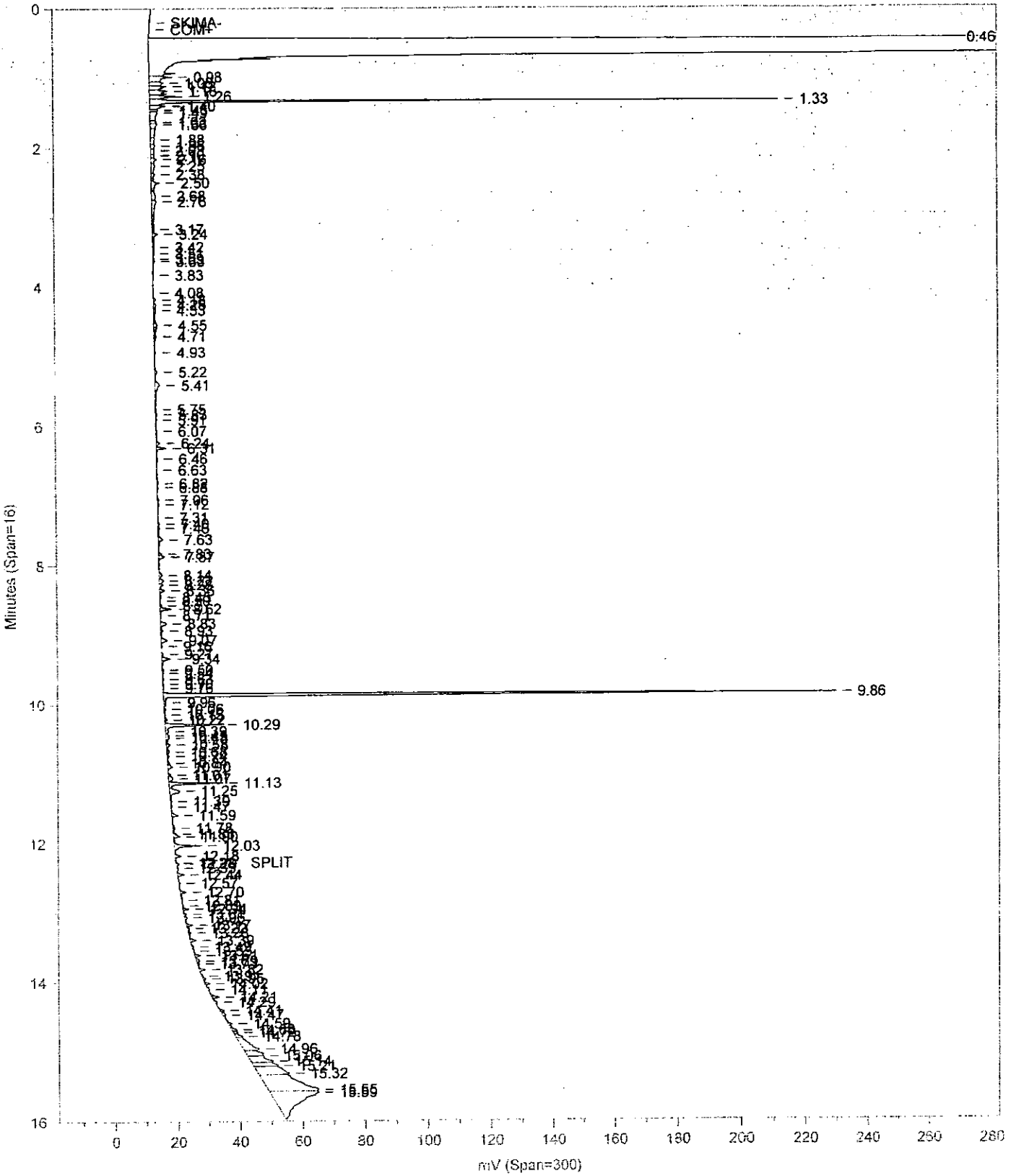
Reviewed by: [illegible] Date: 5/18/
Verified by: [illegible] Date: 5/18/10

5/17/10 17:38

AK 102/103

BLANKA 5/14/10 AAPBLKTW BLK 101330021A 01741

C:\CPWIN\DATA1\L134.10R



Instrument ID:CP24--H5386A
Injected on: 5/14/2010 5:18:17 PM
Volume Inj. per Column: 1
GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
AKD87 0896
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 1000
Dilution Factor: 1

AK 102/103

Sample ID: BLANKA 5/14/10 AAPBLKTW BLK 101330021A 01741
Instrument ID:CP24--H5386A Injected on: 5/14/2010 5:18:17 PM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 1000 Dilution Factor: 1
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPB	Peak Area	Peak Width (min)	Peak Height
77	9.861	o-Terphenyl SURR	10.4484	331822	.024	214401
102	12.179	C25		3428	.024	1909

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %
1	2.520	12.080	10.448	100.000	603542.3	4.208
2	9.820	9.920	10.448	100.000	331822.5	2.314

Total slice amount= 20.897 Total slice area= 935364.8
Total slice amount %= 200.0 Total slice area %= 6.5

********** RESULTS TABLE **********

C10-<C25 DRO AREA = 603542.3
C10-<C25 AMT = 1.009538E-02

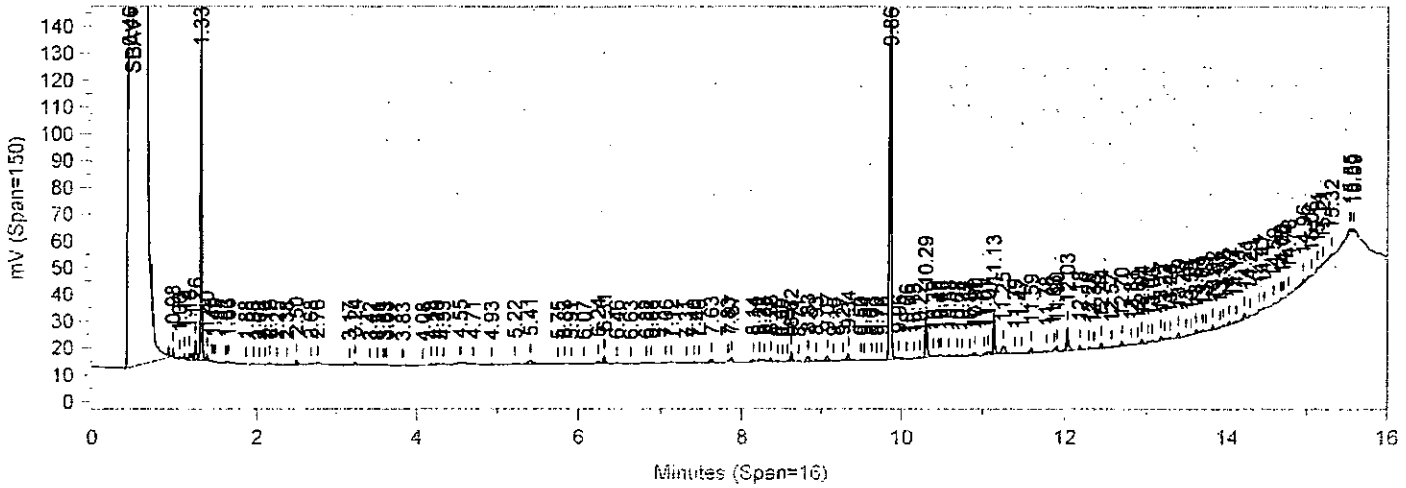
FILES:
Area File: C:\CPWIN\DATA1\L134.10A
Method File: C:\CPWIN\DATA1\AKDLSUM.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\AKDLSUM.FMT
Area file created on: 5/14/2010 5:34:26 PM
File reported on: 5/14/2010 at 5:34:27 PM

AKD87 0897

AK 102/103

BLANKA 5/14/10 AAPBLKTW BLK 101330021A 01741

C:\CPWIN\DATA1\L134.10R



Sample Name:BLANKA 5/14/10 AAPBLKTW BLK 101330021A 01741A

Instrument ID:CP24--H5386A Injected on: 5/14/2010 5:18:17 PM
Volume Inj. per Column: 1 GC Column: ZB-5 30M x 0.32mm x 0.25um INJ 300C: DET 320C
Oven Parameters: 50C 1MIN; 15C/MIN TO 180C; 30C/MIN TO 340C; HOLD 1MIN
Sample Amount: 1000 Dilution Factor: 1
Analyst: 2027

Peak #	Ret Time (min)	Peak Name	Amount PPM	Peak Area	Peak Width (min)	Peak Height
77	9.861	o-Terphenyl SURR	.0103865	329857	.024	214207
102	12.179	C25	.	3138	.024	1847

Slice	Start Time	Stop Time	Slice Amount	Amount %	Slice Area	Area %

Total slice amount= 0.000 Total slice area= 0.0
Total slice amount %= 0.0 Total slice area %= 0.0

O-TERPHENYL % RECOVERY = 86.5543 %

FILES:
Area File: C:\CPWIN\DATA1\L134.10A
Method File: C:\CPWIN\DATA1\REAKDL.MET
Calibration File: C:\CPWIN\DATA1\AKDL131A.CAL
Format File: C:\CPWIN\DATA1\REAKDL.FMT
Area file created on: 5/14/2010 5:34:40 PM
File reported on: 5/14/2010 at 5:34:41 PM

AKD87 0098

Extraction/Distillation/Digestion Logs

Organic Extraction Batchlog

101330021A

Reviewed By: LWW/DN Start Date: 5/14/10 Start Time: 8:50

Tech 1: C052257 Tech 2:

Prep Group # 326 AK TPH/DRO in Water Dept: 32 Prep Analysis # 02135 Extraction - DRO Water Special

QC	Sample Code	Amt (mL)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	BC	Comments
BLANKA	PBLKTW	1000	~~SS1011932A~~	1.0			1.0			NA	DI H2O
LCSA	LCSZV	1000	SS1011932A	1.0	MS1011232B	1.0	1.0			NA	DI H2O
LCSDA	LCSDDA	1000	~~SS1011932A~~	1.0	MS1011232B	1.0	1.0			NA	DI H2O

Solvent Used	Lot No.
1:1 HCl	9183-10
Methylene Chloride	102450
Sodium Sulfate	10134A

Spike Solutions: **Witness:** RK2133

- ~~SS1011932A~~ DRO WATER SURROGATE
- ~~MS1011232B~~ DRO WATER SPIKE
- SS1013332A
- MS1013032B

1:1 HCl added to QC C052257 5/14/10

	Sample #	Sample Code	Amt (mL)	SS/IS Sol.	Amt (mL)	FV (mL)	pH	pH	BC	Comments	Analyses	Due Date	Pr
1	5977509	JUNM4	996	~~SS1011932A~~	1.0	1.0			29A	tan w/sed	1741	5/20/2010	P
2	5977510	JUND1	987	SS1011932A	1.0	1.0			29A	tan w/sed	1741	5/20/2010	P
3	5977695	GLAM1	1019	SS1011932A	1.0	1.0			29A	Brown w/sed	1741	5/20/2010	P
4	5977696	GLAM2	983	SS1011932A	1.0	1.0			29A	Brown w/sed	1741	5/20/2010	P
5	5977697	GLAM3	985	SS1011932A	1.0	1.0			29A	Brown w/sed	1741	5/20/2010	P
6	5977698	GLAM4	970	SS1011932A	1.0	1.0			29A	Brown w/sed	1741	5/20/2010	P
7	5977699	GLAD1	940	SS1011932A	1.0	1.0			29A	Brown w/sed	1741	5/20/2010	P
8	5977853	OLDM1	1053	SS1011932A	1.0	1.0			29A	Brown w/sed	1741	5/20/2010	P
9	5977854	OLDM2	1055	SS1011932A	1.0	1.0			29A	Brown w/sed	1741	5/20/2010	P
10	5977855	OLDM3	1051	SS1011932A	1.0	1.0			29A	tan	1741	5/20/2010	P
11	5977856	OLDM4	1035	SS1011932A	1.0	1.0			29A	Brown w/sed	1741	5/20/2010	P
12	5977857	OLDM7	1040	SS1011932A	1.0	1.0			29A	Brown w/sed	1741	5/20/2010	P
13	5977858	OLDM6	1050	SS1011932A	1.0	1.0			29A	Brown w/sed	1741	5/20/2010	P
14	5977859	OLDM8	1046	SS1011932A	1.0	1.0			29A	tan w/sed	1741	5/20/2010	P
15	5977860	OLDM9	1052	SS1011932A	1.0	1.0			29A	Brown w/sed	1741	5/20/2010	P
16	5977861	OLD10	1046	SS1011932A	1.0	1.0			29A	Brown w/sed	1741	5/20/2010	P
17	5977862	OLDBD	1051	~~SS1011932A~~	1.0	1.0			29A	tan w/sed	1741	5/20/2010	P
18													
19													
20													

C052257 5/14/10

Rack ID:		Work Station:	H2OBench3
Internal Standard		Balance #	15661

S-bath ID 1 88 °C | S-bath ID — °C | N-Evap — °C | M-vap 5342 40 °C | 101330021A

Documented temps are NIST corrected.

DF = Dilution Factor FV = Final Volume

Instrumental Analysis Data

AKD87 0101

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: ChevronTexaco
SDG: AKD87

Instrumental Water Quality

Sample #	Matrix Liquid	Solid	Comments
5977509	X		
5977510	X		Field Duplicate Sample

ANALYSIS:

Dilutions are listed in the table below:

Samples	Nitrate Nitrogen	Sulfate
5977509		DF5
5977510		DF5
LCS	DF10	
P977021		U/BKG/ DF20
P977022		R/ DF50
P977024		D/ DF20
P977802	U/BKG,R,D/ DF5	

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method or by the client.

All QC is within specification.

DATA INTERPRETATION:

No further interpretation is necessary for the data submitted.

Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable
HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon
AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

Lancaster Laboratories

CLIENT: ChevronTexaco
SDG: AKD87

Narrative Reviewed and Approved by:

Date 6/11/10

Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Instrumental Water Quality

CLIENT: ChevronTexaco
SDG: AKD87

Analyte	Batch Number	Sample Number
Nitrate Nitrogen	10137106102A	5977509
		5977510
		P977802 U/BKG,R,D
		Blank
		LCS
Nitrite Nitrogen	10132105101A	Blank
		LCS
Nitrite Nitrogen	10132105101B	5977509
		5977510
		P977480 U/BKG,R,D
Sulfate	10146196601A	Blank
		LCS
Sulfate	10146196601B	5977509
		5977510
		P977021 U/BKG
		P977022 R
		P977024 D

Lancaster Laboratories

Quality Control Summary
Method Blank
Instrumental Water Quality
SDG: AKD87
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Nitrate Nitrogen	05/17/10	AK	10137106102	N.D.	mg/l	0.040	0.10
Nitrite Nitrogen	05/12/10	AK	10132105101	N.D.	mg/l	0.015	0.050
Sulfate	05/26/10	IC	10146196601	N.D.	mg/l	0.30	1.0

Comments: The blank is acceptable when the result is less than the limit of quantitation.

Lancaster Laboratories

Quality Control Summary
Matrix Spike Analysis/ Matrix Spike Duplicate (MS/MSD)
Instrumental Water Quality
SDG: AKD87
Matrix: LIQUID

Sample Number	Analyte	Spike Analysis Date	ME	Batch #	Unspiked Sample Result	MS Spike Added	MSD Spike Added	MS Result	MSD Result	Units	MS Rec (%)	MSD Rec (%)	Acceptance Window (%)	RPD (%)	% RPD Limits <=
P977802 R	Nitrate Nitrogen	05/17/10	AK	10137106102A	12.3	5	NA	17.7	NA	mg/l	108	NA	90 - 110	NA	NA
P977480 R	Nitrite Nitrogen	05/12/10	AK	10132105101B	N.D.	0.2	NA	0.21	NA	mg/l	104	NA	90 - 110	NA	NA
P977022 R	Sulfate	05/28/10	IC	10146196601B	81.2	250	NA	335	NA	mg/l	101	NA	90 - 110	NA	NA

Comments: (2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

AKD87 P168

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Instrumental Water Quality
SDG: AKD87
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
P977802	Nitrate Nitrogen	05/17/10	AK	10137106102A	12.3	12.4	mg/l	1	2
P977480	Nitrite Nitrogen	05/12/10	AK	10132105101B	N.D.	N.D.	mg/l	0(1)	20
P977024	Sulfate	05/28/10	IC	10146196601B	81.2	81.2	mg/l	0(1)	20

Comments: (1) The sample and/or duplicate result is less than five times the LOQ.
* = Out of Specification

Lancaster Laboratories

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate (LCSD)
Instrumental Water Quality
SDG: AKD87
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
10137106102	Nitrate Nitrogen	05/17/10	AK	21	21.5	NA	mg/l	18.8 - 23.2	NA	NA
10132105101	Nitrite Nitrogen	05/12/10	AK	0.542	0.57	NA	mg/l	0.4851 - 0.5989	NA	NA
10146196601	Sulfate	05/26/10	IC	7.5	7.0	NA	mg/l	6.71 - 8.28	NA	NA

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO2

SDG: AKD87

Instrument ID: 09106
Calibration Date: 05/12/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrite-N	3.7041	3.1585	1.7523	0.9969	0.6387	0.4879	0.9992

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10132105101A, 10132105101B
Analysis Dates: 05/12/2010
Run Names: 1013202C02

Sample	Nitrite-N		
	True	Result	%Rec
ICV	0.6	0.64841	108
ICB	0	ND	NA
CCV2	0.6	0.62061	103
CCB 1	0	ND	NA
CCV2	0.6	0.62932	105
CCB 2	0	ND	NA
CCV2	0.6	0.64863	108
CCB 3	0	ND	NA

AKD87 01112

* = Out of Specifications

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/NO3

SDG: AKD87

Instrument ID: 09037
Calibration Date: 05/17/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	AUTO CAL6	CC
Nitrate-N	3.4260	2.7047	1.1785	0.7508	0.4957	0.4182	0.9998

Acceptance Range:
ICV/CCV: +/- 10%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10137106102A
Analysis Dates: 05/17/2010
Run Names: 1013701C01

Sample	Nitrate-N		
	True	Result	%Rec
ICV	2.5	2.50507	100
ICB	0	ND	NA
CCV2	2.5	2.49895	100
CCB 4	0	ND	NA
CCV2	2.5	2.65065	106
CCB 5	0	ND	NA
CCV2	2.5	2.48394	99
CCB 6	0	ND	NA

AKD87 01122

* = Out of Specifications

Lancaster Laboratories

Quality Control Summary
Initial And Continuing Calibration
Instrumental Analysis/Anion Scan

SDG: AKD87

Instrument ID: 10913
Calibration Date: 05/10/2010

Analysis	AUTO CAL1	AUTO CAL2	AUTO CAL3	AUTO CAL4	AUTO CAL5	R^2	CC
Sulfate	0.214207	0.389113	0.964185	1.999115	3.070276	0.9994	0.9997

Acceptance Range:
ICV/CCV: 90%-110%
ICB/CCB: < MDL

Concentration units: mg/L

Batch Numbers: 10146196601A, 10146196601B
Analysis Dates: 05/26/2010, 05/28/2010

	Sulfate		
Sample	True	Result	%Rec
ICV	7.5	7.5283	100
ICB	0	ND	NA
CCV2	7.5	7.0680	94
CCB	0	ND	NA
CCV2	7.5	7.0483	94
CCB	0	ND	NA
CCV2	7.5	7.0760	94
CCB	0	ND	NA
CCV2	7.5	7.1893	96
CCB	0	ND	NA
CCV2	7.5	7.7130	103
CCB	0	ND	NA
CCV2	7.5	7.7238	103
CCB	0	ND	NA

AKD87 0113

* = Out of Specifications

Lancaster Laboratories

LOQ and MDL by Analysis Number

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
00220: Nitrate Nitrogen			
Nitrate Nitrogen	0.040	0.10	mg/l
00219: Nitrite Nitrogen			
Nitrite Nitrogen	0.015	0.050	mg/l
00228: Sulfate			
Sulfate	0.30	1.0	mg/l

AKD87 8114

Miscellaneous Analysis Data

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories

CLIENT: ChevronTexaco
SDG: AKD87

Miscellaneous Wet Chemistry

Sample #	Matrix Liquid	Solid	Comments
5977509	X		
5977510	X		Field Duplicate Sample

ANALYSIS:

There were no dilutions performed for analyses associated with samples in this SDG.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method or by the client.

All QC is within specification.

DATA INTERPRETATION:

No further interpretation is necessary for the data submitted.

Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable
HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon
AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

Narrative Reviewed and Approved by:

For Date 06-02-10

Dana Kauffman
Manager of Data Deliverables

QC Summary

Lancaster Laboratories

Quality Control Reference List
Miscellaneous Wet Chemistry

CLIENT: ChevronTexaco
SDG: AKD87

Batch Number	Sample Number	Alkalinity to pH 4.5	Alkalinity to pH 8.3
10133020201A	5977509	X	X
	5977510	X	X
	P975328 U/BKG,R,D	X	X
	Blank	X	
	LCS	X	

Lancaster Laboratories

Quality Control Summary
Method Blank
Miscellaneous Wet Chemistry
SDG: AKD87
Matrix: LIQUID

Analyte	Analysis Date	Method	Batch Number	Blank Results	Units	MDL	LOQ
Alkalinity to pH 4.5	05/13/10	TI	10133020201	N.D.	mg/l as CaCO3	0.46	2.0

Comments: The blank is acceptable when the result is less than the limit of quantitation.

Lancaster Laboratories

Quality Control Summary
Matrix Spike Analysis/ Matrix Spike Duplicate (MS/MSD)
Miscellaneous Wet Chemistry
SDG: AKD87
Matrix: LIQUID

Sample Number	Analyte	Spike Analysis Date	ME	Batch #	Unspiked Sample Result	MS Spike Added	MSD Spike Added	MS Result	MSD Result	Units	MS Rec (%)	MSD Rec (%)	Acceptance Window (%)	RPD (%)	% RPD Limits <=
P975328 R	Alkalinity to pH 4.5	05/13/10	TI	10133020201A	52.4	188	NA	240	NA	mg/l as CaCO3	100	NA	73 - 121	NA	NA

Comments: (2) The unspiked sample result is greater than four times the spike added.
= Out of Specification

AKD87 #121

Lancaster Laboratories

Quality Control Summary
Duplicate Analysis
Miscellaneous Wet Chemistry
SDG: AKD87
Matrix: LIQUID

Sample Number	Analyte	Analysis Date	ME	Batch #	Sample Result	Duplicate Result	Units	RPD (%)	Control Limits %
P975328	Alkalinity to pH 4.5	05/13/10	TI	10133020201A	52.4	52.2	mg/l as CaCO3	0	5
P975328	Alkalinity to pH 8.3	05/13/10	TI	10133020201A	N.D.	N.D.	mg/l as CaCO3	0(1)	5

Comments: (1) The sample and/or duplicate result is less than five times the LOQ.
* = Out of Specification

Lancaster Laboratories

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate (LCSD)
Miscellaneous Wet Chemistry
SDG: AKD87
Matrix: LIQUID

Batch #	Analyte	Analysis Date	ME	True LCS/LCSD Value	LCS Results	LCSD Results	Units	Acceptance Range	% RPD Results	% RPD Acceptance <=
10133020201	Alkalinity to pH 4.5	05/13/10	TI	188	189	NA	mg/l as CaCO3	183.3 - 194.56	NA	NA

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LOQ and MDL by Analysis Number
Dept 29

COMPONENT NAME	MDL	LOQ	DEFAULT UNITS
00202: Alkalinity to pH 4.5			
Alkalinity to pH 4.5	0.46	2.0	mg/l as CaCO3
00201: Alkalinity to pH 8.3			
Alkalinity to pH 8.3	0.46	2.0	mg/l as CaCO3

AKD87 0124