

Core Laboratories

CORE LABORATORIES
ANALYTICAL REPORT

Job Number: 940439
Prepared For:

AMOCO PRODUCTION COMPANY
MIKE GREENWOOD
P.O. BOX 189
SWEENEY, TX 77480

Date: 03/02/94

*water samples
from well install
2-25-94*


Signature

3/3/94
Date:

Name: Charles Sassine

CORE LABORATORIES
1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408

Title: QA/QC Coordinator

512-289-2673

Deana



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LABORATORY TESTS RESULTS 03/02/94

JOB NUMBER: 940439

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: MIKE GREENWOOD

CLIENT I.D.: OW-12
DATE SAMPLED: 02/25/94
TIME SAMPLED: 09:15
WORK DESCRIPTION: OW-12

LABORATORY I.D.: 940439-0001
DATE RECEIVED: 02/25/94
TIME RECEIVED: 12:20
REMARKS:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Aromatic Volatile Organics		*1		EPA SW-846 8020	02/26/94	CRS
Benzene	<2	2	ug/L	EPA SW-846 8020		
Toluene	<2	2	ug/L	EPA SW-846 8020		
Ethylbenzene	<2	2	ug/L	EPA SW-846 8020		
Xylenes	<2	2	ug/L	EPA SW-846 8020		
P.P.B.						

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LABORATORY TESTS RESULTS 03/02/94

JOB NUMBER: 940439

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: MIKE GREENWOOD

CLIENT I.D.: OW-13
DATE SAMPLED: 02/25/94
TIME SAMPLED: 09:04
WORK DESCRIPTION: OW-13

LABORATORY I.D.: 940439-0002
DATE RECEIVED: 02/25/94
TIME RECEIVED: 12:20
REMARKS:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Aromatic Volatile Organics		*1		EPA SW-846 8020	02/27/94	CRS
Benzene	<4	4	ug/L	EPA SW-846 8020		
Toluene	6	4	ug/L	EPA SW-846 8020		
Ethylbenzene	<4	4	ug/L	EPA SW-846 8020		
Xylenes	24	4	ug/L	EPA SW-846 8020		

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LABORATORY TESTS RESULTS
03/02/94

JOB NUMBER: 940439

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: MIKE GREENWOOD

CLIENT I.D.: OW-14
DATE SAMPLED: 02/25/94
TIME SAMPLED: 10:05
WORK DESCRIPTION: OW-14

LABORATORY I.D.: 940439-0003
DATE RECEIVED: 02/25/94
TIME RECEIVED: 12:20
REMARKS:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Aromatic Volatile Organics		*1		EPA SW-846 8020	02/26/94	CRS
Benzene	<2	2	ug/L	EPA SW-846 8020		
Toluene	<2	2	ug/L	EPA SW-846 8020		
Ethylbenzene	<2	2	ug/L	EPA SW-846 8020		
Xylenes	<2	2	ug/L	EPA SW-846 8020		

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LABORATORY TESTS RESULTS 03/02/94

JOB NUMBER: 940439

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: MIKE GREENWOOD

CLIENT I.D.: OW-14 (DUP)
DATE SAMPLED: 02/25/94
TIME SAMPLED: 10:06
WORK DESCRIPTION: OW-14 (DUP)

LABORATORY I.D.: 940439-0004
DATE RECEIVED: 02/25/94
TIME RECEIVED: 12:20
REMARKS:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Aromatic Volatile Organics		*1		EPA SW-846 8020	02/26/94	CRS
Benzene	<2	2	ug/L	EPA SW-846 8020		
Toluene	<2	2	ug/L	EPA SW-846 8020		
Ethylbenzene	<2	2	ug/L	EPA SW-846 8020		
Xylenes	<2	2	ug/L	EPA SW-846 8020		

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LABORATORY TESTS RESULTS 03/02/94

JOB NUMBER: 940439

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: MIKE GREENWOOD

CLIENT I.D.: EQUIP BLNK
DATE SAMPLED: 02/25/94
TIME SAMPLED: 08:25
WORK DESCRIPTION: EQUIP BLNK

LABORATORY I.D.: 940439-0005
DATE RECEIVED: 02/25/94
TIME RECEIVED: 12:20
REMARKS:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Aromatic Volatile Organics		*1		EPA SW-846 8020	02/26/94	CRS
Benzene	<2	2	ug/L	EPA SW-846 8020		
Toluene	<2	2	ug/L	EPA SW-846 8020		
Ethylbenzene	<2	2	ug/L	EPA SW-846 8020		
Xylenes	<2	2	ug/L	EPA SW-846 8020		

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LABORATORY TESTS RESULTS 03/02/94

JOB NUMBER: 940439

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: MIKE GREENWOOD

CLIENT I.D.: EQUIP BLNK #2
DATE SAMPLED: 02/25/94
TIME SAMPLED: 10:28
WORK DESCRIPTION: EQUIP BLNK #2

LABORATORY I.D.: 940439-0006
DATE RECEIVED: 02/25/94
TIME RECEIVED: 12:20
REMARKS:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Aromatic Volatile Organics		*1		EPA SW-846 8020	02/26/94	CRS
Benzene	<2	2	ug/L	EPA SW-846 8020		
Toluene	<2	2	ug/L	EPA SW-846 8020		
Ethylbenzene	<2	2	ug/L	EPA SW-846 8020		
Xylenes	<2	2	ug/L	EPA SW-846 8020		

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QUALITY ASSURANCE REPORT
03/02/94

JOB NUMBER: 940439

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: MIKE GREENWOOD

BTEX (Water)

DATE ANALYZED: 02/26/94 TIME ANALYZED: 10:13 METHOD: EPA SW-846 8020

QC NUMBER: 954188

REFERENCE STANDARDS

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Benzene	CCV	B338.43.1	1	19	20	95	2	ug/l
	CCV	B338.42.16	1	20	20	100	2	ug/l
Toluene	CCV	B338.43.1	1	19.6	20	98	2	ug/l
	CCV	B338.42.16	1	20	20	100	2	ug/l
Ethylbenzene	CCV	B338.43.1	1	20	20	100	2	ug/l
	CCV	B338.42.16	1	22	20	110	2	ug/l
Xylenes	CCV	B338.43.1	1	58	60	97	2	ug/l
	CCV	B338.42.16	1	61	60	102	2	ug/l

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QUALITY ASSURANCE REPORT 03/02/94

JOB NUMBER: 940439

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: MIKE GREENWOOD

BTX (Water)

DATE ANALYZED: 02/26/94 TIME ANALYZED: 10:13 METHOD: EPA SW-846 8020

QC NUMBER: 954188

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Benzene	MS	940439-1	1	11.9	0	10	119	2	ug/l
Toluene	MS	940439-1	1	12	0	10	120	2	ug/l
Ethylbenzene	MS	940439-1	1	9.9	0	10	99	2	ug/l
Xylenes	MS	940439-1	1	35	0	30	117	2	ug/l
4-Bromofluorobenzene	SS	940439-1	1	20	0	20	100	1	ug/L
	SS	940439-3	1	22	0	20	110	1	ug/L
	SS	940439-4	1	20	0	20	100	1	ug/L
	SS	940439-5	1	20	0	20	100	1	ug/L
	SS	940439-6	1	21	0	20	105	1	ug/L
	SS	940436-37	1	20	0	20	100	1	ug/L
	SS	940436-38	1	20	0	20	100	1	ug/L
	SS	940436-39	1	20	0	20	100	1	ug/L
	SS	940436-41	1	19	0	20	95	1	ug/L
	SS	940436-42	1	20	0	20	100	1	ug/L
	SS	940444-23	1	19	0	20	95	1	ug/L
	SS	940445-1	1	19	0	20	95	1	ug/L

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JOB NUMBER: 940439

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: MIKE GREENWOOD

BTEX (Water)

DATE ANALYZED: 02/27/94 TIME ANALYZED: 11:17 METHOD: EPA SW-846 8020

QC NUMBER: 954194

BLANKS

TEST DESCRIPTION	ANALY SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
Benzene	RB	02-27-94	1	<2	2	ug/l
Toluene	RB	02-27-94	1	<2	2	ug/l
Ethylbenzene	RB	02-27-94	1	<2	2	ug/l
Xylenes	RB	02-27-94	1	<2	2	ug/l

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QUALITY ASSURANCE REPORT
03/02/94

JOB NUMBER: 940439

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: MIKE GREENWOOD

BTEX (Water)

DATE ANALYZED: 02/27/94 TIME ANALYZED: 11:17 METHOD: EPA SW-846 8020

QC NUMBER: 954194

REFERENCE STANDARDS

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Benzene	CCV	8338.43.1	1	19.9	20	99	2	ug/l
	CCV	8338.42.16	1	20	20	100	2	ug/l
Toluene	CCV	8338.43.1	1	20	20	100	2	ug/l
	CCV	8338.42.16	1	18.5	20	92	2	ug/l
Ethylbenzene	CCV	8338.43.1	1	20	20	100	2	ug/l
	CCV	8338.42.16	1	18.4	20	92	2	ug/l
Xylenes	CCV	8338.43.1	1	59	60	98	2	ug/l
	CCV	8338.42.16	1	55	60	92	2	ug/l

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QUALITY ASSURANCE REPORT
03/02/94

JOB NUMBER: 940439

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: MIKE GREENWOOD

BTEX (Water)
DATE ANALYZED: 02/27/94 **TIME ANALYZED:** 11:17 **METHOD:** EPA SW-846 8020

QC NUMBER: 954194

MATRIX SPIKES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Benzene	MS	940437-25	1	11.3	0	10	113	2	ug/l
Toluene	MS	940437-25	1	12.4	0	10	124	2	ug/l
Ethylbenzene	MS	940437-25	1	11	0	10	110	2	ug/l
Xylenes	MS	940437-25	1	33	0	30	110	2	ug/l
4-Bromofluorobenzene	SS	940437-25	1	19	0	20	95	1	ug/L
	SS	940442-1	1	19.7	0	20	98	1	ug/L
	SS	940442-2	1	19.2	0	20	96	1	ug/L
	SS	940439-2	1	18.6	0	20	93	1	ug/L
	SS	940436-38	1	16	0	20	80	1	ug/L
	SS	940436-39	1	15	0	20	75	1	ug/L
	SS	940436-40	1	26	5	20	105	1	ug/L
	SS	940442-3	1	19	0	20	95	1	ug/L
	SS	940442-4	1	19.8	0	20	99	1	ug/L
	SS	940437-28	1	19.8	0	20	99	1	ug/L
	SS	940437-29	1	19.2	0	20	96	1	ug/L
	SS	940437-30	1	19.2	0	20	96	1	ug/L
	SS	940437-31	1	19.4	0	20	97	1	ug/L

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QUALITY ASSURANCE FOOTER
03/02/94

Standard Methods for the Examination of Water and Wastewater, 17th Ed. APHA, AWWA, WPCF.
USEPA SW-846 3rd. Edition, Test Methods for the Evaluation of Solid Waste
EPA-600/4-79-020, Methods for the Analysis of Water and Wastes, March 1983
Federal Register, July 1, 1992 (40 CFR Part 136).
EPA-600/2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.

Quality control acceptance criteria are method dependent.

GCMS tuning criteria meet EPA CLP Statement of Work OLM01.0.

All data reported on sample "as received" unless noted.

Sample IDs with a "-00" at the end indicate a blank spike or blank spike duplicate associated with the numbered sample.

NC = Not Calculated due to value at or below detection limit.

The data in this report are within the limits of uncertainty specified in the referenced method unless otherwise indicated.

NOTE: Data in QA report may differ from final results due to digestion and/or dilution of sample into analytical range.

The "TIME ANALYZED" in the QA Report refers to the start time of the analytical batch which may not reflect the actual time of each analysis. The "DATE ANALYZED" is the actual date of analysis.

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QC SAMPLE IDENTIFICATION

1. BLANKS	Method or Method / Type	MB or MB / type ^
	Reagent	RB
	Initial Calibration	ICB
	Continuing Calibration	CCB
	Storage	SB
2. STANDARDS	Laboratory Control	LCS
	Reference	RS
	Initial Calibration	ICV
	Continuing Calibration	CCV
3. SPIKES	Matrix	MS
	Blank	BS
	Surrogate	SS
	Post Digestion Spike	PDS
	Matrix Spike Duplicate	MSD
4. DUPLICATES	Matrix	MD
	Post Digestion Duplicate	PDD

^ In the event that several different method blanks are analyzed, the blank type will be designated by the preparation method, i.e., ZHE, TCLP, 3010, 3050, etc.

Subcontracted Analysis Codes

Anaheim	*AN
Aurora	*AU
Casper	*CA
Houston	*HP
Lake Charles	*LC
Long Beach	*LB
Other Laboratories	*XX

* The asterisk in the "TECHN" column signifies that the analysis was performed by a subcontract laboratory.

CHAIN OF CUSTODY RECORD

[illegible]

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

☐ **Anaheim, California**
1250 E. Gene Autry Way
Anaheim, California 92805
(714) 937-1094
(800) 404-2673

☐ Long Beach, California
3700 Cherry Avenue
Long Beach, California 90807
(310) 595-8401
(800) 814-3433

☐ **Denver (Aurora), Colorado**
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Aurora, Colorado 80014
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(800) 972-2673

☐ **Casper, Wyoming**
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Casper, Wyoming 82601
(307) 235-5741
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(800) 548-8228

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