



CORE LABORATORIES

LABORATORY TESTS RESULTS 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

CLIENT I.D.....:

DATE SAMPLED.....: 06/25/91

TIME SAMPLED.....: 06:25

WORK DESCRIPTION....: SOUTH SPRINT PIT

LABORATORY I.D....: 911299-0001

DATE RECEIVED.....: 06/25/91

TIME RECEIVED.....: 12:00

REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
TCLP Semivolatiles		*1		SW846-8270	07/08/91	BJH
1,4-Dichlorobenzene	<10	10	ug/l	SW-846 8270		
2,4-Dinitrotoluene	<10	10	ug/l	SW-846 8270		
Hexachlorobenzene	<10	10	ug/l	SW-846 8270		
Hexachlorobutadiene	<10	10	ug/l	SW-846 8270		
Hexachloroethane	<10	10	ug/l	SW-846 8270		
Nitrobenzene	<10	10	ug/l	SW-846 8270		
Pentachlorophenol	<50	50	ug/l	SW-846 8270		
2,4,5-Trichlorophenol	<10	10	ug/l	SW-846 8270		
2,4,6-Trichlorophenol	<10	10	ug/l	SW-846 8270		
Pyridine	<10	10	ug/l	SW-846 8270		
Cresols (Total)	<10	10	ug/l	SW-846 8270		
TCLP Volatiles		*10		SW846 8260	07/02/91	GEF
Benzene	<50	50	ug/l	SW-846 8260		
Carbon tetrachloride	<50	50	ug/l	SW-846 8260		
Chlorobenzene	<50	50	ug/l	SW-846 8260		
Chloroform	<50	50	ug/l	SW-846 8260		
2-Butanone	<100	100	ug/l	SW-846 8260		
Trichloroethene	<50	50	ug/l	SW-846 8260		
Vinyl chloride	<100	100	ug/l	SW-846 8260		
1,2-Dichloroethane	<50	50	ug/l	SW-846 8260		
Tetrachloroethene	<50	50	ug/l	SW-846 8260		
1,1-Dichloroethene	<50	50	ug/l	SW-846 8260		
Soil Total Petroleum Hydrocarbons	252000	12000	mg/kg	EPA-600 418.1	06/26/91	HPH
Arsenic (As), extractable, TCLP	<0.05	0.05	mg/l	SW-846 6010	07/15/91	JEM
Barium (Ba), extractable, TCLP	0.44	0.05	mg/l	SW-846 6010	07/15/91	JEM
Cadmium (Cd), extractable, TCLP	<0.05	0.05	mg/l	SW-846 6010	07/15/91	JEM
Chromium (Cr), extractable, TCLP	<0.05	0.05	mg/l	SW-846 6010	07/15/91	JEM
Lead (Pb), extractable, TCLP	<0.05	0.05	mg/l	SW-846 6010	07/15/91	JEM
Mercury (Hg), extractable, TCLP	<0.002	0.002	mg/l	SW-846 7471	07/01/91	JJP
Selenium (Se), extractable, TCLP	<0.05	0.05	mg/l	SW-846 6010	07/15/91	JEM
Silver (Ag), extractable, TCLP	<0.05	0.05	mg/l	SW-846 6010	07/15/91	JEM

APPROVED BY:

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE: 1

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusion and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in direct copy, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (A-B)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER: Soil Total Petroleum Hydrocarbons DETECTION LIMIT: 30 UNITS: mg/kg				DATE/TIME ANALYZED: 06/26/91 15:43 METHOD REFERENCE : EPA-600 418.1			QC BATCH NUMBER: 914364 TECHNICIAN: HPH			
BLANK STANDARD	REFERENCE	EXTRACT	<30							
SPIKE	REFERENCE	BK131PG100	33			33	100	0	275	104
DUPLICATE	ANALYTICAL	911268-5	285							
	ANALYTICAL	911268-5	<30	<30	NC					
PARAMETER: Zero Head Space Extraction DETECTION LIMIT: UNITS:				DATE/TIME ANALYZED: 06/27/91 09:38 METHOD REFERENCE : EPA 1311			QC BATCH NUMBER: 914393 TECHNICIAN: DEH			
PARAMETER: DETECTION LIMIT: UNITS:				DATE/TIME ANALYZED: 06/27/91 10:06 METHOD REFERENCE :			QC BATCH NUMBER: 914396 TECHNICIAN: DEH			
PARAMETER: Mercury (Hg), extractable, TCLP DETECTION LIMIT: 0.002 UNITS: mg/l				DATE/TIME ANALYZED: 07/01/91 16:24 METHOD REFERENCE : SW-846 7471			QC BATCH NUMBER: 914507 TECHNICIAN: JJP			
BLANK STANDARD	Reagent	DI H2O	<0.002							
	Reference	WS-378	0.002			0.002	100			
SPIKE	Analytical	911272-1	0.046					<0.002	0.050	92
SPIKE	Analytical	911288-1	0.045					<0.002	0.050	90
SPIKE	Analytical	911290-1	0.045					<0.002	0.050	90
SPIKE	Analytical	911299-1	0.045					<0.002	0.050	90
SPIKE	Analytical	911311-1	0.043					<0.002	0.050	86
SPIKE	Analytical	911316-1	0.043					<0.002	0.050	86
SPIKE	Analytical	911281-8	0.037					<0.002	0.050	74
DUPLICATE	Analytical	911290-1	<0.002	<0.002	NC					
DUPLICATE	Analytical	911311-1	<0.002	<0.002	NC					
DUPLICATE	Analytical	911281-8	<0.002	<0.002	NC					

APPROVED BY:

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE: 1

Standard Methods for the Examination of Water and Wastewater, 16th 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, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.

Quality Control Acceptance Criteria:

Blanks.....: Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates.....: 20% RPD, or plus or minus the detection limit
Spikes.....: 100 plus or minus 25%

GCMS tuning criteria meet EPA CLP Statement of Work OLM01.0.
NC = Not Calculated due to value at or below detection limit.
All data reported on sample "as received" unless noted.

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representation, express or implied, as to the productivity, proper operation, or performance of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (A-B)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER: Arsenic (As), extractable, TCLP DETECTION LIMIT: 0.05 UNITS: mg/l				DATE/TIME ANALYZED: 07/15/91 10:10 METHOD REFERENCE : SW-846 6010				QC BATCH NUMBER: 914800 TECHNICIAN: JEM		
BLANK	Reagent	3010	<0.05							
STANDARD	Chk.	Bk.60 Pg73	5.06			5.00	101			
STANDARD	Reference	QC-19	1.00			1.00	100			
SPIKE	Digest	911373-1	0.49					0	0.50	98
SPIKE	Digest	911299-1	0.49					0	0.50	98
DUPLICATE	Analytical	911373-1	<0.05	<0.05	NC					
DUPLICATE	Analytical	911320-1	<0.05	<0.05	NC					
PARAMETER: Barium (Ba), extractable, TCLP DETECTION LIMIT: 0.05 UNITS: mg/l				DATE/TIME ANALYZED: 07/15/91 10:17 METHOD REFERENCE : SW-846 6010				QC BATCH NUMBER: 914801 TECHNICIAN: JEM		
BLANK	Reagent	3010	<0.05							
STANDARD	Chk.	Bk.60 Pg73	4.98			5.00	100			
STANDARD	Reference	ICAP-7	0.99			1.00	99			
SPIKE	Digest	911372-1	1.70					0.76	1.00	94
SPIKE	Digest	911319-1	1.49					0.452	1.00	104
DUPLICATE	Analytical	911373-1	<0.05	<0.05	NC					
DUPLICATE	Analytical	911320-1	0.06	0.05	0.01					
PARAMETER: Cadmium (Cd), extractable, TCLP DETECTION LIMIT: 0.05 UNITS: mg/l				DATE/TIME ANALYZED: 07/15/91 10:28 METHOD REFERENCE : SW-846 6010				QC BATCH NUMBER: 914802 TECHNICIAN: JEM		
BLANK	Reagent	3010	<0.05							
STANDARD	Chk.	Bk.60 Pg73	5.10			5.00	102			
STANDARD	Reference	QC-19	1.03			1.00	103			
SPIKE	Digest	911373-1	0.52					0	0.50	104
SPIKE	Digest	911311-1	0.48					0	0.50	96
DUPLICATE	Analytical	911373-1	<0.05	<0.05	NC					
DUPLICATE	Analytical	911320-1	<0.05	<0.05	NC					

APPROVED BY:

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE:2

Standard Methods for the Examination of Water and Wastewater, 16th 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, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Mine soils.

Quality Control Acceptance Criteria:

Blanks..... Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates..... 20% RPD, or plus or minus the detection limit
Spikes..... 100 plus or minus 25%

GCMS tuning criteria meet EPA CLP Statement of Work OLM01.0.
NC = Not Calculated due to value at or below detection limit.
All data reported on sample "as received" unless noted.

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (A-B)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER:Chromium (Cr), extractable, TCLP DETECTION LIMIT:0.05 UNITS:mg/l				DATE/TIME ANALYZED:07/15/91 10:40 METHOD REFERENCE :SW-846 6010				QC BATCH NUMBER:914805 TECHNICIAN:JEM		
BLANK	Reagent	3010	<0.05							
STANDARD	Chk.	Bk.60 Pg73	5.07			5.00	101			
STANDARD	Reference	QC-19	1.04			1.00	104			
SPIKE	Digest	911372-1	1.00					0	1.00	100
SPIKE	Digest	911299-1	0.92					0	1.00	92
DUPLICATE	Analytical	911373-1	399	398	0					
DUPLICATE	Analytical	911320-1	<0.05	<0.05	NC					
PARAMETER:Lead (Pb), extractable, TCLP DETECTION LIMIT:0.05 UNITS:mg/l				DATE/TIME ANALYZED:07/15/91 10:50 METHOD REFERENCE :SW-846 6010				QC BATCH NUMBER:914807 TECHNICIAN:JEM		
BLANK	Reagent	3010	<0.05							
STANDARD	Chk.	Bk.60 Pg73	5.11			5.00	102			
STANDARD	Reference	QC-19	1.04			1.00	104			
SPIKE	Digest	91137 -1	1.09					0.10	1.00	99
SPIKE	Digest	911373-1	1.00					0	1.00	100
DUPLICATE	Analytical	911373-1	<0.05	<0.05	NC					
DUPLICATE	Analytical	911320-1	<0.05	<0.05	NC					
PARAMETER:Selenium (Se), extractable, TCLP DETECTION LIMIT:0.05 UNITS:mg/l				DATE/TIME ANALYZED:07/15/91 10:56 METHOD REFERENCE :SW-846 6010				QC BATCH NUMBER:914808 TECHNICIAN:JEM		
BLANK	Reagent	3010	<0.05							
STANDARD	Chk.	Bk.60 Pg73	5.06			5.00	101			
STANDARD	Reference	QC-19	1.00			1.00	100			
SPIKE	Digest	911372-1	0.57					0	0.50	114
SPIKE	Digest	911322-1	0.55					0	0.50	110
DUPLICATE	Analytical	911373-1	<0.05	<0.05	NC					
DUPLICATE	Analytical	911320-1	<0.05	<0.05	NC					

APPROVED BY:

Chip Menden

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE:3

Standard Methods for the Examination of Water and Wastewater, 16th 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, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.

Quality Control Acceptance Criteria:

Blanks..... Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates..... 20% RPD, or plus or minus the detection limit
Spikes..... 100 plus or minus 25%

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

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

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

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

ANALYSIS				DUPLICATES		REFERENCE STANDARDS		MATRIX SPIKES		
ANALYSIS TYPE	ANALYSIS SUB-TYPE	ANALYSIS I.D.	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (A-B)	TRUE VALUE	PERCENT RECOVERY	ORIGINAL VALUE	SPIKE ADDED	PERCENT RECOVERY
PARAMETER: Silver (Ag), extractable, TCLP				DATE/TIME ANALYZED: 07/15/91 11:01				QC BATCH NUMBER: 914809		
DETECTION LIMIT: 0.05 UNITS: mg/l				METHOD REFERENCE: SW-846 6010				TECHNICIAN: JEM		
BLANK	Reagent	3010	<0.05							
STANDARD	Chk.	Bk.60 Pg73	5.08			5.00	102			
STANDARD	Reference	ICAP-7	0.99			1.00	99			
SPIKE	Analytical	911372-1	1.85					0	2.00	93
SPIKE	Analytical	911312-1	1.82					0	2.00	91
DUPLICATE	Analytical	911373-1	<0.05	<0.05	NC					
DUPLICATE	Analytical	911320-1	<0.05	<0.05	NC					

APPROVED BY:

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE:4

Standard Methods for the Examination of Water and Wastewater, 16th 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, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.

Quality Control Acceptance Criteria:

Blanks.....: Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates.....: 20% RPD, or plus or minus the detection limit
Spikes.....: 100 plus or minus 25%

GCMS tuning criteria meet EPA CLP Statement of Work OLM01.0.
NC = Not Calculated due to value at or below detection limit.
All data reported on sample "as received" unless noted.

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

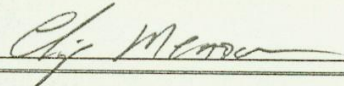
TCLP Volatiles

DATE ANALYZED: 07/02/91 TIME ANALYZED: 09:47 METHOD: SW846 8260

QC NUMBER: 914548

BLANKS

TEST DESCRIPTION	ANALS. SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
Vinyl chloride	Reagent	D. Water	1	<10	10	ug/l
Benzene	Reagent	D. Water	1	<5	5	ug/l
2-Butanone	Reagent	D. Water	1	17	10	ug/l
Carbon tetrachloride	Reagent	D. Water	1	<5	5	ug/l
Chlorobenzene	Reagent	D. Water	1	<5	5	ug/l
Chloroform	Reagent	D. Water	1	<5	5	ug/l
1,2-Dichloroethane	Reagent	D. Water	1	<5	5	ug/l
1,1-Dichloroethene	Reagent	D. Water	1	<5	5	ug/l
Tetrachloroethene	Reagent	D. Water	1	<5	5	ug/l
Trichloroethene	Reagent	D. Water	1	<5	5	ug/l

APPROVED BY: 1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE:1

Standard Methods for the Examination of Water and Wastewater, 16th 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, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.

Quality Control Acceptance Criteria:

Blanks..... Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates..... 20% RPD, or plus or minus the detection limit
Spikes..... 100 plus or minus 25%

GCMS tuning criteria meet EPA CLP Statement of Work OLM01.0.
NC = Not Calculated due to value at or below detection limit.
All data reported on sample "as received" unless noted.

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

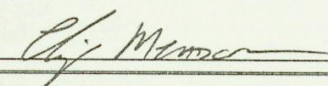
TCLP Volatiles

DATE ANALYZED: 07/02/91 TIME ANALYZED: 09:47 METHOD: SW846 8260

QC NUMBER: 914548

REFERENCE STANDARDS

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
Vinyl chloride	Reference	Accustd.	1	78	80	98	10	ug/l
Chloroform	Reference	Accustd.	1	67	80	84	5	ug/l
1,1-Dichloroethene	Reference	Accustd.	1	67	80	84	5	ug/l
1,2-Dichloroethane-d4	Reference	Accustd.	1	50	50	100	5	ug/l
Toluene d-8	Reference	Accustd.	1	49	50	98	5	ug/l
4-Bromofluorobenzene	Reference	Accustd.	1	47	50	94	5	ug/l

APPROVED BY: 1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE:2

Standard Methods for the Examination of Water and Wastewater, 16th 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, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.

Quality Control Acceptance Criteria:

Blanks..... Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates..... 20% RPD, or plus or minus the detection limit
Spikes..... 100 plus or minus 25%

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

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

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

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

TCLP Volatiles

DATE ANALYZED: 07/02/91 TIME ANALYZED: 09:47 METHOD: SW846 8260

QC NUMBER: 914548

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
Vinyl chloride	Matrix	911272-1	1	228	0	250	91	10	ug/l
	Matrix	911299-1	1	220	0	250	88	10	ug/l
Benzene	Matrix	911272-1	1	257	0	250	103	5	ug/l
	Matrix	911299-1	1	260	0	250	104	5	ug/l
2-Butanone	Matrix	911272-1	1	255	0	250	102	10	ug/l
	Matrix	911299-1	1	277	0	250	111	10	ug/l
Carbon tetrachloride	Matrix	911272-1	1	199	0	250	80	5	ug/l
	Matrix	911299-1	1	213	0	250	85	5	ug/l
Chlorobenzene	Matrix	911272-1	1	219	0	250	88	5	ug/l
	Matrix	911299-1	1	234	0	250	94	5	ug/l
Chloroform	Matrix	911272-1	1	245	0	250	98	5	ug/l
	Matrix	911299-1	1	258	0	250	103	5	ug/l
1,2-Dichloroethane	Matrix	911272-1	1	241	0	250	96	5	ug/l
	Matrix	911299-1	1	247	0	250	99	5	ug/l
1,1-Dichloroethene	Matrix	911272-1	1	230	0	250	92	5	ug/l
	Matrix	911299-1	1	239	0	250	96	5	ug/l
Tetrachloroethene	Matrix	911272-1	1	242	0	250	97	5	ug/l
	Matrix	911299-1	1	238	0	250	95	5	ug/l
Trichloroethene	Matrix	911272-1	1	222	0	250	89	5	ug/l
	Matrix	911299-1	1	234	0	250	94	5	ug/l
1,2-Dichloroethane-d4	Matrix	911272-1	1	46	0	50	92	5	ug/l
	Matrix	911299-1	1	45	0	50	90	5	ug/l
Toluene d-8	Matrix	911284-1	1	42	0	50	84	5	ug/l
	Matrix	911272-1	1	54	0	50	108	5	ug/l
	Matrix	911299-1	1	53	0	50	106	5	ug/l
4-Bromofluorobenzene	Matrix	911284-1	1	51	0	50	102	5	ug/l
	Matrix	911272-1	1	47	0	50	94	5	ug/l
	Matrix	911299-1	1	49	0	50	98	5	ug/l
	Matrix	911284-1	1	51	0	50	102	5	ug/l

APPROVED BY:

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE:3

Standard Methods for the Examination of Water and Wastewater, 16th 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, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.

Quality Control Acceptance Criteria:

Blanks.....: Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates.....: 20% RPD, or plus or minus the detection limit
Spikes.....: 100 plus or minus 25%

GCMS tuning criteria meet EPA CLP Statement of Work OLM01.0.
NC = Not Calculated due to value at or below detection limit.
All data reported on sample "as received" unless noted.

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

TCPL Volatiles

DATE ANALYZED: 07/02/91 TIME ANALYZED: 09:47 METHOD: SW846 8260

QC NUMBER: 914548

DUPLICATES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (A-B)	DETECTION LIMITS	UNITS OF MEASURE
Vinyl chloride	Analytical	911299-1	1	<10	<10	NC	10	ug/l
Benzene	Analytical	911299-1	1	<5	<5	NC	5	ug/l
2-Butanone	Analytical	911299-1	1	<10	<10	NC	10	ug/l
Carbon tetrachloride	Analytical	911299-1	1	<5	<5	NC	5	ug/l
Chlorobenzene	Analytical	911299-1	1	<5	<5	NC	5	ug/l
Chloroform	Analytical	911299-1	1	<5	<5	NC	5	ug/l
1,2-Dichloroethane	Analytical	911299-1	1	<5	<5	NC	5	ug/l
1,1-Dichloroethene	Analytical	911299-1	1	<5	<5	NC	5	ug/l
Tetrachloroethene	Analytical	911299-1	1	<5	<5	NC	5	ug/l
Trichloroethene	Analytical	911299-1	1	<5	<5	NC	5	ug/l

APPROVED BY:

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE:4

Standard Methods for the Examination of Water and Wastewater, 16th 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, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.

Quality Control Acceptance Criteria:

Blanks.....: Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates.....: 20% RPD, or plus or minus the detection limit
Spikes.....: 100 plus or minus 25%

GCMS tuning criteria meet EPA CLP Statement of Work OLM01.0.
NC = Not Calculated due to value at or below detection limit.
All data reported on sample "as received" unless noted.

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operation, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

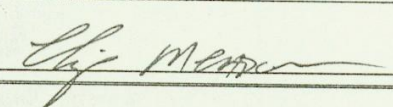
TCLP SEMIVOLATILES

DATE ANALYZED: 07/08/91 TIME ANALYZED: 13:40 METHOD: SW846-8270

QC NUMBER: 914674

BLANKS

TEST DESCRIPTION	ANALS. SUB-TYPE	ANALYSIS I.D.	DILUTION FACTOR	ANALYZED VALUE	DETECTION LIMIT	UNITS OF MEASURE
1,4-Dichlorobenzene	Extraction	Blank 6/28	1	<10	10	ug/l
2,4-Dinitrotoluene	Extraction	Blank 6/28	1	<10	10	ug/l
Hexachlorobenzene	Extraction	Blank 6/28	1	<10	10	ug/l
Hexachlorobutadiene	Extraction	Blank 6/28	1	<10	10	ug/l
Hexachloroethane	Extraction	Blank 6/28	1	<10	10	ug/l
Nitrobenzene	Extraction	Blank 6/28	1	<10	10	ug/l
Pentachlorophenol	Extraction	Blank 6/28	1	<50	50	ug/l
2,4,5-Trichlorophenol	Extraction	Blank 6/28	1	<10	10	ug/l
2,4,6-Trichlorophenol	Extraction	Blank 6/28	1	<10	10	ug/l
Pyridine	Extraction	Blank 6/28	1	<10	10	ug/l
Cresols (Total)	Extraction	Blank 6/28	1	<10	10	ug/l

APPROVED BY: 1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE:5

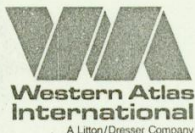
Standard Methods for the Examination of Water and Wastewater, 16th Ed. APHA, AWWA, WPCF.
USEPA SW-846 3rd. Edition, Test Methods for the Evaluation of Solid Waste
EPA-600/4-79-020, Methods for the Analysis of Water and Wastes, March 1983
Federal Register, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.

Quality Control Acceptance Criteria:

Blanks.....: Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates.....: 20% RPD, or plus or minus the detection limit
Spikes.....: 100 plus or minus 25%

GCMS tuning criteria meet EPA CLP Statement of Work OLM01.0.
NC = Not Calculated due to value at or below detection limit.
All data reported on sample "as received" unless noted.

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

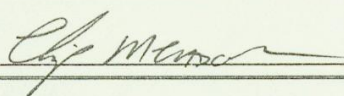
TCLP SEMIVOLATILES

DATE ANALYZED: 07/08/91 TIME ANALYZED: 13:40 METHOD: SW846-8270

QC NUMBER: 914674

REFERENCE STANDARDS

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE	TRUE VALUE	PERCENT RECOVERY	DETECTION LIMITS	UNITS OF MEASURE
2-Fluorophenol	Reference	ChemServ	1	200	200	100	10	ug/l
Phenol-d6	Reference	ChemServ	1	200	200	100	10	ug/l
Nitrobenzene-d5	Reference	ChemServ	1	100	100	100	10	ug/l
2-Fluorobiphenyl	Reference	ChemServ	1	100	100	100	10	ug/l
2,4,6-Tribromophenol	Reference	ChemServ	1	200	200	100	10	ug/l
Terphenyl-d14	Reference	ChemServ	1	100	100	100	10	ug/l
1,4-Dichlorobenzene	Reference	Protocol	1	50	50	100	10	ug/l
2,4-Dinitrotoluene	Reference	Ultra	1	50	50	100	10	ug/l
Hexachlorobenzene	Reference	Protocol	1	50	50	100	10	ug/l
Hexachlorobutadiene	Reference	Protocol	1	50	50	100	10	ug/l
Hexachloroethane	Reference	Protocol	1	50	50	100	10	ug/l
Nitrobenzene	Reference	Protocol	1	50	50	100	10	ug/l
Pentachlorophenol	Reference	Protocol	1	150	150	100	50	ug/l
2,4,5-Trichlorophenol	Reference	Protocol	1	150	150	100	10	ug/l
2,4,6-Trichlorophenol	Reference	Protocol	1	50	50	100	10	ug/l
Pyridine	Reference	Protocol	1	90	100	90	10	ug/l
Cresols (Total)	Reference	Protocol	1	100	100	100	10	ug/l

APPROVED BY: 1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE:6

Standard Methods for the Examination of Water and Wastewater, 16th 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, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Mine soils.

Quality Control Acceptance Criteria:

Blanks..... Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates..... 20% RPD, or plus or minus the detection limit
Spikes..... 100 plus or minus 25%

GCMS tuning criteria meet EPA CLP Statement of Work OLM01.0.
NC = Not Calculated due to value at or below detection limit.
All data reported on sample "as received" unless noted.

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

TCLP SEMIVOLATILES

DATE ANALYZED: 07/08/91 TIME ANALYZED: 13:40 METHOD: SW846-8270

QC NUMBER: 914674

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
2-Fluorophenol	Extraction	911272-1	1	316	0	200	158	10	ug/l
	Extraction	911284-1	1	282	0	200	141	10	ug/l
	Extraction	911299-1	1	279	0	200	140	10	ug/l
	Extraction	911311-1	1	319	0	200	160	10	ug/l
	Extraction	911312-1	1	222	0	200	111	10	ug/l
	Extraction	911313-1	1	735	0	200	368	10	ug/l
	Extraction	911316-1	1	209	0	200	105	10	ug/l
	Extraction	911319-1	1	199	0	200	100	10	ug/l
	Extraction	911320-1	1	272	0	200	136	10	ug/l
	Extraction	911321-1	1	286	0	200	143	10	ug/l
	Extraction	911322-1	1	215	0	200	108	10	ug/l
	Extraction	911272-1	1	236	0	200	118	10	ug/l
Phenol-d6	Extraction	911284-1	1	102	0	200	51	10	ug/l
	Extraction	91199-1	1	277	0	200	139	10	ug/l
	Extraction	911311-1	1	209	0	200	105	10	ug/l
	Extraction	911312-1	1	236	0	200	118	10	ug/l
	Extraction	911313-1	1	482	0	200	241	10	ug/l
	Extraction	911316-1	1	297	0	200	149	10	ug/l
	Extraction	911319-1	1	217	0	200	109	10	ug/l
	Extraction	911320-1	1	179	0	200	90	10	ug/l
	Extraction	911321-1	1	368	0	200	184	10	ug/l
	Extraction	911322-1	1	215	0	200	108	10	ug/l
	Extraction	911272-1	1	83	0	100	83	10	ug/l
	Extraction	911284-1	1	128	0	100	128	10	ug/l
Nitrobenzene-d5	Extraction	911299-1	1	98	0	100	98	10	ug/l
	Extraction	911311-1	1	97	0	100	97	10	ug/l
	Extraction	911312-1	1	91	0	100	91	10	ug/l
	Extraction	911313-1	1	119	0	100	119	10	ug/l
	Extraction	911316-1	1	111	0	100	111	10	ug/l
	Extraction	911319-1	1	73	0	100	73	10	ug/l
	Extraction	911320-1	1	61	0	100	61	10	ug/l

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673APPROVED BY: *[Signature]*

PAGE:7

Standard Methods for the Examination of Water and Wastewater, 16th 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, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.

Quality Control Acceptance Criteria:

Blanks..... Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates..... 20% RPD, or plus or minus the detection limit
Spikes..... 100 plus or minus 25%

GCMS tuning criteria meet EPA CLP Statement of Work OLM01.0.
NC = Not Calculated due to value at or below detection limit.
All data reported on sample "as received" unless noted.

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

TCLP SEMIVOLATILES

DATE ANALYZED: 07/08/91 TIME ANALYZED: 13:40 METHOD: SW846-8270

QC NUMBER: 914674

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
2-Fluorobiphenyl	Extraction	911321-1	1	99	0	100	99	10	ug/l
	Extraction	911322-1	1	133	0	100	133	10	ug/l
	Extraction	911272-1	1	143	0	100	143	10	ug/l
	Extraction	911284-1	1	158	0	100	158	10	ug/l
	Extraction	911299-1	1	161	0	100	161	10	ug/l
	Extraction	911311-1	1	117	0	100	117	10	ug/l
	Extraction	911312-1	1	85	0	100	85	10	ug/l
	Extraction	911313-1	1	79	0	100	79	10	ug/l
	Extraction	911316-1	1	71	0	100	71	10	ug/l
	Extraction	911319-1	1	50	0	100	50	10	ug/l
2,4,6-Tribromophenol	Extraction	911320-1	1	83	0	100	83	10	ug/l
	Extraction	911321-1	1	102	0	100	102	10	ug/l
	Extraction	911322-1	1	72	0	100	72	10	ug/l
	Extraction	911272-1	1	232	0	200	116	10	ug/l
	Extraction	911284-1	1	101	0	200	51	10	ug/l
	Extraction	911299-1	1	279	0	200	140	10	ug/l
	Extraction	911311-1	1	63	0	200	32	10	ug/l
	Extraction	911313-1	1	251	0	200	126	10	ug/l
	Extraction	911312-1	1	87	0	200	44	10	ug/l
	Extraction	911316-1	1	193	0	200	97	10	ug/l
Terphenyl-d14	Extraction	911319-1	1	176	0	200	88	10	ug/l
	Extraction	911320-1	1	146	0	200	73	10	ug/l
	Extraction	911321-1	1	353	0	200	177	10	ug/l
	Extraction	911322-1	1	216	0	200	108	10	ug/l
	Extraction	911272-1	1	116	0	100	116	10	ug/l
	Extraction	911284-1	1	174	0	100	174	10	ug/l
	Extraction	911299-1	1	142	0	100	142	10	ug/l
	Extraction	911311-1	1	139	0	100	139	10	ug/l
	Extraction	911312-1	1	152	0	100	152	10	ug/l
	Extraction	911313-1	1	138	0	100	138	10	ug/l
	Extraction	911316-1	1	91	0	100	91	10	ug/l

APPROVED BY: *[Signature]*

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE:8

Standard Methods for the Examination of Water and Wastewater, 16th 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, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.

Quality Control Acceptance Criteria:

Blanks..... Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates..... 20% RPD, or plus or minus the detection limit
Spikes..... 100 plus or minus 25%

GCMS tuning criteria meet EPA CLP Statement of Work OLM01.0.
NC = Not Calculated due to value at or below detection limit.
All data reported on sample "as received" unless noted.

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

TCLP SEMIVOLATILES

DATE ANALYZED: 07/08/91 TIME ANALYZED: 13:40 METHOD: SW846-8270

QC NUMBER: 914674

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
1,4-Dichlorobenzene	Extraction	911319-1	1	88	0	100	88	10	ug/l
	Extraction	911320-1	1	84	0	100	84	10	ug/l
	Extraction	911321-1	1	171	0	100	171	10	ug/l
	Extraction	911322-1	1	119	0	100	119	10	ug/l
	Extraction	911272-1	1	189	0	250	76	10	ug/l
2,4-Dinitrotoluene	Extraction	911284-1	1	196	0	250	78	10	ug/l
	Extraction	911299-1	1	115	0	250	46	10	ug/l
	Extraction	911322-1	1	843	0	2500	34	10	ug/l
	Extraction	911272-1	1	274	0	250	110	10	ug/l
	Extraction	911284-1	1	253	0	250	101	10	ug/l
Hexachlorobenzene	Extraction	911299-1	1	197	0	250	79	10	ug/l
	Extraction	911322-1	1	2570	0	2500	103	10	ug/l
	Extraction	911272-1	1	146	0	250	58	10	ug/l
	Extraction	911284-1	1	225	0	250	90	10	ug/l
	Extraction	911299-1	1	180	0	250	72	10	ug/l
Hexachlorobutadiene	Extraction	911322-1	1	1780	0	2500	71	10	ug/l
	Extraction	911272-1	1	102	0	250	41	10	ug/l
	Extraction	911284-1	1	108	0	250	43	10	ug/l
	Extraction	911299-1	1	129	0	250	52	10	ug/l
	Extraction	911322-1	1	491	0	2500	20	10	ug/l
Hexachloroethane	Extraction	911272-1	1	207	0	250	83	10	ug/l
	Extraction	911284-1	1	134	0	250	54	10	ug/l
	Extraction	911299-1	1	119	0	250	48	10	ug/l
	Extraction	911322-1	1	716	0	2500	29	10	ug/l
	Extraction	911272-1	1	135	0	250	54	10	ug/l
Nitrobenzene	Extraction	911284-1	1	272	0	250	109	10	ug/l
	Extraction	911299-1	1	400	0	250	160	10	ug/l
	Extraction	911322-1	1	2560	0	2500	102	10	ug/l
	Extraction	911272-1	1	482	0	750	64	50	ug/l
	Extraction	911284-1	1	449	0	750	60	50	ug/l
Pentachlorophenol	Extraction	911299-1	1	730	0	750	97	50	ug/l

APPROVED BY:

1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE:9

Standard Methods for the Examination of Water and Wastewater, 16th 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, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.

Quality Control Acceptance Criteria:

Blanks.....: Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates.....: 20% RPD, or plus or minus the detection limit
Spikes.....: 100 plus or minus 25%

GCMS tuning criteria meet EPA CLP Statement of Work OLM01.0.
NC = Not Calculated due to value at or below detection limit.
All data reported on sample "as received" unless noted.

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

TCLP SEMIVOLATILES

DATE ANALYZED: 07/08/91 TIME ANALYZED: 13:40 METHOD: SW846-8270

QC NUMBER: 914674

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
2,4,5-Trichlorophenol	Extraction	911322-1	1	3700	0	7500	49	50	ug/l
	Extraction	911272-1	1	659	0	750	88	10	ug/l
	Extraction	911284-1	1	347	0	750	46	10	ug/l
	Extraction	911299-1	1	567	0	750	76	10	ug/l
2,4,6-Trichlorophenol	Extraction	911322-1	1	3000	0	7500	40	10	ug/l
	Extraction	911272-1	1	258	0	250	103	10	ug/l
	Extraction	911284-1	1	225	0	250	90	10	ug/l
	Extraction	911299-1	1	215	0	250	86	10	ug/l
Pyridine	Extraction	911322-1	1	1550	0	2500	62	10	ug/l
	Extraction	911272-1	1	578	0	500	116	10	ug/l
	Extraction	911284-1	1	1380	0	500	276	10	ug/l
	Extraction	911299-1	1	627	0	500	125	10	ug/l
Cresols (Total)	Extraction	911322-1	1	1660	0	5000	33	10	ug/l
	Extraction	911272-1	1	362	0	500	72	10	ug/l
	Extraction	911284-1	1	893	0	500	179	10	ug/l
	Extraction	911299-1	1	422	0	500	84	10	ug/l
	Extraction	911322-1	1	3050	0	5000	61	10	ug/l

APPROVED BY: Chj Menden1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE:10

Standard Methods for the Examination of Water and Wastewater, 16th 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, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.

Quality Control Acceptance Criteria:

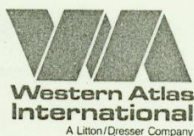
Blanks..... Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates..... 20% RPD, or plus or minus the detection limit
Spikes..... 100 plus or minus 25%

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

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

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

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 07/15/91

JOB NUMBER: 911299

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: BENNY CRAFT

ICLP SEMIVOLATILES

DATE ANALYZED: 07/08/91 TIME ANALYZED: 13:40 METHOD: SW846-B270

QC NUMBER: 914674

DUPLICATES

TEST DESCRIPTION	ANALYSIS SUB-TYPE	ANALYSIS I. D.	DILUTION FACTOR	ANALYZED VALUE (A)	DUPLICATE VALUE (B)	RPD or (A-B)	DETECTION LIMITS	UNITS OF MEASURE
1,4-Dichlorobenzene	Extraction	911322-1	1	<10	<10	NC	10	ug/l
2,4-Dinitrotoluene	Extraction	911322-1	1	<10	<10	NC	10	ug/l
Hexachlorobenzene	Extraction	911322-1	1	<10	<10	NC	10	ug/l
Hexachlorobutadiene	Extraction	911322-1	1	<10	<10	NC	10	ug/l
Hexachloroethane	Extraction	911322-1	1	<10	<10	NC	10	ug/l
Nitrobenzene	Extraction	911322-1	1	<10	<10	NC	10	ug/l
Pentachlorophenol	Extraction	911322-1	1	<50	<50	NC	50	ug/l
2,4,5-Trichlorophenol	Extraction	911322-1	1	<10	<10	NC	10	ug/l
2,4,6-Trichlorophenol	Extraction	911322-1	1	<10	<10	NC	10	ug/l
Pyridine	Extraction	911322-1	1	<10	<10	NC	10	ug/l

APPROVED BY: Chj M. Adams1733 NORTH PADRE ISLAND DRIVE
CORPUS CHRISTI, TX 78408
(512) 289-2673

PAGE:11

Standard Methods for the Examination of Water and Wastewater, 16th 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, Friday, October 26, 1984 (40 CFR Part 136).
EPA-600 2-78-054, Field and Laboratory Methods Applicable to Overburdens and Minesoils.

Quality Control Acceptance Criteria:

Blanks..... Analyzed Value < The Detection Limit
Reference Standards: 100 plus or minus 10%
Duplicates..... 20% RPD, or plus or minus the detection limit
Spikes..... 100 plus or minus 25%

GCMS tuning criteria meet EPA CLP Statement of Work OLM01.0.
NC = Not Calculated due to value at or below detection limit.
All data reported on sample "as received" unless noted.

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced, except in its entirety, without the written approval of Core Laboratories.

CORE LABORATORIES

1733 NORTH PADRE ISLAND DR.
CORPUS CHRISTI, TX 78408 (512) 289-2673

Analysis Request and Chain of Custody Record

[illegible]

White - Return With Results Of Analysis

Yellow - Lab Copy

Pink - Samples Copy

