

A N A L Y T I C A L R E P O R T

900223

FOR

AMOCO PRODUCTION COMPANY

R.A. GOFF

P.O. BOX 3092

HOUSTON, TX 77253

02/08/90

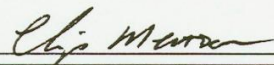


CORE LABORATORIES

LABORATORY TESTS RESULTS 02/08/90

JOB NUMBER: 900223	CUSTOMER: AMOCO PRODUCTION COMPANY	ATTN: R.A. GOFF		
SAMPLE NUMBER: 1	DATE RECEIVED: 01/26/90	TIME RECEIVED: 13:30	SAMPLE DATE: 01/26/90	SAMPLE TIME: 11:00
PROJECT: S.SPRINT G.U. COLLECTING AREA	SAMPLE: LOT #1	REM: SAMPLED BY T.G.		
SAMPLE NUMBER: 2	DATE RECEIVED: 01/26/90	TIME RECEIVED: 13:30	SAMPLE DATE: 01/26/90	SAMPLE TIME: 11:00
PROJECT: S.SPRINT G.U. COLLECTING AREA	SAMPLE: LOT #2	REM: SAMPLED BY T.G.		
SAMPLE NUMBER: 3	DATE RECEIVED: 01/26/90	TIME RECEIVED: 13:30	SAMPLE DATE: 01/26/90	SAMPLE TIME: 11:00
PROJECT: S.SPRINT G.U. COLLECTING AREA	SAMPLE: LOT #3	REM: SAMPLED BY T.G.		
SAMPLE NUMBER: 4	DATE RECEIVED: 01/26/90	TIME RECEIVED: 13:30	SAMPLE DATE: 01/26/90	SAMPLE TIME: 11:00
PROJECT: S.SPRINT G.U. COLLECTING AREA	SAMPLE: LOT #4	REM: SAMPLED BY T.G.		
SAMPLE NUMBER: 5	DATE RECEIVED: 01/26/90	TIME RECEIVED: 13:30	SAMPLE DATE: 01/26/90	SAMPLE TIME: 11:00
PROJECT: S.SPRINT G.U. COLLECTING AREA	SAMPLE: LOT #5	REM: SAMPLED BY T.G.		

TEST DESCRIPTION	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	SAMPLE 5	UNITS OF MEASURE
Benzene	<1	<1	<1	<1	5320	ug/l
Ethylbenzene	<1	<1	<1	<1	258	ug/l
Toluene	<1	<1	<1	<1	6150	ug/l
Xylenes	<1	<1	<1	<1	4900	ug/l
Total Petroleum Hydrocarbons	<1	1	1	<1	34	mg/l
Chloride (Cl), total	96.8	163	212	30.8	89.6	mg/l

APPROVED BY: 1733 North Padre Island Dr.
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 exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability however 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.

QUALITY ASSURANCE REPORT 02/08/90										
JOB NUMBER: 900223			CUSTOMER: AMOCO PRODUCTION COMPANY				ATTN: R.A. GOFF			
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: Total Petroleum Hydrocarbons DETECTION LIMIT: 1			UNITS: mg/l		DATE/TIME ANALYZED: 01/29/90 16:30 METHOD REFERENCE : EPA 418.1			QC BATCH NUMBER: 900757 TECHNICIAN: JRD		
BLANK	Calib.	Freon	<1							
STANDARD	Calib.	1659.2 ppm	16.9			16.6	101.81			
STANDARD	Calib.	1659.2 ppm	33.5			33.2	100.9			
STANDARD	Calib.	1659.2 ppm	65.5			66.4	98.64			
STANDARD	Calib.	1659.2 ppm	133			132.7	100.23			
PARAMETER: Benzene DETECTION LIMIT: 0.2			UNITS: ug/l		DATE/TIME ANALYZED: 01/31/90 13:20 METHOD REFERENCE : SW-846 8020			QC BATCH NUMBER: 900802 TECHNICIAN: GEF		
BLANK	Reagent	D. Water	<0.2							
STANDARD	Reference	Fisher	10			10	100			
SPIKE	Analytical	900223-1	29							
DUPLICATE	Analytical	900223-1	<0.2	<0.2	NC			0	25	116
PARAMETER: Toluene DETECTION LIMIT: 0.2			UNITS: ug/l		DATE/TIME ANALYZED: 01/31/90 13:23 METHOD REFERENCE : SW-846 8020			QC BATCH NUMBER: 900803 TECHNICIAN: GEF		
BLANK	Reagent	D. Water	<0.2							
STANDARD	Reference	Fisher	10			10	100			
SPIKE	Analytical	900223-1	25							
DUPLICATE	Analytical	900223-1	<0.2	<0.2	NC			0	25	100
PARAMETER: Ethylbenzene DETECTION LIMIT: 0.2			UNITS: ug/l		DATE/TIME ANALYZED: 01/31/90 13:24 METHOD REFERENCE : SW-846 8020			QC BATCH NUMBER: 900804 TECHNICIAN: GEF		
BLANK	Reagent	D. Water	<0.2							
STANDARD	Reference	Fisher	10			10	100			
SPIKE	Analytical	900223-1	27.5							
DUPLICATE	Analytical	900223-1	<0.2	<0.2	NC			0	25	110
APPROVED BY: <u>Chip Maroon</u>						1733 North Padre Island Dr. 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%

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

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 assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability however 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.



CORE LABORATORIES

QUALITY ASSURANCE REPORT 02/08/90

JOB NUMBER: 900223

CUSTOMER: AMOCO PRODUCTION COMPANY

ATTN: R.A. GOFF

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:Xylenes DETECTION LIMIT:0.2 UNITS:ug/l				DATE/TIME ANALYZED:01/31/90 13:26 METHOD REFERENCE :SW-846 8020				QC BATCH NUMBER:900805 TECHNICIAN:GEF		
BLANK	Reagent	D.Water	<0.2			30	100			
STANDARD	Reference	Fisher	30							
SPIKE	Analytical	900223-1	88							
DUPLICATE	Analytical	900223-1	<0.2	<0.2	NC			0	75	117.33
PARAMETER:Chloride (Cl), total DETECTION LIMIT:0.5 UNITS:mg/l				DATE/TIME ANALYZED:02/08/90 15:20 METHOD REFERENCE :EPA-600 300.0				QC BATCH NUMBER:901035 TECHNICIAN:JEM		
BLANK	reagent	DI H2O	<0.5							
STANDARD	check	bk 2 pg 86	21.1			20	105.5			
STANDARD	check	bk 2 pg 86	10			10	100			
STANDARD	check	bk 2 pg 86	5.8			5	116			
STANDARD	reference	bk 2 pg 86	11.5			10	115			
SPIKE	analytical	900223-3	379					212	200	83.5
DUPLICATE	analytical	900223-3	212	221	4.16					

APPROVED BY: Chip M...1733 North Padre Island Dr.
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%

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

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 assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitability however 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.

