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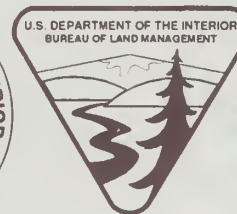
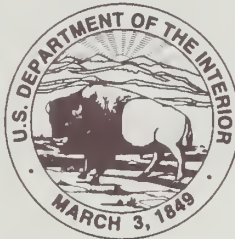
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# Technical Note 404

## Analyses of Natural Gases, 1996-1997

By B.D. Gage and D.L. Driskill  
September 1998

U.S. Department of the Interior  
Bureau of Land Management



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# **Analyses of Natural Gases, 1996-97**

By B.D. Gage and D.L. Driskill

## **Technical Note 404**

U.S. Department of the Interior  
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# Analyses of Natural Gases, 1996-97

B.D. Gage<sup>1</sup> and D.L. Driskill<sup>2</sup>

## Abstract

This publication contains analyses and related source data for 167 natural gas samples from 17 states. Of the total samples, 89 were collected during calendar years 1996-97. The remainder were collected earlier, but releases granting permission to publish were received at a later date. None of the analyses have been previously published in annual reports. All samples were obtained and analyzed as part of the U.S. Department of the Interior—Bureau of Land Management investigations of the occurrences of helium in natural gases of countries with free-market economies. This survey has been conducted since 1917. The analyses published herein were made by mass spectrometer and chromatograph.

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<sup>2</sup> Geologist, Bureau of Land Management, Helium Operations, Amarillo, Texas

## Introduction

This Bureau of Land Management publication contains analyses and related source data for 167 natural gas samples from 17 states. None of the analyses have been previously published in annual reports. All samples were obtained and analyzed as part of the Bureau of Land Management investigations of the occurrences of helium in natural gases of countries with free-market economies. This survey has been conducted since 1917. The analyses published herein were made by mass spectrometer and chromatograph. The results of these investigations are published annually or biennially to make the information available to the petroleum industry and the general public. Forty-one publications have presented the results of 15,891 gas analyses performed through 1995. The first three bulletins (1-3)<sup>3</sup> contain analyses and related source data on 5,218 gas samples collected from 1917 through 1960. These bulletins have been supplemented annually or biennially by information circulars and technical notes (4-17, 19-24, 26-30, 32-36, 38-41) containing 10,673 analyses of samples collected since 1960.

In 1976, a compilation of the analyses made prior to 1975 was prepared by the U.S. Bureau of Mines and published by the National Technical Information Service of the U.S. Department of Commerce (18). The 1976 compilation contains 10,562 analyses of gas samples from gas and oil wells and natural gas pipelines in 37 states and 23 foreign countries.

Three other compilations of analyses have been published (25, 31, 37) by the U.S. Bureau of Mines. The first of these was published in 1982 and contained analyses performed prior to 1981. The 1982 publication contains 12,554 analyses of gas samples from gas and oil wells and natural gas pipelines in 39 states and 24 foreign countries and includes the analyses from the 1976 publication (25). The second of these compilations was published in 1987 and contains 14,242 analyses performed prior to 1986. The samples were taken from wells or pipelines in 40 states and 24 foreign countries (31). In 1991, a compilation was completed as a supplement to the 1987 publication and contains all analyses published from 1986 through 1990. The 1991 publication contains 920 samples from gas and oil wells and pipelines in 26 states and 2 foreign countries (37).

In addition to being in the publications, all analyses and related information published through 1995 are available on CD-ROM. The CD-ROM is available from the National Technical Information Service, Springfield, VA 22161 (1-800-553-NTIS). Orders should refer to Bureau of Land Management CD-ROM PB 97-502611. The update to the 1995 CD-ROM, which will include the 1996-97 analyses, will be sent to NTIS and should be available for purchase by the time this report is published.

The helium survey program is conducted by soliciting natural gas samples throughout the United States and other countries with free-market economies. Without the assistance of the petroleum industry, State and Federal agencies, and many individuals engaged in oil and gas exploration and production, the helium survey in its present scope would not be possible.

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<sup>3</sup> Numbers in parentheses refer to items in the list of previous publications at the end of this report.



# Geologic Provinces of the United States

The tables include geologic province codes so each sample source can be located within a specific geologic province as defined by the Committee on Statistics of Drilling of the American Association of Petroleum Geologists.<sup>4</sup> These provinces, which are given in the following list and shown in Figure 1, are delineated by political boundaries for convenience and for accommodation of data processing equipment. Not all of the provinces shown are gas-producing areas so many of the codes are not used in this publication. Since State or Federal ownership is not always known in offshore areas, only one code is used for each state. Due to the lack of information on the location of wells in Alaska, only one code, 972, is used for all wells.

The following list and Figure 1 are taken from the article cited in footnote 4.

<b>Code</b>	<b>Province</b>
100	New England Province
110	Adirondack Uplift
120	Atlantic Coast Basin
130	South Georgia-North Florida Sedimentary Province
140	South Florida Province
150	Piedmont-Blue Ridge Province
160	Appalachian Basin
200	Black Warrior Basin
210	Mid-Gulf Coast Basin
220	Gulf Coast Basin
230	Arkla Basin
240	Desha Basin
250	Upper Mississippi Embayment
260	East Texas Basin
300	Cincinnati Arch
305	Michigan Basin
310	Wisconsin Arch
315	Illinois Basin
320	Sioux Uplift
325	Iowa Shelf
330	Lincoln Anticline
335	Forest City Basin
340	Ozark Uplift
345	Arkoma Basin
350	South Oklahoma Folded Belt Province
355	Chautauqua Platform
360	Anadarko Basin
365	Cherokee Basin
370	Nemaha Anticline

<sup>4</sup> Meyer, R.F. Geologic Provinces Code Map for Computer Use. AAPG Bull., v. 54, No. 7, July 1970, pp. 1301-1305.

<b>Code</b>	<b>Province</b>
375	Sedgwick Basin
380	Salina Basin
385	Central Kansas Uplift
390	Chadron Arch
395	Williston Basin
400	Ouachita Tectonic Belt Province
405	Kerr Basin
410	Llano Uplift
415	Strawn Basin
420	Fort Worth Syncline
425	Bend Arch
430	Permian Basin
435	Palo Duro Basin
440	Amarillo Arch
445	Sierra Grande Uplift
450	Las Animas Arch
455	Las Vegas-Raton Basin
460	Estancia Basin
465	Orogrande Basin
470	Pedregosa Basin
475	Basin-and-Range Province
500	Sweetgrass Arch
505	Montana Folded Belt Province
510	Central Montana Uplift
515	Powder River Basin
520	Big Horn Basin
525	Yellowstone Province
530	Wind River Basin
535	Green River Basin
540	Denver Basin
545	North Park Basin
550	South Park Basin
555	Eagle Basin
560	San Luis Basin
565	San Juan Mountain Province
570	Uinta Uplift
575	Uinta Basin
580	San Juan Basin
585	Paradox Basin
590	Black Mesa Basin
595	Piceance Basin
600	Northern Cascade Range-Okanagan Province
605	Eastern Columbia Basin
610	Idaho Mountains Province

<b>Code</b>	<b>Province</b>
615	Snake River Basin
620	Southern Oregon Basin
625	Great Basin Province
630	Wasatch Uplift
635	Plateau Sedimentary Province
640	Mojave Basin
645	Salton Basin
650	Sierra Nevada Province
700	Bellingham Basin
705	Puget Sound Province
710	Western Columbia Basin
715	Klamath Mountains Province
720	Eel River Basin
725	Northern Coast Range Province
730	Sacramento Basin
735	Santa Cruz Basin
740	Coastal Basins
745	San Joaquin Basin
750	Santa Maria Basin
755	Ventura Basin
760	Los Angeles Basin
765	Capistrano Basin
800	Heceta Island Area
805	Keku Islands Area
810	Gulf of Alaska Basin
815	Copper River Basin
820	Cook Inlet Basin
830	Kandik Province
835	Kobuk Province
840	Koyukuk Province
845	Bristol Bay Basin
850	Bethel Basin
855	Norton Basin
860	Selawik Basin
863	Yukon Flats Basin
865	Lower Tanana Basin
867	Middle Tanana Basin
870	Upper Tanana Basin
873	Galena Basin
875	Innoko Basin
877	Minchumina Basin
880	Holitna Basin
885	Arctic Foothills Province
890	Arctic Slope Basin

<b>Code</b>	<b>Province</b>
900	Maine Atlantic offshore—general
901	Maine Atlantic offshore—State
902	Maine Atlantic offshore—Federal
903	New Hampshire Atlantic offshore—general
904	New Hampshire Atlantic offshore—State
905	New Hampshire Atlantic offshore—Federal
906	Massachusetts Atlantic offshore—general
907	Massachusetts Atlantic offshore—State
908	Massachusetts Atlantic offshore—Federal
909	Rhode Island Atlantic offshore—general
910	Rhode Island Atlantic offshore—State
911	Rhode Island Atlantic offshore—Federal
912	Connecticut Atlantic offshore—general
913	Connecticut Atlantic offshore—State
914	Connecticut Atlantic offshore—Federal
915	New York Atlantic offshore—general
916	New York Atlantic offshore—State
917	New York Atlantic offshore—Federal
918	New Jersey Atlantic offshore—general
919	New Jersey Atlantic offshore—State
920	New Jersey Atlantic offshore—Federal
921	Delaware Atlantic offshore—general
922	Delaware Atlantic offshore—State
923	Delaware Atlantic offshore—Federal
924	Maryland Atlantic offshore—general
925	Maryland Atlantic offshore—State
926	Maryland Atlantic offshore—Federal
927	Virginia Atlantic offshore—general
928	Virginia Atlantic offshore—State
929	Virginia Atlantic offshore—Federal
930	North Carolina Atlantic offshore—general
931	North Carolina Atlantic offshore—State
932	North Carolina Atlantic offshore—Federal
933	South Carolina Atlantic offshore—general
934	South Carolina Atlantic offshore—State
935	South Carolina Atlantic offshore—Federal
936	Georgia Atlantic offshore—general
937	Georgia Atlantic offshore—State
938	Georgia Atlantic offshore—Federal
939	Florida Atlantic offshore—general
940	Florida Atlantic offshore—State
941	Florida Atlantic offshore—Federal
942	Florida Gulf of Mexico offshore—general
943	Florida Gulf of Mexico offshore—State

<b>Code</b>	<b>Province</b>
944	Florida Gulf of Mexico offshore—Federal
945	Alabama Gulf of Mexico offshore—general
946	Alabama Gulf of Mexico offshore—State
947	Alabama Gulf of Mexico offshore—Federal
948	Mississippi Gulf of Mexico offshore—general
949	Mississippi Gulf of Mexico offshore—State
950	Mississippi Gulf of Mexico offshore—Federal
951	Louisiana Gulf of Mexico offshore—general
952	Louisiana Gulf of Mexico offshore—State
953	Louisiana Gulf of Mexico offshore—Federal
954	Texas Gulf of Mexico offshore—general
955	Texas Gulf of Mexico offshore—State
956	Texas Gulf of Mexico offshore—Federal
957	California Pacific offshore—general
958	California Pacific offshore—State
959	California Pacific offshore—Federal
960	Oregon Pacific offshore—general
961	Oregon Pacific offshore—State
962	Oregon Pacific offshore—Federal
963	Washington Pacific offshore—general
964	Washington Pacific offshore—State
965	Washington Pacific offshore—Federal
972	Alaska Arctic offshore—general
973	Alaska Arctic offshore—State
974	Alaska Arctic offshore—Federal
975	Alaska Bering Sea offshore—general
976	Alaska Bering Sea offshore—State
977	Alaska Bering Sea offshore—Federal
978	Alaska Pacific offshore—general
979	Alaska Pacific offshore—State
980	Alaska Pacific offshore—Federal
987	Minnesota Lake Superior offshore
988	Wisconsin Lake Superior offshore
989	Michigan Lake Superior offshore
990	Indiana Lake Michigan offshore
991	Illinois Lake Michigan offshore
992	Wisconsin Lake Michigan offshore
993	Michigan Lake Michigan offshore
994	Michigan Lake Huron offshore
995	Michigan Lake Erie offshore
996	Ohio Lake Erie offshore
997	Pennsylvania Lake Erie offshore
998	New York Lake Erie offshore
999	New York Lake Ontario offshore

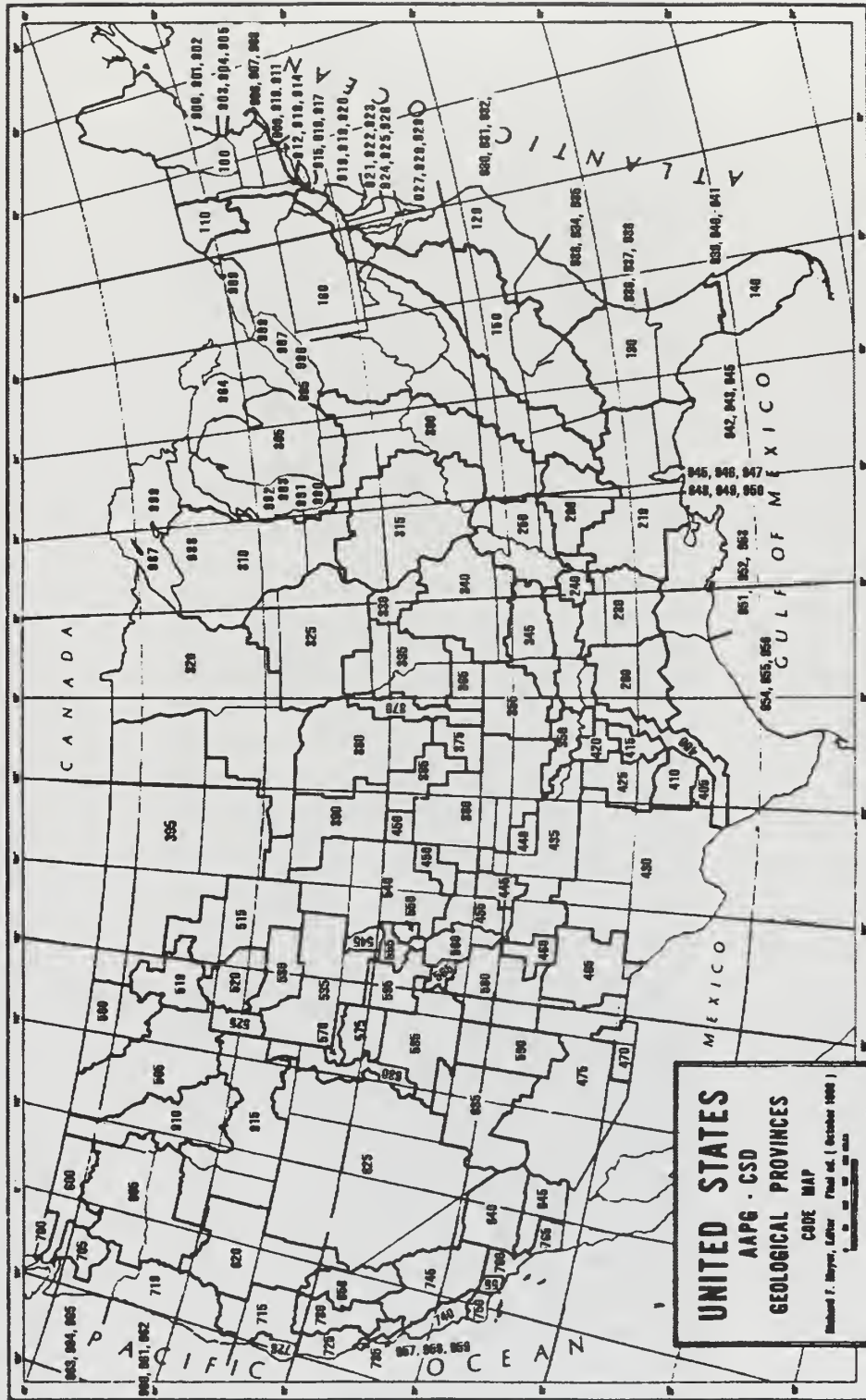


Figure 1. Geologic provinces of the United States.

## Tables

The following tables include the results of analyses and related source data from the gas samples, which are divided into two groups as follows:

Table 1. Samples from gas and oil wells in the United States

Table 2. Samples from pipelines in the United States

The following list indicates the sources of the samples listed in the tables:

Source	Number of Samples	Tables	Source	Number of Samples	Tables
Alabama	2	1	New Mexico	15	1
Arizona	4	1	North Dakota	1	1
Arkansas	3	1	Ohio	1	1
Colorado	15	1	Oklahoma	14	1
Kansas	18	1	Pennsylvania	1	1
Louisiana	4	1	Texas	63	1,2
Mississippi	3	1	Utah	6	1
Montana	2	1	Wyoming	14	1,2
Nebraska	1	1			

All components of the analyses in the tables are reported to the nearest 0.1 percent (pct), except helium, which is reported to the nearest 0.01 pct. The word "trace" is used to denote quantities of helium of less than 0.005 pct and quantities of other components of less than 0.05 pct.





**TABLE 1**

Samples From Gas and Oil Wells  
in the United States

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 1 SAMPLE 20003	INDEX 2 SAMPLE 19941	INDEX 3 SAMPLE 19978
STATE.....	ALABAMA	ALABAMA	ARIZONA
COUNTY.....	LAMAR	TUSCALOOSA	APACHE
FIELD.....	UNNAMED	BROOKWOOD COAL DEGAS	WILDCAT
WELL NAME.....	ODOM 15-10 NO. 1	UNITED LAND NO. 32-9-2	RIDGEWAY STATE NO. 10-22
API.....	01-075-20923	01-125-23071	02-001-20308
LOCATION.....	SEC. 15, T17S, R15W	SEC. 32, T19S, R7W	SEC. 22, T10N, R30E
OWNER.....	MOON-HINES-TIGRETT OPER. CO.,	BLACK WARRIOR METHANE CORP.	RIDGEWAY ARIZONA OIL CORP.
COMPLETED.....	97/07/30	95/02/21	97/--/00
SAMPLED.....	97/10/22	96/06/08	97/03/25
FORMATION.....	MISS-CARTER	PENN-POTTSVILLE	PERM-BIG "A" BUTTE (SUPAI)
GEOLOGIC PROVINCE CODE...	200	200	590
DEPTH, FEET.....	4212	1573	1790
WELLHEAD PRESSURE, PSIG...	1349	NOT GIVEN	90
OPEN FLOW, MCFD.....	1429	2188	48
COMPONENT, MOLE PCT			
METHANE.....	91.0 -----	96.0 -----	0.0 -----
ETHANE.....	5.2 -----	0.1 -----	0.0 -----
PROPANE.....	1.2 -----	0.1 -----	TRACE -----
N-BUTANE.....	0.5 -----	0.0 -----	0.0 -----
ISOBUTANE.....	0.2 -----	TRACE -----	0.0 -----
N-PENTANE.....	0.1 -----	0.0 -----	0.0 -----
ISOPENTANE.....	0.2 -----	0.0 -----	0.0 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.0 -----	0.0 -----
NITROGEN.....	1.3 -----	2.9 -----	0.0 -----
OXYGEN.....	TRACE -----	0.6 -----	0.0 -----
ARGON.....	TRACE -----	0.1 -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.1 -----	0.2 -----	99.8 -----
HELIUM.....	0.10 -----	TRACE -----	0.15 -----
HEATING VALUE*.....	1085 -----	978 -----	0 -----
SPECIFIC GRAVITY.....	0.616	0.574	1.527

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX SAMPLE 19989	INDEX SAMPLE 19990	INDEX SAMPLE 19991
STATE.....	ARIZONA	ARIZONA	ARIZONA
COUNTY.....	APACHE	APACHE	APACHE
FIELD.....	WILDCAT	WILDCAT	WILDCAT
WELL NAME.....	STATE NO. 22-1X	RIDGEWAY STATE NO. 9-21	STATE NO. 3-1
API.....	02-001-20301	02-001-20309	02-001-20299
LOCATION.....	SBC. 22, T12N, R29E	SBC. 21, T9N, R31E	SBC. 3, T11N, R29E
OWNER.....	RIDGEWAY ARIZONA OIL CORP.	RIDGEWAY ARIZONA OIL CORP.	RIDGEWAY ARIZONA OIL CORP.
COMPLETED.....	97/06/01	97/--/00	95/09/13
SAMPLED.....	97/06/04	97/06/09	97/06/10
FORMATION.....	PERM-AMOS WASH	PERM-GRANITE WASH	PERM-AMOS WASH
GEOLOGIC PROVINCE CODE...	590	590	590
DEPTH, FEET.....	1537	2624	1676
WELLHEAD PRESSURE, PSIG...	200	120	165
OPEN FLOW, MCFD.....	1846	987	1347
COMPONENT, MOLE PCT			
METHANE.....	0.1 -----	0.0 -----	0.1 -----
ETHANE.....	0.0 -----	0.0 -----	0.0 -----
PROPANE.....	0.0 -----	TRACE -----	0.0 -----
N-BUTANE.....	0.0 -----	0.0 -----	0.0 -----
ISOBUTANE.....	0.0 -----	0.0 -----	0.0 -----
N-PENTANE.....	0.0 -----	0.0 -----	0.0 -----
ISOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.0 -----	0.0 -----
NITROGEN.....	13.3 -----	0.9 -----	7.6 -----
OXYGEN.....	0.0 -----	0.0 -----	0.0 -----
ARGON.....	0.2 -----	TRACE -----	0.1 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	85.2 -----	99.0 -----	91.6 -----
HELIUM.....	1.13 -----	0.07 -----	0.67 -----
HEATING VALUE*.....	1 -----	0 -----	1 -----
SPECIFIC GRAVITY.....	1.437	1.523	1.476

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 7 SAMPLE 19952	INDEX 8 SAMPLE 19902	INDEX 9 SAMPLE 19948
STATE.....	ARKANSAS	ARKANSAS	ARKANSAS
COUNTY.....	JOHNSON	MILLER	WHITE
FIELD.....	LUDWIG	FOUKE W	CLAY
WELL NAME.....	NELSON SCHWARTZ NO. 4	THOMAS NO. 1	HOLLIMAN NO. 1-28
API.....	03-071-10714		03-145-10013
LOCATION.....	SBC. 7, T10N, R23W	SBC 17, T17S, R27W	SBC. 28, T9N, R7W
OWNER.....	STEPHENS PRODUCTION CO.	SWIFT ENERGY CO.	GRUBBS ENERGY CO.
COMPLETED.....	96/03/27	94/12/28	95/12/18
SAMPLED.....	96/08/05	96/01/17	96/08/01
FORMATION.....	PENN-PATTERSON	JURA-SMACKOVER	CAMO-ARBUCKLE
GEOLOGIC PROVINCE CODE...	345	230	345
DEPTH, FEET.....	3043	9545	6720
WELLHEAD PRESSURE, PSIG...	991	3102	1450
OPEN FLOW, MCFD.....	2693	1000	950
COMPONENT, MOLE PCT			
METHANE.....	98.3 -----	54.3 -----	95.4 -----
ETHANE.....	1.0 -----	5.9 -----	0.9 -----
PROPANE.....	0.1 -----	4.7 -----	0.1 -----
N-BUTANE.....	0.0 -----	3.1 -----	0.0 -----
ISOBUTANE.....	TRACE -----	2.7 -----	0.0 -----
N-PENTANE.....	0.0 -----	1.5 -----	0.0 -----
ISOPENTANE.....	0.0 -----	0.8 -----	0.0 -----
CYCLOPENTANE.....	0.0 -----	TRACE -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.7 -----	0.0 -----
NITROGEN.....	0.5 -----	19.4 -----	1.5 -----
OXYGEN.....	TRACE -----	0.0 -----	0.4 -----
ARGON.....	0.0 -----	TRACE -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	1.0 -----	0.0 -----
CARBON DIOXIDE.....	TRACE -----	5.9 -----	1.7 -----
HELIUM.....	0.09 -----	0.05 -----	0.04 -----
HEATING VALUE*.....	1016 -----	1114 -----	986 -----
SPECIFIC GRAVITY.....	0.562	0.924	0.585

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 10 SAMPLE 50572	INDEX 11 SAMPLE 50573	INDEX 12 SAMPLE 19912
STATE.....	COLORADO	COLORADO	COLORADO
COUNTY.....	CHEYENNE	CHEYENNE	CHEYENNE
FIELD.....	HARKER RANCH	HARKER RANCH	MAYFIELD
WELL NAME.....	EAST BIG TIMBER NO. 11-1	HELEN 41-34 NO. 1	ALAN NO. 23-20
API.....	05-017-07434	05-017-07185	05-017-07446
LOCATION.....	SEC. 1, T12S, R43W	SEC. 34, T12S, R43W	SEC. 20, T13S, R43W
OWNER.....	ANSCHUTZ EXPLORATION LTD.	ANSCHUTZ EXPLORATION LTD.	UNION PACIFIC RESOURCES CO.
COMPLETED.....	97/01/30	97/01/15	96/02/15
SAMPLED.....	97/06/30	97/06/19	96/03/01
FORMATION.....	PENN-MORROW	PENN-MORROW	PENN-MORROW
GEOLOGIC PROVINCE CODE...	450	450	450
DEPTH, FEET.....	5160	5190	5234
WELLHEAD PRESSURE, PSIG...	740	154	740
OPEN FLOW, MCFD.....	1100	275	1400
COMPONENT, MOLE PCT			
METHANE.....	21.8 -----	27.8 -----	29.0 -----
ETHANE.....	1.3 -----	2.4 -----	2.9 -----
PROPANE.....	1.0 -----	2.0 -----	2.1 -----
N-BUTANE.....	0.5 -----	1.1 -----	0.8 -----
ISOBUTANE.....	0.3 -----	0.4 -----	0.4 -----
N-PENTANE.....	0.2 -----	0.4 -----	0.1 -----
ISOPENTANE.....	0.2 -----	0.3 -----	0.2 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.5 -----	0.8 -----	0.0 -----
NITROGEN.....	69.3 -----	61.0 -----	60.1 -----
OXYGEN.....	0.0 -----	0.0 -----	0.1 -----
ARGON.....	0.3 -----	0.2 -----	0.2 -----
HYDROGEN.....	0.0 -----	0.0 -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	1.1 -----	0.8 -----	0.9 -----
HELIUM.....	3.55 -----	2.78 -----	3.22 -----
HEATING VALUE*.....	337 -----	497 -----	454 -----
SPECIFIC GRAVITY.....	0.886	0.891	0.859

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 13 SAMPLE 19838	INDEX 14 SAMPLE 19937	INDEX 15 SAMPLE 19901
STATE.....	COLORADO	COLORADO	COLORADO
COUNTY.....	CHEYENNE	GARFIELD	KIOWA
FIELD.....	ROUND STONE	SOUTH CANYON	KICKING BIRD
WELL NAME.....	COB TRUST 21-18 NO. 1	BAXTER PASS FEDERAL NO. 11-7	P.O.Z. 2-28 NO. 2
API.....	05-017-07147	05-045-06984	05-061-06689
LOCATION.....	SEC. 18, T16S, R45W	SEC. 11, T7S, R104W	SEC. 28, T20S, R49W
OWNER.....	JAYARE EXPLORATION, INC.	TOM BROWN, INC.	FRANKLIN KENNEC, TRUSTEE
COMPLETED.....	90/04/10	95/12/00	94/07/27
SAMPLED.....	94/11/02	96/04/29	96/01/15
FORMATION.....	PENN-MORROW V-7	CRET-DAKOTA	PENN-MORROW U
GEOLOGIC PROVINCE CODE... 450		595	450
DEPTH, FEET.....	5220	5478	5058
WELLHEAD PRESSURE, PSIG... 575		420	800
OPEN FLOW, MCFD..... 3000		291	963
COMPONENT, MOLE PCT			
METHANE.....	38.5 -----	76.2 -----	71.8 -----
ETHANE.....	6.1 -----	3.7 -----	10.1 -----
PROPANE.....	4.9 -----	1.1 -----	4.9 -----
N-BUTANE.....	3.8 -----	0.3 -----	1.1 -----
ISOBUTANE.....	1.7 -----	0.2 -----	0.5 -----
N-PENTANE.....	3.8 -----	0.0 -----	0.3 -----
ISOPENTANE.....	0.9 -----	0.0 -----	0.2 -----
CYCLOPENTANE.....	1.0 -----	0.0 -----	TRACE -----
HEXANES PLUS.....	3.1 -----	0.1 -----	0.2 -----
NITROGEN.....	33.2 -----	8.3 -----	9.9 -----
OXYGEN.....	0.1 -----	0.1 -----	TRACE -----
ARGON.....	0.1 -----	0.1 -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**..... 0.0		0.0	0.0
CARBON DIOXIDE.....	0.4 -----	9.5 -----	0.6 -----
HELIUM.....	2.37 -----	0.46 -----	0.37 -----
HEATING VALUE*.....	1212 -----	887 -----	1121 -----
SPECIFIC GRAVITY.....	1.036	0.720	0.738

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 16 SAMPLE 50567	INDEX 17 SAMPLE 19894	INDEX 18 SAMPLE 19677
STATE.....	COLORADO	COLORADO	COLORADO
COUNTY.....	KIOWA	LAS ANIMAS	MESA
FIELD.....	NEE NOSHE	SPANISH PEAK	HUNTERS CANYON
WELL NAME.....	STATE NO. 1-15	TAYLOR NO. 22-7	HUNTERS CANYON UNIT 6 & 8
API.....	05-061-06733	05-071-06209	05-077-08505
LOCATION.....	SEC. 15, T19S, R47W	SEC. 7, T33S, R65W	SEC. 30, T8S, R100W
OWNER.....	J.W. GIBSON	EVERGREEN OPERATING CORP.	NATIONAL FUEL CORP.
COMPLETED.....	96/09/25	95/01/10	93/--/00
SAMPLED.....	96/07/30	95/12/12	93/10/00
FORMATION.....	PHNN-MARMATON	CRET-VERMEJO	CRET-DAKOTA
GEOLOGIC PROVINCE CODE...	450	455	595
DEPTH, FEET.....	4301	1100	NOT GIVEN
WELLHEAD PRESSURE, PSIG...	1230	300	NOT GIVEN
OPEN FLOW, MCFD.....	2976	400	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE.....	51.4 -----	98.7 -----	87.5 -----
ETHANE.....	10.8 -----	0.0 -----	0.7 -----
PROPANE.....	6.6 -----	0.1 -----	0.2 -----
N-BUTANE.....	1.6 -----	0.0 -----	0.0 -----
ISOBUTANE.....	0.7 -----	0.0 -----	0.1 -----
N-PENTANE.....	0.2 -----	0.0 -----	0.0 -----
ISOPENTANE.....	0.4 -----	0.0 -----	0.0 -----
CYCLOPENTANE.....	---	0.0 -----	TRACE
HEXANES PLUS.....	0.4 -----	0.0 -----	0.0 -----
NITROGEN.....	27.0 -----	0.2 -----	3.2 -----
OXYGEN.....	0.0 -----	TRACE -----	0.4 -----
ARGON.....	---	0.0 -----	0.1 -----
HYDROGEN.....	---	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.1 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.2 -----	1.0 -----	7.8 -----
HELIUM.....	0.71 -----	TRACE -----	0.07 -----
HEATING VALUE*.....	1007 -----	1002 -----	907 -----
SPECIFIC GRAVITY.....	0.840	0.566	0.653

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 19 SAMPLE 20001	INDEX 20 SAMPLE 19744	INDEX 21 SAMPLE 19664
STATE.....	COLORADO	COLORADO	COLORADO
COUNTY.....	MOFFAT	RIO BLANCO	RIO BLANCO
FIELD.....	WEST SIDE CANAL	BLUE CLOUD	LOWER HORSE DRAW
WELL NAME.....	AVALANCHE (STATE) NO. 1	GOVERNMENT NO. 2-28	GOVERNMENT NO. 1-9
API.....	05-081-06902		05-103-07724
LOCATION.....	SEC. 24, T12N, R92W	SEC. 28, T4S, R102W	SEC. 9, T2S, R103W
OWNER.....	MULL DRILLING CO., INC.	OMIMEX PETROLEUM, INC.	PEASE OIL & GAS CO.
COMPLETED.....	96/10/29	79/07/10	75/11/26
SAMPLED.....	97/07/26	94/03/29	93/08/18
FORMATION.....	CRET-LEWIS	CRET-DAKOTA	CRET-MANCOS B
GEOLOGIC PROVINCE CODE...	535	595	595
DEPTH, FEET.....	3930	NOT GIVEN	3535
WELLHEAD PRESSURE, PSIG...	1540	1240	280
OPEN FLOW, MCFD.....	800	NOT GIVEN	50
COMPONENT, MOLE PCT			
METHANE.....	92.9 -----	44.8 -----	85.2 -----
ETHANE.....	4.4 -----	1.8 -----	7.8 -----
PROPANE.....	0.9 -----	0.7 -----	3.7 -----
N-BUTANE.....	0.3 -----	0.2 -----	1.0 -----
ISOBUTANE.....	0.3 -----	0.1 -----	0.5 -----
N-PENTANE.....	0.1 -----	0.1 -----	0.3 -----
ISOPENTANE.....	0.1 -----	TRACE -----	0.2 -----
CYCLOPENTANE.....	0.0 -----	TRACE -----	0.1 -----
HEXANES PLUS.....	0.1 -----	0.1 -----	0.2 -----
NITROGEN.....	0.5 -----	12.5 -----	0.6 -----
OXYGEN.....	0.1 -----	TRACE -----	0.1 -----
ARGON.....	0.0 -----	0.1 -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.4 -----	38.9 -----	0.3 -----
HELIUM.....	0.03 -----	0.60 -----	0.03 -----
HEATING VALUE*.....	1075 -----	530 -----	1181 -----
SPECIFIC GRAVITY.....	0.606 -----	1.010 -----	0.673 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE



TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 22 SAMPLE 19457	INDEX 23 SAMPLE 19947	INDEX 24 SAMPLE 19913
STATE.....	COLORADO	COLORADO	COLORADO
COUNTY.....	RIO BLANCO	RIO BLANCO	YUMA
FIELD.....	TAIGA MOUNTAIN	TRAIL CANYON	OLD BALDY
WELL NAME.....	FEDERAL NO. 7-20-1N-103W	TRAIL CANYON NO. 12-27	D. BROPHY NO. 21-24
API.....	05-103-09515	05-103-09839	05-125-07569
LOCATION.....	SEC. 20, T1N, R103W	SEC. 27, T4S, R101W	SEC. 24, T4N, R46W
OWNER.....	BONNEVILLE PUBLS CORP.	CABOT OIL & GAS CORP.	J-W OPERATING CO.
COMPLETED.....	92/02/06	96/03/21	84/10/17
SAMPLED.....	92/10/13	96/07/00	96/02/29
FORMATION.....	CRET-CASTLEGATE	CRET-DAKOTA	CRET-NIOBRARA
GEOLOGIC PROVINCE CODE...	595	595	540
DEPTH, FEET.....	3640	7452	2590
WELLHEAD PRESSURE, PSIG...	580	1550	460
OPEN FLOW, MCFD.....	1316	460	966
COMPONENT, MOLE PCT			
METHANE.....	85.2 -----	91.8 -----	93.5 -----
ETHANE.....	7.1 -----	1.4 -----	0.8 -----
PROPANE.....	3.8 -----	0.3 -----	0.1 -----
N-BUTANE.....	0.7 -----	0.0 -----	0.0 -----
ISOBUTANE.....	0.4 -----	0.1 -----	TRACE -----
N-PENTANE.....	0.1 -----	0.0 -----	0.0 -----
ISOPENTANE.....	0.3 -----	0.0 -----	0.0 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.1 -----	0.0 -----	0.0 -----
NITROGEN.....	1.4 -----	4.0 -----	4.4 -----
OXYGEN.....	0.3 -----	0.7 -----	0.4 -----
ARGON.....	TRACE	0.1	0.1
HYDROGEN.....	TRACE -----	0.1 -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0	TRACE	0.0
CARBON DIOXIDE.....	0.7 -----	1.5 -----	0.6 -----
HELIUM.....	0.02	0.06	0.09
HEATING VALUE*.....	1143 -----	964 -----	965 -----
SPECIFIC GRAVITY.....	0.667	0.600	0.586

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 25 SAMPLE 19381	INDEX 26 SAMPLE 19961	INDEX 27 SAMPLE 19939
STATE.....	KANSAS	KANSAS	KANSAS
COUNTY.....	BARBER	FINNEY	HASKELL
FIELD.....	MOTT RANCH	HUGOTON	HUGOTON
WELL NAME.....	MOTT A NO. 2	ESTHER NO. 2	GEORGE NO. 1-2
API.....	15-007-22348	15-055-20354	15-081-20936
LOCATION.....	SEC. 13, T31S, R12W	SEC. 6, T24S, R34W	SEC. 6, T27S, R32W
OWNER.....	PICKRELL DRILLING CO., INC.	UNION PACIFIC RESOURCES CO.	HELMERICH & PAYNE, INC.
COMPLETED.....	91/01/07	96/05/13	95/12/05
SAMPLED.....	92/05/04	96/12/12	96/06/10
FORMATION.....	PERNN-ELGIN	PERM-CHASE GROUP	PERM-CHASE GROUP
GEOLOGIC PROVINCE CODE...	375	360	360
DEPTH, FEET.....	3365	2488	2673
WELLHEAD PRESSURE, PSIG...	1010	100	182
OPEN FLOW, MCFD.....	3080	278	440
COMPONENT, MOLE PCT			
METHANE.....	85.0 -----	70.0 -----	69.2 -----
ETHANE.....	3.5 -----	6.0 -----	5.1 -----
PROPANE.....	1.7 -----	3.4 -----	2.5 -----
N-BUTANE.....	0.3 -----	0.6 -----	0.5 -----
ISOBUTANE.....	0.2 -----	0.5 -----	0.3 -----
N-PENTANE.....	0.0 -----	0.0 -----	0.0 -----
ISOPENTANE.....	0.6 -----	0.1 -----	TRACE -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.0 -----	0.0 -----
NITROGEN.....	8.1 -----	18.5 -----	21.1 -----
OXYGEN.....	0.2 -----	0.4 -----	0.5 -----
ARGON.....	TRACE	0.1	0.1
HYDROGEN.....	TRACE	TRACE	TRACE
HYDROGEN SULFIDE**.....	0.0	0.0	0.0
CARBON DIOXIDE.....	0.3 -----	TRACE	0.1 -----
HELIUM.....	0.26	0.45	0.55
HEATING VALUE*.....	1007 -----	945 -----	886 -----
SPECIFIC GRAVITY.....	0.643	0.714	0.706

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 28 SAMPLE 19951	INDEX 29 SAMPLE 19966	INDEX 30 SAMPLE 19920
STATE.....	KANSAS	KANSAS	KANSAS
COUNTY.....	HASKELL	HASKELL	KEARNY
FIELD.....	HUGOTON	VICTORY	HUGOTON
WELL NAME.....	JONES NO. 10-2	SIMPSON NO. 1-35	COLLINGWOOD NO. 1-B
API.....	15-081-20975	15-081-20918	15-093-21447
LOCATION.....	SEC. 10, T27S, R34W	SEC. 35, T30S, R33W	SEC. 13, T24S, R38W
OWNER.....	HELMERICH & PAYNE, INC.	HARRIS OIL & GAS CO.	OSBORN HEIRS CO.
COMPLETED.....	96/03/11	95/07/07	95/08/23
SAMPLED.....	96/07/26	97/01/04	96/03/18
FORMATION.....	PERM-CHASE GROUP	MISS-CHESTER	PERM-CHASE GROUP
GEOLOGIC PROVINCE CODE...	360	360	360
DEPTH, FEET.....	2706	5540	2608
WELLHEAD PRESSURE, PSIG...	93	150	194
OPEN FLOW, MCFD.....	711	NOT GIVEN	905
COMPONENT, MOLE PCT			
METHANE.....	73.9 -----	77.0 -----	67.2 -----
ETHANE.....	5.6 -----	6.4 -----	5.6 -----
PROPANE.....	2.2 -----	3.0 -----	2.8 -----
N-BUTANE.....	0.1 -----	0.3 -----	0.4 -----
ISOBUTANE.....	0.1 -----	0.4 -----	0.3 -----
N-PENTANE.....	0.0 -----	0.0 -----	0.0 -----
ISOPENTANE.....	0.1 -----	TRACE -----	TRACE -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.0 -----	0.0 -----
NITROGEN.....	17.4 -----	11.6 -----	22.3 -----
OXYGEN.....	0.1 -----	0.7 -----	0.8 -----
ARGON.....	0.1 -----	0.1 -----	0.1 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	TRACE -----	0.1 -----	0.1 -----
HELIUM.....	0.46 -----	0.39 -----	0.53 -----
HEATING VALUE*.....	916 -----	997 -----	876 -----
SPECIFIC GRAVITY.....	0.680 -----	0.679 -----	0.716 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 31 SAMPLE 19998	INDEX 32 SAMPLE 19373	INDEX 33 SAMPLE 19818
STATE.....	KANSAS	KANSAS	KANSAS
COUNTY.....	KEARNY	KIOWA	MEADE
FIELD.....	HUGOTON	EINSEL	CINARRON BEND NB
WELL NAME.....	PILON NO. 1B	WARREN NO. 1	EASTERDAY NO. 2-29
API.....	15-093-21565	15-097-21275	15-119-20898
LOCATION.....	SEC. 15, T21S, R38W	SEC. 31, T27S, R18W	SEC. 29, T34S, R28W
OWNER.....	OSBORN HEIRS CO.	TGT PETROLEUM CORP.	EAGLE CREEK CORP.
COMPLETED.....	97/04/01	89/07/12	94/03/29
SAMPLED.....	97/09/01	92/04/00	94/09/01
FORMATION.....	PERM-CHASE GROUP	MISS---	PERM-COUNCIL GROVE
GEOLOGIC PROVINCE CODE...	360	360	360
DEPTH, FEET.....	2710	4794	3113
WELLHEAD PRESSURE, PSIG...	133	NOT GIVEN	232
OPEN FLOW, MCFD.....	200	5800	373
COMPONENT, MOLE PCT			
METHANE.....	65.9 -----	91.3 -----	83.9 -----
ETHANE.....	5.5 -----	3.4 -----	5.4 -----
PROPANE.....	3.1 -----	1.4 -----	2.4 -----
N-BUTANE.....	0.9 -----	0.2 -----	0.8 -----
ISOBUTANE.....	0.3 -----	0.3 -----	0.2 -----
N-PENTANE.....	0.2 -----	0.0 -----	0.4 -----
ISOPENTANE.....	0.2 -----	0.6 -----	0.0 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.1 -----
HEXANES PLUS.....	0.2 -----	0.0 -----	0.2 -----
NITROGEN.....	23.0 -----	2.4 -----	6.2 -----
OXYGEN.....	0.1 -----	0.0 -----	TRACE -----
ARGON.....	0.0 -----	TRACE -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.1 -----	TRACE -----	0.1 -----
HELIUM.....	0.59 -----	0.40 -----	0.35 -----
HEATING VALUE*.....	913 -----	1065 -----	1070 -----
SPECIFIC GRAVITY.....	0.736 -----	0.614 -----	0.658 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H<sub>2</sub>S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 34 SAMPLE 19794	INDEX 35 SAMPLE 19879	INDEX 36 SAMPLE 19925
STATE.....	KANSAS	KANSAS	KANSAS
COUNTY.....	MEADE	RUSH	SEWARD
FIELD.....	RAZORHAWK	WILDCAT	ADAMSON
WELL NAME.....	RANDALL 22 NO. 1	HERL TRUST NO. 1	WILBS NO. 2
API.....	15-119-20882		15-175-21442
LOCATION.....	SEC. 22, T32S, R26W	SEC. 3, T16S, R18W	SEC. 3, T34S, R34W
OWNER.....	ENRON OIL & GAS CO.	NOBLE PETROLEUM CO.	KAISER-FRANCIS OIL CO.
COMPLETED.....	93/12/29	95/--/00	95/11/05
SAMPLED.....	94/06/17	95/09/00	96/03/29
FORMATION.....	MISS---	UNKN---	MISS-CHESTER
GEOLOGIC PROVINCE CODE...	360	385	360
DEPTH, FEET.....	5474	NOT GIVEN	6372
WELLHEAD PRESSURE, PSIG...	1428	NOT GIVEN	600
OPEN FLOW, MCFD.....	4238	NOT GIVEN	1500
COMPONENT, MOLE PCT			
METHANE.....	86.7 -----	36.7 -----	82.7 -----
ETHANE.....	5.6 -----	3.4 -----	5.3 -----
PROPANE.....	3.0 -----	1.4 -----	3.0 -----
N-BUTANE.....	0.9 -----	0.3 -----	1.3 -----
ISOBUTANE.....	0.4 -----	0.4 -----	0.5 -----
N-PENTANE.....	0.3 -----	0.1 -----	0.7 -----
ISOPENTANE.....	0.2 -----	0.2 -----	0.0 -----
CYCLOPENTANE.....	0.1 -----	0.0 -----	0.1 -----
HEXANES PLUS.....	0.2 -----	0.1 -----	0.4 -----
NITROGEN.....	2.4 -----	52.9 -----	5.6 -----
OXYGEN.....	0.0 -----	0.1 -----	TRACE -----
ARGON.....	TRACE -----	0.2 -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.1 -----	0.3 -----	0.3 -----
HELIUM.....	0.13 -----	4.15 -----	0.14 -----
HEATING VALUE*.....	1135 -----	505 -----	1125 -----
SPECIFIC GRAVITY.....	0.658	0.807	0.688

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 37 SAMPLE 19875	INDEX 38 SAMPLE 19946	INDEX 39 SAMPLE 19717
STATE.....	KANSAS	KANSAS	KANSAS
COUNTY.....	SEWARD	SEWARD	STANTON
FIELD.....	ANGMAN	HUGOTON	ARROYO
WELL NAME.....	SANTA FE NO. 1-F	COLLINGWOOD NO. M3	COCKREHAM NO. 10-1
API.....	15-175-21432	15-175-21305	15-187-20686
LOCATION.....	SEC. 31, T31S, R33W	SEC. 11, T31S, R32W	SEC. 10, T29S, R41W
OWNER.....	ANADARKO PETROLEUM CORP.	TRXACO EXPL. & PROD, INC.	J.M. HUBER CORP.
COMPLETED.....	94/12/21	95/10/27	93/12/14
SAMPLED.....	95/06/15	96/07/29	94/02/05
FORMATION.....	MISS-CHESTER	PERM-CHASE GROUP	PERM-MORROW
GEOLOGIC PROVINCE CODE...	360	360	360
DEPTH, FEET.....	5500	2686	5412
WELLHEAD PRESSURE, PSIG...	1200	142	955
OPEN FLOW, MCFD.....	2629	199	15001
COMPONENT, MOLE PCT			
METHANE.....	87.8 -----	73.3 -----	75.7 -----
ETHANE.....	4.8 -----	3.3 -----	3.5 -----
PROPANE.....	2.3 -----	1.6 -----	2.2 -----
N-BUTANE.....	0.8 -----	0.4 -----	0.8 -----
ISOBUTANE.....	0.3 -----	0.2 -----	0.3 -----
N-PENTANE.....	0.1 -----	0.0 -----	0.3 -----
ISOPENTANE.....	0.3 -----	0.1 -----	0.1 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	TRACE
HEXANES PLUS.....	0.0 -----	0.0 -----	0.1 -----
NITROGEN.....	3.0 -----	20.3 -----	14.8 -----
OXYGEN.....	TRACE -----	TRACE -----	TRACE -----
ARGON.....	TRACE -----	0.1 -----	0.1 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.2 -----	TRACE -----	0.3 -----
HELIUM.....	0.30 -----	0.65 -----	1.75 -----
HEATING VALUE*.....	1089 -----	870 -----	952 -----
SPECIFIC GRAVITY.....	0.639 -----	0.681 -----	0.680 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 40 SAMPLE 19915	INDEX 41 SAMPLE 19960	INDEX 42 SAMPLE 19909
STATE.....	KANSAS	KANSAS	KANSAS
COUNTY.....	STANTON	STANTON	STEVENS
FIELD.....	HUGOTON	UNNAMED	HUGOTON
WELL NAME.....	SMITH C NO. 3HI	KAYLA MARIE NO. 1-2	WONDER NO. 2C
API.....	15-187-20794	15-187-20834	15-189-21598
LOCATION.....	SEC. 5, T27S, R39W	SEC. 2, T30S, R40W	SEC. 28, T34S, R35W
OWNER.....	AMOCO PRODUCTION CO.	AMOCO PRODUCTION CO.	OXY USA, INC.
COMPLETED.....	95/11/09	96/06/18	95/01/10
SAMPLED.....	96/03/05	96/11/15	96/02/08
FORMATION.....	PERM-CHASE GROUP	PENN-MORROW	PERM-CHASE GROUP
GEOLOGIC PROVINCE CODE...	360	360	360
DEPTH, FEET.....	2552	5100	2663
WELLHEAD PRESSURE, PSIG...	NOT GIVEN	738	115
OPEN FLOW, MCFD.....	NOT GIVEN	1200	370
COMPONENT, MOLE PCT			
METHANE.....	70.9 -----	74.2 -----	74.4 -----
ETHANE.....	6.8 -----	5.4 -----	5.0 -----
PROPANE.....	4.0 -----	3.5 -----	2.8 -----
N-BUTANE.....	1.1 -----	0.3 -----	0.8 -----
ISOBUTANE.....	0.4 -----	0.4 -----	0.5 -----
N-PENTANE.....	0.2 -----	0.0 -----	0.0 -----
ISOPENTANE.....	0.2 -----	TRACE -----	0.0 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.1 -----
HEXANES PLUS.....	0.0 -----	0.0 -----	0.1 -----
NITROGEN.....	16.0 -----	15.5 -----	15.6 -----
OXYGEN.....	TRACE -----	0.3 -----	0.1 -----
ARGON.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.1 -----	0.1 -----	0.2 -----
HELIUM.....	0.41 -----	0.41 -----	0.52 -----
HEATING VALUE*.....	1006 -----	961 -----	966 -----
SPECIFIC GRAVITY.....	0.722 -----	0.691 -----	0.694 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 43 SAMPLE 19702	INDEX 44 SAMPLE 19716	INDEX 45 SAMPLE 19907
STATE.....	LOUISIANA	LOUISIANA	LOUISIANA
PARISH.....	ACADIA	CLAIBORNE	UNION
FIELD.....	PERRY POINT	SHONGALOO N	MONROE
WELL NAME.....	H.J. WEBBIS NO. 1	G.R. SANDERS HEIRS NO. 1	NLGC FEB GAS NO. 1645
API.....	17-001-21832	17-027-21678	17-111-25467
LOCATION.....	SEC. 39, T10S, R2E	SEC. 7, T23N, R8W	SEC 15, T20N, R3E
OWNER.....	PHILLIPS PETROLEUM CO.	MARATHON OIL CO.	MID-LOUISIANA GAS CO.
COMPLETED.....	93/--/00	93/09/00	95/06/30
SAMPLED.....	94/01/00	94/02/03	96/01/25
FORMATION.....	OLIG-BOLIVINA MEXICANA	JURA-SMACKOVER C	CRET-NONROB GAS ROCK
GEOLOGIC PROVINCE CODE...	220	230	230
DEPTH, FEET.....	15410	11730	2118
WELLHEAD PRESSURE, PSIG...	6151	2500	40
OPEN FLOW, MCFD.....	1124	2000	40
COMPONENT, MOLE PCT			
METHANE.....	94.5 -----	79.8 -----	92.0 -----
ETHANE.....	1.9 -----	9.4 -----	0.5 -----
PROPANE.....	0.3 -----	4.6 -----	0.1 -----
N-BUTANE.....	0.1 -----	1.8 -----	0.0 -----
ISOBUTANE.....	0.0 -----	1.3 -----	0.1 -----
N-PENTANE.....	0.1 -----	0.7 -----	0.0 -----
ISOPENTANE.....	0.0 -----	0.3 -----	0.0 -----
CYCLOPENTANE.....	TRACE	0.1	0.0
HEXANES PLUS.....	0.1 -----	0.4 -----	0.0 -----
NITROGEN.....	0.1 -----	0.6 -----	6.5 -----
OXYGEN.....	TRACE -----	TRACE -----	0.1 -----
ARGON.....	TRACE	0.0	TRACE
HYDROGEN.....	TRACE -----	TRACE -----	0.1 -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	2.9 -----	1.1 -----	0.6 -----
HELIUM.....	TRACE	0.01	0.09
HEATING VALUE*.....	1013 -----	1264 -----	945 -----
SPECIFIC GRAVITY.....	0.602	0.737	0.592

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE



TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 46 SAMPLE 19701	INDEX 47 SAMPLE 19949	INDEX 48 SAMPLE 19465
STATE.....	LOUISIANA	MISSISSIPPI	MISSISSIPPI
PARISH.....	WEBSTER	AMITE	HINDS
FIELD.....	ADA	BERWICK	UTICA
WELL NAME.....	W. DAVIS NO. 1	S.J. BRADDOCK NO. 1	CALDWELL ESTATE 14-16 NO. 1
API.....	17-119-21512	23-005-20636	
LOCATION.....	SEC. 3, T17N, R8W	SEC. 38, T2N, R3E	NOT GIVEN
OWNER.....	PHILLIPS PETROLEUM CO.	FRIO EXPLORATION CO.	SMITH PRODUCTION CO.
COMPLETED.....	93/09/22	96/02/17	91/--/00
SAMPLED.....	93/12/29	96/08/06	92/10/00
FORMATION.....	CRBT-HOSSTON B	OLIG-FRIO	CRBT-HOSSTON
GEOLOGIC PROVINCE CODE...	230	210	210
DEPTH, FEET.....	8413	3825	17400
WELLHEAD PRESSURE, PSIG...	3779	1400	NOT GIVEN
OPEN FLOW, MCFD.....	1850	200	4600
COMPONENT, MOLE PCT			
METHANE.....	95.6 -----	98.0 -----	89.1 -----
ETHANE.....	1.6 -----	0.0 -----	0.2 -----
PROPANE.....	0.3 -----	0.1 -----	TRACE -----
N-BUTANE.....	0.2 -----	0.0 -----	0.0 -----
ISOBUTANE.....	0.0 -----	0.0 -----	0.0 -----
N-PENTANE.....	0.2 -----	0.0 -----	0.0 -----
ISOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
CYCLOPENTANE.....	TRACE	0.0	0.0
HEXANES PLUS.....	0.2 -----	0.0 -----	0.0 -----
NITROGEN.....	0.8 -----	1.6 -----	3.0 -----
OXYGEN.....	0.1 -----	0.3 -----	0.2 -----
ARGON.....	TRACE	TRACE	TRACE
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0	TRACE	0.0
CARBON DIOXIDE.....	1.0 -----	0.0 -----	7.4 -----
HELIUM.....	0.02	0.01	0.03
HEATING VALUE*	1028 -----	995 -----	907 -----
SPECIFIC GRAVITY.....	0.590	0.563	0.641

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 49 SAMPLE 19904	INDEX 50 SAMPLE 19910	INDEX 51 SAMPLE 19468
STATE.....	MISSISSIPPI	MONTANA	MONTANA
COUNTY.....	MONROE	LIBERTY	TOOLE
FIELD.....	MCKINLEY CREEK	KEITH B	AMANDA
WELL NAME.....	NEVINS 20-9 NO. 1	OSLER UNIT NO. 9-23	STATE NO. 25-4
API.....	23-095-20666	25-051-21692	25-101-23472
LOCATION.....	SEC. 20, T15S, R18W	SEC. 23, T36N, R6E	SEC. 25, T36N, R4W
OWNER.....	BROWNING & WELCH, INC.	MONTANA POWER CO.	SOMONT OIL CO.
COMPLETED.....	95/03/20	95/09/22	92/09/13
SAMPLED.....	96/01/31	96/02/14	92/10/28
FORMATION.....	PENN-PENNSYLVANIAN B	CRBT-BOW ISLAND	CRBT-DAKOTA
GEOLOGIC PROVINCE CODE...	200	500	500
DEPTH, FEET.....	1459	1883	2010
WELLHEAD PRESSURE, PSIG...	311	95	194
OPEN FLOW, MCFD.....	276	1350	1600
COMPONENT, MOLE PCT			
METHANE.....	97.9 -----	92.5 -----	89.4 -----
ETHANE.....	0.4 -----	0.3 -----	0.8 -----
PROPANE.....	0.1 -----	0.1 -----	0.1 -----
N-BUTANE.....	0.0 -----	0.0 -----	0.0 -----
ISOBUTANE.....	0.0 -----	TRACE -----	TRACE -----
N-PENTANE.....	0.0 -----	0.0 -----	0.0 -----
ISOPENTANE.....	0.0 -----	0.0 -----	0.1 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.0 -----	0.0 -----
NITROGEN.....	1.0 -----	5.6 -----	8.8 -----
OXYGEN.....	0.1 -----	0.9 -----	0.2 -----
ARGON.....	TRACE -----	0.1 -----	0.1 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.5 -----	0.4 -----	0.2 -----
HELIUM.....	0.07 -----	0.09 -----	0.27 -----
HEATING VALUE*.....	1001 -----	946 -----	926 -----
SPECIFIC GRAVITY.....	0.566 -----	0.589 -----	0.600 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 52 SAMPLE 19805	INDEX 53 SAMPLE 19936	INDEX 54 SAMPLE 19820
STATE.....	NEBRASKA	NEW MEXICO	NEW MEXICO
COUNTY.....	CHEYENNE	EDDY	EDDY
FIELD.....	MCCOURT	ATOKA W	CEDAR LAKE E
WELL NAME.....	KRAFT NO. 13-1B	C.N. VANDIVER COM. NO. 2	DOW B 33 FEDERAL NO. 1
API.....	26-033-22434	30-015-28355	30-015-27068
LOCATION.....	SEC. 13, T16N, R48W	SEC. 18, T18S, R26E	SEC. 33, T17S, R31E
OWNER.....	SNYDER OIL CORP.	YATES PETROLEUM CORP.	TEXACO EXPL. & PROD, INC.
COMPLETED.....	93/01/10	95/11/19	93/--/00
SAMPLED.....	94/07/14	96/05/06	94/09/00
FORMATION.....	CRET-NIOBRARA	PENN-MORROW	PENN-MORROW
GEOLOGIC PROVINCE CODE...	540	430	430
DEPTH, FEET.....	3430	8794	11614
WELLHEAD PRESSURE, PSIG...	NOT GIVEN	NOT GIVEN	NOT GIVEN
OPEN FLOW, MCFD.....	450	2150	1580
COMPONENT, MOLE PCT			
METHANE.....	89.9 -----	90.3 -----	85.5 -----
ETHANE.....	1.5 -----	4.6 -----	8.1 -----
PROPANE.....	0.9 -----	1.3 -----	3.3 -----
N-BUTANE.....	0.3 -----	0.2 -----	0.8 -----
ISOBUTANE.....	0.1 -----	0.2 -----	0.3 -----
N-PENTANE.....	0.1 -----	0.0 -----	0.2 -----
ISOPENTANE.....	0.1 -----	TRACE -----	0.1 -----
CYCLOPENTANE.....	TRACE	0.0 -----	0.1 -----
HEXANES PLUS.....	0.1 -----	0.0 -----	0.2 -----
NITROGEN.....	6.4 -----	2.2 -----	0.7 -----
OXYGEN.....	0.1 -----	0.9 -----	0.1 -----
ARGON.....	TRACE	TRACE	TRACE
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.4 -----	0.3 -----	0.4 -----
HELIUM.....	0.14 -----	0.02 -----	0.02 -----
HEATING VALUE*.....	987 -----	1044 -----	1163 -----
SPECIFIC GRAVITY.....	0.613	0.613	0.665

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 55 SAMPLE 19385	INDEX 56 SAMPLE 19829	INDEX 57 SAMPLE 19587
STATE.....	NEW MEXICO	NEW MEXICO	NEW MEXICO
COUNTY.....	EDDY	EDDY	EDDY
FIELD.....	DAGGER DRAW	DOS HERMANOS NB	INDIAN BASIN
WELL NAME.....	ALBERT "AJH" NO. 1	AMARANTH FED. AMG NO. 1	HICKORY FED. ALV NO. 1
API.....	30-015-26720	30-015-27375	30-015-10566
LOCATION.....	SEC. 21, T20S, R24E	SEC. 12, T20S, R30E	SEC. 17, T22S, R24E
OWNER.....	YATES PETROLEUM CORP.	YATES PETROLEUM CORP.	YATES PETROLEUM CORP.
COMPLETED.....	91/12/21	93/08/14	92/10/28
SAMPLED.....	92/05/28	94/10/06	93/04/26
FORMATION.....	PENN-NORROW	PENN-NORROW	PENN-CANYON
GEOLOGIC PROVINCE CODE... 430	430	430	430
DEPTH, FEET.....	8842	12468	9886
WELLHEAD PRESSURE, PSIG...	2875	600	2600
OPEN FLOW, MCFD.....	1650	1489	3801
COMPONENT, MOLE PCT			
METHANE.....	95.4 -----	85.5 -----	82.7 -----
ETHANE.....	2.3 -----	6.0 -----	9.0 -----
PROPANE.....	0.4 -----	2.7 -----	3.6 -----
N-BUTANE.....	0.0 -----	1.0 -----	1.2 -----
ISOBUTANE.....	0.1 -----	0.8 -----	0.4 -----
N-PENTANE.....	0.0 -----	1.0 -----	0.2 -----
ISOPENTANE.....	0.1 -----	0.0 -----	0.6 -----
CYCLOPENTANE.....	0.0 -----	0.4 -----	0.0 -----
HEXANES PLUS.....	0.0 -----	1.3 -----	0.0 -----
NITROGEN.....	1.0 -----	0.4 -----	1.2 -----
OXYGEN.....	0.2 -----	0.1 -----	0.3 -----
ARGON.....	0.0 -----	0.0 -----	TRACE
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.3 -----
CARBON DIOXIDE.....	0.6 -----	0.8 -----	0.5 -----
HELIUM.....	0.03 -----	0.02 -----	0.01 -----
HEATING VALUE*.....	1025 -----	1228 -----	1180 -----
SPECIFIC GRAVITY.....	0.583	0.706	0.687

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 58 SAMPLE 19988	INDEX 59 SAMPLE 19971	INDEX 60 SAMPLE 19916
STATE.....	NEW MEXICO	NEW MEXICO	NEW MEXICO
COUNTY.....	EDDY	EDDY	LEA
FIELD.....	SAND TANK	WINCHESTER	BELL LAKE W
WELL NAME.....	SAND TANK 1 FED. COM. NO. 1	OXY 33 FEDERAL NO. 1	NORTH BELL LAKE FEDERAL NO.2
API.....	30-015-29221	30-015-28970	30-025-32672
LOCATION.....	SEC. 1, T18S, R29E	SEC. 33, T19S, R28E	SEC. 5, T23S, R34E
OWNER.....	ENRON OIL & GAS CO.	OXY USA, INC.	AMBRADA HBSS CORP.
COMPLETED.....	96/12/04	96/08/27	95/05/19
SAMPLED.....	97/06/17	97/02/11	96/03/08
FORMATION.....	PENN-MORROW	PERM-WOLFCAMP	ORDO-ELLENBURGER
GEOLOGIC PROVINCE CODE...	430	430	430
DEPTH, FEET.....	11286	9094	17290
WELLHEAD PRESSURE, PSIG...	2010	2800	7379
OPEN FLOW, MCFD.....	5200	1600	1000
COMPONENT, MOLE PCT			
METHANE.....	87.4 -----	80.2 -----	96.7 -----
ETHANE.....	7.8 -----	12.0 -----	0.6 -----
PROPANE.....	3.0 -----	4.6 -----	0.2 -----
N-BUTANE.....	0.3 -----	1.0 -----	0.0 -----
ISOBUTANE.....	0.4 -----	0.6 -----	0.1 -----
N-PENTANE.....	0.0 -----	0.3 -----	0.0 -----
ISOPENTANE.....	0.0 -----	TRACE -----	0.0 -----
CYCLOPENTANE.....	0.0 -----	TRACE -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.1 -----	0.0 -----
NITROGEN.....	0.7 -----	1.0 -----	1.4 -----
OXYGEN.....	0.0 -----	0.0 -----	0.3 -----
ARGON.....	0.0 -----	0.0 -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.4 -----	0.2 -----	0.7 -----
HELIUM.....	0.03 -----	0.02 -----	0.08 -----
HEATING VALUE*.....	1126 -----	1218 -----	997 -----
SPECIFIC GRAVITY.....	0.640	0.697	0.574

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 61 SAMPLE 19906	INDEX 62 SAMPLE 19819	INDEX 63 SAMPLE 19893
STATE.....	NEW MEXICO	NEW MEXICO	NEW MEXICO
COUNTY.....	LEA	LEA	LEA
FIELD.....	KEMNITZ S	MONUMENT	RHODES
WELL NAME.....	STATE OF NEW MEXICO NO. 1-35	L. VAN BETTEN NO. 13	RHODES A NO. 4
API.....	30-025-32907	30-025-32221	30-025-32967
LOCATION.....	SEC 35, T16S, R34E	SEC. 9, T20S, R37E	SEC. 22, T26S, R37E
OWNER.....	MBDALLION PRODUCTION CO.	TEXACO EXPL. & PROD, INC.	MERIDIAN OIL, INC.
COMPLETED.....	95/08/14	93/12/29	95/06/08
SAMPLED.....	96/01/27	94/09/00	95/12/08
FORMATION.....	PENN-ATOKA	PERM-TUBB	PERM-YATES
GEOLOGIC PROVINCE CODE...	430	430	430
DEPTH, FEET.....	12466	6327	2936
WELLHEAD PRESSURE, PSIG...	2154	500	749
OPEN FLOW, MCFD.....	2260	1800	3581
COMPONENT, MOLE PCT			
METHANE.....	87.2 -----	83.3 -----	86.1 -----
ETHANE.....	6.9 -----	7.6 -----	6.8 -----
PROPANE.....	2.3 -----	3.4 -----	3.3 -----
N-BUTANE.....	0.3 -----	1.1 -----	0.8 -----
ISOBUTANE.....	0.3 -----	0.3 -----	0.5 -----
N-PENTANE.....	0.0 -----	0.4 -----	0.1 -----
ISOPENTANE.....	0.1 -----	0.1 -----	0.2 -----
CYCLOPENTANE.....	0.0 -----	0.1 -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.2 -----	0.0 -----
NITROGEN.....	2.0 -----	2.7 -----	2.0 -----
OXYGEN.....	0.5 -----	0.0 -----	0.1 -----
ARGON.....	TRACE	TRACE	TRACE
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.4 -----	0.8 -----	0.1 -----
HELIUM.....	0.04 -----	0.05 -----	0.02 -----
HEATING VALUE*.....	1091 -----	1151 -----	1138 -----
SPECIFIC GRAVITY.....	0.637	0.682	0.657

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 64 SAMPLE 19970	INDEX 65 SAMPLE 19836	INDEX 66 SAMPLE 19994
STATE.....	NEW MEXICO	NEW MEXICO	NEW MEXICO
COUNTY.....	LEA	RIO ARRIBA	SAN JUAN
FIELD.....	WANTZ	CHOZA MESA	HUERFAMO
WELL NAME.....	LOU WORTHAN NO. 21	VALDEZ NO. 5	A.D. HUDSON NO. 4
API.....	30-025-33426	30-039-25295	30-045-06238
LOCATION.....	SEC. 11, T22S, R37E	SEC. 16, T28N, R4W	SEC. 29, T27N, R9W
OWNER.....	MARATHON OIL CO.	MERIDIAN OIL, INC.	BURLINGTON RESOURCES
COMPLETED.....	96/08/26	93/11/03	97/01/17
SAMPLED.....	97/02/13	94/11/01	97/08/01
FORMATION.....	PERM-BLINEBRY	CRET-FRUITLAND COAL,PCT CLFS	CRET-FRUITLAND
GEOLOGIC PROVINCE CODE...	430	580	580
DEPTH, FEET.....	5654	4140	2097
WELLHEAD PRESSURE,PSIG...	300	1122	500
OPEN FLOW, MCPD.....	2400	446	1065
COMPONENT, MOLE PCT			
METHANE.....	82.7 -----	87.6 -----	86.1 -----
ETHANE.....	8.9 -----	6.9 -----	3.7 -----
PROPANE.....	4.0 -----	2.9 -----	1.6 -----
N-BUTANE.....	1.0 -----	0.8 -----	0.3 -----
ISOBUTANE.....	0.5 -----	0.4 -----	0.3 -----
N-PENTANE.....	0.2 -----	0.2 -----	0.1 -----
ISOPENTANE.....	0.1 -----	0.2 -----	0.2 -----
CYCLOPENTANE.....	TRACE	TRACE	0.0
HEXANES PLUS.....	0.1 -----	0.1 -----	0.1 -----
NITROGEN.....	2.2 -----	0.7 -----	5.9 -----
OXYGEN.....	0.1 -----	TRACE	1.1 -----
ARGON.....	TRACE	TRACE	0.0
HYDROGEN.....	TRACE	TRACE	TRACE
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.1 -----	0.2 -----	0.6 -----
HELIUM.....	0.03 -----	0.01 -----	0.04 -----
HEATING VALUE*.....	1170 -----	1150 -----	1020 -----
SPECIFIC GRAVITY.....	0.680	0.651	0.642

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 67 SAMPLE 19968	INDEX 68 SAMPLE 19903	INDEX 69 SAMPLE 19375
STATE.....	NEW MEXICO	NORTH DAKOTA	OHIO
COUNTY.....	SAN JUAN	WILLIAMS	HOLMES
FIELD.....	UNNAMED	RAY	SOUTH CHARM W
WELL NAME.....	RIDDLE B NO. 5	TEMPLE NO. 30-16	LYHNN HOCSTETLER NO. 2
API.....	30-045-20353	33-105-00900	34-075-24958
LOCATION.....	SEC. 23, T30N, R10W	SEC 30, T157N, R96W	LOT 13, BERLIN TWP, BERLIN QUA
OWNER.....	MERIDIAN OIL, INC.	W.H. HUNT TRUST ESTATE	MASON DRILLING, INC.
COMPLETED.....	96/04/05	82/01/27	91/05/26
SAMPLED.....	97/01/29	96/--/00	92/04/16
FORMATION.....	CRET-GALLUP, DAKOTA	ORDO-RBD RIVER	ORDO-ROSB RUN
GEOLOGIC PROVINCE CODE...	580	395	160
DEPTH, FEET.....	6582	12941	6142
WELLHEAD PRESSURE, PSIG...	1250	350	2250
OPEN FLOW, MCFD.....	250	130	3000
COMPONENT, MOLE PCT			
METHANE.....	94.5 -----	47.4 -----	91.9 -----
ETHANE.....	2.2 -----	8.0 -----	4.5 -----
PROPANE.....	0.5 -----	4.3 -----	1.6 -----
N-BUTANE.....	0.0 -----	2.2 -----	0.3 -----
ISOBUTANE.....	0.1 -----	1.3 -----	0.4 -----
N-PENTANE.....	0.0 -----	0.7 -----	0.0 -----
ISOPENTANE.....	0.0 -----	0.3 -----	0.4 -----
CYCLOPENTANE.....	0.0 -----	TRACE	0.0 -----
HEXANES PLUS.....	0.0 -----	0.2 -----	0.0 -----
NITROGEN.....	1.0 -----	0.0 -----	0.8 -----
OXYGEN.....	0.4 -----	0.0 -----	0.0 -----
ARGON.....	TRACE	TRACE	TRACE
HYDROGEN.....	TRACE -----	0.1 -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	34.6 -----	0.0 -----
CARBON DIOXIDE.....	1.3 -----	0.9 -----	0.1 -----
HELIUM.....	0.02 -----	0.01 -----	0.05 -----
HEATING VALUE*.....	1012 -----	1131 -----	1093 -----
SPECIFIC GRAVITY.....	0.590	0.944	0.615

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE



TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 70 SAMPLE 19645	INDEX 71 SAMPLE 19972	INDEX 72 SAMPLE 19929
STATE.....	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY.....	BEAVER	BLAINE	CADDO
FIELD.....	IVANHOE	WATONGA-CHICKASHA TREND	LAVERTY
WELL NAME.....	YOUNG A NO. 2	BROOKS NO. 1-32	STATE NO. 1-13
API.....	35-007-23927	35-011-22653	35-015-20836
LOCATION.....	SEC. 1, T1N, R27E6M	SEC. 32, T17N, R10W	SEC. 13, T6N, R9W
OWNER.....	PHILLIPS PETROLEUM CO.	LOUIS DRBYFUS NATURAL GAS CORP	RICKS EXPLORATION, INC.
COMPLETED.....	93/04/17	96/07/03	95/08/24
SAMPLED.....	93/07/00	97/03/06	96/04/02
FORMATION.....	PENN-MORROW L	MISS-MERAMEC	PENN-MORROW
GEOLOGIC PROVINCE CODE...	360	360	360
DEPTH, FEET.....	8154	9949	15940
WELLHEAD PRESSURE, PSIG...	976	1250	1400
OPEN FLOW, MCFD.....	2000	1880	650
COMPONENT, MOLE PCT			
METHANE.....	88.6 -----	76.2 -----	95.7 -----
ETHANE.....	5.4 -----	8.8 -----	2.5 -----
PROPANE.....	2.6 -----	4.5 -----	0.5 -----
N-BUTANE.....	0.8 -----	1.7 -----	0.0 -----
ISOBUTANE.....	0.3 -----	0.9 -----	0.2 -----
N-PENTANE.....	0.2 -----	0.7 -----	0.0 -----
ISOPENTANE.....	0.2 -----	0.2 -----	0.0 -----
CYCLOPENTANE.....	0.1 -----	0.1 -----	0.0 -----
HEXANES PLUS.....	0.1 -----	0.4 -----	0.0 -----
NITROGEN.....	1.6 -----	4.8 -----	0.2 -----
OXYGEN.....	0.0 -----	1.2 -----	TRACE -----
ARGON.....	TRACE -----	TRACE -----	0.0 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.1 -----	0.4 -----	0.9 -----
HELIUM.....	0.07 -----	0.02 -----	0.03 -----
HEATING VALUE*.....	1122 -----	1197 -----	1033 -----
SPECIFIC GRAVITY.....	0.641	0.742	0.584

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 73 SAMPLE 19548	INDEX 74 SAMPLE 19512	INDEX 75 SAMPLE 19420
STATE.....	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY.....	CANADIAN	CUSTER	BLLIS
FIELD.....	WATONGA-CHICKASHA TREND	MOOREWOOD W	BISHOP S
WELL NAME.....	BARRET NO. A-3	BARNARD NO. 2-7	GROSS NO. 1-21
API.....	35-017-23331	35-039-21419	35-045-21706
LOCATION.....	SEC. 19, T11N, R9W	SEC. 7, T15N, R20W	SEC. 21, T17N, R24W
OWNER.....	SONAT EXPLORATION CO.	KAISER-FRANCIS OIL CO.	ZINKE & TRUMBO, LTD.
COMPLETED.....	92/11/05	91/12/06	92/03/02
SAMPLED.....	93/03/11	93/01/27	92/07/14
FORMATION.....	PENN-SPRINGER	PENN-SKINNER	PENN-TONKAWA
GEOLOGIC PROVINCE CODE...	360	360	360
DEPTH, FEET.....	11921	11135	8115
WELLHEAD PRESSURE, PSIG...	2750	500	2045
OPEN FLOW, MCPD.....	806	1700	7027
COMPONENT, MOLE PCT			
METHANE.....	94.4 -----	82.1 -----	82.6 -----
ETHANE.....	3.2 -----	9.7 -----	7.0 -----
PROPANE.....	0.9 -----	4.3 -----	3.6 -----
N-BUTANE.....	0.2 -----	1.2 -----	0.5 -----
ISOBUTANE.....	0.1 -----	0.5 -----	0.2 -----
N-PENTANE.....	0.0 -----	0.4 -----	0.0 -----
ISOPENTANE.....	0.1 -----	0.1 -----	1.8 -----
CYCLOPENTANE.....	0.0 -----	0.1 -----	0.0 -----
HEXANES PLUS.....	0.1 -----	0.4 -----	0.0 -----
NITROGEN.....	0.2 -----	0.3 -----	3.5 -----
OXYGEN.....	0.0 -----	TRACE -----	0.4 -----
ARGON.....	TRACE -----	0.0 -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	TRACE -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.8 -----	0.8 -----	0.4 -----
HELIUM.....	0.02 -----	0.03 -----	0.12 -----
HEATING VALUE*.....	1057 -----	1220 -----	1153 -----
SPECIFIC GRAVITY.....	0.596 -----	0.702 -----	0.689 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 76 SAMPLE 19506	INDEX 77 SAMPLE 19918	INDEX 78 SAMPLE 19955
STATE.....	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY.....	GRADY	KINGFISHER	LATIMER
FIELD.....	WILDCAT	SOONER TREND	BUFFALO MOUNTAIN
WELL NAME.....	MCCONNELL NO. 1-3	MORROW NO. 1	GREEN BAY NO. 2-34
API.....	35-051-22260	35-073-24330	35-077-20874
LOCATION.....	SEC. 3, T8N, R5W	SEC. 15, T16N, R7W	SEC. 34, T4N, R20E
OWNER.....	ANDERMAN/SMITH OPERATING CO.	MARLIN OIL CORP.	WARD PETROLEUM CORP.
COMPLETED.....	91/12/25	95/07/12	96/01/28
SAMPLED.....	93/01/08	96/03/14	96/08/25
FORMATION.....	PENN-OSBORNE	ORDO-SIMPSON, CAMO-ARBUCKLE	PENN-ATOKA
GEOLOGIC PROVINCE CODE...	360	360	345
DEPTH, FEET.....	9655	9506	7964
WELLHEAD PRESSURE, PSIG...	2126	2978	NOT GIVEN
OPEN FLOW, MCFD.....	4055	2958	1550
COMPONENT, MOLE PCT			
METHANE.....	86.4 -----	85.5 -----	95.3 -----
ETHANE.....	7.2 -----	5.5 -----	2.9 -----
PROPANE.....	2.8 -----	3.1 -----	0.6 -----
N-BUTANE.....	0.9 -----	1.2 -----	0.0 -----
ISOBUTANE.....	0.2 -----	0.5 -----	0.1 -----
N-PENTANE.....	0.4 -----	0.5 -----	0.0 -----
ISOPENTANE.....	TRACE -----	0.2 -----	0.0 -----
CYCLOPENTANE.....	0.1 -----	0.1 -----	0.0 -----
HEXANES PLUS.....	0.3 -----	0.2 -----	0.0 -----
NITROGEN.....	1.3 -----	3.0 -----	0.6 -----
OXYGEN.....	0.1 -----	TRACE -----	0.2 -----
ARGON.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.4 -----	0.2 -----	0.3 -----
HELIUM.....	0.04 -----	0.06 -----	0.03 -----
HEATING VALUE*.....	1144 -----	1142 -----	1037 -----
SPECIFIC GRAVITY.....	0.659	0.671	0.582

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 79 SAMPLE 19683	INDEX 80 SAMPLE 19588	INDEX 81 SAMPLE 19997
STATE.....	OKLAHOMA	OKLAHOMA	OKLAHOMA
COUNTY.....	LOGAN	OKLAHOMA	OSAGE
FIELD.....	LAWRIE W	BRITTON	KAW S
WELL NAME.....	MORRISON NO. 1-11	COLLEGE PARK NO. 4	OSAGE/DAVIS 25-5-8 NO. 1C
API.....	35-083-23210	35-109-21853	35-113-41003
LOCATION.....	SEC. 11, T17N, R3W	SEC. 21, T13N, R3W	SEC. 8, T25N, R5E
OWNER.....	SPRING DRILLING CORP.	SHAWVER & SONS, INC.	CHEVRON USA PRODUCTION CO.
COMPLETED.....	93/05/25	93/12/00	97/02/01
SAMPLED.....	93/11/00	93/04/30	97/08/20
FORMATION.....	PENN-CARMICHAEL	ORDO-WILCOX	MISS-CHAT
GEOLOGIC PROVINCE CODE... 355	355	355	355
DEPTH, FEET.....	3299	6490	3285
WELLHEAD PRESSURE, PSIG... 1200	1200	1000	1200
OPEN FLOW, MCFD.....	1200	3800	1000
COMPONENT, MOLE PCT			
METHANE.....	64.0 -----	83.9 -----	72.4 -----
ETHANE.....	5.1 -----	7.6 -----	8.2 -----
PROPANE.....	2.5 -----	3.0 -----	3.1 -----
N-BUTANE.....	0.6 -----	1.0 -----	0.8 -----
ISOBUTANE.....	0.1 -----	0.1 -----	0.3 -----
N-PENTANE.....	0.1 -----	0.4 -----	0.2 -----
ISOPENTANE.....	0.3 -----	TRACE -----	0.2 -----
CYCLOPENTANE.....	TRACE	0.1 -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.3 -----	0.2 -----
NITROGEN.....	21.8 -----	3.3 -----	13.8 -----
OXYGEN.....	5.0 -----	TRACE -----	TRACE -----
ARGON.....	0.2 -----	TRACE -----	0.0 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	TRACE	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.1 -----	0.3 -----	0.5 -----
HELIUM.....	0.11 -----	0.06 -----	0.26 -----
HEATING VALUE*.....	846 -----	1137 -----	1027 -----
SPECIFIC GRAVITY.....	0.743	0.672	0.717

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 82 SAMPLE 19874	INDEX 83 SAMPLE 19325	INDEX 84 SAMPLE 19443
STATE.....	OKLAHOMA	OKLAHOMA	PENNSYLVANIA
COUNTY.....	STEPHENS	WASHITA	MERCER
FIELD.....	KNOX	BLK CITY	COCHRANTON
WELL NAME.....	FOX ALLIANCE NO. 1	DORIS NO. 1-6	FRANCIS E. O'BRIEN NO. 2
API.....	35-137-25528	35-149-20636	37-085-21131
LOCATION.....	SEC. 4, T2N, R5W	SEC. 6, T9N, R19W	SEC. C, FRENCH CREEK DIST.
OWNER.....	CHEVRON USA PRODUCTION CO.	KAISER-FRANCIS OIL CO.	CABOT OIL & GAS CORP.
COMPLETED.....	95/03/16	91/10/23	90/12/00
SAMPLED.....	95/06/07	92/03/02	92/09/03
FORMATION.....	ORDO-VI,DEV-HHTN,WDF,MIS-SYC	PENN-PRUB	SILU-MEDINA
GEOLOGIC PROVINCE CODE...	350	360	160
DEPTH, FEET.....	12970	10962	5100
WELLHEAD PRESSURE, PSIG...	6490	2002	NOT GIVEN
OPEN FLOW, MCFD.....	32000	5250	1301
COMPONENT, MOLE PCT			
METHANE.....	87.7 -----	90.7 -----	86.5 -----
ETHANE.....	6.9 -----	4.6 -----	3.7 -----
PROPANE.....	2.3 -----	1.7 -----	1.3 -----
N-BUTANE.....	0.8 -----	0.3 -----	0.2 -----
ISOBUTANE.....	0.3 -----	0.3 -----	0.1 -----
N-PENTANE.....	0.5 -----	0.0 -----	0.0 -----
ISOPENTANE.....	0.0 -----	0.2 -----	0.4 -----
CYCLOPENTANE.....	0.1 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.3 -----	0.0 -----	TRACE -----
NITROGEN.....	0.5 -----	1.0 -----	6.3 -----
OXYGEN.....	TRACE -----	0.5 -----	1.1 -----
ARGON.....	0.0 -----	TRACE -----	0.1 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.7 -----	0.7 -----	0.1 -----
HELIUM.....	0.02 -----	0.03 -----	0.09 -----
HEATING VALUE*.....	1145 -----	1072 -----	1006 -----
SPECIFIC GRAVITY.....	0.654 -----	0.619 -----	0.633 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 85 SAMPLE 19475	INDEX 86 SAMPLE 19898	INDEX 87 SAMPLE 19976
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	CHAMBERS	CONCHO	CROCKETT
FIELD.....	CEDAR BAYOU	SELDEN	DAVIDSON RANCH
WELL NAME.....	W. J. MOREAU NO. 1	CANNING A NO. 1	MCMULLAN C NO. 6
API.....		42-095-31642	42-105-37273
LOCATION.....	CHRISTIAN SMITH SUR., A-22	SEC. 82, BLK 72, T&NO SUR, A-1	SEC. 3, BLK P, TCRR SUR, A-288
OWNER.....	AMERADA HESS CORP.	LECLAIR OPERATING CO., INC.	UNION PACIFIC RESOURCES CO.
COMPLETED.....	91/--/00	95/06/27	96/07/22
SAMPLED.....	92/11/05	96/01/11	97/03/12
FORMATION.....	BOCB-YBGUA AU	PENN-GOBN LIMB	PENN-PENNSYLVANIAN
GEOLOGIC PROVINCE CODE...	220	410	430
DEPTH, FEET.....	13014	3423	8280
WELLHEAD PRESSURE, PSIG...	2800	820	1800
OPEN FLOW, MCFD.....	500	5250	1096
COMPONENT, MOLE PCT			
METHANE.....	89.0 -----	74.0 -----	86.6 -----
ETHANE.....	4.8 -----	6.9 -----	8.0 -----
PROPANE.....	2.1 -----	3.8 -----	2.4 -----
N-BUTANE.....	0.3 -----	1.6 -----	0.4 -----
ISOBUTANE.....	0.2 -----	0.6 -----	0.4 -----
N-PENTANE.....	0.0 -----	0.2 -----	0.1 -----
ISOPENTANE.....	0.4 -----	0.2 -----	0.2 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	TRACE
HEXANES PLUS.....	0.1 -----	0.1 -----	TRACE
NITROGEN.....	1.3 -----	12.0 -----	0.6 -----
OXYGEN.....	0.2 -----	0.1 -----	0.1 -----
ARGON.....	TRACE	TRACE	TRACE
HYDROGEN.....	TRACE	TRACE	TRACE
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	1.6 -----	0.2 -----	1.2 -----
HELIUM.....	TRACE	0.40	0.04
HEATING VALUE*.....	1082 -----	1063 -----	1125 -----
SPECIFIC GRAVITY.....	0.639	0.719	0.651

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  
 \*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 88 SAMPLE 19977	INDEX 89 SAMPLE 19963	INDEX 90 SAMPLE 19914
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	CROCKETT	CROCKETT	CROCKETT
FIELD.....	DAVIDSON RANCH	HENDERSON	HOWARDS CREEK
WELL NAME.....	C.E. DAVIDSON III NO. 5	J.H. SCHEUBER B NO. 4	UNIVERSITY LANDS 30-30, #44
API.....	42-105-37366	42-105-37298	42-105-37030
LOCATION.....	SEC. 16, BLK KL, GC&SP SUR, A-	SEC. 32, BLK KL, TCCR SUR, A-5	SEC 30, BLK 30, UNIVERSITY LAN
OWNER.....	HARRISON INTERESTS, LTD	TEXACO EXPL. & PROD, INC.	HARRISON INTERESTS, LTD.
COMPLETED.....	96/10/17	96/08/14	95/11/03
SAMPLED.....	97/03/17	96/12/12	96/02/22
FORMATION.....	PENN-PENNSYLVANIAN	PENN-CANYON	PENN-CANYON
GEOLOGIC PROVINCE CODE...	430	430	430
DEPTH, FEET.....	7918	7918	6501
WELLHEAD PRESSURE, PSIG...	2588	2248	1511
OPEN FLOW, MCFD.....	21060	2527	2750
COMPONENT, MOLE PCT			
METHANE.....	85.3 -----	82.5 -----	77.0 -----
ETHANE.....	8.5 -----	10.3 -----	10.8 -----
PROPANE.....	2.7 -----	3.6 -----	6.9 -----
N-BUTANE.....	0.5 -----	0.7 -----	1.9 -----
ISOBUTANE.....	0.5 -----	0.5 -----	0.5 -----
N-PENTANE.....	0.1 -----	0.2 -----	0.3 -----
ISOPENTANE.....	0.1 -----	0.2 -----	0.1 -----
CYCLOPENTANE.....	TRACE	0.0	TRACE
HEXANES PLUS.....	TRACE -----	0.1 -----	0.1 -----
NITROGEN.....	1.1 -----	1.1 -----	2.0 -----
OXYGEN.....	0.1 -----	TRACE -----	TRACE -----
ARGON.....	TRACE	TRACE	TRACE
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0	0.0	0.0
CARBON DIOXIDE.....	1.1 -----	0.8 -----	0.4 -----
HELIUM.....	0.04	0.04	0.06
HEATING VALUE*.....	1131 -----	1172 -----	1256 -----
SPECIFIC GRAVITY.....	0.659	0.680	0.735

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX SAMPLE 19908	INDEX SAMPLE 19895	INDEX SAMPLE 19958
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	CROCKETT	CROCKETT	CROCKETT
FIBLD.....	HUNT-BAGGETT	HUNT-BAGGETT W	LIVE OAK DRAW W
WELL NAME.....	BAGGETT A NO. 4	SPGC B NO. 11	J.L. HENDERSON JR., A NO. 4
API.....	42-105-36930	42-105-36951	42-105-37240
LOCATION.....	SEC. 23, BLK F, GC&SF SUR, A-2	SEC. 5, BLK J, GC&F SUR, A-213	SEC. 1, BLK F, GC&SF SUR, A-32
OWNER.....	SONAT EXPLORATION CO.	ENRON OIL & GAS CO.	PARKER & PARSLBY PETROLEUM CO.
COMPLETED.....	95/07/05	95/07/28	96/08/31
SAMPLED.....	96/02/07	95/12/18	96/09/12
FORMATION.....	PENN-STRAWN	PENN-STRAWN	PENN-STRAWN
GEOLOGIC PROVINCE CODE...	430	430	430
DEPTH, FEET.....	8910	9096	8922
WELLHEAD PRESSURE, PSIG...	800	2160	1355
OPEN FLOW, MCFD.....	900	6000	733
COMPONENT, MOLE PCT			
METHANE.....	94.8 -----	91.3 -----	90.2 -----
ETHANE.....	1.6 -----	5.3 -----	5.7 -----
PROPANE.....	0.2 -----	1.0 -----	1.0 -----
N-BUTANE.....	0.0 -----	0.1 -----	0.0 -----
ISOBUTANE.....	TRACE -----	0.2 -----	0.1 -----
N-PENTANE.....	0.0 -----	0.0 -----	0.0 -----
ISOPENTANE.....	TRACE -----	0.1 -----	0.0 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.0 -----	0.0 -----
NITROGEN.....	1.1 -----	0.7 -----	1.9 -----
OXYGEN.....	0.3 -----	TRACE -----	0.6 -----
ARGON.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN.....	TRACE -----	0.0 -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	2.0 -----	1.2 -----	0.4 -----
HELIUM.....	0.04 -----	0.04 -----	0.04 -----
HEATING VALUE*.....	993 -----	1061 -----	1046 -----
SPECIFIC GRAVITY.....	0.590 -----	0.612 -----	0.610 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE



TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 94 SAMPLE 19959	INDEX 95 SAMPLE 19636	INDEX 96 SAMPLE 19956
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	CROCKETT	CROCKETT	CROCKETT
FIELD.....	MITCHELL RANCH	NOT GIVEN	READ RANCH
WELL NAME.....	MITCHELL NO. 22	JAMES T. PADGITT NO. 3	READ NO. 1-1
API.....	42-105-37117	42-105-34761	42-105-34793
LOCATION.....	SEC. 1, BLK Q6, TCRR SUR, A-35	SEC. 17, BLK. AZ, S. C. WHITE	SEC. 1, TCRR SUR, A-3459
OWNER.....	SHELL WESTERN B&P, INC.	PANADA EXPLORATION, INC.	IP PETROLEUM CO., INC.
COMPLETED.....	96/04/12	91/11/26	96/01/25
SAMPLED.....	96/09/07	93/01/15	96/08/20
FORMATION.....	PENN-CANYON	ORDO-SIMPSON	PENN-STRAWN
GEOLOGIC PROVINCE CODE... 430	430	430	430
DEPTH, FEET.....	4560	6500	9122
WELLHEAD PRESSURE, PSIG...	1163	1200	2773
OPEN FLOW, MCPD.....	4800	1500	13278
COMPONENT, MOLE PCT			
METHANE.....	81.2 -----	85.3 -----	93.2 -----
ETHANE.....	4.8 -----	5.9 -----	3.9 -----
PROPANE.....	2.9 -----	2.1 -----	0.4 -----
N-BUTANE.....	0.7 -----	0.7 -----	0.0 -----
ISOBUTANE.....	0.3 -----	0.0 -----	TRACE -----
N-PENTANE.....	0.1 -----	0.2 -----	0.0 -----
ISOPENTANE.....	0.3 -----	0.3 -----	TRACE -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.1 -----	0.0 -----	0.0 -----
NITROGEN.....	7.5 -----	3.5 -----	1.4 -----
OXYGEN.....	1.4 -----	0.3 -----	0.4 -----
ARGON.....	0.1 -----	TRACE	TRACE
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.1 -----	0.0 -----
CARBON DIOXIDE.....	0.6 -----	1.5 -----	0.5 -----
HELIUM.....	0.05 -----	0.05 -----	0.03 -----
HEATING VALUE*.....	1034 -----	1070 -----	1025 -----
SPECIFIC GRAVITY.....	0.675	0.657	0.592

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 97 SAMPLE 50568	INDEX 98 SAMPLE 19446	INDEX 99 SAMPLE 19896
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	DALLAS	DUVAL	ECTOR
FIELD.....	UNNAMED	BL ORO	PERNWELL
WELL NAME.....	CALLEJO NO. 1	GLASSCOCK NO. 1	ECTOR BY FEB NO. 2
API.....	42-113-30100		42-135-37022
LOCATION.....	JOHN B. HOLLAND SUR., A-614	SAN FRANCISCO SUR., A-216	SEC. 5, BLK 44, T3S, T&P SUR,
OWNER.....	AFB OIL AND GAS CONSULTANTS	ENERGY DEVELOPMENT CORP.	TEXACO, U.S.A.
COMPLETED.....	97/04/14	91/--/00	95/04/08
SAMPLED.....	97/04/14	92/09/21	95/09/28
FORMATION.....	MISS-BARNETT	BOCCE-YEGUA	PERM-QUEEN
GEOLOGIC PROVINCE CODE...	400	220	430
DEPTH, FEET.....	8490	8865	3528
WELLHEAD PRESSURE, PSIG...	2909	1000	600
OPEN FLOW, MCFD.....	1970	1019	1800
COMPONENT, MOLE PCT			
METHANE.....	95.6 -----	90.7 -----	82.8 -----
ETHANE.....	0.8 -----	4.3 -----	8.2 -----
PROPANE.....	TRACE -----	1.9 -----	3.5 -----
N-BUTANE.....	0.0 -----	0.6 -----	0.9 -----
ISOBUTANE.....	0.0 -----	0.1 -----	0.9 -----
N-PENTANE.....	0.0 -----	0.2 -----	0.0 -----
ISOPENTANE.....	0.0 -----	0.2 -----	0.1 -----
CYCLOPENTANE.....	--- -----	0.1 -----	0.0 -----
HEXANES PLUS.....	0.1 -----	0.1 -----	0.2 -----
NITROGEN.....	1.1 -----	0.2 -----	3.4 -----
OXYGEN.....	0.0 -----	TRACE -----	TRACE -----
ARGON.....	--- -----	TRACE -----	TRACE -----
HYDROGEN.....	--- -----	TRACE -----	0.0 -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	2.5 -----	1.7 -----	TRACE -----
HELIUM.....	--- -----	TRACE -----	0.06 -----
HEATING VALUE*.....	986 -----	1092 -----	1148 -----
SPECIFIC GRAVITY.....	0.588 -----	0.634 -----	0.677 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 100 SAMPLE 19942	INDEX 101 SAMPLE 19714	INDEX 102 SAMPLE 19654
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	EDWARDS	GOLIAD	HANSFORD
FIELD.....	SNAKEBITE	SARCO CREEK	COLDWATER CREEK
WELL NAME.....	FOUR SQUARE RANCH NO. 72	CARRIE G. WOOD NO. 36	BORT NO. 1
API.....	42-137-31221	42-175-32729	42-195-31170
LOCATION.....	SEC. 7, BLK K, TCRR SUR, A-128	BLK. 23, GEORGE S. VILLA SUR.,	SEC. 279, BLK. 2, GH&G SUR.
OWNER.....	MERIDIAN OIL, INC.	EXPORT PETROLEUM CORP.	STRAT LAND EXPLORATION CO.
COMPLETD.....	96/01/03	93/09/24	93/06/12
SAMPLD.....	96/06/28	94/01/27	93/07/28
FORMATION.....	ORDO-BLENBURGER	OLIG-VICKSBURG	PENN-TONKAWA
GEOLOGIC PROVINCE CODE...	430	220	360
DEPTH, FEET.....	10303	5016	5292
WELLHEAD PRESSURE, PSIG...	1659	1719	1240
OPEN FLOW, MCPD.....	1400	9255	1000
COMPONENT, MOLE PCT			
METHANE.....	78.6 -----	96.1 -----	73.6 -----
ETHANE.....	1.7 -----	3.1 -----	4.3 -----
PROPANE.....	0.4 -----	0.2 -----	4.1 -----
N-BUTANE.....	0.1 -----	0.0 -----	1.4 -----
ISOBUTANE.....	TRACE -----	0.1 -----	0.2 -----
N-PENTANE.....	0.0 -----	0.0 -----	0.3 -----
ISOPENTANE.....	0.0 -----	0.0 -----	0.1 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.1 -----
HEXANES PLUS.....	0.0 -----	0.1 -----	0.1 -----
NITROGEN.....	6.5 -----	0.3 -----	15.0 -----
OXYGEN.....	0.8 -----	TRACE -----	0.2 -----
ARGON.....	0.1 -----	TRACE -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	11.7 -----	0.1 -----	0.1 -----
HELIUM.....	0.20 -----	0.01 -----	0.41 -----
HEATING VALUE <sup>*</sup> .....	840 -----	1039 -----	1012 -----
SPECIFIC GRAVITY.....	0.713	0.577	0.717

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H<sub>2</sub>S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 103 SAMPLE 19839	INDEX 104 SAMPLE 19525	INDEX 105 SAMPLE 19547
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	HANSFORD	HEMPHILL	HEMPHILL
FIELD.....	HANSFORD	FELDMAN	WATERFIELD
WELL NAME.....	ARCHER TRUST NO. 1	RUTH CABE NO. 1	WATERFIELD NO. 16-1
API.....	42-195-31179	42-211-31078	42-211-31565
LOCATION.....	SEC. 151, BLK. 47, T&NO SUR.	SEC. 51, BLK. 42, H&TC SUR.	SEC. 16, BLK A-1, H&GM SUR
OWNER.....	VENUS OIL CO.	BROCK OIL & GAS CORP.	SONAT EXPLORATION CO.
COMPLETED.....	94/01/07	79/08/26	91/--/00
SAMPLED.....	94/11/11	93/02/10	93/03/25
FORMATION.....	PENN-MORROW L	PENN-MORROW L, A&B	PENN-MORROW
GEOLOGIC PROVINCE CODE...	360	360	360
DEPTH, FEET.....	7634	NOT GIVEN	NOT GIVEN
WELLHEAD PRESSURE, PSIG...	428	5180	3100
OPEN FLOW, MCFD.....	470	3200	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE.....	95.1 -----	96.1 -----	97.0 -----
ETHANE.....	2.4 -----	0.8 -----	0.8 -----
PROPANE.....	0.8 -----	0.2 -----	0.1 -----
N-BUTANE.....	0.2 -----	0.0 -----	0.0 -----
ISOBUTANE.....	TRACE -----	0.1 -----	TRACE -----
N-PENTANE.....	0.2 -----	0.0 -----	0.0 -----
ISOPENTANE.....	0.0 -----	0.1 -----	0.1 -----
CYCLOPENTANE.....	0.1 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.2 -----	0.0 -----	0.0 -----
NITROGEN.....	0.6 -----	0.4 -----	0.2 -----
OXYGEN.....	0.1 -----	0.1 -----	TRACE -----
ARGON.....	TRACE -----	TRACE -----	0.0 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.3 -----	2.2 -----	1.8 -----
HELIUM.....	0.08 -----	0.03 -----	0.02 -----
HEATING VALUE*.....	1054 -----	998 -----	1004 -----
SPECIFIC GRAVITY.....	0.592 -----	0.587 -----	0.579 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 106 SAMPLE 19527	INDEX 107 SAMPLE 19724	INDEX 108 SAMPLE 19865
STATE .....	TEXAS	TEXAS	TEXAS
COUNTY.....	JACKSON	JACKSON	JASPER
FIELD.....	EL TORITO	STANFORD	MACK LAKE
WELL NAME.....	ANDERS NO. 1	HACKBARTH GAS UNIT NO. 1	DEER CREEK NO. 1
API.....	42-239-42541	42-239-32719	42-241-30552
LOCATION.....	WASHINGTON BEATY SUR.	PATRICK SCOTT SUR., A-69	TEXAS TRAM & LUMBER SUR., A-81
OWNER.....	SCANA PETROLEUM RESOURCES, INC	MURPHY H. BAXTER	LAKE RONEL OIL CO.
COMPLETED.....	90/06/23	93/09/24	93/10/08
SAMPLED.....	93/02/16	94/02/18	95/04/21
FORMATION.....	BOCE-YEGUA	OLIG-FRIO	OLIG-FRIO
GEOLOGIC PROVINCE CODE...	220	220	220
DEPTH, FEET.....	8958	6485	3755
WELLHEAD PRESSURE, PSIG...	5693	2261	1410
OPEN FLOW, MCPD.....	6260	7000	4420
COMPONENT, MOLE PCT			
METHANE.....	74.2 -----	94.0 -----	96.2 -----
ETHANE.....	10.0 -----	3.2 -----	0.1 -----
PROPANE.....	8.9 -----	1.4 -----	0.1 -----
N-BUTANE.....	1.6 -----	0.4 -----	0.0 -----
ISOBUTANE.....	2.6 -----	0.2 -----	TRACE -----
N-PENTANE.....	0.2 -----	0.2 -----	0.0 -----
ISOPENTANE.....	0.2 -----	0.1 -----	TRACE -----
CYCLOPENTANE.....	0.0 -----	0.1 -----	0.0 -----
HEXANES PLUS.....	0.1 -----	0.1 -----	0.0 -----
NITROGEN.....	0.6 -----	0.2 -----	2.6 -----
OXYGEN.....	0.3 -----	TRACE -----	0.6 -----
ARGON.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	1.4 -----	0.2 -----	0.4 -----
HELIUM.....	TRACE -----	TRACE -----	0.01 -----
HEATING VALUE*.....	1326 -----	1083 -----	979 -----
SPECIFIC GRAVITY.....	0.785	0.605	0.575

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 109 SAMPLE 19740	INDEX 110 SAMPLE 19444	INDEX 111 SAMPLE 19728
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	LIPSCOMB	LIVE OAK	NOLAN
FIELD.....	MAGOON S	TOM LYNE B	BLOODWORTH NB
WELL NAME.....	HBIL NO. 1	GARZA NO. 1	BLOODWORTH UNIT NO. 3-7X
API.....	42-295-32135		42-353-32208
LOCATION.....	SEC. 971, BLK. 43, H&TC SUR.	S. M. WILLIAMS SUR. 113, A-553	SEC. 221, BLK. 1-A, H&TC SUR.
OWNER.....	STRAT LAND EXPLORATION CO.	POGO PRODUCING CO.	JVA OPERATING CO., INC
COMPLETED.....	93/12/12	92/--/00	93/10/14
SAMPLED.....	94/03/22	92/09/09	94/03/02
FORMATION.....	PENN-MORROW L	BOCB-WILCOX	PENN-CANYON
GEOLOGIC PROVINCE CODE...	360	220	430
DEPTH, FEET.....	9250	11267	5650
WELLHEAD PRESSURE, PSIG...	1850	NOT GIVEN	1103
OPEN FLOW, MCFD.....	10000	100	1388
COMPONENT, MOLE PCT			
METHANE.....	93.6 -----	88.7 -----	20.8 -----
ETHANE.....	3.3 -----	3.5 -----	21.5 -----
PROPANE.....	1.0 -----	0.7 -----	31.6 -----
N-BUTANE.....	0.3 -----	0.1 -----	12.2 -----
ISOBUTANE.....	0.1 -----	0.1 -----	4.8 -----
N-PENTANE.....	0.1 -----	0.0 -----	3.2 -----
ISOPENTANE.....	TRACE -----	0.3 -----	2.2 -----
CYCLOPENTANE.....	TRACE -----	0.0 -----	0.6 -----
HEXANES PLUS.....	0.1 -----	0.0 -----	1.8 -----
NITROGEN.....	0.3 -----	1.9 -----	1.3 -----
OXYGEN.....	TRACE -----	0.9 -----	0.1 -----
ARGON.....	TRACE -----	0.1 -----	0.0 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	1.0 -----	3.6 -----	0.0 -----
HELIUM.....	0.04 -----	TRACE -----	TRACE -----
HEATING VALUE*.....	1058 -----	1001 -----	2334 -----
SPECIFIC GRAVITY.....	0.603	0.637	1.401

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 112 SAMPLE 19835	INDEX 113 SAMPLE 19646	INDEX 114 SAMPLE 19933
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	NURCBS	OCHILTREE	PALO PINTO
FIELD.....	BRAYTON N	ELLIS RANCH	BIRDSONG
WELL NAME.....	VON BLUCHER NO. 7	LINA C NO. 1R	STUART ESTATE 61 NO. 10
API.....	42-355-32912	42-421-30539	42-363-34489
LOCATION.....	P. J. ANTHONY SUR. 270, A-58	SBC. 570, BLK. 43, H&TC SUR.	SBC. 61, BLK 4, T&P SUR, A-823
OWNER.....	PENNZOIL EXP. & PROD. CO.	PHILLIPS PETROLEUM CO.	THE CUMMING CO.
COMPLETED.....	93/10/26	93/03/09	95/12/02
SAMPLED.....	94/10/24	93/07/00	96/04/09
FORMATION.....	OLIG-VICKSBURG	DEVO-HUNTON, MISS-KINDERHOOK	PENN-LAKE
GEOLOGIC PROVINCE CODE...	220	360	425
DEPTH, FEET.....	11817	11082	3811
WELLHEAD PRESSURE, PSIG...	2400	3225	750
OPEN FLOW, MCFD.....	3410	1850	1000
COMPONENT, MOLE PCT			
METHANE.....	85.1 -----	90.1 -----	80.0 -----
ETHANE.....	7.3 -----	4.8 -----	8.5 -----
PROPANE.....	3.7 -----	1.7 -----	3.0 -----
N-BUTANE.....	0.9 -----	0.5 -----	0.3 -----
ISOBUTANE.....	0.7 -----	0.2 -----	0.3 -----
N-PENTANE.....	0.2 -----	0.1 -----	0.0 -----
ISOPENTANE.....	0.2 -----	0.1 -----	0.0 -----
CYCLOPENTANE.....	TRACE	TRACE	0.0
HEXANES PLUS.....	0.1 -----	TRACE	0.0 -----
NITROGEN.....	0.2 -----	2.0 -----	6.2 -----
OXYGEN.....	TRACE	0.2 -----	1.4 -----
ARGON.....	TRACE	TRACE	0.1
HYDROGEN.....	0.0 -----	0.2 -----	TRACE
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	1.7 -----	0.1 -----	0.2 -----
HELIUM.....	TRACE	0.08	0.12
HEATING VALUE*.....	1166 -----	1076 -----	1059 -----
SPECIFIC GRAVITY.....	0.679	0.619	0.670

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 115 SAMPLE 19993	INDEX 116 SAMPLE 19919	INDEX 117 SAMPLE 19890
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	PECOS	PECOS	PECOS
FIELD.....	BOB-ROB	GLOSSOP	GOMEZ NW
WELL NAME.....	MUTT 102 A NO. 2	MCDONALD NO. 2	W.C. TYRELL TRUST NO. 2
API.....	42-371-36669	42-371-36561	42-371-36519
LOCATION.....	SEC. 102, BLK 215, J. POITEVEN	SEC. 53, BLK 11, H&GN SUR, A-5	SEC 4, BLK. 115, GC&SF SUR.
OWNER.....	ROBERT L. GLOSSOP	ROBERT L. GLOSSOP	TEXACO EXPL. & PROD, INC.
COMPLETED.....	97/03/18	95/12/13	95/06/21
SAMPLED.....	97/07/31	96/03/12	95/11/14
FORMATION.....	PERM-WOLFCAMP U	PERM-WICHITA-ALBANY	PERM-WOLFCAMP
GEOLOGIC PROVINCE CODE...	430	430	430
DEPTH, FEET.....	6319	4079	10998
WELLHEAD PRESSURE, PSIG...	2358	1820	5900
OPEN FLOW, MCFD.....	7947	6066	3021
COMPONENT, MOLE PCT			
METHANE.....	89.9 -----	92.2 -----	86.6 -----
ETHANE.....	4.7 -----	3.4 -----	6.6 -----
PROPANE.....	2.1 -----	1.2 -----	3.5 -----
N-BUTANE.....	0.4 -----	0.3 -----	0.9 -----
ISOBUTANE.....	0.4 -----	0.2 -----	0.5 -----
N-PENTANE.....	0.0 -----	0.0 -----	0.3 -----
ISOPENTANE.....	0.1 -----	0.1 -----	0.2 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.0 -----	0.1 -----
NITROGEN.....	1.7 -----	2.1 -----	1.0 -----
OXYGEN.....	0.0 -----	0.4 -----	TRACE -----
ARGON.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.8 -----	0.1 -----	0.3 -----
HELIUM.....	0.06 -----	0.06 -----	0.02 -----
HEATING VALUE*.....	1078 -----	1043 -----	1160 -----
SPECIFIC GRAVITY.....	0.625 -----	0.603 -----	0.663 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE



TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 118 SAMPLE 19927	INDEX 119 SAMPLE 19981	INDEX 120 SAMPLE 19945
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	PECOS	POTTER	REAGAN
FIELD.....	WENTZ	BIVINS RANCH	GRIERSON SPRING
WELL NAME.....	L.H. MILLAR NO. 22	BIVINS NO. 1-212	GRIERSON A NO. 2
API.....	42-371-36500		42-383-34515
LOCATION.....	SEC. 43, BLK 11, H&GN SUR, A-5	SEC. 212, BLK 2, AB&M SUR	SEC. 1, GTRR SUR, A-160
OWNER.....	CHEVRON USA PRODUCTION CO.	J.W. RESOURCES	ENRON OIL & GAS CO.
COMPLETED.....	95/01/13	88/10/17	96/02/13
SAMPLED.....	96/04/03	97/05/02	96/07/10
FORMATION.....	PERM-WICHITA-ALBANY	PERM-BROWN DOLOMITE	PENN-STRAWN
GEOLOGIC PROVINCE CODE...	430	440	430
DEPTH, FEET.....	4067	3428	8855
WELLHEAD PRESSURE, PSIG...	900	680	1600
OPEN FLOW, MCFD.....	111	160	3502
COMPONENT, MOLE PCT			
METHANE.....	91.5 -----	64.3 -----	74.3 -----
ETHANE.....	3.6 -----	3.5 -----	13.6 -----
PROPANE.....	1.4 -----	1.4 -----	5.9 -----
N-BUTANE.....	0.3 -----	0.4 -----	1.3 -----
ISOBUTANE.....	0.2 -----	0.2 -----	0.5 -----
N-PENTANE.....	0.0 -----	0.1 -----	0.3 -----
ISOPENTANE.....	TRACE -----	0.1 -----	0.2 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	TRACE -----
HEXANES PLUS.....	0.0 -----	0.1 -----	0.1 -----
NITROGEN.....	2.3 -----	24.6 -----	3.4 -----
OXYGEN.....	0.5 -----	0.0 -----	TRACE -----
ARGON.....	TRACE -----	0.2 -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.1 -----	3.8 -----	0.3 -----
HELIUM.....	0.06 -----	1.57 -----	0.07 -----
HEATING VALUE*.....	1048 -----	783 -----	1238 -----
SPECIFIC GRAVITY.....	0.608 -----	0.734 -----	0.737 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 121 SAMPLE 19864	INDEX 122 SAMPLE 19899	INDEX 123 SAMPLE 19979
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	REFUGIO	ROBERTS	ROBERTS
FIELD.....	LA ROSA	CARRIE KILLIBREW	RED DEER CREEK
WELL NAME.....	LA ROSA UNIT NO. 26	MORRISON NO. 3-212	BYRON NO. 3-6
API.....	42-391-03411	42-393-31270	42-393-31333
LOCATION.....	JOSE MARIA ALDRETE SUR., A-1	SEC. 212, BLK 42, H&TC SUR	SEC. 6, BLK B-1, H&GN SUR, A-9
OWNER.....	LAROCO L L P	MIDGARD ENERGY CO.	PARKER & PARSLEY PETROLEUM CO.
COMPLETED.....	94/09/28	95/08/07	96/12/03
SAMPLED.....	95/04/13	96/01/10	97/04/15
FORMATION.....	OLIG-PRIO	PENN-DOUGLAS L	PENN-GRANITE WASH
GEOLOGIC PROVINCE CODE...	220	360	360
DEPTH, FEET.....	5340	5924	10266
WELLHEAD PRESSURE, PSIG...	1790	1989	2703
OPEN FLOW, MCFD.....	1549	6802	2931
COMPONENT, MOLE PCT			
METHANE.....	90.2 -----	77.7 -----	82.6 -----
ETHANE.....	3.7 -----	8.2 -----	9.8 -----
PROPANE.....	0.8 -----	5.6 -----	4.0 -----
N-BUTANE.....	0.3 -----	1.8 -----	1.1 -----
ISOBUTANE.....	0.8 -----	0.5 -----	0.5 -----
N-PENTANE.....	0.0 -----	0.5 -----	0.3 -----
ISOPENTANE.....	1.1 -----	0.2 -----	0.2 -----
CYCLOPENTANE.....	0.9 -----	0.1 -----	TRACE
HEXANES PLUS.....	1.0 -----	0.2 -----	0.2 -----
NITROGEN.....	0.9 -----	4.6 -----	0.5 -----
OXYGEN.....	TRACE -----	0.2 -----	0.0 -----
ARGON.....	0.0 -----	TRACE	0.0 -----
HYDROGEN.....	TRACE -----	TRACE	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.3 -----	0.3 -----	0.8 -----
HELIUM.....	0.01 -----	0.19 -----	0.04 -----
HEATING VALUE*.....	1167 -----	1202 -----	1200 -----
SPECIFIC GRAVITY.....	0.665	0.729	0.691

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 124 SAMPLE 19965	INDEX 125 SAMPLE 19897	INDEX 126 SAMPLE 19928
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	RUNNELS	SHERMAN	STERLING
FIELD.....	PIONEER-MILLER	TEXHOMA	CREDO EAST
WELL NAME.....	HOELSCHER/SCHWERTNER NO. 3A	HARLAND 1-104	MCCENTIRE 21 NO. 4
API.....	42-399-34459	42-421-30576	42-431-32799
LOCATION.....	SEC. 527, J.J. BAKINS SUR, A-1	SEC. 104, BLK 1-C, GH&H SUR.	SEC. 21, BLK 23, H&TC SUR, A-2
OWNER.....	PIONEER ENBRGY CORP.	COURSON OIL & GAS, INC.	ATROPOS PRODUCTION CORP.
COMPLETED.....	96/08/15	95/06/16	95/12/05
SAMPLED.....	96/12/30	96/01/15	96/04/04
FORMATION.....	PENN-GARDNER	PENN-MORROW U	PENN-CISCO U
GEOLOGIC PROVINCE CODE...	425	360	430
DEPTH, FEET.....	4020	6412	7095
WELLHEAD PRESSURE, PSIG...	1333	1535	1160
OPEN FLOW, MCFD.....	1340	6000	4636
COMPONENT, MOLE PCT			
METHANE.....	71.1 -----	84.2 -----	80.3 -----
ETHANE.....	10.7 -----	6.9 -----	7.8 -----
PROPANE.....	5.4 -----	3.7 -----	5.0 -----
N-BUTANE.....	1.0 -----	0.9 -----	1.3 -----
ISOBUTANE.....	0.5 -----	0.3 -----	0.4 -----
N-PENTANE.....	0.1 -----	0.2 -----	0.3 -----
ISOPENTANE.....	0.2 -----	0.1 -----	0.1 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	TRACE
HEXANES PLUS.....	0.0 -----	0.0 -----	0.1 -----
NITROGEN.....	10.6 -----	2.7 -----	4.0 -----
OXYGEN.....	TRACE -----	0.5 -----	0.1 -----
ARGON.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.1 -----	0.3 -----	0.5 -----
HELIUM.....	0.30 -----	0.17 -----	0.14 -----
HEATING VALUE*.....	1113 -----	1124 -----	1162 -----
SPECIFIC GRAVITY.....	0.733	0.665	0.700

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 127 SAMPLE 19992	INDEX 128 SAMPLE 19921	INDEX 129 SAMPLE 19888
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	SUTTON	SUTTON	SUTTON
FIELD.....	J. D. SLADE	MEME	SONORA
WELL NAME.....	ALLISON B NO. 1	HARDGRAVE 8 NO. 1	STEEN NO. 40
API.....	42-435-34666	42-435-00105	42-435-34491
LOCATION.....	SEC. 66, BLK B, HB&WT SUR, A-1	SEC. 8, J.A. ROBBINS SUR, A-14	SEC. 11, GC&SF SUR, A-146
OWNER.....	CYCLONE EXPLORATION, INC.	CARAWAY OPERATING CO.	MERIDIAN OIL, INC.
COMPLETED.....	97/02/06	95/06/14	95/06/16
SAMPLED.....	97/07/00	96/03/14	95/10/30
FORMATION.....	MISS-MISSISSIPPIAN	PERM-WOLFCAMP	PENN-CANYON
GEOLOGIC PROVINCE CODE...	430	430	430
DEPTH, FEET.....	6445	2039	5228
WELLHEAD PRESSURE, PSIG...	1639	780	420
OPEN FLOW, MCPD.....	3609	7502	720
COMPONENT, MOLE PCT			
METHANE.....	86.6 -----	81.5 -----	85.1 -----
ETHANE.....	4.6 -----	1.6 -----	7.0 -----
PROPANE.....	1.4 -----	1.1 -----	3.5 -----
N-BUTANE.....	0.1 -----	0.2 -----	0.8 -----
ISOBUTANE.....	0.1 -----	0.2 -----	0.5 -----
N-PENTANE.....	0.0 -----	0.1 -----	0.1 -----
ISOPENTANE.....	TRACE -----	0.1 -----	0.2 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.0 -----	0.0 -----
NITROGEN.....	6.5 -----	14.4 -----	2.5 -----
OXYGEN.....	0.0 -----	0.1 -----	TRACE -----
ARGON.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.5 -----	0.1 -----	0.3 -----
HELIUM.....	0.18 -----	0.53 -----	0.09 -----
HEATING VALUE*.....	1005 -----	906 -----	1132 -----
SPECIFIC GRAVITY.....	0.626 -----	0.642 -----	0.661 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H<sub>2</sub>S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 130 SAMPLE 19917	INDEX 131 SAMPLE 19922	INDEX 132 SAMPLE 19953
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	TERRELL	TERRELL	TERRELL
FIELD.....	SOUTH BRANCH	SOUTH BRANCH	UNNAMED
WELL NAME.....	UNIVERSITY 36-2 NO. 3	MITCHELL 9 NO. 3	GEASLIN 198 NO. 1
API.....	42-443-30572	42-443-30546	42-443-30554
LOCATION.....	SEC. 2, BLK 36, UNIVERSITY LAN	SEC. 9, BLK 1, CCSD&RGNG SUR,	SEC. 198, BLK Y, TCRR SUR, A-9
OWNER.....	UNION PACIFIC RESOURCES CO.	CHEVRON USA PRODUCTION CO.	HUNT OIL CO.
COMPLETED.....	95/09/02	95/06/03	95/05/23
SAMPLED.....	96/--/00	96/03/21	96/08/15
FORMATION.....	PENN-STRAWN	PENN-STRAWN	PERM-WOLFCAMP
GEOLOGIC PROVINCE CODE...	430	430	430
DEPTH, FEET.....	11464	11322	6152
WELLHEAD PRESSURE, PSIG...	950	2500	1993
OPEN FLOW, MCFD.....	6817	5954	13724
COMPONENT, MOLE PCT			
METHANE.....	81.0 -----	86.5 -----	90.3 -----
ETHANE.....	7.6 -----	7.4 -----	5.4 -----
PROPANE.....	3.1 -----	2.7 -----	2.4 -----
N-BUTANE.....	0.7 -----	0.5 -----	0.2 -----
ISOBUTANE.....	0.4 -----	0.2 -----	0.2 -----
N-PENTANE.....	0.1 -----	0.1 -----	0.0 -----
ISOPENTANE.....	0.1 -----	TRACE -----	0.1 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.0 -----	0.0 -----
NITROGEN.....	5.2 -----	1.5 -----	1.2 -----
OXYGEN.....	1.5 -----	0.6 -----	0.1 -----
ARGON.....	0.1 -----	TRACE -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.3 -----	0.4 -----	0.1 -----
HELIUM.....	0.02 -----	0.03 -----	0.05 -----
HEATING VALUE*.....	1081 -----	1109 -----	1087 -----
SPECIFIC GRAVITY.....	0.676	0.645	0.618

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 133 SAMPLE 19969	INDEX 134 SAMPLE 19957	INDEX 135 SAMPLE 19905
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	UPSHUR	UPTON	WARD
FIELD.....	GLADEWATER B	PLAT ROCK	H S A
WELL NAME.....	H.S. WHITE 19 NO. 1	UNIVERSITY AU NO. 1	G.W. O'BRIEN ETAL NO. 1105
API.....	42-459-30869	42-461-02190	42-475-30076
LOCATION.....	WILLIAM BRATTON SUR, A-57	SEC. 31, BLK 3, UNIVERSITY LAN	SEC. 20, BLK F, G&MMB&A SUR
OWNER.....	OXY USA, INC.	OXY USA, INC.	CHEVRON USA PRODUCTION CO.
COMPLETED.....	96/11/16	96/03/26	95/08/31
SAMPLED.....	97/02/05	96/08/26	96/01/30
FORMATION.....	JURA-COTTON VALLEY	SILU-PUSSELMAN	PERM-SAN ANDRES
GEOLOGIC PROVINCE CODE... 260		430	430
DEPTH, FEET.....	11003	10300	4600
WELLHEAD PRESSURE, PSIG... 1850		1454	1800
OPEN FLOW, MCFD..... 2721		2551	8600
COMPONENT, MOLE PCT			
METHANE.....	90.6 -----	78.7 -----	86.4 -----
ETHANE.....	5.3 -----	12.2 -----	7.1 -----
PROPANE.....	1.5 -----	5.4 -----	3.0 -----
N-BUTANE.....	0.2 -----	1.2 -----	0.8 -----
ISOBUTANE.....	0.3 -----	0.5 -----	0.3 -----
N-PENTANE.....	0.0 -----	0.2 -----	0.3 -----
ISOPENTANE.....	TRACE -----	0.1 -----	TRACE -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	TRACE -----
HEXANES PLUS.....	0.0 -----	0.1 -----	0.1 -----
NITROGEN.....	1.1 -----	1.4 -----	0.9 -----
OXYGEN.....	0.2 -----	0.1 -----	TRACE -----
ARGON.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**..... 0.0		0.0 -----	0.0 -----
CARBON DIOXIDE..... 0.8		0.1 -----	1.0 -----
HELIUM.....	0.01 -----	0.06 -----	0.02 -----
HEATING VALUE*..... 1071		1228 -----	1138 -----
SPECIFIC GRAVITY..... 0.617		0.709 -----	0.659 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 136 SAMPLE 19967	INDEX 137 SAMPLE 19892	INDEX 138 SAMPLE 19586
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	WARD	WARD	WHEELER
FIELD.....	PYOTE S	QUITO B	ALLISON-BRITT
WELL NAME.....	DOROTHY HILL NO. 4	UNIVERSITY S B 18-32 NO. 1	BRITT NO. 9-3
API.....	42-475-34235	42-475-34205	42-483-31359
LOCATION.....	SEC. 69, BLK 34, H&TC SUR, A-2	SEC. 32, BLK. 18, UNIVERSITY L	SEC. 9, BLK. 2, B&B SUR.
OWNER.....	DEVON ENERGY CORP.	ENRON OIL & GAS CO.	ENRON OIL & GAS CO.
COMPLETED.....	96/05/22	95/08/09	92/12/14
SAMPLED.....	97/01/28	95/11/28	93/04/23
FORMATION.....	PERM-DELAWARE	PERM-DELAWARE, CHERRY CANYON	PERM-GRANITE WASH
GEOLOGIC PROVINCE CODE...	430	430	360
DEPTH, FEET.....	6936	6500	12457
WELLHEAD PRESSURE, PSIG...	1200	850	1600
OPEN FLOW, MCPD.....	300	250	300
COMPONENT, MOLE PCT			
METHANE.....	88.7 -----	93.6 -----	85.3 -----
ETHANE.....	4.6 -----	0.3 -----	8.0 -----
PROPANE.....	2.1 -----	0.3 -----	3.1 -----
N-BUTANE.....	0.3 -----	TRACE -----	1.1 -----
ISOBUTANE.....	0.5 -----	0.2 -----	0.4 -----
N-PENTANE.....	0.1 -----	0.0 -----	0.5 -----
ISOPENTANE.....	0.2 -----	TRACE -----	0.1 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.2 -----
HEXANES PLUS.....	0.0 -----	0.0 -----	0.5 -----
NITROGEN.....	3.4 -----	1.9 -----	0.6 -----
OXYGEN.....	0.1 -----	0.0 -----	0.0 -----
ARGON.....	TRACE -----	0.0 -----	TRACE -----
HYDROGEN.....	TRACE -----	0.0 -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.0 -----	3.7 -----	0.3 -----
HELIUM.....	0.03 -----	0.04 -----	0.03 -----
HEATING VALUE*.....	1073 -----	970 -----	1195 -----
SPECIFIC GRAVITY.....	0.629 -----	0.606 -----	0.679 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 139 SAMPLE 19746	INDEX 140 SAMPLE 19503	INDEX 141 SAMPLE 19504
STATE.....	TEXAS	UTAH	UTAH
COUNTY.....	WHEELER	GRAND	GRAND
FIELD.....	WBST PARK	HELL ROARING	HELL ROARING
WELL NAME.....	HOLMES NO. 17-1	KANE SPRINGS NO. 10-1	KANE SPRINGS NO. 10-1
API.....	42-483-31450	43-019-31331	43-019-31331
LOCATION.....	SEC. 17, BLK. RB, R&E SUR.	SEC. 10, T25S, R18E	SEC. 10, T25S, R18E
OWNER.....	KERR-MCGEE CORP.	WESTERN GAS RESOURCES	WESTERN GAS RESOURCES
COMPLETED.....	93/12/07	92/11/00	92/11/00
SAMPLED.....	94/03/28	93/01/04	93/01/04
FORMATION.....	PENN-MORROW U	PENN-CANE CREEK	PENN-CANE CREEK
GEOLOGIC PROVINCE CODE...	360	585	585
DEPTH, FEET.....	15330	NOT GIVEN	NOT GIVEN
WELLHEAD PRESSURE, PSIG...	6688	4300	4300
OPEN FLOW, MCFD.....	10800	700	700
COMPONENT, MOLE PCT			
METHANE.....	96.7 -----	78.7 -----	47.2 -----
ETHANE.....	0.6 -----	11.4 -----	23.2 -----
PROPANE.....	0.1 -----	4.5 -----	16.7 -----
N-BUTANE.....	0.0 -----	1.4 -----	5.8 -----
ISOBUTANE.....	TRACE -----	0.4 -----	2.2 -----
N-PENTANE.....	0.0 -----	0.9 -----	2.6 -----
ISOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
CYCLOPENTANE.....	0.0 -----	0.3 -----	0.4 -----
HEXANES PLUS.....	0.1 -----	0.8 -----	1.6 -----
NITROGEN.....	0.2 -----	1.5 -----	0.2 -----
OXYGEN.....	TRACE -----	TRACE -----	TRACE -----
ARGON.....	0.0 -----	0.0 -----	0.0 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	2.2 -----	0.1 -----	0.1 -----
HELIUM.....	0.03 -----	0.07 -----	0.01 -----
HEATING VALUE*.....	997 -----	1267 -----	1804 -----
SPECIFIC GRAVITY.....	0.583	0.731	1.056

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE



TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 142 SAMPLE 19911	INDEX 143 SAMPLE 19973	INDEX 144 SAMPLE 19974
STATE.....	UTAH	UTAH	UTAH
COUNTY.....	GRAND	SAN JUAN	SAN JUAN
FIELD.....	WESTWATER	LISBON	LISBON
WELL NAME.....	WESTWATER NO. 3 UNIT	LISBON C-910	LISBON B-614-A
API.....	43-019-30853	43-037-31323	43-037-31351
LOCATION.....	SEC. 13, T17S, R23E	SEC. 10, T30S, R24E	SEC. 14, T30S, R24E
OWNER.....	NATIONAL FUEL CORP.	UNOCAL	UNOCAL
COMPLETED.....	95/10/05	87/08/00	88/07/00
SAMPLED.....	96/02/14	97/03/18	97/03/18
FORMATION.....	CRET-MANCOS B	DEVO-MCCRACKEN	DEVO-MCCRACKEN
GEOLOGIC PROVINCE CODE...	585	585	585
DEPTH, FEET.....	2690	8384	8932
WELLHEAD PRESSURE, PSIG...	280	45	80
OPEN FLOW, MCFD.....	100	NOT GIVEN	NOT GIVEN
COMPONENT, MOLE PCT			
METHANE.....	82.0 -----	52.7 -----	70.0 -----
ETHANE.....	10.0 -----	14.2 -----	10.9 -----
PROPANE.....	5.0 -----	9.6 -----	5.1 -----
N-BUTANE.....	1.2 -----	3.9 -----	1.5 -----
ISOBUTANE.....	0.6 -----	2.2 -----	0.9 -----
N-PENTANE.....	0.2 -----	1.7 -----	0.4 -----
ISOPENTANE.....	0.1 -----	0.1 -----	0.1 -----
CYCLOPENTANE.....	0.0 -----	0.3 -----	TRACE -----
HEXANES PLUS.....	0.1 -----	1.2 -----	0.2 -----
NITROGEN.....	0.4 -----	8.1 -----	10.3 -----
OXYGEN.....	TRACE -----	0.0 -----	0.0 -----
ARGON.....	TRACE -----	0.0 -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.4 -----	5.7 -----	0.2 -----
HELIUM.....	0.03 -----	0.36 -----	0.54 -----
HEATING VALUE*.....	1217 -----	1391 -----	1147 -----
SPECIFIC GRAVITY.....	0.694	0.970	0.752

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  
 \*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 145 SAMPLE 19975	INDEX 146 SAMPLE 19530	INDEX 147 SAMPLE 19725
STATE.....	UTAH	WYOMING	WYOMING
COUNTY.....	SAN JUAN	PREMONT	PREMONT
FIELD.....	LISBON	PULLER RESERVOIR	LONG BUTTE
WELL NAME.....	LISBON B-810	PULLER NO. 15-24	LONG BUTTE NO. 5
API.....	43-037-31433	49-013-21630	49-013-21127
LOCATION.....	SEC. 10, T30S, R24E	SEC. 24, T36N, R94W	SEC. 36, T39N, R92W
OWNER.....	UNOCAL	BERBENERGY CORP.	W. A. MONCRIEF JR., CO.
COMPLETED.....	88/09/00	91/11/18	93/02/01
SAMPLED.....	97/03/18	93/02/11	94/02/21
FORMATION.....	DEVO-MCCRACKEN	PALB-FORT UNION L	CRBT-SUSSEX B
GEOLOGIC PROVINCE CODE...	585	530	530
DEPTH, FEET.....	8609	4080	18286
WELLHEAD PRESSURE, PSIG...	93	NOT GIVEN	3500
OPEN FLOW, MCFD.....	NOT GIVEN	1739	3000
COMPONENT, MOLE PCT			
METHANE.....	56.9	97.2	96.9
ETHANE.....	13.9	1.3	0.1
PROPANE.....	8.2	0.2	0.1
N-BUTANE.....	2.2	0.0	0.0
ISOBUTANE.....	1.4	0.2	TRACE
N-PENTANE.....	0.7	0.0	0.0
ISOPENTANE.....	0.1	0.0	TRACE
CYCLOPENTANE.....	0.1	0.0	0.0
HEXANES PLUS.....	0.3	0.1	0.0
NITROGEN.....	15.4	0.2	0.1
OXYGEN.....	0.0	TRACE	TRACE
ARGON.....	TRACE	TRACE	0.0
HYDROGEN.....	TRACE	TRACE	TRACE
HYDROGEN SULFIDE**.....	0.0	0.0	0.0
CARBON DIOXIDE.....	0.2	0.7	2.8
HELIUM.....	0.59	0.01	TRACE
HEATING VALUE*.....	1210	1025	985
SPECIFIC GRAVITY.....	0.847	0.577	0.584

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 148 SAMPLE 19983	INDEX 149 SAMPLE 19694	INDEX 150 SAMPLE 19986
STATE.....	WYOMING	WYOMING	WYOMING
COUNTY.....	LINCOLN	LINCOLN	LINCOLN
FIELD.....	FIGURE FOUR CANYON	GREEN RIVER BEND	SHUTE CREEK
WELL NAME.....	FIGURE FOUR CANYON NO. 4-12	NAMES HILL UNIT NO. 1	HAMS PORK FEDERAL NO. 24-2
API.....	49-023-21301	49-023-20918	49-023-21270
LOCATION.....	SEC. 12, T26N, R113W	SEC. 35, T26N, R113W	SEC. 24, T22N, R133W
OWNER.....	ENRON OIL & GAS CO.	YATES PETROLEUM CORP.	TEXACO EXPL. & PROD., INC.
COMPLETED.....	97/02/06	93/04/00	96/10/07
SAMPLED.....	97/05/28	93/12/13	97/06/10
FORMATION.....	CRET-BEAR RIVER	CRET-FRONTIER	CRET-FRONTIER & DAKOTA
GEOLOGIC PROVINCE CODE...	535	535	535
DEPTH, FEET.....	9102	9950	11877
WELLHEAD PRESSURE, PSIG...	3200	NOT GIVEN	2420
OPEN FLOW, MCFD.....	450	6788	2978
COMPONENT, MOLE PCT			
METHANE.....	96.3 -----	88.6 -----	81.1 -----
ETHANE.....	2.3 -----	6.0 -----	11.8 -----
PROPANE.....	0.6 -----	2.0 -----	4.2 -----
N-BUTANE.....	0.0 -----	0.5 -----	0.5 -----
ISOBUTANE.....	0.2 -----	0.2 -----	0.7 -----
N-PENTANE.....	0.0 -----	0.2 -----	0.0 -----
ISOPENTANE.....	0.0 -----	0.1 -----	0.0 -----
CYCLOPENTANE.....	0.0 -----	0.1 -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.2 -----	0.0 -----
NITROGEN.....	0.4 -----	1.6 -----	1.2 -----
OXYGEN.....	0.0 -----	0.3 -----	0.1 -----
ARGON.....	0.0 -----	TRACE	TRACE
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.3 -----	0.3 -----	0.5 -----
HELIUM.....	0.01 -----	0.03 -----	0.01 -----
HEATING VALUE*.....	1037 -----	1102 -----	1181 -----
SPECIFIC GRAVITY.....	0.578	0.636	0.683

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 151 SAMPLE 19943	INDEX 152 SAMPLE 19591	INDEX 153 SAMPLE 19868
STATE.....	WYOMING	WYOMING	WYOMING
COUNTY.....	SUBLETTE	SUBLETTE	SWEETWATER
FIELD.....	JONAH	TIP TOP	BAXTER BASIN W
WELL NAME.....	STUD HORSE BUTTE NO. 7-30	BNG NO. 204-19	DEPOT NO. 2
API.....	49-035-21425	49-035-21164	49-037-23466
LOCATION.....	SEC. 30, T29N, R108W	SEC. 19, T28N, R113W	SEC. 1, T21N, R104W
OWNER.....	SNYDER OIL CORP.	ENRON OIL & GAS CO.	YATES PETROLEUM CORP.
COMPLETED.....	95/11/13	92/12/18	94/12/23
SAMPLED.....	96/06/20	93/04/30	95/05/12
FORMATION.....	CRET-MESAVERDE	CRET-BAXTER I & II	JURA-MORRISON
GEOLOGIC PROVINCE CODE...	535	535	535
DEPTH, FEET.....	9867	4269	6736
WELLHEAD PRESSURE, PSIG...	3200	1233	1750
OPEN FLOW, MCFD.....	2100	748	512
COMPONENT, MOLE PCT			
METHANE.....	91.7 -----	83.9 -----	90.5 -----
ETHANE.....	5.0 -----	3.9 -----	3.9 -----
PROPANE.....	1.6 -----	1.3 -----	1.7 -----
N-BUTANE.....	0.3 -----	0.5 -----	0.6 -----
ISOBUTANE.....	0.3 -----	0.1 -----	0.2 -----
N-PENTANE.....	0.1 -----	0.2 -----	0.2 -----
ISOPENTANE.....	0.1 -----	0.1 -----	0.2 -----
CYCLOPENTANE.....	0.0 -----	0.0 -----	0.0 -----
HEXANES PLUS.....	0.1 -----	0.2 -----	0.1 -----
NITROGEN.....	0.3 -----	9.3 -----	2.0 -----
OXYGEN.....	TRACE -----	0.2 -----	0.1 -----
ARGON.....	TRACE -----	0.1 -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	0.4 -----	0.3 -----	0.4 -----
HELIUM.....	0.01 -----	0.06 -----	0.04 -----
HEATING VALUE*.....	1094 -----	995 -----	1080 -----
SPECIFIC GRAVITY.....	0.616	0.648	0.625

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 154 SAMPLE 19987	INDEX 155 SAMPLE 19962	INDEX 156 SAMPLE 19964
STATE.....	WYOMING	WYOMING	WYOMING
COUNTY.....	SWEETWATER	SWEETWATER	SWEETWATER
FIELD.....	ROBIN	STAGE COACH DRAW	TABLE ROCK
WELL NAME.....	GOVERNMENT UNION NO. 4	STAGE COACH DRAW UNIT NO. 1	TABLE ROCK UNIT NO. 41
API.....	49-037-23638	49-037-23151	49-037-21461
LOCATION.....	SBC. 8, T19N, R97W	SBC. 32, T23N, R107W	SBC. 19, T19N, R97W
OWNER.....	TEXACO EXPL. & PROD., INC.	TEXACO EXPL. & PROD., INC.	TEXACO EXPL. & PROD., INC.
COMPLETED.....	96/12/10	93/08/09	96/04/14
SAMPLED.....	97/06/10	96/12/11	96/12/09
FORMATION.....	JURA-WUGGET	CRET-ALMOND	CRET-BLAIR
GEOLOGIC PROVINCE CODE...	535	535	535
DEPTH, FEET.....	16118	7939	8764
WELLHEAD PRESSURE, PSIG...	4450	400	2500
OPEN FLOW, MCFD.....	5100	1000	350
COMPONENT, MOLE PCT			
METHANE.....	97.6 -----	76.1 -----	86.8 -----
ETHANE.....	0.7 -----	11.1 -----	7.1 -----
PROPANE.....	0.1 -----	5.4 -----	3.1 -----
N-BUTANE.....	0.0 -----	1.1 -----	0.7 -----
ISOBUTANE.....	TRACE -----	1.0 -----	0.6 -----
N-PENTANE.....	0.0 -----	0.3 -----	0.1 -----
ISOPENTANE.....	TRACE -----	0.3 -----	0.2 -----
CYCLOPENTANE.....	0.0 -----	TRACE -----	0.0 -----
HEXANES PLUS.....	0.0 -----	0.1 -----	0.1 -----
NITROGEN.....	0.1 -----	0.7 -----	0.5 -----
OXYGEN.....	0.1 -----	0.1 -----	0.1 -----
ARGON.....	0.0 -----	TRACE -----	0.0 -----
HYDROGEN.....	TRACE -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----	0.0 -----
CARBON DIOXIDE.....	1.4 -----	3.7 -----	0.8 -----
HELIUM.....	0.01 -----	0.01 -----	0.01 -----
HEATING VALUE*.....	1006 -----	1216 -----	1149 -----
SPECIFIC GRAVITY.....	0.574 -----	0.751 -----	0.659 -----

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

TABLE 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

	INDEX 157 SAMPLE 19900	INDEX 158 SAMPLE 19815
STATE.....	WYOMING	WYOMING
COUNTY.....	SWEETWATER	SWEETWATER
FIELD.....	WANSUTTER	WILLOW RESERVOIR
WELL NAME.....	CHAMPLIN 261 AMOCO A2	WILLOW RESERVOIR UNIT NO. 1
API.....	49-037-23495	49-037-22907
LOCATION.....	SEC. 33, T18N, R94W	SEC. 17, T16N, R95W
OWNER.....	AMOCO PRODUCTION CO.	UNION PACIFIC RESOURCES CO.
COMPLETED.....	95/04/03	92/--/00
SAMPLED.....	96/01/15	94/08/08
FORMATION.....	CRBT-ALMOND U	CRBT-ALMOND
GEOLOGIC PROVINCE CODE...	535	535
DEPTH, FBET.....	10328	12916
WELLHEAD PRESSURE, PSIG...	2825	NOT GIVEN
OPEN FLOW, MCFD.....	2178	4100
COMPONENT, MOLE PCT		
METHANE.....	83.0 -----	92.7 -----
ETHANE.....	8.5 -----	2.0 -----
PROPANE.....	3.0 -----	0.2 -----
N-BUTANE.....	0.8 -----	TRACE -----
ISOBUTANE.....	0.5 -----	0.1 -----
N-PENTANE.....	0.3 -----	0.0 -----
ISOPENTANE.....	0.1 -----	0.0 -----
CYCLOPENTANE.....	TRACE -----	0.0 -----
HEXANES PLUS.....	0.1 -----	0.1 -----
NITROGEN.....	0.4 -----	1.3 -----
OXYGEN.....	0.2 -----	0.6 -----
ARGON.....	TRACE -----	TRACE -----
HYDROGEN.....	TRACE -----	TRACE -----
HYDROGEN SULFIDE**.....	0.0 -----	0.0 -----
CARBON DIOXIDE.....	3.3 -----	3.0 -----
HELIUM.....	TRACE -----	TRACE -----
HEATING VALUE*.....	1134 -----	987 -----
SPECIFIC GRAVITY.....	0.690	0.607

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

\*\* DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

**TABLE 2**

Samples From Pipelines  
in the United States

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX 1 SAMPLE 19493	INDEX 2 SAMPLE 19490	INDEX 3 SAMPLE 19492
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	MOORE	MOORE	MOORE
FIELD.....	HUTCHINSON W, MOORE E CO.'S	MOORE COUNTY AREA	MOORE COUNTY AREA
LOCATION.....	904 DISCHARGE, STEWART LINE 12	621 STATION, BURNETT DISCHARGE	DUMAS DISCHARGE, 12" LINE
OWNER.....	MAXUS EXPLORATION CO.	MAXUS EXPLORATION CO.	MAXUS EXPLORATION CO.
SAMPLED.....	92/12/01	92/12/02	92/12/01
FORMATION.....	NOT GIVEN	PERM-BROWN DOLOMITE	PERM-BROWN DOLOMITE
GEOLOGIC PROVINCE CODE...	440	440	440
DEPTH, FEET.....	NOT GIVEN	NOT GIVEN	NOT GIVEN
PRESSURE, PSIG.....	268	218	245
FLOW, MCFD.....	13000	5300	13000
COMPONENT, MOLE PCT			
METHANE.....	67.7 -----	73.1 -----	68.9 -----
ETHANE.....	9.0 -----	7.5 -----	7.7 -----
PROPANE.....	8.5 -----	6.4 -----	7.1 -----
N-BUTANE.....	3.6 -----	2.9 -----	3.3 -----
ISOBUTANE.....	0.5 -----	0.4 -----	0.8 -----
N-PENTANE.....	1.1 -----	0.7 -----	0.7 -----
ISOPENTANE.....	0.4 -----	0.6 -----	0.9 -----
CYCLOPENTANE.....	0.1 -----	0.0 -----	0.1 -----
HEXANES PLUS.....	0.3 -----	0.3 -----	0.0 -----
NITROGEN.....	8.1 -----	7.6 -----	9.1 -----
OXYGEN.....	TRACE -----	0.0 -----	TRACE -----
ARGON.....	TRACE -----	0.1 -----	TRACE -----
HYDROGEN.....	TRACE -----	0.1 -----	TRACE -----
HYDROGEN SULFIDE.....	0.2 -----	0.0 -----	0.1 -----
CARBON DIOXIDE.....	0.1 -----	0.1 -----	0.9 -----
HELIUM.....	0.33 -----	0.30 -----	0.38 -----
HEATING VALUE*.....	1294 -----	1224 -----	1231 -----
SPECIFIC GRAVITY.....	0.820	0.769	0.804

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY



TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX SAMPLE 19491	INDEX SAMPLE 19495	INDEX SAMPLE 19497
STATE.....	TEXAS	TEXAS	TEXAS
COUNTY.....	MOORE	MOORE	MOORE
FIELD.....	NOT GIVEN	NOT GIVEN	NOT GIVEN
LOCATION.....	817 STA., EAST RESIDUE FROM PL	DISCHARGE LINES EXCEPT OCHILTR	COMMINGLED DISCHARGE TO SUNRAY
OWNER.....	MAXUS EXPLORATION CO.	MAXUS EXPLORATION CO.	MAXUS EXPLORATION CO.
SAMPLED.....	92/12/02	92/12/01	92/12/01
FORMATION.....	NOT GIVEN	NOT GIVEN	NOT GIVEN
GEOLOGIC PROVINCE CODE...	440	440	440
DEPTH, FEET.....	NOT GIVEN	NOT GIVEN	NOT GIVEN
PRESSURE, PSIG.....	214	253	244
FLOW, MCFD.....	2000	23800	64000
COMPONENT, MOLE PCT			
METHANE.....	91.9 -----	67.0 -----	69.6 -----
ETHANE.....	1.7 -----	8.3 -----	7.3 -----
PROPANE.....	0.1 -----	8.0 -----	6.2 -----
N-BUTANE.....	0.0 -----	4.1 -----	2.7 -----
ISOBUTANE.....	TRACE -----	0.8 -----	0.4 -----
N-PENTANE.....	0.0 -----	1.4 -----	1.0 -----
ISOPENTANE.....	0.0 -----	0.5 -----	0.2 -----
CYCLOPENTANE.....	0.0 -----	0.3 -----	0.2 -----
HEXANES PLUS.....	0.0 -----	0.9 -----	0.4 -----
NITROGEN.....	5.6 -----	8.0 -----	11.3 -----
OXYGEN.....	0.1 -----	TRACE -----	0.1 -----
ARGON.....	0.1 -----	TRACE -----	0.1 -----
HYDROGEN.....	0.3 -----	TRACE -----	TRACE -----
HYDROGEN SULFIDE.....	0.0 -----	0.2 -----	0.1 -----
CARBON DIOXIDE.....	TRACE -----	0.2 -----	0.2 -----
HELIUM.....	0.27 -----	0.33 -----	0.51 -----
HEATING VALUE*.....	967 -----	1341 -----	1175 -----
SPECIFIC GRAVITY.....	0.586	0.849	0.782

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

	INDEX SAMPLE 19494	INDEX SAMPLE 19496	INDEX SAMPLE 19603
STATE.....	TEXAS	TEXAS	WYOMING
COUNTY.....	MOORE	MOORE	CARBON
FIELD.....	OCHILTREE COUNTY AREA	SHERMAN CO., TX HUGOTON	MADDEM, BLK BASIN
LOCATION.....	OCHILTREE 20" WITH 12" RUNS	20-22" INLETS	16" WIND RIVER
OWNER.....	MAXUS EXPLORATION CO.	MAXUS EXPLORATION CO.	COLORADO INTERSTATE GAS CO.
SAMPLED.....	92/12/02	92/12/02	93/05/19
FORMATION.....	NOT GIVEN	PERM-CHASE GROUP	NOT GIVEN
GEOLOGIC PROVINCE CODE...	440	440	535
DEPTH, FEET.....	NOT GIVEN	NOT GIVEN	NOT GIVEN
PRESSURE, PSIG.....	278	242	840
FLOW, MCFD.....	112000	25000	112376
COMPONENT, MOLE PCT			
METHANE.....	85.3	72.6	93.9
ETHANE.....	6.3	6.3	2.1
PROPANE.....	3.5	4.0	0.3
N-BUTANE.....	1.5	1.5	0.2
ISOBUTANE.....	0.0	0.0	0.0
N-PENTANE.....	0.7	0.4	0.0
ISOPENTANE.....	TRACE	0.5	TRACE
CYCLOPENTANE.....	0.2	0.2	0.0
HEXANES PLUS.....	0.4	0.0	0.1
NITROGEN.....	1.4	13.9	1.0
OXYGEN.....	0.0	0.1	0.0
ARGON.....	TRACE	0.1	0.0
HYDROGEN.....	TRACE	TRACE	TRACE
HYDROGEN SULFIDE.....	0.0	0.0	0.0
CARBON DIOXIDE.....	0.6	0.0	2.4
HELIUM.....	0.08	0.67	0.02
HEATING VALUE*	1179	1042	1011
SPECIFIC GRAVITY.....	0.683	0.722	0.601

\* CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

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**13. ABSTRACT** *(Maximum 200 words)*

This publication contains analyses and related source data for 167 natural gas samples from 17 states. Of the total samples, 89 were collected during calendar years 1996-97. The remainder were collected earlier, but releases granting permission to publish were received at a later date. None of the analyses have been previously published in annual reports. All samples were obtained and analyzed as part of the U.S. Department of the Interior-Bureau of Land Management investigations of the occurrences of helium in natural gases of countries with free-market economies. This survey has been conducted since 1917. The analyses published herein were made by mass spectrometer and chromatograph.

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