Technical Note 418



Analyses of Natural Gases, 2002–2004

By B. D. Gage and D.L. Driskill December 2005

U.S. Department of the Interior

Bureau of Land Management









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By B.D. Gage Petroleum Engineer Bureau of Land Management Amarillo Field Office Amarillo, Texas

D.L. Driskill Geologist Bureau of Land Management Amarillo Field Office Amarillo, Texas



United States Department of the Interior Bureau of Land Management



Contents

	Page
Abstract	1
Introduction	3
Tables	5
Geologic Provinces of the United States	5
Figure 1 - Geologic Provinces of the United States	12
Table 1 - Samples from Gas and Oil Wells in the United States	13
Table 2 - Samples from Natural Gas Pipelines in the United States	229
Previous Publications in the Helium Survey Series	241

Abstract

Technical Note 418 contains analyses and related source data for 451 natural gas samples from 15 States. Of the total samples, 381 were collected during calendar years 2002 through 2004. The analyses were done using gas chromatography. None of the analyses have been published previously in other analyses reports. All samples were obtained and analyzed as

part of the United States Department of the Interior's Bureau of Land Management investigations of the occurrences of helium in natural gases of countries with freemarket economies. The results of these investigations are published periodically to make the information available to members of the helium and petroleum industries and to the general public.

Introduction

Bureau of Land Management Technical Note 418, Analyses of Natural Gases, 2002–2004, contains analyses and related source data for 451 natural gas samples from 15 States. Of the total samples, 381 were collected during calendar years 2002 through 2004. The remaining 70 were collected earlier, but releases granting permission to publish them were received at a later date. None of these analyses have been published previously in other analyses reports.

The analyses were done using gas chromatography. 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 helium survey program has been conducted since 1917. The results are published periodically to make the information available to members of the helium and petroleum industries and to the general public.

Forty-three publications have presented the results of 16,369 gas analyses performed through 2001. These publications are referenced at the end of this report in the section "Previous Publications in the Helium Survey Series."

The first three bulletins $(1-3)^1$ contain analyses and related source data on 5,218 gas samples collected from 1917 through 1960. These bulletins have been supplemented

periodically by information circulars and technical notes (4–17, 19–24, 26–30, 32–36, 38–43) containing 11,151 analyses of samples collected since 1960.

In 1976, a compilation of the analyses made prior to 1975 was prepared by the United States Bureau of Mines (USBM) and published by the National Technical Information Service of the United States 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 USBM. 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 gas and oil wells and natural gas pipelines in 40 States and 24 foreign countries (31). In 1991, a compilation of analyses was completed as a supplement to the 1987 publication and contains all analyses published from 1986 through 1990. The 1991 publication

¹The numbers in parentheses refer to items in the list of previous publications at the end of this report.

contains 920 samples from gas and oil wells and natural gas pipelines in 26 States and 2 foreign countries (37).

In addition to appearing in the publications, all analyses and related information published through 2001 are available on CD-ROM from the National Technical Information Service (NTIS) in Springfield, Virginia (1-800-553-NTIS). Orders should refer to Bureau of Land Management CD-ROM PB2004-500040. The update to this CD-ROM, which will include the 2002–2004 analyses, should be available

for purchase around the time this report is published.

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

Tables

Tables 1 and 2—the main focus of this technical note—include the results of analyses and related source data from the gas samples. This information is divided into two groups. Table 1 contains information on samples from gas and oil wells in the United States. Table 2 contains information on samples from natural gas pipelines in the United States. The following chart

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

Source	Number of Samples	Table(s)	Source	Number of Samples	Table(s)
Alabama	1	1	North Dakota	1	1
Arkansas	1	1	Oklahoma	24	1
California	13	1	Pennsylvania	6	1
Colorado	122	1,2	Texas	14	1
Kansas	116	1	Utah	60	1
Louisiana	2	1	West Virginia	5	1
Mississippi	3	1	Wyoming	31	1
New Mexico	52	1,2			

Geologic Provinces of the United States

Tables 1 and 2 also 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. The provinces and their associated codes are provided in the list that follows and are also illustrated in Figure 1.² They are

delineated by political boundaries for convenience and for accommodation of the data processing equipment. Because not all of the provinces shown are gas-producing areas, many of the codes are not used in this publication. In addition, 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.

²The list and Figure 1 are taken from the article cited as: Meyer, R.F. 1970. Geologic provinces code map for computer use: American Association of Petroleum Geologists Bulletin, v. 54, n. 7, p.1301-1305.

Analyses of Natural Gases, 2002-2004 Technical Note 418

Code	Province
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
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

Analyses of Natural Gases, 2002–2004 Technical Note 418

Code	Province
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
615	Snake River Basin
620	Southern Oregon Basin
625	Great Basin Province

Analyses of Natural Gases, 2002-2004 Technical Note 418

Code	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

Analyses of Natural Gases, 2002–2004 Technical Note 418

Code	Province
880	Holitna Basin
885	Arctic Foothills Province
890	Arctic Slope Basin
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 off shore-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

Analyses of Natural Gases, 2002-2004 Technical Note 418

Code	Province
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
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

Analyses of Natural Gases, 2002–2004 Technical Note 418

Code	Province
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

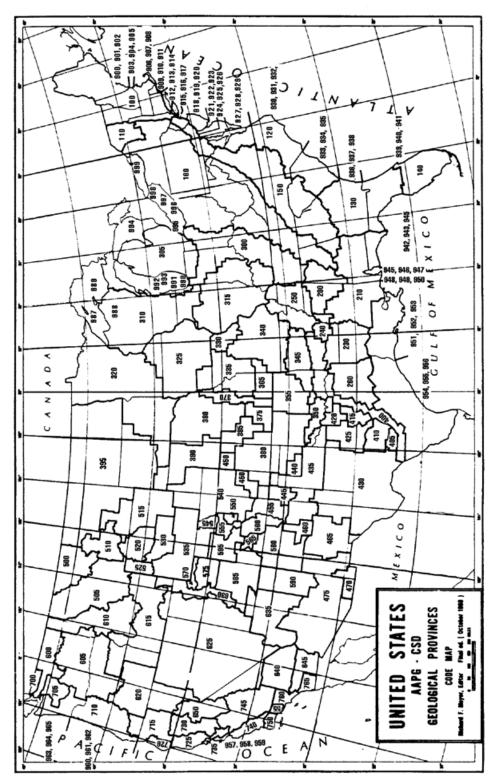


Figure 1. Geologic Provinces of the United States.

Table 1

Samples from Gas and Oil Wells in the United States

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

SAMPLE	21330	COMPONENT, MOLE PCT	
STATE	ALABAMA_	METHANE	98.0
	TUSCALOOSA	ETHANE	TRACE
		PROPANE	0.0
	CEDAR COVE COAL DEGAS	N-BUTANE	0.0
	GSPC-02-22-08-08-12-2873	ISOBUTANE	0.0
	0112524212	N-PENTANE	0.0
	SEC 8, T22S, R8W	ISOPENTANE	0.0
OWNER	ENERGEN RESOURCES CORP.	CYCLOPENTANE	
COMPLETED	021216	HEXANES PLUS	0.0
SAMPLED	040614	NITROGEN	1.7
FORMATION	PENN-POTTSVILLE COAL	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	200	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2863	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.2
,	220	HELIUM	0.01
OI EIVT EOVV, WIOI D	220	HEATING VALUE*	993
		SPECIFIC GRAVITY	0.563
SAMPLE	20920	COMPONENT, MOLE PCT	
CTATE	ADKANCAC	METHANE	97.8
	ARKANSAS	ETHANE	4.4
COUNTY		LIII/NIL	1.4
	SEBASTIAN	PROPANE	
	BOONEVILLE		0.1
		PROPANE	0.1 0.0
WELL NAME	BOONEVILLE	PROPANEN-BUTANE	0.1 0.0 0.0
WELL NAME	BOONEVILLE STINEBUCK WILLIAMS NO. 1	PROPANEN-BUTANEISOBUTANE	0.1 0.0 0.0 0.0
WELL NAMEAPI	BOONEVILLE STINEBUCK WILLIAMS NO. 1. 0313110872	PROPANEN-BUTANEISOBUTANEN-PENTANE	0.1 0.0 0.0 0.0 0.0
WELL NAMEAPI	BOONEVILLE STINEBUCK WILLIAMS NO. 1 0313110872 SEC. 13, T6N, R29W	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.1 0.0 0.0 0.0 0.0
WELL NAME API LOCATION OWNER COMPLETED	BOONEVILLE STINEBUCK WILLIAMS NO. 1. 0313110872 SEC. 13, T6N, R29W. HOUSTON EXPLORATION CO.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.1 0.0 0.0 0.0 0.0 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	BOONEVILLE STINEBUCK WILLIAMS NO. 1 0313110872 SEC. 13, T6N, R29W HOUSTON EXPLORATION CO. 001018	PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.0 0.0 0.0 0.0 0.0
WELL NAME	BOONEVILLE STINEBUCK WILLIAMS NO. 1. 0313110872 SEC. 13, T6N, R29W. HOUSTON EXPLORATION CO. 001018	PROPANE	0.1 0.0 0.0 0.0 0.0 0.0 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	BOONEVILLE STINEBUCK WILLIAMS NO. 1. 0313110872 SEC. 13, T6N, R29W. HOUSTON EXPLORATION CO. 001018 020219 PENN-BASHAM 345	PROPANE	0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0
WELL NAME	BOONEVILLE STINEBUCK WILLIAMS NO. 1. 0313110872 SEC. 13, T6N, R29W HOUSTON EXPLORATION CO. 001018 020219 PENN-BASHAM 345. 2162	PROPANE	0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
WELL NAME	BOONEVILLE STINEBUCK WILLIAMS NO. 1. 0313110872 SEC. 13, T6N, R29W. HOUSTON EXPLORATION CO. 001018 020219 PENN-BASHAM 345. 2162.	PROPANE	0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.4 0.0 0.0 0.2
WELL NAME	BOONEVILLE STINEBUCK WILLIAMS NO. 1 0313110872 SEC. 13, T6N, R29W HOUSTON EXPLORATION CO. 001018 020219 PENN-BASHAM 345 2162	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
WELL NAMEAPI	BOONEVILLE STINEBUCK WILLIAMS NO. 1 0313110872 SEC. 13, T6N, R29W HOUSTON EXPLORATION CO. 001018 020219 PENN-BASHAM 345 2162	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE*** CARBON DIOXIDE	0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0

^{*} 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

SAMPLE	21142	COMPONENT, MOLE PCT	
STATE	CALIEODNIA	METHANE	90.5
		ETHANE	0.2
COUNTY		PROPANE	0.0
FIELD		N-BUTANE	0.0
WELL NAME		ISOBUTANE	0.0
API	0402120734	N-PENTANE	0.0
LOCATION	SEC. 3, T18N, R1W	ISOPENTANE	0.0
OWNER	ROYALE ENERGY, INC.	CYCLOPENTANE	
COMPLETED	000615	HEXANES PLUS	0.0
SAMPLED	030418	NITROGEN	9.3
FORMATION	CRET-FORBES	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	730	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	6106	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	TRACE
,		HELIUM	TRACE
OPEN FLOW, MCFD		HEATING VALUE*	919
		SPECIFIC GRAVITY	0.593
SAMPLE	21141	COMPONENT, MOLE PCT	
CTATE	CALIFORNIA	METHANE	76.5
STATE		ETHANE	0.0
COUNTY		PROPANE	0.0
FIELD		N-BUTANE	0.0
WELL NAME		ISOBUTANE	0.0
API	0402120815	N-PENTANE	0.0
LOCATION	SEC. 3, T18N, R1W	ISOPENTANE	
OWNER	•		0.0
	ROYALE ENERGY, INC	ISOPENTANE	0.0
OWNER	ROYALE ENERGY, INC. 021201	ISOPENTANE	0.0
OWNER COMPLETED SAMPLED	ROYALE ENERGY, INC	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.0 0.0 23.3
OWNER	ROYALE ENERGY, INC. 021201 030418 CRET-KIONE	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.0 0.0 23.3 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	021201 030418 CRET-KIONE	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.0 0.0 23.3 0.0 0.1
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	ROYALE ENERGY, INC	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.0 0.0 23.3 0.0 0.1
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	2760	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.0 0.0 23.3 0.0 0.1 0.0
OWNER	2760.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.0 0.0 23.3 0.0 0.1 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	2760.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 23.3 0.0 0.1 0.0 0.0 0.1

^{*} 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

SAMPLE	21386	COMPONENT, MOLE PCT	
CTATE	CALIFORNIA	METHANE	86.6
		ETHANE	0.3
	MADERA	PROPANE	0.1
	ASH SLOUGH	N-BUTANE	TRACE
WELL NAME	RODUNER NO. 1-32	ISOBUTANE	TRACE
API	0403920078	N-PENTANE	TRACE
LOCATION	SEC 32, T10S, R14E	ISOPENTANE	TRACE
OWNER	VERN JONES OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	950818	HEXANES PLUS	TRACE
SAMPLED	040800	NITROGEN	12.9
FORMATION	CRET-BLEWETT	OXYGEN	0.0
	745.	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
, , ,	5594	HYDROGEN SULFIDE**	0.0
	2400	CARBON DIOXIDE	0.1
•		HELIUM	0.01
OPEN FLOW, MICFD	200	HEATING VALUE*	886
		SPECIFIC GRAVITY	0.611
SAMPLE	21219	COMPONENT, MOLE PCT	
07475	OAL IEODANA	METHANE	83.7
	CALIFORNIA_		
		ETHANE	1.1
	KERN	ETHANE PROPANE	
	KERN BUENA VISTA		0.3
FIELD		PROPANE	0.3 0.1
FIELD	BUENA VISTA	PROPANEN-BUTANE	0.3 0.1 0.1
FIELD WELL NAMEAPI	BUENA VISTA 954-35B	PROPANEN-BUTANEISOBUTANE	0.3 0.1 0.1 TRACE
FIELD	BUENA VISTA 954-35B 0403018688	PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.3 0.1 0.1 TRACE
FIELD WELL NAME API LOCATION OWNER	BUENA VISTA 954-35B 0403018688 SEC. 35, T31S, R23E	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.3 0.1 0.1 TRACE TRACE
FIELD	BUENA VISTA 954-35B 0403018688 SEC. 35, T31S, R23E OCCIDENTAL OF ELK HILLS, INC.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.3 0.1 0.1 TRACE TRACE
FIELD	BUENA VISTA. 954-35B. 0403018688 SEC. 35, T31S, R23E. OCCIDENTAL OF ELK HILLS, INC. 020400	PROPANE	0.3 0.1 0.1 TRACE TRACE 0.1
FIELD	BUENA VISTA. 954-35B. 0403018688 SEC. 35, T31S, R23E. OCCIDENTAL OF ELK HILLS, INC. 020400. 030716. MIOC-PHACOIDES	PROPANE	0.3 0.1 0.1 TRACE TRACE 0.1 8.9
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE .	BUENA VISTA. 954-35B. 0403018688 SEC. 35, T31S, R23E. OCCIDENTAL OF ELK HILLS, INC. 020400 030716. MIOC-PHACOIDES 745.	PROPANE	0.3
FIELD	BUENA VISTA 954-35B 0403018688 SEC. 35, T31S, R23E OCCIDENTAL OF ELK HILLS, INC. 020400 030716 MIOC-PHACOIDES 745	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.3
FIELD	BUENA VISTA. 954-35B. 0403018688 SEC. 35, T31S, R23E. OCCIDENTAL OF ELK HILLS, INC. 020400. 030716. MIOC-PHACOIDES 745.	PROPANE	0.3 0.1 0.1 TRACE TRACE 0.1 8.9 0.0 TRACE TRACE 0.0 0.0
WELL NAME	BUENA VISTA 954-35B. 0403018688 SEC. 35, T31S, R23E. OCCIDENTAL OF ELK HILLS, INC. 020400 030716. MIOC-PHACOIDES 745. 17722 11700.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE***	0.3 0.1 0.1 TRACE TRACE 0.1 8.9 0.0 TRACE TRACE 1RACE 5.7
WELL NAME	BUENA VISTA. 954-35B. 0403018688 SEC. 35, T31S, R23E. OCCIDENTAL OF ELK HILLS, INC. 020400. 030716. MIOC-PHACOIDES 745.	PROPANE	0.3

^{*} 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

SAMPLE	21220	COMPONENT, MOLE PCT	
etate	CALIFORNIA	METHANE	85.1
		ETHANE	1.1
	KERN	PROPANE	0.3
	BUENA VISTA	N-BUTANE	0.1
	954-35B	ISOBUTANE	0.1
	0403018688	N-PENTANE	TRACE
	SEC_35, T31S, R23E	ISOPENTANE	TRACE
OWNER	OCCIDENTAL OF ELK HILLS, INC.	CYCLOPENTANE	
COMPLETED	020400	HEXANES PLUS	0.1
SAMPLED	030716	NITROGEN	7.3
FORMATION	MIOC-PHACOIDES	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	745	ARGON	
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
MEASURED DEPTH	17722	HYDROGEN SULFIDE**	0.0
	11700	CARBON DIOXIDE	5.8
,	14000	HELIUM	
OI EITI EOTT, MOI B		HEATING VALUE*	901
		SPECIFIC GRAVITY	
SAMPLE	21146		
		SPECIFIC GRAVITY	0.655
STATE	CALIFORNIA	SPECIFIC GRAVITY	78.2
STATE	CALIFORNIA_ KERN	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE	78.2 7.8 4.9
STATE COUNTY	CALIFORNIA KERN FLK HILLS	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	78.2 7.8 4.9
STATE COUNTY FIELD WELL NAME	CALIFORNIA KERN ELK HILLS. 387H-34S-RD3.	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	78.2 78.2 7.8 4.9 1.7 0.8
STATE COUNTY FIELD WELL NAME	CALIFORNIA. KERN. FLK HILLS. 387H-34S-RD3. 0402981953.	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	78.2 7.8 4.9 1.7 0.8
STATE COUNTY FIELD WELL NAME API LOCATION	CALIFORNIA. KERN FLK HILLS. 387H-34S-RD3. 0402981953 SEC. 34, T30S, R24E	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	78.2 7.8 4.9 1.7 0.8 0.5
STATE	CALIFORNIA KERN FLK HILLS 387H-34S-RD3 0402981953 SEC. 34, T30S, R24E OCCIDENTAL OF FLK HILLS, INC	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	78.2 78.2 7.8 4.9 1.7 0.8 0.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	CALIFORNIA. KERN FLK HILLS. 387H-34S-RD3. 0402981953 SEC. 34, T30S, R24E. OCCIDENTAL OF FLK HILLS, INC. 020823	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	78.2 7.8 4.9 1.7 0.8 0.5 0.5
STATE	CALIFORNIA. KERN FLK HILLS. 387H-34S-RD3. 0402981953 SEC. 34, T30S, R24E OCCIDENTAL OF ELK HILLS, INC. 020823 030425	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	78.2 7.8 4.9 1.7 0.8 0.5 0.5 1.1 3.4
STATE	CALIFORNIA. KERN FLK HILLS. 387H-34S-RD3. 0402981953 SEC. 34, T30S, R24E. OCCIDENTAL OF FLK HILLS, INC. 020823	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	78.2 7.8 4.9 1.7 0.8 0.5 0.5 1.1 3.4 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	CALIFORNIA. KERN FLK HILLS. 387H-34S-RD3. 0402981953 SEC. 34, T30S, R24E OCCIDENTAL OF ELK HILLS, INC. 020823 030425	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	78.2 7.8 4.9 1.7 0.8 0.5 0.5 1.1 3.4 0.0 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	CALIFORNIA KERN FLK HILLS 387H-34S-RD3 0402981953 SEC. 34, T30S, R24E OCCIDENTAL OF FLK HILLS, INC 020823 030425 MIOC-STEVENS 745	SPECIFIC GRAVITY	78.2 7.8 4.9 1.7 0.8 0.5 0.5 1.1 3.4 0.0 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	CALIFORNIA KERN ELK HILLS 387H-34S-RD3 0402981953 SEC. 34, T30S, R24E OCCIDENTAL OF ELK HILLS, INC 020823 030425 MIOC-STEVENS 745. 6269	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.655. 78.2 7.8 4.9 1.7 0.8 0.5 0.5 1.1 3.4 0.0 0.1 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CALIFORNIA KERN ELK HILLS 387H-34S-RD3 0402981953 SEC. 34, T30S, R24E OCCIDENTAL OF ELK HILLS, INC 020823 030425 MIOC-STEVENS 745 6269	SPECIFIC GRAVITY	0.655. 78.2 7.8 4.9 1.7 0.8 0.5 1.1 3.4 0.0 0.1 TRACE 0.0 0.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	CALIFORNIA KERN FLK HILLS 387H-34S-RD3 0402981953 SEC. 34, T30S, R24E OCCIDENTAL OF FLK HILLS, INC. 020823 030425 MIOC-STEVENS 745 6269 8325	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	78.2 7.8 4.9 1.7 0.8 0.5 0.5 1.1 3.4 0.0 0.1 TRACE 0.0 0.9 0.07

^{*} 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

SAMPLE	21331	COMPONENT, MOLE PCT	
STATE	CALIFORNIA	METHANE	80.2
	KERN	ETHANE	8.5
		PROPANE	4.4
	ELK HILLS	N-BUTANE	1.1
	24Z NO. 355	ISOBUTANE	0.5
API	0402950776	N-PENTANE	0.2
	SEC. 24, T30S, R22E	ISOPENTANE	0.3
OWNER	OCCIDENTAL OF ELK HILLS, INC.	CYCLOPENTANE	
COMPLETED	010000	HEXANES PLUS	0.3
SAMPLED	040624	NITROGEN	2.3
FORMATION	MIOC-STEVENS (24Z SAND)	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	<u> </u>	ARGON	0.1
TRUE VERTICAL DEPTH (FT	5025	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
	G620	CARBON DIOXIDE	2.1
,	7300	HELIUM	0.04
OPEN FLOW, MICFD	7300	HEATING VALUE*	1,159
		SPECIFIC GRAVITY	0.707
SAMPLE	21396	COMPONENT, MOLE PCT	
			84.9
STATE	CALIFORNIA	COMPONENT, MOLE PCT	
STATE	CALIFORNIA_ KERN_	COMPONENT, MOLE PCT METHANE ETHANE	0.9
STATE COUNTY FIELD	CALIFORNIA KERN LOST HILLS	COMPONENT, MOLE PCT METHANE	0.9 0.2
STATE COUNTY FIELD	CALIFORNIA_ KERN_	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	0.9 0.2 0.1
STATE	CALIFORNIA KERN LOST HILLS	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	0.9 0.2 0.1
STATE COUNTY FIELD WELL NAME	CALIFORNIA KERN LOST HILLS BANKLINE, ET AL, BK7135W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	0.9 0.2 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION	CALIFORNIA KERN LOST HILLS BANKLINE, ET AL, BK7135W 0403022324	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.9 0.2 0.1 0.1 TRACE
STATE	CALIFORNIA KERN LOST HILLS BANKLINE, ET AL, BK7135W 0403022324 SEC 19 T26S R21E	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.9 0.2 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	CALIFORNIA. KERN. LOST HILLS. BANKLINE, ET AL, BK7135W. 0403022324 SEC 19 T26S R21E. AERA ENERGY, LLC.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.9 0.2 0.1 0.1 TRACE TRACE
STATE	CALIFORNIA KERN LOST HILLS BANKLINE, ET AL, BK7135W 0403022324 SEC 19 T26S R21E AERA ENERGY, LLC. 030531	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.9 0.2 0.1 0.1 TRACE TRACE
STATE	CALIFORNIA KERN LOST HILLS BANKLINE, ET AL, BK7135W 0403022324 SEC 19 T26S, R21E AERA ENERGY, LLC 030531	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN	0.9 0.2 0.1 0.1 TRACE TRACE TRACE 2.8
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	CALIFORNIA KERN LOST HILLS BANKLINE, ET AL, BK7135W 0403022324 SFC 19 T26S R21E AERA ENERGY, LLC 030531 041102 MIOC-WILLIAMS 745	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.9 0.2 0.1 0.1 TRACE TRACE TRACE 2.8 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	CALIFORNIA KERN LOST HILLS BANKLINE, ET AL, BK7135W 0403022324 SEC 19 T26S, R21E AERA ENERGY, LLC 030531 041102 MIOC-WILLIAMS = 745	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.9 0.2 0.1 0.1 TRACE TRACE 2.8 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CALIFORNIA KERN LOST HILLS BANKLINE, ET AL, BK7135W 0403022324 SEC 19 T26S R21E AERA ENERGY, LLC 030531 041102 MIOC-WILLIAMS T45 2090 4835	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.9 0.2 0.1 TRACE TRACE 2.8 0.0 TRACE 0.0
STATE	CALIFORNIA KERN LOST HILLS BANKLINE, ET AL, BK7135W 0403022324 SEC 19 T26S, R21E AERA ENERGY, LLC 030531 041102 MIOC-WILLIAMS = 745 0 2090 4835	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.9 0.2 0.1 TRACE TRACE TRACE 2.8 0.0 TRACE 0.0
STATE	CALIFORNIA KERN LOST HILLS BANKLINE, ET AL, BK7135W 0403022324 SEC 19 T26S R21E AERA ENERGY, LLC 030531 041102 MIOC-WILLIAMS T45 2090 4835	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE*** CARBON DIOXIDE	0.9 0.2 0.1 0.1 TRACE TRACE TRACE 0.0 TRACE 0.0 0.0 0.00

^{*} 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

SAMPLE	21302	COMPONENT, MOLE PCT	
STATE	CALIFORNIA	METHANE	89.4
	SOLANO	ETHANE	1.5
		PROPANE	0.5
	RIO VISTA	N-BUTANE	0.1
	RIO VISTA GAS UNIT NO. 244	ISOBUTANE	0.1
	0409520049	N-PENTANE	TRACE
	SEC. 2, T3N R2E.	ISOPENTANE	TRACE
OWNER	CALPINE NATURAL GAS LP	CYCLOPENTANE	
COMPLETED	020718	HEXANES PLUS	0.2
SAMPLED	040414	NITROGEN	7.9
FORMATION	EOCE-CAPAY	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	730	ARGON	
TRUE VERTICAL DEPTH (FT)	5520	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	510.	CARBON DIOXIDE	0.2
,	70	HELIUM	0.01
OI EITT EOTT, MOI D	<u></u>	HEATING VALUE*	963
		SPECIFIC GRAVITY	0.61
SAMPLE	21303	COMPONENT, MOLE PCT	
CTATE	CALIFORNIA	METHANE	91.5
	CALIFORNIA	ETHANE	2.8
	SACRAMENTO	PROPANE	
-	RIO VISTA	N-BUTANE	0.2
WELL NAME	RIO VISTA GAS UNIT NO. 237	ISOBUTANE	0.2
API	0406720367	N-PENTANE	TRACE
LOCATION	OFO OO TAN DOF		
	SEC. 30, 14N, R3E	ISOPENTANE	0.1
	CALPINE NATURAL GAS LP	ISOPENTANECYCLOPENTANE	
OWNER	***************************************		
OWNER	CALPINE NATURAL GAS LP	CYCLOPENTANE	0.1
OWNERCOMPLETEDSAMPLED	CALPINE NATURAL GAS LP 020213	CYCLOPENTANEHEXANES PLUS	0_1 3_3
OWNER COMPLETED SAMPLED FORMATION	CALPINE NATURAL GAS LP. 020213 040414	CYCLOPENTANEHEXANES PLUSNITROGEN	0.1 3.3 0.0
OWNER COMPLETED SAMPLED FORMATION	CALPINE NATURAL GAS LP. 020213 040414 EOCE-DOMENGINE 730	CYCLOPENTANEHEXANES PLUSNITROGENOXYGEN	0.1 3.3 0.0 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	CALPINE NATURAL GAS LP. 020213 040414 EOCE-DOMENGINE 730 4385	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 3.3 0.0 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CALPINE NATURAL GAS LP. 020213 040414 EOCE-DOMENGINE 730 4385	CYCLOPENTANE	0.1 3.3 0.0 TRACE 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	CALPINE NATURAL GAS LP. 020213 040414 EOCE-DOMENGINE 730 4385	CYCLOPENTANE	0.1 3.3 0.0 TRACE 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CALPINE NATURAL GAS LP. 020213 040414 EOCE-DOMENGINE 730 4385	CYCLOPENTANE	

^{*} 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

SAMPLE	21309	COMPONENT, MOLE PCT	
STATE	CALIFORNIA	METHANE	94.5
		ETHANE	0.2
	SUTTER	PROPANE	0.0
	SUTTER BUTTES.	N-BUTANE	0.0
	COMMUNITY 1 29-2	ISOBUTANE	0.0
API	0410120575	N-PENTANE	0.0
	SEC 29, T16N, R1E	ISOPENTANE	0.0
OWNER	TRI UNION DEVELOPMENT CORP.	CYCLOPENTANE	
COMPLETED	020228	HEXANES PLUS	0.0
SAMPLED	040507	NITROGEN	5.2
FORMATION	CRET-FORBES	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	730.	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	4508	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	3400.	CARBON DIOXIDE	0.1
,	130	HELIUM	TRACE
OI LIVI LOVV, IVIOI D	100	HEATING VALUE*	961
		SPECIFIC GRAVITY	0.577
SAMPLE	21281	COMPONENT, MOLE PCT	
STATE	CALIFORNIA	METHANE	84.2
		ETHANE	TRACE
	YOLO	PROPANE	0.0
	TODHUNTERS LAKE	N-BUTANE	TRACE
	IOC.NO. 18.	ISOBUTANE	0.0
	0411321176	N-PENTANE	0.0
LOCATION	SEC. 33, T9N, R3E	ISOPENTANE	0.0
OWNER	EQUITY OIL CO.	CYCLOPENTANE	
COMPLETED	030320	HEXANES PLUS	0.1
SAMPLED	030922	NITROGEN	15.4
FORMATION	CRET-MOKELUMNE RIVER	OXYGEN	0.0
		ARGON	0.1
GEOLOGIC PROVINCE CODE	730.		
		HYDROGEN	0.0
TRUE VERTICAL DEPTH (FT)		HYDROGEN HYDROGEN SULFIDE**	
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	3394	HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	3394 G 1240	HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.0 0.1 0.10
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	3394	HYDROGEN SULFIDE**	0.0 0.1 0.10 857

^{*} 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

SAMPLE	21280	COMPONENT, MOLE PCT	
STATE	CALIFORNIA	METHANE	81.2
	KERN	ETHANE	5.0
		PROPANE	2.7
	WHEELER RIDGE	N-BUTANE	0.9
	KCL NO. D 74-29	ISOBUTANE	0.5
API	0402920804	N-PENTANE	0.2
	SEC. 29, T11N, R20W	ISOPENTANE	0.3
OWNER	VINTAGE PETROLEUM, INC.	CYCLOPENTANE	
COMPLETED	990101	HEXANES PLUS	0.6
SAMPLED	030926	NITROGEN	7.8
FORMATION	MIOC-MIOCENE, OLIG-OLIGOCENE	OXYGEN	0.5
GEOLOGIC PROVINCE CODE		ARGON	0.0
TRUE VERTICAL DEPTH (FT)	7345	HYDROGEN	0.0
, ,		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.2
,		HELIUM	0.14
OPEN FLOW, MICFD		HEATING VALUE*	1,073
		SPECIFIC GRAVITY	0.685
SAMPLE	21365	COMPONENT, MOLE PCT	
07475		METHANIE	
SIAIE		METHANE	93.9
	COLORADO	ETHANE	
COUNTY	SAN MIGUEL		1.0
COUNTY		ETHANE	1.0 0.2
COUNTY	SAN MIGUEL	ETHANE	1.0 0.2 0.1
COUNTY FIELD WELL NAME	SAN MIGUEL ANDY'S MESA	PROPANEN-BUTANE	1.0 0.2 0.1 0.1
COUNTY	SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 6.	ETHANE PROPANE N-BUTANE ISOBUTANE	1.0 0.2 0.1 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION	SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 6 0511306005	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	1.0 0.2 0.1 0.1 TRACE 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER	SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 6. 0511306005 SEC 21, T44N, R16W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.0 0.2 0.1 0.1 TRACE 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 6. 0511306005 SEC 21, T44N, R16W. TOM BROWN, INC.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE	1.0 0.2 0.1 0.1 TRACE 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 6 0511306005 SEC 21, T44N, R16W TOM BROWN, INC. 680325	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.0 0.2 0.1 0.1 TRACE 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 6. 0511306005 SEC 21, T44N, R16W TOM BROWN, INC. 680325	ETHANE	1.0 0.2 0.1 0.1 TRACE 0.1 0.1 4.4
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 6 0511306005 SEC 21, T44N, R16W TOM BROWN, INC. 680325 040825 PERM-CUTLER 585	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.0 0.2 0.1 0.1 TRACE 0.1 0.1 4.4 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT)	SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 6 0511306005 SEC 21, T44N, R16W TOM BROWN, INC. 680325 040825 PERM-CUTLER 585	ETHANE	1.0 0.2 0.1 TRACE 0.1 0.1 4.4 0.0 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 6. 0511306005 SEC 21, T44N, R16W TOM BROWN, INC. 680325 040825 PERM-CUTLER 585.	ETHANE	1.0 0.2 0.1 TRACE 0.1 0.1 4.4 0.0 TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG .	SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 6 0511306005 SEC 21, T44N, R16W TOM BROWN, INC. 680325 040825 PERM-CUTLER 585 6514	ETHANE	1.0 0.2 0.1 0.1 TRACE 0.1 0.1 4.4 0.0 TRACE TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 6 0511306005 SEC 21, T44N, R16W TOM BROWN, INC. 680325 040825 PERM-CUTLER 585 6514	ETHANE	1.0 0.2 0.1 TRACE 0.1 0.1 4.4 0.0 TRACE TRACE 0.0 TRACE

^{*} 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

SAMPLE	20830	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	94.4
		ETHANE	1.0
	SAN MIGUEL	PROPANE	0.2
	ANDY'S MESA	N-BUTANE	0.1
	ANDY'S MESA FEDERAL 13	ISOBUTANE	0.1
API	0511306070	N-PENTANE	TRACE
LOCATION	SEC. 20, T44N, R16W	ISOPENTANE	TRACE
OWNER	TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED	001211	HEXANES PLUS	0.1
SAMPLED	010829	NITROGEN	4.1
FORMATION	PERM-CUTLER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	8792	HYDROGEN	TRACE
		HYDROGEN SULFIDE**	0.0
	1575	CARBON DIOXIDE	TRACE
,	1527	HELIUM	0.09
OPEN FLOW, MOFD	1321	HEATING VALUE*	987
		SPECIFIC GRAVITY	0.582
SAMPLE	21354	COMPONENT, MOLE PCT	
07475	001.00400	METHANE	91.5
	COLORADO	ETHANE	
	SAN MIGUEL	PROPANE	
FIELD	ANDY'S MESA	N-BUTANE	0.2
WELL NAME			
	ANDY'S MESA FEDERAL 11-E34.	ISOBUTANE	
API	0511306027	ISOBUTANE	0.1
			0.1 0.1
LOCATION	0511306027	N-PENTANE	0.1 0.1 0.1
LOCATION	0511306027 SEC 34, T44N, R16W	N-PENTANE	0.1 0.1 0.1
LOCATIONOWNERCOMPLETED	0511306027 SEC 34, T44N, R16W TOM BROWN, INC.	N-PENTANEISOPENTANECYCLOPENTANE	0.1 0.1 0.1 0.2
LOCATION	0511306027 SEC 34, T44N, R16W TOM BROWN, INC. 780928	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.1 0.1 0.2 5.1
LOCATION OWNER COMPLETED SAMPLED FORMATION	0511306027 SEC 34, T44N, R16W TOM BROWN, INC. 780928 040823. PERM-CUTLER	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.1 0.1 0.2 5.1 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	0511306027 SEC 34, T44N, R16W. TOM BROWN, INC. 780928 040823 PERM-CUTLER. 585	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.1 0.1 0.2 0.2 5.1 0.0
LOCATION	0511306027 SEC 34, T44N, R16W TOM BROWN, INC. 780928 040823 PERM-CUTLER. 585. 4155	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGENARGON	0.1 0.1 0.1 0.2 0.2 5.1 0.0 TRACE
LOCATION	0511306027 SEC 34, T44N, R16W TOM BROWN, INC. 780928 040823 PERM-CUTLER 585 4155	N-PENTANE	0.1 0.1 0.1 0.2 5.1 0.0 TRACE TRACE
LOCATION	0511306027 SEC 34, T44N, R16W TOM BROWN, INC 780928 	N-PENTANE	0.1 0.1 0.1 0.2 5.1 0.0 TRACE TRACE 0.0
LOCATION	0511306027 SEC 34, T44N, R16W TOM BROWN, INC. 780928 040823 PERM-CUTLER 585 4155	N-PENTANE	0.1 0.1 0.1 0.2 5.1 0.0 TRACE TRACE 0.0 TRACE

^{*} 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

SAMPLE	21377	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	87.5
	SAN MIGUEL	ETHANE	1.8
		PROPANE	0.6
	ANDY'S MESA	N-BUTANE	0.3
	FOSSIL FEDERAL 1-20	ISOBUTANE	0.2
	0511306101	N-PENTANE	0.1
	SEC 20, T44N, R16W	ISOPENTANE	0.2
OWNER	CABOT OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	031030	HEXANES PLUS	0.4
SAMPLED	040826	NITROGEN	8.7
FORMATION	PERM-CUTLER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	0.1
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.0
,		HELIUM	0.11
OF LINT LOW, INICI D		HEATING VALUE*	979
		SPECIFIC GRAVITY	0.627
SAMPLE	21360	COMPONENT, MOLE PCT	
OTATE	001.00400	METHANE	88.9
	COLORADO	ETHANE	17
COUNTY	SAN MIGUEL		
		PROPANE	
	ANDY'S MESA	PROPANE N-BUTANE	0.3
WELL NAME	ANDY'S MESA ANDY'S MESA FEDERAL 27		0.3 0.1
WELL NAME	ANDY'S MESA	N-BUTANE	0.3 0.1 0.1
WELL NAME	ANDY'S MESA ANDY'S MESA FEDERAL 27	N-BUTANE	0.3 0.1 0.1 0.1
WELL NAMEAPI	ANDY'S MESA ANDY'S MESA FEDERAL 27 0511306102	N-BUTANEISOBUTANEN-PENTANE	0.3 0.1 0.1 0.1 0.1
WELL NAMEAPILOCATION	ANDY'S MESA ANDY'S MESA FEDERAL 27 0511306102 SEC 28, T44N, R16W	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	0.3 0.1 0.1 0.1 0.1
WELL NAME	ANDY'S MESA ANDY'S MESA FEDERAL 27. 0511306102 SEC 28, T44N, R16W. TOM BROWN, INC.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.3 0.1 0.1 0.1 0.1 0.1 0.2
WELL NAME	ANDY'S MESA. ANDY'S MESA FEDERAL 27. 0511306102. SEC 28, T44N, R16W. TOM BROWN, INC. 021117. 040825.	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE	0.3 0.1 0.1 0.1 0.1 0.1 0.2 8.4
WELL NAME	ANDY'S MESA ANDY'S MESA FEDERAL 27. 0511306102 SEC 28, T44N, R16W. TOM BROWN, INC. 021117	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUSNITROGEN	0.3 0.1 0.1 0.1 0.1 0.2 0.2 8.4 0.0
WELL NAME	ANDY'S MESA. ANDY'S MESA FEDERAL 27. 0511306102 SEC 28, T44N, R16W. TOM BROWN, INC. 021117 040825 PERM-CUTLER 585	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.3 0.1 0.1 0.1 0.1 0.1 0.2 0.2 8.4 0.0 TRACE
WELL NAME	ANDY'S MESA. ANDY'S MESA FEDERAL 27. 0511306102 SEC 28, T44N, R16W. TOM BROWN, INC. 021117. 040825. PERM-CUTLER. 585. 6920.	N-BUTANE	0.3 0.1 0.1 0.1 0.1 0.2 0.2 8.4 0.0 TRACE
WELL NAME	ANDY'S MESA. ANDY'S MESA FEDERAL 27. 0511306102 SEC 28, T44N, R16W. TOM BROWN, INC. 021117 040825 PERM-CUTLER 585. 6920.	N-BUTANE	0.3
WELL NAME	ANDY'S MESA. ANDY'S MESA FEDERAL 27. 0511306102 SEC 28, T44N, R16W. TOM BROWN, INC. 021117. 040825. PERM-CUTLER 585. 6920.	N-BUTANE	0.3 0.1 0.1 0.1 0.1 0.1 0.2 8.4 0.0 TRACE TRACE 0.0 0.1
WELL NAME	ANDY'S MESA. ANDY'S MESA FEDERAL 27. 0511306102 SEC 28, T44N, R16W. TOM BROWN, INC. 021117 040825 PERM-CUTLER 585. 6920.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.3 0.1 0.1 0.1 0.1 0.2 8.4 0.0 TRACE TRACE 0.0 0.1

^{*} 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

SAMPLE	20827	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	90.5
	SAN MIGUEL	ETHANE	1.8
		PROPANE	0.4
	ANDY'S MESA	N-BUTANE	0.1
	ANDY'S MESA UNIT FEDERAL 16	ISOBUTANE	0.1
	0511306071	N-PENTANE	0.1
LOCATION	SEC. 28, T44N, R16W	ISOPENTANE	0.1
OWNER	TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED	000717	HEXANES PLUS	0.1
SAMPLED	010829	NITROGEN	6.6
FORMATION	PERM-CUTLER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	0.0
TRUE VERTICAL DEPTH (FT) _	7240	HYDROGEN	TRACE
		HYDROGEN SULFIDE**	0.0
	1252.	CARBON DIOXIDE	TRACE
•	910	HELIUM	0.14
OF LIVE LOW, MOI D	310	HEATING VALUE*	978
		SPECIFIC GRAVITY	0.603
SAMPLE	21363	COMPONENT, MOLE PCT	
07475	001.00400	METHANE	88.0
	COLORADO	ETHANE	1.9
	SAN MIGUEL	PROPANE	0.3
FIELD	ANDY'S MESA.	N-BUTANE	0.1
WELL NAME	ANDY'S MESA FEDERAL 19.	ISOBUTANE	0.1
API	0511306085	N-PENTANE	0.1
LOCATION	SEC 29, T44N, R16W	ISOPENTANE	TRACE
OWNER	TOM BROWN, INC	CYCLOPENTANE	
COMPLETED	020720	HEXANES PLUS	0.2
	020729	TILZV-INLOT LOO	
SAMPLED	040825	NITROGEN	
			9.1
FORMATION	040825	NITROGEN	9.1
FORMATION	040825 PERM-CUTLER 585	NITROGEN	9.1 0.0 TRACE
FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT)	040825 PERM-CUTLER 585 6920	NITROGEN	9.1 0.0 TRACE TRACE
FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	040825 PERM-CUTLER 585. 6920.	NITROGEN OXYGEN ARGON HYDROGEN	9.1 0.0 TRACE TRACE 0.0
FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	040825 PERM-CUTLER 585 6920	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	9.1 0.0 TRACE TRACE 0.0 TRACE
FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	040825 PERM-CUTLER 585 6920	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	9.1 0.0 TRACE TRACE 0.0 TRACE

^{*} 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

SAMPLE	21357	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	88.1
	SAN MIGUEL	ETHANE	1.9
		PROPANE	0.4
	ANDY'S MESA	N-BUTANE	0.1
	ANDY'S MESA FEDERAL 25	ISOBUTANE	0.1
API	0511306097	N-PENTANE	0.1
LOCATION	SEC 28, T44N, R16W	ISOPENTANE	0.1
OWNER	TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED	020816	HEXANES PLUS	0.2
SAMPLED	040823	NITROGEN	8.9
FORMATION	PERM-CUTLER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	
TRUE VERTICAL DEPTH (FT)	5584	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	TRACE
,	3950	HELIUM	0.15
OPEN FLOW, MICFD	3930	HEATING VALUE*	955
		SPECIFIC GRAVITY	0.613
SAMPLE	21356	COMPONENT, MOLE PCT	
CTATE	COLOBADO	METHANE	87.1
	COLORADO	ETHANE	
COUNTY		ETHANE	2.4
		ETHANEPROPANE	
	ANDY'S MESA		0.6
WELL NAME	ANDY'S MESA 33	PROPANE	0.6 0.3
WELL NAMEAPI	ANDY'S MESA ANDY'S MESA 33. 0511306117	PROPANEN-BUTANE	0.6 0.3 0.2
WELL NAME	ANDY'S MESA 33	PROPANEN-BUTANEISOBUTANE	0.6 0.3 0.2 0.1
WELL NAMEAPILOCATION	ANDY'S MESA ANDY'S MESA 33. 0511306117	PROPANEN-BUTANEISOBUTANEN-PENTANE	0.6 0.3 0.2 0.1 0.1
WELL NAME	ANDY'S MESA ANDY'S MESA 33 0511306117 SEC 28, T44N, R16W	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.6 0.3 0.2 0.1 0.1
WELL NAME	ANDY'S MESA. ANDY'S MESA 33. 0511306117 SEC 28, T44N, R16W. TOM BROWN, INC.	PROPANE	0.6 0.3 0.2 0.1 0.1
WELL NAME	ANDY'S MESA. ANDY'S MESA 33. 0511306117 SEC 28, T44N, R16W. TOM BROWN, INC. 030628	PROPANE	0.6 0.3 0.2 0.1 0.1 0.5 8.6
WELL NAME	ANDY'S MESA ANDY'S MESA 33. 0511306117 SEC 28, T44N, R16W. TOM BROWN, INC. 030628 040823.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.6 0.3 0.2 0.1 0.1 0.5 8.6 0.0
WELL NAME	ANDY'S MESA. ANDY'S MESA 33. 0511306117. SEC 28, T44N, R16W. TOM BROWN, INC. 030628. 040823. PERM-CUTLER. 585.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.6 0.3 0.2 0.1 0.1 0.5 8.6 0.0 0.1
WELL NAME	ANDY'S MESA. ANDY'S MESA 33. 0511306117 SEC 28, T44N, R16W. TOM BROWN, INC. 030628 040823. PERM-CUTLER. 585. 7242.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.6 0.3 0.2 0.1 0.1 0.5 8.6 0.0 0.1
WELL NAME	ANDY'S MESA. ANDY'S MESA 33. 0511306117 SEC 28, T44N, R16W. TOM BROWN, INC. 030628 040823. PERM-CUTLER 585. 7242. 8004	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.6 0.3 0.2 0.1 0.1 0.5 8.6 0.0 0.1 0.0
WELL NAME	ANDY'S MESA. ANDY'S MESA 33. 0511306117 SEC 28, T44N, R16W. TOM BROWN, INC. 030628 040823. PERM-CUTLER 585. 7242. 8004	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.6 0.3 0.2 0.1 0.1 0.5 8.6 0.0 0.1 0.0 TRACE
WELL NAME	ANDY'S MESA. ANDY'S MESA 33. 0511306117 SEC 28, T44N, R16W. TOM BROWN, INC. 030628 040823. PERM-CUTLER 585. 7242. 8004	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	0.6 0.3 0.2 0.1 0.1 0.5 8.6 0.0 0.1 0.0 TRACE

^{*} 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

SAMPLE	20826	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	87.2
	SAN MIGUEL	ETHANE	2.2
		PROPANE	0.4
	ANDY'S MESA	N-BUTANE	0.1
	ANDY'S MESA UNIT 1	ISOBUTANE	0.1
	0511305080	N-PENTANE	0.1
LOCATION	SEC. 34, T44N, R16W	ISOPENTANE	0.1
OWNER	TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED	670309	HEXANES PLUS	0.1
SAMPLED	010829	NITROGEN	9.5
FORMATION	PERM-CUTLER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	
TRUE VERTICAL DEPTH (FT)	8442	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE PSIG	1221	CARBON DIOXIDE	TRACE
,	3075	HELIUM	0_18
OI LIVI LOW, MOI D	3073	HEATING VALUE*	951
		SPECIFIC GRAVITY	0.616
SAMPLE	21366	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	87.5
STATE	COLORADO	•	
STATE	COLORADO SAN MIGUEL	METHANE	1.1
STATE COUNTY FIELD	COLORADO SAN MIGUEL ANDY'S MESA	METHANE	1.1 0.2
STATE COUNTY FIELD	COLORADO SAN MIGUEL	METHANE ETHANE PROPANE	1.1 0.2 0.1
STATE COUNTY FIELD WELL NAME API	COLORADO. SAN MIGUEL ANDY'S MESA. ANDY'S MESA FEDERAL 13. 0511306070	METHANE ETHANE PROPANE N-BUTANE	1.1 0.2 0.1 0.1
STATE COUNTY FIELD WELL NAME API	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 13	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	1.1 0.2 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO. SAN MIGUEL ANDY'S MESA. ANDY'S MESA FEDERAL 13. 0511306070	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	1.1 0.2 0.1 0.1 TRACE 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 13. 0511306070 SEC 20, T44N, R16W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.1 0.2 0.1 0.1 TRACE 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 13 0511306070 SEC 20, T44N, R16W TOM BROWN, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.1 0.2 0.1 0.1 TRACE 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 13 0511306070 SEC 20, T44N, R16W TOM BROWN, INC. 001211	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.1 0.2 0.1 0.1 TRACE 0.1 0.2
STATE	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 13 0511306070 SEC 20, T44N, R16W TOM BROWN, INC. 001211	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.1 0.2 0.1 0.1 TRACE 0.1 0.2 10.5
STATE	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 13 0511306070 SEC 20, T44N, R16W TOM BROWN, INC. 001211 040825 PERM-CUTLER 585	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.1 0.2 0.1 0.1 TRACE 0.1 0.2 10.5 0.0 TRACE
STATE	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 13 0511306070 SEC 20, T44N, R16W TOM BROWN, INC 001211 040825 PERM-CUTLER 585.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.1 0.2 0.1 0.1 TRACE 0.1 0.2 10.5 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 13 0511306070 SEC 20, T44N, R16W TOM BROWN, INC. 001211 040825 PERM-CUTLER 585 6372 8887	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	1.1 0.2 0.1 0.1 TRACE 0.1 0.2 10.5 0.0 TRACE
STATE	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 13 0511306070 SEC 20, T44N, R16W TOM BROWN, INC. 001211 040825 PERM-CUTLER 585 6372 8887	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	1.1. 0.2 0.1 0.1 TRACE 0.1 0.2 10.5 0.0 TRACE 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA FEDERAL 13 0511306070 SEC 20, T44N, R16W TOM BROWN, INC. 001211 040825 PERM-CUTLER 585 6372 8887	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	1.1 0.2 0.1 0.1 TRACE 0.1 0.2 10.5 0.0 TRACE 0.0 TRACE

^{*} 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

	SAMPLE	21364	COMPONENT, MOLE PCT	
STATE		COLORADO	METHANE	93.4
		SAN MIGUEL	ETHANE	1.9
			PROPANE	0.5
-		ANDY'S MESA	N-BUTANE	0.2
		ANDY'S MESA FEDERAL 32	ISOBUTANE	0.1
API		0511306112	N-PENTANE	0.1
LOCATION		SEC 29, T44N, R16W	ISOPENTANE	0.1
OWNER		TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED)	031024	HEXANES PLUS	0.3
SAMPLED		040825	NITROGEN	3.2
FORMATION	PERM-	CUTLER, PENN-HONAKER TRAIL	OXYGEN	0.0
GEOLOGIC F	PROVINCE CODE	585	ARGON	0.1
TRUE VERTI	ICAL DEPTH (FT)	5389	HYDROGEN	TRACE
			HYDROGEN SULFIDE**	0.0
			CARBON DIOXIDE	0.1
		6424	HELIUM	0.05
OI LIVI LOV	7, WOI D	UT2-1	HEATING VALUE*	1,023
			SPECIFIC GRAVITY	0.598
	SAMPLE	21367	COMPONENT, MOLE PCT	
CTATE		COLORADO	METHANE	94.0
			ETHANE	1.0
		SAN MIGUEL	PROPANE	0.2
		ANDY'S MESA	N-BUTANE	0.1
		ANDY'S MESA FEDERAL 29	ISOBUTANE	0.1
API		0511306122	N-PENTANE	TRACE
LOCATION		SEC 20, T44N, R16W	ISOPENTANE	0.1
OWNER		TOM BROWN, INC	CYCLOPENTANE	
COMPLETED)	031016	HEXANES PLUS	0.2
SAMPLED		040825	NITROGEN	4.1
FORMATION	IPERM-	CUTLER, PENN-HONAKER TRAIL	OXYGEN	0.0
GEOLOGIC F	PROVINCE CODE	585.	ARGON	TRACE
	ICAL DEPTH (FT)	5354	HYDROGEN	TRACE
TRUE VERTI	DEPTH	8472	HYDROGEN SULFIDE**	0.0
			CARBON DIOXIDE	0.1
MEASURED		1250		
MEASURED WELLHEAD	PRESSURE, PSIG	1250_ 4036	HELIUM	0.07
MEASURED WELLHEAD	PRESSURE, PSIG	1250 4036	HELIUM HEATING VALUE* SPECIFIC GRAVITY	993

^{*} 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

	SAMPLE	21359	COMPONENT, MOLE PCT	
STATE		COLORADO	METHANE	91.5
		SAN MIGUEL	ETHANE	2.3
			PROPANE	0.6
		ANDY'S MESA	N-BUTANE	0.2
		ANDY'S MESA FEDERAL 20	ISOBUTANE	0.2
		0511306084	N-PENTANE	0.1
LOCATION		SEC 28, T44N, R16W	ISOPENTANE	0.1
OWNER		TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED		020615	HEXANES PLUS	0.4
SAMPLED		040824	NITROGEN	4.5
FORMATION	PERN	A-CUTLER, PENN-HONAKER TRAIL	OXYGEN	0.0
		585	ARGON	0.1
TRUE VERTICA	AL DEPTH (FT)	6340	HYDROGEN	TRACE
	, , -		HYDROGEN SULFIDE**	0.0
			CARBON DIOXIDE	TRACE
	,		HELIUM	0.08
OPEN FLOW, I	VICED	2250	HEATING VALUE*	1,022
			SPECIFIC GRAVITY	0.609
	SAMPLE	21358	SPECIFIC GRAVITY	0.609
STATE		COLORADO	COMPONENT, MOLE PCT	90.6
STATE COUNTY		COLORADO. SAN MIGUEL	COMPONENT, MOLE PCT METHANE	90.6 2.6
STATE COUNTY		COLORADO SAN MIGUEL ANDY'S MESA	COMPONENT, MOLE PCT METHANE ETHANE	90.6 2.6 0.6
STATE COUNTY		COLORADO. SAN MIGUEL	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	90.6 2.6 0.6 0.3
STATE		COLORADO SAN MIGUEL ANDY'S MESA	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	90.6 2.6 0.6 0.3 0.2
STATE COUNTY FIELD WELL NAME _ API		COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 40	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	90.6 2.6 0.6 0.3 0.2
STATE		COLORADO. SAN MIGUEL ANDY'S MESA. ANDY'S MESA 40. 0511306128	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	90.6 2.6 0.6 0.3 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION		COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 40 0511306128 SEC 28, T44N, R16W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	90.6 2.6 0.6 0.3 0.2 0.1
STATE		COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 40 0511306128 SEC 28, T44N, R16W TOM BROWN, INC	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	90.6 2.6 0.6 0.3 0.2 0.1 0.1
STATE		COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 40. 0511306128 SEC 28, T44N, R16W TOM BROWN, INC. 040526	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	90.6 2.6 0.6 0.3 0.2 0.1 0.1 0.6 4.7
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	PERM	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 40 0511306128 SEC 28, T44N, R16W TOM BROWN, INC 040526	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	90.6 2.6 0.6 0.3 0.2 0.1 0.1 0.6 4.7
STATE	PERM OVINCE CODE _	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 40 0511306128 SEC 28, T44N, R16W TOM BROWN, INC. 040526 040824 M-CUTLER, PENN-HONAKER TRAIL 585	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	90.6 2.6 0.6 0.3 0.2 0.1 0.1 0.6 4.7 0.0
STATE	PERMOVINCE CODE	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 40 0511306128 SEC 28, T44N, R16W TOM BROWN, INC 040526 040824 A-CUTLER, PENN-HONAKER TRAIL 585. 6069	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	90.6 2.6 0.6 0.3 0.2 0.1 0.1 0.6 4.7 0.0 0.1 TRACE
STATE	PERNOVINCE CODE AL DEPTH (FT)	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 40 0511306128 SEC 28, T44N, R16W TOM BROWN, INC 040526 040824 ACUTLER, PENN-HONAKER TRAIL 585	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	90.6 2.6 0.6 0.3 0.2 0.1 0.1 0.6 4.7 0.0 0.1 TRACE
STATE	PERMOVINCE CODE AL DEPTH (FT) EPTH	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 40 0511306128 SEC 28, T44N, R16W TOM BROWN, INC 040526 040824 A-CUTLER, PENN-HONAKER TRAIL 585 6069	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS OXYGEN ARGON HYDROGEN SULFIDE**	90.6 2.6 0.6 0.3 0.2 0.1 0.1 0.6 4.7 0.0 0.1 TRACE 0.0
STATE	PERMOVINCE CODE AL DEPTH (FT) EPTH	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 40 0511306128 SEC 28, T44N, R16W TOM BROWN, INC 040526 040824 ACUTLER, PENN-HONAKER TRAIL 585	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	90.6 2.6 0.6 0.3 0.2 0.1 0.1 0.6 4.7 0.0 0.1 TRACE 0.0

^{*} 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

	SAMPLE	21352	COMPONENT, MOLE PCT	
STATE		COLORADO	METHANE	90.5
			ETHANE	2.0
		SAN MIGUEL	PROPANE	0.5
		ANDY'S MESA	N-BUTANE	0.2
		ANDY'S MESA 36	ISOBUTANE	0.1
API		0511306124	N-PENTANE	0.1
LOCATION .		SEC 34, T44N, R16W	ISOPENTANE	0.1
OWNER		TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED		031229	HEXANES PLUS	0.3
SAMPLED		040823	NITROGEN	6.0
FORMATION	NPERM-0	CUTLER, PENN-HONAKER TRAIL	OXYGEN	0.0
GEOLOGIC	PROVINCE CODE	585	ARGON	0.1
TRUE VERT	TICAL DEPTH (FT)	6508	HYDROGEN	0.0
MEASURED	DEPTH		HYDROGEN SULFIDE**	0.0
		950	CARBON DIOXIDE	0.1
		885	HELIUM	0.10
OI LIVI LOV	v, IVIOI D	000	HEATING VALUE*	997
			SPECIFIC GRAVITY	0.609
	SAMPLE	21353	COMPONENT, MOLE PCT	
CTATE			COMPONENT, MOLE PCT METHANE	89.2
		COLORADO.		
COUNTY		COLORADO. SAN MIGUEL	METHANE	3.2
COUNTY		COLORADO. SAN MIGUEL ANDY'S MESA.	METHANE	3.2 0.8
COUNTY		COLORADO. SAN MIGUEL	METHANE ETHANE PROPANE	3.2 0.8 0.3
COUNTY FIELD WELL NAME	=	COLORADO. SAN MIGUEL ANDY'S MESA.	METHANE ETHANE PROPANE N-BUTANE	3.2 0.8 0.3 0.3
COUNTY FIELD WELL NAME API	=	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 59	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.2 0.8 0.3 0.3 0.1
COUNTY FIELD WELL NAME API LOCATION .		COLORADO. SAN MIGUEL ANDY'S MESA. ANDY'S MESA 59. 0511306135	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.2 0.8 0.3 0.3 0.1 0.1
COUNTY FIELD WELL NAME API LOCATION .	=	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 59 0511306135 SEC 34, T44N, R16W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.2 0.8 0.3 0.3 0.1 0.1
COUNTY FIELD WELL NAME API LOCATION . OWNER COMPLETED	E	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 59 0511306135 SEC 34, T44N, R16W TOM BROWN, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.2 0.8 0.3 0.3 0.1 0.1
COUNTY FIELD WELL NAME API LOCATION . OWNER COMPLETED		COLORADO. SAN MIGUEL ANDY'S MESA. ANDY'S MESA 59. 0511306135. SEC 34, T44N, R16W. TOM BROWN, INC. 040731.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.2 0.8 0.3 0.3 0.1 0.1 0.5
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	D	COLORADO. SAN MIGUEL ANDY'S MESA. ANDY'S MESA 59 0511306135 SEC 34, T44N, R16W TOM BROWN, INC. 040731	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.2 0.8 0.3 0.3 0.1 0.1 0.5 5.3 0.0
COUNTY FIELD WELL NAME API LOCATION , OWNER COMPLETEL SAMPLED FORMATION GEOLOGIC	DPERM-(COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 59 0511306135 SEC 34, T44N, R16W TOM BROWN, INC. 040731 040823. CUTLER, PENN-HONAKER TRAIL 585	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.2 0.8 0.3 0.1 0.1 0.5 5.3 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED FORMATION GEOLOGIC TRUE VERT	PROVINCE CODE	COLORADO. SAN MIGUEL ANDY'S MESA. ANDY'S MESA 59. 0511306135 SEC 34, T44N, R16W TOM BROWN, INC. 040731. 040823. CUTLER, PENN-HONAKER TRAIL 585.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.2 0.8 0.3 0.1 0.1 0.5 5.3 0.0 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION . OWNER COMPLETED SAMPLED FORMATION GEOLOGIC . TRUE VERT MEASURED	PERM-C PROVINCE CODE ICAL DEPTH (FT) DEPTH	COLORADO. SAN MIGUEL ANDY'S MESA. ANDY'S MESA 59. 0511306135. SEC 34, T44N, R16W. TOM BROWN, INC. 040731. 040823. CUTLER, PENN-HONAKER TRAIL. 585.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	3.2 0.8 0.3 0.1 0.1 0.5 5.3 0.0 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION _ OWNER COMPLETED _ FORMATION GEOLOGIC TRUE VERT MEASURED WELLHEAD	PERM-(PROVINCE CODE CICAL DEPTH (FT) DEPTH PRESSURE, PSIG	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 59 0511306135 SEC 34, T44N, R16W TOM BROWN, INC. 040731 040823 CUTLER, PENN-HONAKER TRAIL 585	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	3.2 0.8 0.3 0.1 0.1 0.5 5.3 0.0 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETEL SAMPLED FORMATION GEOLOGIC TRUE VERT MEASURED WELLHEAD	PERM-(PROVINCE CODE CICAL DEPTH (FT) DEPTH PRESSURE, PSIG	COLORADO. SAN MIGUEL ANDY'S MESA. ANDY'S MESA 59. 0511306135. SEC 34, T44N, R16W. TOM BROWN, INC. 040731. 040823. CUTLER, PENN-HONAKER TRAIL. 585.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	3.2 0.8 0.3 0.1 0.1 0.5 5.3 0.0 0.1 TRACE 0.0 TRACE

^{*} 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

SA	MPLE	21355	COMPONENT, MOLE PCT	
STATE		COLORADO	METHANE	88.2
		SAN MIGUEL	ETHANE	1.9
			PROPANE	0.4
		ANDY'S MESA	N-BUTANE	0.2
		ANDY'S MESA 55	ISOBUTANE	0.1
		0511306141	N-PENTANE	0.1
		SEC 34, T44N, R16W	ISOPENTANE	0.1
OWNER		TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED		040714	HEXANES PLUS	0.2
SAMPLED		040823	NITROGEN	8.6
FORMATION	PERM-CL	JTLER, PENN-HONAKER TRAIL	OXYGEN	0.0
GEOLOGIC PROV	/INCE CODE	585	ARGON	TRACE
TRUE VERTICAL	DEPTH (FT)	5480	HYDROGEN	0.0
		8556	HYDROGEN SULFIDE**	0.0
			CARBON DIOXIDE	TRACE
WELLHEAD PRESSURE, PSIG		HELIUM	0.16	
OI LIVI LOVV, IVIO		1240	HEATING VALUE*	963
			SPECIFIC GRAVITY	0.615
SA	MPLE	21351	SPECIFIC GRAVITY COMPONENT, MOLE PCT	0.615
STATE		COLORADO	COMPONENT, MOLE PCT	84.6
STATE		COLORADO SAN MIGUEL	COMPONENT, MOLE PCT METHANE	84.6 2.1
STATE		COLORADO SAN MIGUEL ANDY'S MESA	COMPONENT, MOLE PCT METHANE ETHANE	84.6 2.1 0.4
STATE COUNTY FIELD		COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 34	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	84.6 2.1 0.4 0.1
STATE COUNTY FIELD		COLORADO SAN MIGUEL ANDY'S MESA	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	84.6 2.1 0.4 0.1
STATE COUNTY FIELD WELL NAME		COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 34	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	84.6 2.1 0.4 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION		COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 34 0511306111	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	84.6 2.1 0.4 0.1 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER		COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 34 0511306111 SEC 34, T44N, R16W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	84.6 2.1 0.4 0.1 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED		COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 34 0511306111 SEC 34, T44N, R16W. TOM BROWN, INC.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	84.6 2.1 0.4 0.1 0.1 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED		COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 34 0511306111 SEC 34, T44N, R16W TOM BROWN, INC. 031108	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	84.6 2.1 0.4 0.1 0.1 0.1 0.2
STATE	PERM-CU	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 34 0511306111 SEC 34, T44N, R16W TOM BROWN, INC. 031108	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN	84.6 2.1 0.4 0.1 0.1 0.1 0.1 2.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROV	PERM-CU	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 34 0511306111 SEC 34, T44N, R16W TOM BROWN, INC. 031108 040823 JTLER, PENN-HONAKER TRAIL 585	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	84.6 2.1 0.4 0.1 0.1 0.1 0.2 12.2 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROV	PERM-CL /INCE CODE	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 34 0511306111 SEC 34, T44N, R16W TOM BROWN, INC 031108 040823 JTLER, PENN-HONAKER TRAIL 585. 5031	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	84.6 2.1 0.4 0.1 0.1 0.1 0.2 12.2 0.0 TRACE
STATE	PERM-CU /INCE CODE DEPTH (FT)	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 34 0511306111 SEC 34, T44N, R16W TOM BROWN, INC. 031108 040823 JTLER, PENN-HONAKER TRAIL 585	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	84.6 2.1 0.4 0.1 0.1 0.1 0.1 1.2 0.2 12.2 0.0 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROV TRUE VERTICAL I MEASURED DEPT WELLHEAD PRES	PERM-CL /INCE CODE DEPTH (FT) TH SSURE, PSIG	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 34 0511306111 SEC 34, T44N, R16W TOM BROWN, INC 031108 040823 JTLER, PENN-HONAKER TRAIL 585 5031	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	84.6 2.1 0.4 0.1 0.1 0.1 0.1 0.2 12.2 0.0 TRACE TRACE 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROV TRUE VERTICAL I MEASURED DEPT WELLHEAD PRES	PERM-CL /INCE CODE DEPTH (FT) TH SSURE, PSIG	COLORADO SAN MIGUEL ANDY'S MESA ANDY'S MESA 34 0511306111 SEC 34, T44N, R16W TOM BROWN, INC. 031108 040823 JTLER, PENN-HONAKER TRAIL 585	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	84.6 2.1 0.4 0.1 0.1 0.1 0.1 1.2 0.0 TRACE TRACE 0.0 TRACE 0.0

^{*} 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

	SAMPLE	21350	COMPONENT, MOLE PCT	
STATE		COLORADO	METHANE	79.4
		SAN MIGUEL	ETHANE	1.6
			PROPANE	0.3
		ANDY'S MESA	N-BUTANE	0.1
		ANDY'S MESA 58	ISOBUTANE	0.1
		0511306139	N-PENTANE	TRACE
LOCATION	•••••••••••	SEC 34, T44N, R16W	ISOPENTANE	0.1
OWNER		TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED		040710	HEXANES PLUS	0.1
SAMPLED		040823	NITROGEN	18.1
FORMATION	PERM-C	UTLER, PENN-HONAKER TRAIL	OXYGEN	0.0
GEOLOGIC PF	ROVINCE CODE	585	ARGON	TRACE
TRUE VERTIC	AL DEPTH (FT)		HYDROGEN	TRACE
		7218	HYDROGEN SULFIDE**	0.0
			CARBON DIOXIDE	TRACE
		1170	HELIUM	0.27
OF LINT LOVV,	WICI D	1170	HEATING VALUE*	855
			SPECIFIC GRAVITY	0.646
	SAMPLE	20829	COMPONENT, MOLE PCT	
CTATE		COLOBADO	METHANE	94.7
-		COLORADO	ETHANE	1.0
		SAN MIGUEL	PROPANE	0.2
		ANDY'S MESA	N-BUTANE	0.1
		ANDY'S MESA FEDERAL 14	ISOBUTANE	0.1
API		0511306077	N-PENTANE	TRACE
LOCATION		SEC. 21, T44N, R16W	ISOPENTANE	TRACE
OWNER		TOM BROWN, INC	CYCLOPENTANE	- -
		001211	HEXANES PLUS	0.1
COMPLETED _			NITROGEN	3.7
		010829		
SAMPLED		010829 PENN-HONAKER TRAIL	OXYGEN	0.0
SAMPLED				
SAMPLED	ROVINCE CODE	PENN-HONAKER TRAIL 585	OXYGEN	0.0
SAMPLED	ROVINCE CODE	PENN-HONAKER TRAIL 585. 8764.	OXYGEN	0.0 TRACE
SAMPLED FORMATION GEOLOGIC PF TRUE VERTIC. MEASURED DI	ROVINCE CODE AL DEPTH (FT) EPTH	PENN-HONAKER TRAIL 585 8764	OXYGEN ARGON HYDROGEN	0.0 TRACE 0.0
SAMPLED FORMATION _ GEOLOGIC PF TRUE VERTIC MEASURED DI WELLHEAD PF	ROVINCE CODE AL DEPTH (FT) EPTH RESSURE, PSIG	PENN-HONAKER TRAIL 585. 8764.	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.0 TRACE 0.0 0.0
SAMPLED FORMATION _ GEOLOGIC PF TRUE VERTIC MEASURED DI WELLHEAD PF	ROVINCE CODE AL DEPTH (FT) EPTH RESSURE, PSIG	PENN-HONAKER TRAIL 585 8764	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 TRACE 0.0 0.0

^{*} 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

SAMPLE	21362	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	90.1
	SAN MIGUEL	ETHANE	2.7
		PROPANE	0.7
	ANDY'S MESA	N-BUTANE	0.3
	ANDY'S MESA FEDERAL 24	ISOBUTANE	0.2
API	0511306100	N-PENTANE	0.1
	SEC 29, T44N, R16W	ISOPENTANE	0.1
OWNER	TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED	031114	HEXANES PLUS	0.4
SAMPLED	040825	NITROGEN	5.2
FORMATION	PENN-HONAKER TRAIL	OXYGEN	
GEOLOGIC PROVINCE CODE	585	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	7216	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	TRACE
,	3870	HELIUM	0.10
OI LIVI LOVV, INOI D	3070	HEATING VALUE*	1,020
		SPECIFIC GRAVITY	0.616
SAMPLE	21361	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	90.2
	SAN MIGUEL	ETHANE	1.5
		PROPANE	0.3
	ANDY'S MESA	N-BUTANE	0.1
	ANDY'S MESA FEDERAL 39	ISOBUTANE	0.1
	0511306130	N-PENTANE	0.1
LOCATION	SEC 28, T44N, R16W	ISOPENTANE	0.1
OWNER	TOM BROWN, INC.	CYCLOPENTANE	==
COMPLETED	040619	HEXANES PLUS	0.3
SAMPLED	040825	NITROGEN	7.1
FORMATION	PENN-HONAKER TRAIL	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
, ,		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	TRACE
		HELIUM	
OI LIVI LOVV, IVIOFU		HEATING VALUE*	975
		SPECIFIC GRAVITY	0.000

^{*} 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

SAMPLE	20828	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	95.1
	SAN MIGUEL	ETHANE	1.4
		PROPANE	0.3
	ANDY'S MESA	N-BUTANE	0.1
	ANDY'S MESA FEDERAL 17	ISOBUTANE	0.1
API	0511306079	N-PENTANE	TRACE
LOCATION	SEC. 28, T44N, R16W.	ISOPENTANE	0.1
OWNER	TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED	001228.	HEXANES PLUS	0.1
SAMPLED	010829	NITROGEN	2.7
FORMATION	PENN-ISMAY	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	
TRUE VERTICAL DEPTH (FT)	8242	HYDROGEN	TRACE
MEASURED DEPTH	8956	HYDROGEN SULFIDE**	0.0
	1960	CARBON DIOXIDE	0.1
•	1493	HELIUM	0.05
OPEN FLOW, MICFU	1495	HEATING VALUE*	1,009
		SPECIFIC GRAVITY	0.582
SAMPLE	20960	COMPONENT, MOLE PCT	
		COIVII CINLINI, IVIOLLI CI	
STATE		METHANE	42.7
	COLORADO	METHANE	
COUNTY	COLORADO MESA	,	1.6
COUNTY	COLORADO MESA BAR X	METHANE	1.6 0.7
COUNTY	COLORADO MESA	METHANE ETHANE PROPANE	1.6 0.7 0.3
COUNTY FIELD WELL NAME	COLORADO MESA BAR X	METHANE ETHANE PROPANE N-BUTANE	1.6 0.7 0.3 0.3
COUNTY FIELD WELL NAME API	COLORADO MESA BAR X. GOVERNMENT NO. 3.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	1.6 0.7 0.3 0.3 0.1
COUNTY FIELD WELL NAME API LOCATION	COLORADO MESA BAR X GOVERNMENT NO. 3 0507708367	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	1.6 0.7 0.3 0.3 0.1 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER	GOLORADO MESA BAR X GOVERNMENT NO. 3. 0507708367 SEC. 1, T9S, R104W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.6 0.7 0.3 0.3 0.1 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	COLORADO MESA BAR X GOVERNMENT NO. 3 0507708367 SEC. 1, T9S, R104W. CRESCENDO ENERGY	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.6 0.7 0.3 0.3 0.1 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	GOLORADO MESA BAR X GOVERNMENT NO. 3 0507708367 SEC. 1, T9S, R104W CRESCENDO ENERGY 810501	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.6 0.7 0.3 0.3 0.1 0.2 0.1 28.4
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	COLORADO MESA BAR X. GOVERNMENT NO. 3. 0507708367 SEC. 1, T9S, R104W CRESCENDO ENERGY. 810501 020617	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.6 0.7 0.3 0.3 0.1 0.2 0.1 28.4 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	COLORADO MESA BAR X GOVERNMENT NO. 3 0507708367 SEC. 1, T9S, R104W CRESCENDO ENERGY 810501 020617 JURA-ENTRADA 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.6 0.7 0.3 0.3 0.1 0.2 0.1 28.4 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	COLORADO MESA BAR X. GOVERNMENT NO. 3. 0507708367 SEC. 1, T9S, R104W CRESCENDO ENERGY. 810501 020617 JURA-ENTRADA 595. 3065	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.6 0.7 0.3 0.3 0.1 0.2 0.1 28.4 0.0 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLORADO MESA BAR X GOVERNMENT NO. 3 0507708367 SEC. 1, T9S, R104W CRESCENDO ENERGY 810501 020617 JURA-ENTRADA 595 3065	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	1.6 0.7 0.3 0.3 0.1 0.2 0.1 28.4 0.0 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	COLORADO MESA BAR X. GOVERNMENT NO. 3. 0507708367 SEC. 1, T9S, R104W CRESCENDO ENERGY 810501 020617 JURA-ENTRADA 595. 3065	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	1.6 0.7 0.3 0.3 0.1 0.2 0.1 28.4 0.0 0.1 TRACE 0.0 24.5
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	COLORADO MESA BAR X GOVERNMENT NO. 3 0507708367 SEC. 1, T9S, R104W CRESCENDO ENERGY 810501 020617 JURA-ENTRADA 595 3065	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	1.6 0.7 0.3 0.3 0.1 0.2 0.1 28.4 0.0 0.1 TRACE 0.0 24.5

^{*} 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

SAMPLE	20984	COMPONENT, MOLE PCT	
STATE	COLOPADO	METHANE	42.5
COUNTY		ETHANE	1.6
		PROPANE	0.7
FIELD		N-BUTANE	0.3
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.1
LOCATION	SEC. 1, T9S, R104W	ISOPENTANE	0.2
OWNER	CRESCENDO ENERGY	CYCLOPENTANE	
COMPLETED	791101	HEXANES PLUS	0.1
SAMPLED	020617	NITROGEN	28.3
FORMATION	JURA-ENTRADA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3073	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	24.8
OPEN FLOW, MCFD		HELIUM	0.93
OF LIVE LOVY, WIGH D	2700	HEATING VALUE*	516
		SPECIFIC GRAVITY	0.941
SAMPLE	20985	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	42.9
	COLORADO	ETHANE	4.0
	MECA	LIII/NL	1.6
	MESA	PROPANE	
FIELD	BAR.X.		0.7
FIELD	BAR X. GOVERNMENT NO. 2-A	PROPANE	0.7
FIELD	BAR X. GOVERNMENT NO. 2-A	PROPANE N-BUTANE	0.7 0.3 0.3
FIELD	BAR X. GOVERNMENT NO. 2-A. 0507708182	PROPANEN-BUTANEISOBUTANE	0.7 0.3 0.3 0.1
FIELD WELL NAMEAPI	BAR X. GOVERNMENT NO. 2-A. 0507708182 SEC. 35, T8S, R104W	PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.7 0.3 0.3 0.1 0.2
FIELD	BAR X. GOVERNMENT NO. 2-A. 0507708182 SEC. 35, T8S, R104W. CRESCENDO ENERGY	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.7 0.3 0.3 0.1 0.2
FIELD	BAR X. GOVERNMENT NO. 2-A. 0507708182 SEC. 35, T8S, R104W. CRESCENDO ENERGY. 790701	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.7 0.3 0.3 0.1 0.2
FIELD	BAR X. GOVERNMENT NO. 2-A. 0507708182 SEC. 35, T8S, R104W. CRESCENDO ENERGY. 790701 020617	PROPANE	0.7 0.3 0.3 0.1 0.2 0.1 28.4
FIELD	BAR X. GOVERNMENT NO. 2-A. 0507708182 SEC. 35, T8S, R104W. CRESCENDO ENERGY. 790701 020617. JURA-ENTRADA	PROPANE	0.7 0.3 0.3 0.1 0.2 0.1 28.4
FIELD	BAR X. GOVERNMENT NO. 2-A. 0507708182 SEC. 35, T8S, R104W. CRESCENDO ENERGY. 790701 020617. JURA-ENTRADA. 595	PROPANE	0.7 0.3 0.3 0.1 0.2 0.1 28.4 0.0
FIELD	BAR X. GOVERNMENT NO. 2-A. 0507708182 SEC. 35, T8S, R104W CRESCENDO ENERGY 790701 020617. JURA-ENTRADA 595. 3102	PROPANE	0.7 0.3 0.3 0.1 0.2 0.1 28.4 0.0 0.1
FIELD	BAR X. GOVERNMENT NO. 2-A. 0507708182 SEC. 35, T8S, R104W CRESCENDO ENERGY. 790701 020617. JURA-ENTRADA 595. 3102	PROPANE	0.7 0.3 0.3 0.1 0.2 0.1 28.4 0.0 0.1 0.0
FIELD	BAR X. GOVERNMENT NO. 2-A. 0507708182 SEC. 35, T8S, R104W. CRESCENDO ENERGY. 790701 020617. JURA-ENTRADA. 595. 3102.	PROPANE	0.7 0.3 0.3 0.1 0.2 0.1 28.4 0.0 0.1 0.0 0.0 24.1

* 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

SAMPLE 20953	COMPONENT, MOLE PCT
STATECOLORADO	METHANE88.6.
COUNTY GARFIELD	ETHANE4.6
	PROPANE1.5.
FIELD BIRDLE	N-BUTANE <u>0.4</u>
WELL NAME FEDERAL NO. 5-3	13000 TAINE
API0504506150	N-PENTANEU.Z
LOCATION SEC. 5, T8S, R104W	IOOF LINTAINL
OWNER LONE MOUNTAIN PRODUCTION CO	CYCLOPENTANE
COMPLETED851108	B. HEXANES PLUS0.5
SAMPLED020617	NITROGEN 2.3
FORMATIONCRET-DAKOTA	OXYGEN0.0
GEOLOGIC PROVINCE CODE595	ARGON0.0
TRUE VERTICAL DEPTH (FT)	HYDROGENTRACE
MEASURED DEPTH	HYDROGEN SULFIDE** 0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE 1.1
OPEN FLOW, MCFD133	HELIUM0.20
OPEN FLOW, MOPD	HEATING VALUE*1,078
	SPECIFIC GRAVITY0.64
SAMPLE 20983	COMPONENT, MOLE PCT
STATECOLORADO	METHANE
	ETHANE 6.2
COUNTY MESA	PROPANE3.3
FIELDBRIDLE	N-BUTANE1.1
WELL NAMEFEDERAL NO. 41-19	130BUTANE
API0507708287	N-PENTANE 0.4
LOCATIONSEC. 19, T8S, R104W	L. ISOPENTANE0.4
, ,	1001 EN1/14E
OWNER LINN BROTHERS OIL & GAS CORP COMPLETED 800709	CYCLOPENTANE
OWNERLINN BROTHERS OIL & GAS CORP.	CYCLOPENTANE HEXANES PLUS
OWNER LINN BROTHERS OIL & GAS CORP. COMPLETED 800709	CYCLOPENTANE HEXANES PLUS
OWNERLINN BROTHERS OIL & GAS CORP. COMPLETED800709 SAMPLED020619	CYCLOPENTANE HEXANES PLUS
OWNER LINN BROTHERS OIL & GAS CORP COMPLETED 800709 SAMPLED 020619 FORMATION CRET-DAKOTA	CYCLOPENTANE
OWNER LINN BROTHERS OIL & GAS CORP. COMPLETED 800709 SAMPLED 020619 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 595 TRUE VERTICAL DEPTH (FT) 3092	CYCLOPENTANE
OWNER LINN BROTHERS OIL & GAS CORP. COMPLETED 800709 SAMPLED 020619 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 595 TRUE VERTICAL DEPTH (FT) 3092 MEASURED DEPTH	CYCLOPENTANE
OWNER LINN BROTHERS OIL & GAS CORP. COMPLETED 800709 SAMPLED 020619 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 595 TRUE VERTICAL DEPTH (FT) 3092 MEASURED DEPTH WELLHEAD PRESSURE, PSIG	CYCLOPENTANE
OWNER LINN BROTHERS OIL & GAS CORP. COMPLETED 800709 SAMPLED 020619 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 595 TRUE VERTICAL DEPTH (FT) 3092 MEASURED DEPTH	CYCLOPENTANE

^{*} 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

SAMPLE	20947	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	74.0
COUNTY		ETHANE	4.3
		PROPANE	1.8
FIELD		N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.3
LOCATION	• •	ISOPENTANE	0.3
OWNER	NATIONAL FUEL CORP.	CYCLOPENTANE	
COMPLETED	940907	HEXANES PLUS	0.5
SAMPLED	020617	NITROGEN	7.9
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3124	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	250	CARBON DIOXIDE	9.3
OPEN FLOW, MCFD		HELIUM	0.42
OI 2111 2011, MOI D		HEATING VALUE*	954
		SPECIFIC GRAVITY	0.752
SAMPLE	20946	COMPONENT, MOLE PCT	
OTATE	COLORADO	METHANE	71.2
STATE		ETHANE	3.9
COUNTY		PROPANE	1.7
FIELD		N-BUTANE	0.6
WELL NAME	FEDERAL NO. 14-2	ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION	SEC. 2, T8S, R104W	ISOPENTANE	0.3
OWNER	NATIONAL FUEL CORP.	CYCLOPENTANE	
COMPLETED		HEVANCE DI LIC	0.5
	940919	HEXANES PLUS	
SAMPLED		NITROGEN	
	020617		11.1
FORMATION	020617 CRET-DAKOTA	NITROGEN	11.1
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	020617 CRET-DAKOTA 595	NITROGEN	11.1 0.0 0.1
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	020617 CRET-DAKOTA 595 3454	NITROGENOXYGENARGON	11.1 0.0 0.1 0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	020617 CRET-DAKOTA 595 3454	NITROGEN OXYGEN ARGON HYDROGEN	11.1 0.0 0.1 0.0 0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	020617 CRET-DAKOTA 595 3454	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	11.1 0.0 0.1 0.0 0.0 9.7
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	020617 CRET-DAKOTA 595 3454	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	11.1 0.0 0.1 0.0 0.0 9.7

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

SAMPLE	20952	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	79.8
		ETHANE	4.4
	GARFIELD.	PROPANE	1.7
	BRIDLE	N-BUTANE	0.6
	FEDERAL NO. 22-9	ISOBUTANE	0.4
API	0504506136	N-PENTANE	0.3
LOCATION	SEC. 9, T8S, R104W	ISOPENTANE	0.3
OWNER	NATIONAL FUEL CORP.	CYCLOPENTANE	
COMPLETED	780109	HEXANES PLUS	0.5
SAMPLED	020617	NITROGEN	7.3
FORMATION	CRET-DAKOTA, JURA-MORRISON	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	3328	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE PSIG	250_	CARBON DIOXIDE	4.3
,	110	HELIUM	0.42
OI EIVI EOVV, IVIOI D	i i v	HEATING VALUE*	1,008
		SPECIFIC GRAVITY	0.699
SAMPLE	20948	COMPONENT, MOLE PCT	
CTATE	COLODADO	METHANE	76.7
	COLORADO	ETHANE	3.9
	GARFIELD	PROPANE	1.6
FIELD			
		N-BUTANE	
WELL NAME	FEDERAL NO. 43-3	N-BUTANE	0.5
			0.5 0.4
API	FEDERAL NO. 43-3.	ISOBUTANE	0.5 0.4 0.2
API	FEDERAL NO. 43-3. 0504506129	ISOBUTANE	0.5 0.4 0.2 0.2
API LOCATION OWNER	FEDERAL NO. 43-3. 0504506129 SEC. 3, T8S, R104W	ISOBUTANE N-PENTANE ISOPENTANE	0.5 0.4 0.2 0.2
API LOCATION OWNER COMPLETED	FEDERAL NO. 43-3 0504506129 SEC. 3, T8S, R104W NATIONAL FUEL CORP	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.5 0.4 0.2 0.2
API LOCATION OWNER COMPLETED SAMPLED	FEDERAL NO. 43-3 0504506129 SEC. 3, T8S, R104W NATIONAL FUEL CORP. 771220	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.5 0.4 0.2 0.2 0.4 8.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION(FEDERAL NO. 43-3 0504506129 SEC. 3, T8S, R104W NATIONAL FUEL CORP. 771220 020617. CRET-DAKOTA, JURA-MORRISON	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.5 0.4 0.2 0.2 0.4 8.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	FEDERAL NO. 43-3. 0504506129 SEC. 3, T8S, R104W NATIONAL FUEL CORP. 771220 020617. CRET-DAKOTA, JURA-MORRISON. 595.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.5 0.4 0.2 0.2 0.4 8.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	FEDERAL NO. 43-3. 0504506129 SEC. 3, T8S, R104W NATIONAL FUEL CORP. 771220 020617. CRET-DAKOTA, JURA-MORRISON 595. 3254	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.5 0.4 0.2 0.2 0.4 8.0 0.0 0.1
API	FEDERAL NO. 43-3 0504506129 SEC. 3, T8S, R104W NATIONAL FUEL CORP. 771220 020617 CRET-DAKOTA, JURA-MORRISON 595 3254	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.5 0.4 0.2 0.2 0.4 8.0 0.0 0.1 0.0
API	FEDERAL NO. 43-3 0504506129 SEC. 3, T8S, R104W NATIONAL FUEL CORP. 771220 020617. CRET-DAKOTA, JURA-MORRISON 595. 3254.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.5 0.4 0.2 0.2 0.4 8.0 0.0 0.1 0.0 0.0
API	FEDERAL NO. 43-3 0504506129 SEC. 3, T8S, R104W NATIONAL FUEL CORP. 771220 020617 CRET-DAKOTA, JURA-MORRISON 595 3254	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.5 0.4 0.2 0.2 0.4 8.0 0.0 0.1 0.0 7.5

^{*} 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

		COMPONENT, MOLE PCT	
STATECOLC		METHANE	74.5
COUNTY		ETHANE	4.3
		PROPANE	1.8
FIELD		N-BUTANE	0.6
WELL NAMEFEDERAL N		ISOBUTANE	0.4
API05045		N-PENTANE	0.2
LOCATION SEC. 9, T8S, I	R104W	ISOPENTANE	0.3
OWNER NATIONAL FUEL	CORP.	CYCLOPENTANE	
COMPLETED7	61003	HEXANES PLUS	0.5
SAMPLED	20617	NITROGEN	8.0
FORMATIONCRET-DAKOTA. JURA-MOR	RISON	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	3140	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	8.9
OPEN FLOW, MCFD		HELIUM	0.44
OI ENT EGW, WOLD		HEATING VALUE*	954
		SPECIFIC GRAVITY	0.747
SAMPLE 20950		COMPONENT, MOLE PCT	
		,	
CTATE	DADO	METHANE	78.1
COUNTYGAR	RFIELD	METHANE	4.0
COUNTY GAR	RFIELD BRIDLE	METHANE	4.0 1.5
COUNTY GAR	RFIELD BRIDLE	METHANE ETHANE PROPANE	4.0 1.5 0.5
COUNTY GAF FIELDF WELL NAMEFEDERAL.N	RFIELD BRIDLE NO. 1-9.	METHANE ETHANE PROPANE N-BUTANE	4.0 1.5 0.5 0.4
COUNTY GAI FIELD FEDERAL NAME FEDERAL NAME 05045	RFIELD BRIDLE NO. 1-9. 506087	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.0 1.5 0.5 0.4 0.2
COUNTY GAF FIELD E WELL NAME FEDERAL NAME API 05045 LOCATION SEC. 9, T8S, I	RFIELD BRIDLE NO. 1-9. 506087 R104W.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.0 1.5 0.5 0.4 0.2
COUNTY GAF FIELD F WELL NAME FEDERAL N API 05045 LOCATION SEC. 9, T8S. I OWNER NATIONAL FUEL	RFIELD BRIDLE NO. 1-9 506087 R104W CORP	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.0 1.5 0.5 0.4 0.2 0.2
STATE COLC COUNTY GAR FIELD F WELL NAME FEDERAL N API 05045 LOCATION SEC. 9, T8S, I OWNER NATIONAL FUEL COMPLETED 7 SAMPLED 0	REIELD BRIDLE NO. 1-9. 506087 R104W. CORP.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	4.0 1.5 0.5 0.4 0.2 0.2
COUNTY GAF FIELD E WELL NAME FEDERAL N API 05045 LOCATION SEC. 9, T8S. I OWNER NATIONAL FUEL COMPLETED 7	RFIELD BRIDLE NO. 1-9 506087 R104W CORP 760315	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.0 1.5 0.5 0.4 0.2 0.2 0.2
COUNTY GAP FIELDF WELL NAMEFEDERAL N API 05045 LOCATION SEC. 9, T8S. J OWNER NATIONAL FUEL COMPLETED	RFIELD BRIDLE NO. 1-9 506087 R104W CORP 760315 020617 RISON	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.0 1.5 0.5 0.4 0.2 0.2 0.2 0.4 8.5 0.0
COUNTY GAF FIELD F WELL NAME FEDERAL N API 05045 LOCATION SEC. 9, T8S. I OWNER NATIONAL FUEL COMPLETED 7 SAMPLED 0	RFIELD BRIDLE NO. 1-9 506087 R104W CORP 760315 020617 RISON	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.0 1.5 0.5 0.4 0.2 0.2 0.2 0.4 8.5 0.0
COUNTY	RFIELD BRIDLE NO. 1-9 506087 R104W CORP 760315 020617 RISON 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.0 1.5 0.4 0.2 0.2 0.4 8.5 0.0 0.1 TRACE
COUNTY	RFIELD BRIDLE NO. 1-9. 506087 R104W. CORP. 760315 020617 RISON. 595.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.0 1.5 0.5 0.4 0.2 0.2 0.4 8.5 0.0 0.1 TRACE
COUNTY	RFIELD BRIDLE NO. 1-9. 506087 R104W CORP. 760315 D20617 RISON 595 2952	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	4.0 1.5 0.5 0.4 0.2 0.2 0.4 8.5 0.0 0.1 TRACE 0.0
COUNTY	RFIELD BRIDLE NO. 1-9. 506087 R104W CORP. 760315 D20617 RISON 595 2952	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	4.0 1.5 0.4 0.2 0.2 0.4 8.5 0.0 0.1 TRACE 0.0 5.6

^{*} 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

SAMPLE	21317	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	93.9
		ETHANE	1.1
COUNTY		PROPANE	0.5
FIELD		N-BUTANE	0.2
WELL NAME	DAY 8-23	ISOBUTANE	0.1
API	0512508690	N-PENTANE	TRACE
LOCATION	SEC 23, T4N, R47W	ISOPENTANE	0.1
OWNER	J-W OPERATING CO.	CYCLOPENTANE	
COMPLETED	030417	HEXANES PLUS	0.1
SAMPLED	040526	NITROGEN	3.5
FORMATION	CRET-NIOBRARA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	540	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	2701	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.5
WELLHEAD PRESSURE, PSIG		HELIUM	0.07
OPEN FLOW, MCFD	1712	HEATING VALUE*	999
		SPECIFIC GRAVITY	0.59
SAMPLE	20963	COMPONENT, MOLE PCT	
OTATE		METHANE	70.9
COUNTY	GARFIELD	METHANE ETHANE PROPANE	4.0
COUNTY	GARFIELD CARBONERA	ETHANE	4.0 1.6
COUNTY	GARFIELD CARBONERA	ETHANE	4.0 1.6 0.5
COUNTY FIELD WELL NAME	GARFIELD CARBONERA FEDERAL NO. 27-8.	ETHANE PROPANE N-BUTANE	4.0 1.6 0.5 0.4
COUNTY FIELD WELL NAME API	GARFIELD CARBONERA FEDERAL NO. 27-8 0504506106	ETHANE PROPANE N-BUTANE ISOBUTANE	4.0 1.6 0.5 0.4 0.2
COUNTY FIELD WELL NAME API LOCATION	GARFIELD CARBONERA FEDERAL NO. 27-8. 0504506106 SEC. 27, T7S, R104W	ETHANEPROPANEN-BUTANEISOBUTANEN-PENTANE	4.0 1.6 0.5 0.4 0.2 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNERLONE COMPLETED	GARFIELD CARBONERA FEDERAL NO. 27-8 0504506106 SEC. 27, T7S, R104W EMOUNTAIN PRODUCTION CO.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.0 1.6 0.5 0.4 0.2 0.3
COUNTY FIELD WELL NAME API LOCATION OWNERLONE	GARFIELD CARBONERA FEDERAL NO. 27-8. 0504506106 SEC. 27, T7S, R104W FMOUNTAIN PRODUCTION CO. 770326	ETHANEPROPANEN-BUTANEISOBUTANEISOPENTANEISOPENTANE	4.0 1.6 0.5 0.4 0.2 0.3
COUNTY FIELD WELL NAME API LOCATION OWNERLONE COMPLETED	GARFIELD CARBONERA FEDERAL NO. 27-8 0504506106 SEC. 27, T7S, R104W E MOUNTAIN PRODUCTION CO. 770326 020618	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.0 1.6 0.5 0.4 0.2 0.3 0.5 8.0
COUNTY FIELD WELL NAME API LOCATION OWNER LONE COMPLETED SAMPLED	GARFIELD CARBONERA FEDERAL NO. 27-8 0504506106 SEC. 27, T7S, R104W EMOUNTAIN PRODUCTION CO. 770326 020618 CRET-DAKOTA	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.0 1.6 0.5 0.4 0.2 0.3 0.5 8.0
COUNTY FIELD WELL NAME API LOCATION OWNERLONE COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	GARFIELD CARBONERA FEDERAL NO. 27-8 0504506106 SEC. 27, T7S, R104W MOUNTAIN PRODUCTION CO. 770326 020618 CRET-DAKOTA 595	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.0 1.6 0.5 0.4 0.2 0.3 0.5 8.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNERLONE COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	GARFIELD CARBONERA FEDERAL NO. 27-8 0504506106 SEC. 27, T7S, R104W E MOUINTAIN PRODUCTION CO. 770326 020618 CRET-DAKOTA 595. 3789	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.0 1.6 0.5 0.4 0.2 0.3 0.5 8.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNERLONE COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	GARFIELD CARBONERA FEDERAL NO. 27-8 0504506106 SEC. 27, T7S, R104W EMOUNTAIN PRODUCTION CO. 770326 020618. CRET-DAKOTA 595. 3789.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.0 1.6 0.5 0.4 0.2 0.3 0.5 8.0 0.0 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNERLONE COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	GARFIELD CARBONERA FEDERAL NO. 27-8 0504506106 SEC. 27, T7S, R104W MOUNTAIN PRODUCTION CO. 770326 020618 CRET-DAKOTA 595. 3789	ETHANE	4.0 1.6 0.5 0.4 0.2 0.3 0.5 8.0 0.0 0.1 TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION OWNERLONE COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	GARFIELD CARBONERA FEDERAL NO. 27-8 0504506106 SEC. 27, T7S, R104W MOUNTAIN PRODUCTION CO. 770326 020618 CRET-DAKOTA 595. 3789	ETHANE	4.0 1.6 0.5 0.4 0.2 0.3 0.5 8.0 0.0 0.1 TRACE 0.0 13.3

^{*} 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

SAMPLE 21323		COMPONENT, MOLE PCT	
STATE COLO		METHANE	65.2
		ETHANE	8.5
COUNTYM		PROPANE	10.1
FIELD		N-BUTANE	4.3
WELL NAME J. FARNIK N		ISOBUTANE	1.1
API0508		N-PENTANE	
LOCATION SEC 9, T6N	, R58W	ISOPENTANE	1.0
OWNER HYNDREX RESO	URCES	CYCLOPENTANE	
COMPLETED	841110	HEXANES PLUS	2.3
SAMPLED	040527	NITROGEN	4.2
FORMATION CRET-DAY	KOTA D	OXYGEN	
GEOLOGIC PROVINCE CODE	540	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	6356	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	1.8
OPEN FLOW, MCFD		HELIUM	0.13
0, 211 2011, moi b	<u></u>	HEATING VALUE*	1,446
		SPECIFIC GRAVITY	0.907
SAMPLE 20997		COMPONENT, MOLE PCT	
CTATE		METHANE	96.5
STATE COLO		ETHANE	1.0
COUNTY RIO B		PROPANE	0.2
FIELDCORRAL		N-BUTANE	TRACE
WELL NAMECORRAL CREEK FEDERAL D.N.		ISOBUTANE	TRACE
API05103	308441	N-PENTANE	
	<u> </u>	14-1 LIVI/AINL	IRACE
LOCATION SEC. 36, T1S.		ISOPENTANE	
	R100W		TRACE
OWNERENCANA OIL & GAS (US	R100W. A) INC.	ISOPENTANE	TRACE
LOCATIONSEC. 36, T1S, OWNERENCANA OIL & GAS (US COMPLETEDSAMPLED	R100W A) INC 811203	ISOPENTANE	TRACE
OWNER ENCANA OIL & GAS (US COMPLETED SAMPLED	R100W A) INC 811203 020729	ISOPENTANE CYCLOPENTANE HEXANES PLUS	TRACE TRACE 0.3
OWNER ENCANA OIL & GAS (US	R100W A) INC 811203 020729	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	TRACE TRACE 0.3 0.0
OWNER ENCANA OIL & GAS (US COMPLETED	R100W. A) INC. B11203 D20729 AKOTA. 595	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	TRACE TRACE 0.3 0.0
OWNER ENCANA OIL & GAS (US COMPLETED	R100W. A) INC. B111203 020729 AKOTA. 595	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE TRACE 0.3 0.0 0.0 0.0
OWNER ENCANA OIL & GAS (US COMPLETED	R100W. A) INC. B11203 D20729 AKOTA. 595 11652	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	TRACE TRACE 0.3 0.0 0.0 0.0 0.0
OWNER ENCANA OIL & GAS (US COMPLETED	R100W. A) INC. B11203 D20729 AKOTA. 595 11652	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	TRACE TRACE 0.3 0.0 0.0 0.0 1.9
OWNER ENCANA OIL & GAS (US COMPLETED	R100W. A) INC. B11203 D20729 AKOTA. 595 11652	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE TRACE 0.3 0.0 0.0 0.0 1.9 0.01

^{*} 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

SAMPLE	20996	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	92.2
	RIO BLANCO	ETHANE	3.9
		PROPANE	1.2
	CORRAL CREEK	N-BUTANE	0.3
	RAL CREEK FEDERAL B NO. 4509	ISOBUTANE	0.2
	0510308385	N-PENTANE	0.1
	SEC. 31, T1S, R99W	ISOPENTANE	0.1
OWNER	ENCANA OIL & GAS (USA) INC.	CYCLOPENTANE	
COMPLETED	000415	HEXANES PLUS	0.3
SAMPLED	020729	NITROGEN	0.2
FORMATION	CRET-MANCOS B	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	8986	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	1.5
	947	HELIUM	0.01
OF LINT LOW, MICH D	541	HEATING VALUE*	1,072
		SPECIFIC GRAVITY	0.618
SAMPLE	20995	COMPONENT, MOLE PCT	
CTATE	COLODADO	METHANE	82.1
	COLORADO	ETHANE	9.6
	RIO BLANCO	PROPANE	4.5
	CORRAL CREEK	N-BUTANE	1.1
	SAGEBRUSH HILLS NO. 4502	ISOBUTANE	0.6
API	0510308082	N-PENTANE	
LOCATION		14-1 LINIANL	0.2
200/11014	SEC_30, T1S, R99W	ISOPENTANE	
			0.3
OWNER	SEC. 30, T1S, R99W.	ISOPENTANE	0.3
OWNER	SEC. 30, T1S, R99W ENCANA OIL & GAS (USA) INC.	ISOPENTANE	0.3 0.5
OWNERCOMPLETEDSAMPLED	SEC. 30, T1S, R99W. ENCANA OIL & GAS (USA) INC. 000518	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.3 0.5 0.4
OWNER COMPLETED SAMPLED FORMATION	SEC. 30, T1S, R99W ENCANA OIL & GAS (USA) INC 000518 020729	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.3 0.5 0.4 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	SEC. 30, T1S, R99W. ENCANA OIL & GAS (USA) INC. 000518 020729 CRET-SEGO 595	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.3 0.5 0.4 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SEC. 30, T1S, R99W. ENCANA OIL & GAS (USA) INC. 000518 020729 CRET-SEGO 595	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.3 0.5 0.4 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SEC. 30, T1S, R99W. ENCANA OIL & GAS (USA) INC. 000518 020729 CRET-SEGO 595 7264	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.3 0.5 0.4 0.0 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	SEC. 30, T1S, R99W ENCANA OIL & GAS (USA) INC. 000518 020729 CRET-SEGO 595 7264	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.3 0.5 0.4 0.0 0.0 0.0 0.0 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	SEC. 30, T1S, R99W. ENCANA OIL & GAS (USA) INC. 000518 020729 CRET-SEGO 595 7264	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.3 0.5 0.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

^{*} 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

	SAMPLE	21372	COMPONENT, MOLE PCT	
QTATE		COLORADO	METHANE	95.8
			ETHANE	0.6
		SAN MIGUEL	PROPANE	0.1
		DOUBLE EAGLE	N-BUTANE	TRACE
		FOSSIL FEDERAL 2-18	ISOBUTANE	TRACE
API		0511306099	N-PENTANE	0.0
		SEC 18, T44N, R16W	ISOPENTANE	TRACE
OWNER		CABOT OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED .		020907	HEXANES PLUS	TRACE
SAMPLED		040826	NITROGEN	3.2
FORMATION .	PERM-C	UTLER, PENN-HONAKER TRAIL	OXYGEN	
GEOLOGIC PF	ROVINCE CODE	585	ARGON	0.0
TRUE VERTIC	AL DEPTH (FT)	5884	HYDROGEN	TRACE
MEASURED D	EPTH	9380	HYDROGEN SULFIDE**	0.0
WELLHEAD PI	RESSURE PSIG	1140	CARBON DIOXIDE	0.1
	,	875	HELIUM	0.03
OI LIVI LOW,	WO D	0.0	HEATING VALUE*	985
			SPECIFIC GRAVITY	0.574
	SAMPLE	21373	COMPONENT, MOLE PCT	
CTATE		COLORADO	METHANE	94.1
			ETHANE	1.1
		SAN MIGUEL	PROPANE	0.2
		DOUBLE EAGLE	N-BUTANE	0.1
-		FOSSIL FEDERAL 4-20D	ISOBUTANE	0.1
API		0511306108	N-PENTANE	TRACE
LOCATION		SEC 20, T44N, R16W	ISOPENTANE	0.1
		CABOT OIL & GAS CORP.	CYCLOPENTANE	
OWNER				
		021120	HEXANES PLUS	0.2
COMPLETED		021120 040826	HEXANES PLUS NITROGEN	
COMPLETED				4.0
COMPLETED SAMPLED SAMPLED SAMPLED SAMPLED SOURCE	PERM-C	040826	NITROGEN	4.0
COMPLETED SAMPLED SAMPLED SAMPLED SAMPLED SAMPLED SECONDIC PROBLEM SECONDIC PROBLEM SAMPLES SA	PERM-C		NITROGEN	4.0 0.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PRITUE VERTICE	PERM-C ROVINCE CODE	040826. UTLER, PENN-HONAKER TRAIL 	NITROGEN	4.0 0.0 TRACE TRACE
COMPLETED SAMPLED SAMPLED SOME PROPERTIES TRUE VERTICE MEASURED D	PERM-C ROVINCE CODE CAL DEPTH (FT) EPTH	040826. UTLER, PENN-HONAKER TRAIL 585. 5765. 9730.	NITROGEN OXYGEN ARGON HYDROGEN	4.0 0.0 TRACE TRACE 0.0
COMPLETED SAMPLED SAMPLED SOME PROPERTY OF TRUE VERTICE MEASURED DOWN	PERM-C ROVINCE CODE CAL DEPTH (FT) EPTH RESSURE, PSIG	040826. UTLER, PENN-HONAKER TRAIL 585. 5765. 9730.	NITROGEN	4.0 0.0 TRACE TRACE 0.0
COMPLETED SAMPLED SAMPLED SOME PROPERTY OF TRUE VERTICE MEASURED DOWN	PERM-C ROVINCE CODE CAL DEPTH (FT) EPTH RESSURE, PSIG	040826. UTLER, PENN-HONAKER TRAIL 585. 5765. 9730.	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	4.0 0.0 TRACE TRACE 0.0 0.1

^{*} 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

SAMPLE	21368	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	95.6
COUNTY		ETHANE	1.1
FIELD		PROPANE	0.3
		N-BUTANE	0.1
WELL NAME		ISOBUTANE	0.1
API		N-PENTANE	TRACE
LOCATION		ISOPENTANE	0.1
OWNER	CABOT OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	021129	HEXANES PLUS	
SAMPLED	040826	NITROGEN	2.3
FORMATION	PENN-HONAKER TRAIL	OXYGEN	
GEOLOGIC PROVINCE CODE	585.	ARGON	
TRUE VERTICAL DEPTH (FT)	8045	HYDROGEN	
MEASURED DEPTH	9715	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
,		HEATING VALUE*	,
		SPECIFIC GRAVITY	0.581
SAMPLE	21370	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	94.2
		ETHANE	1.2
COUNTY		PROPANE	0.3
FIELD		N-BUTANE	0.1
WELL NAME		ISOBUTANE	0.1
API		N-PENTANE	0.1
LOCATION	SEC 18, T44N, R16W	ISOPENTANE	0.1
OWNER		CYCLOPENTANE	
COMPLETED	011206	HEXANES PLUS	0.2
SAMPLED	040826_	NITROGEN	3.3
-		NITROGEN	
FORMATION	PENN-HONAKER TRAIL		0.0
FORMATION	PENN-HONAKER TRAIL 585	OXYGEN ARGON HYDROGEN	0.0 TRACE
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PENN-HONAKER TRAIL 585. 7736.	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.0 TRACE TRACE
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PENN-HONAKER TRAIL 585 7736 9858	OXYGEN ARGON HYDROGEN	0.0 TRACE TRACE
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	PENN-HONAKER TRAIL 585. 7736. 9858	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.0 TRACE TRACE 0.0 0.4
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PENN-HONAKER TRAIL 585. 7736. 9858	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 TRACE TRACE 0.0 0.4 0.05

 $^{^{\}star}$ 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

SAMPLE	21369	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	86.5
		ETHANE	3.4
COUNTY		PROPANE	1.4
FIELD		N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.5
API	0511306119	N-PENTANE	0.2
LOCATION	SEC 18, T44N, R16W	ISOPENTANE	0.3
OWNER	CABOT OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	031015	HEXANES PLUS	0.5
SAMPLED	040826	NITROGEN	6.4
FORMATION	PENN-HONAKER TRAIL	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	8204	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	0.10
OI EITT EOTT, MOI D		HEATING VALUE*	1,051
		SPECIFIC GRAVITY	0.648
SAMPLE	21376	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	90.2
		ETHANE	1.1
COUNTY		PROPANE	0.3
FIELD		N-BUTANE	0.2
WELL NAME		ISOBUTANE	0.1
API	0511306074	N-PENTANE	0.1
LOCATION	SEC 13, T44N, R17W	ISOPENTANE	0.1
OWNER	CABOT OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	031128	HEXANES PLUS	0.3
SAMPLED	040826	NITROGEN	7.3
FORMATION	PENN-HONAKER TRAIL	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.2
		HELIUM	0.10
OPEN FLOW MOED	901		
OPEN FLOW, MCFD	891	HEATING VALUE*	973

^{*} 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

SAMPLE	21371	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	81.7
COUNTY		ETHANE	2.3
		PROPANE	0.6
FIELD		N-BUTANE	0.3
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.1
LOCATION	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ISOPENTANE	0.2
OWNER	CABOT OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	010829	HEXANES PLUS	0.6
SAMPLED	040826	NITROGEN	13.5
FORMATION	PENN-HONAKER TRAIL	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	8370	HYDROGEN	TRACE
MEASURED DEPTH	9525	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.0
OPEN FLOW, MCFD		HELIUM	0.17
OI LIVI LOVV, IVIOI D	5071	HEATING VALUE*	946
		SPECIFIC GRAVITY	0.657
SAMPLE	21375	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	84.9
		ETHANE	1.3
COUNTY		PROPANE	0.3
FIELD		N-BUTANE	0.2
WELL NAME	FOSSIL FEDERAL 1-13	ISOBUTANE	0.2
API	0511306091		
	001100001	N-PENTANE	0.1
LOCATION		N-PENTANE	
	SEC 13, T44N, R17W.		0.1
OWNER	SEC 13, T44N, R17W CABOT OIL & GAS CORP	ISOPENTANE	0.1
OWNER	SEC 13, T44N, R17W CABOT OIL & GAS CORP 021030	ISOPENTANE	0.1 0.3
OWNER	SEC 13, T44N, R17W, CABOT OIL & GAS CORP, 021030 040826	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.3 12.2
OWNER COMPLETED SAMPLED FORMATION	SEC 13, T44N, R17W. CABOT OIL & GAS CORP. 021030 040826. PENN-HONAKER TRAIL	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.3 12.2 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	SEC 13, T44N, R17W, CABOT OIL & GAS CORP, 021030 040826 PENN-HONAKER TRAIL 585	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.3 12.2 0.0
LOCATION	SEC 13, T44N, R17W. CABOT OIL & GAS CORP. 021030 040826. PENN-HONAKER TRAIL 585. 8267.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 0.3 12.2 0.0 0.1 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SEC 13, T44N, R17W. CABOT OIL & GAS CORP. 021030 040826 PENN-HONAKER TRAIL 585 8267. 9918	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.1 0.3 12.2 0.0 0.1 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SEC 13, T44N, R17W, CABOT OIL & GAS CORP, 021030 040826 PENN-HONAKER TRAIL 585 8267. 9918	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.1 0.3 12.2 0.0 0.1 TRACE 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SEC 13, T44N, R17W, CABOT OIL & GAS CORP, 021030 040826 PENN-HONAKER TRAIL 585 8267. 9918	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.3 12.2 0.0 0.1 TRACE 0.0 0.1

^{*} 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

SAMPLE	21374	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	97.3
		ETHANE	0.6
	SAN MIGUEL	PROPANE	0.1
	DOUBLE EAGLE	N-BUTANE	0.1
	FOSSIL FEDERAL 3-13	ISOBUTANE	0.1
	0511306092	N-PENTANE	TRACE
LOCATION	SEC 13, T44N, R17W	ISOPENTANE	TRACE
OWNER	CABOT OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	040530	HEXANES PLUS	0.1
SAMPLED	040826	NITROGEN	1.3
FORMATION	PENN-HONAKER TRAIL, ISMAY	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
. ,	9615	HYDROGEN SULFIDE**	0.0
	2200	CARBON DIOXIDE	0.3
		HELIUM	0.02
OPEN FLOW, MICFD	5456	HEATING VALUE*	1,013
		SPECIFIC GRAVITY	0.573
SAMPLE	20982	COMPONENT, MOLE PCT	
CTATE		METHANE	74.0
STATE		IVICTI DAVC	74.9
OOL IN ITS (COLORADO	ETHANE	
	GARFIELD	ETHANE	4.3
			4.3 2.0
FIELD	GARFIELD	ETHANE	4.3 2.0 0.7
FIELD	GARFIELD DOUGLAS PASS	ETHANE PROPANE N-BUTANE	4.3 2.0 0.7 0.4
FIELD WELL NAMEAPI	GARFIELD DOUGLAS PASS FEDERAL NO. 15-10	ETHANE PROPANE N-BUTANE ISOBUTANE	4.3 2.0 0.7 0.4 0.2
FIELD	GARFIELD DOUGLAS PASS FEDERAL NO. 15-10. 0504506430	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.3 2.0 0.7 0.4 0.2 0.2
FIELD WELL NAME API LOCATION OWNER	GARFIELD DOUGLAS PASS FEDERAL NO. 15-10 0504506430 SEC. 10, T6S, R103W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.3 2.0 0.7 0.4 0.2 0.2
FIELD	GARFIELD DOUGLAS PASS FEDERAL NO. 15-10. 0504506430. SEC. 10, T6S, R103W. TOM BROWN, INC.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	4.3 2.0 0.7 0.4 0.2 0.2
FIELD	GARFIELD DOUGLAS PASS FEDERAL NO. 15-10. 0504506430 SEC. 10, T6S, R103W TOM BROWN, INC. 830226	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.3 2.0 0.7 0.4 0.2 0.2 0.2
FIELD	GARFIELD DOUGLAS PASS FEDERAL NO. 15-10 0504506430 SEC. 10, T6S, R103W TOM BROWN, INC. 830226 020619	ETHANEPROPANEN-BUTANE	4.3 2.0 0.7 0.4 0.2 0.2 0.3 15.0
FIELD	GARFIELD DOUGLAS PASS FEDERAL NO. 15-10 0504506430 SEC. 10, T6S, R103W TOM BROWN, INC. 830226 020619 JURA-MORRISON 595	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.3 2.0 0.7 0.4 0.2 0.2 0.3 15.0 0.0
FIELD	GARFIELD DOUGLAS PASS FEDERAL NO. 15-10 0504506430 SEC. 10, T6S, R103W TOM BROWN, INC. 830226 020619 JURA-MORRISON 595	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.3 2.0 0.7 0.4 0.2 0.2 0.3 15.0 0.0
FIELD	GARFIELD DOUGLAS PASS FEDERAL NO. 15-10. 0504506430. SEC. 10, T6S, R103W. TOM BROWN, INC. 830226 020619. JURA-MORRISON 595.	ETHANE	4.3 2.0 0.7 0.4 0.2 0.2 0.3 15.0 0.0 0.1 TRACE
FIELD	GARFIELD DOUGLAS PASS FFDFRAL NO. 15-10 0504506430 SEC. 10, T6S, R103W TOM BROWN, INC. 830226 020619 JURA-MORRISON 595 5794	ETHANE	4.3 2.0 0.7 0.4 0.2 0.2 0.3 15.0 0.0 0.1 TRACE 0.0
FIELD	GARFIELD DOUGLAS PASS FEDERAL NO. 15-10. 0504506430. SEC. 10, T6S, R103W. TOM BROWN, INC. 830226 020619. JURA-MORRISON 595.	ETHANE	4.3 2.0 0.7 0.4 0.2 0.2 0.3 15.0 0.0 1TRACE 0.0 1.3

^{*} 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

	COMPONENT, MOLE PCT	
STATECOLO	PADO METHANE	87.2
	ETHANE	6.7
COUNTY RIO BL	PROPANE	2.9
FIELDGILSONITE	N-BUTANE	0.8
WELL NAME FEDERAL NO. 24-13 (WAS NOT FLO)	<u>MING)</u> ISOBUTANE	0.6
API05103	10030. N-PENTANE	0.2
LOCATIONSEC. 24, T1S, R	R104W ISOPENTANE	0.3
OWNER LONE MOUNTAIN PRODUCTION	ON CO. CYCLOPENTANE	
COMPLETED0	00726. HEXANES PLUS	0.4
SAMPLED0	20729 NITROGEN	0.3
FORMATIONCRET-CASTLE	GATE OXYGEN	0.0
GEOLOGIC PROVINCE CODE		0.0
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.1
, ,	HYDROGEN SUI FIDE**	0.0
MEASURED DEPTH	CARBON DIOXIDE	0.4
WELLHEAD PRESSURE, PSIG	HELIUM	0.03
OPEN FLOW, MCFD	<u>1325</u>	1,162
	SPECIFIC GRAVITY	0.659
SAMPLE 20832	COMPONENT, MOLE PCT	
	METHANE	80.2
	RADO.	
STATECOLO	RADO. METHANE	1.4
STATECOLO COUNTYSAN M	RADO. METHANE GUEL PROPANE REFEK	1.4 0.4
STATE COLO COUNTY SAN M FIELD HAMILTON C	RADO. METHANE	1.4 0.4 0.2
STATE COLO COUNTY SAN M FIELD HAMILTON C WELL NAME USA	RADO. METHANE	1.4 0.4 0.2 0.1
STATE COLO COUNTY SAN M FIELD HAMILTON C WELL NAME USA API 05113	RADO. METHANE	1.4 0.4 0.2 0.1
STATE COLO COUNTY SAN M FIELD HAMILTON C WELL NAME USA API 05113 LOCATION SEC. 35, T45N	RADO. METHANE	1.4 0.4 0.2 0.1 0.1
STATE COLO COUNTY SAN M FIELD HAMILTON C WELL NAME USA API 05113 LOCATION SEC. 35, T45N, OWNER TOM BROWN	RADO. METHANE	1.4 0.4 0.2 0.1 0.1
STATE COLO COUNTY SAN M FIELD HAMILTON C WELL NAME USA API 05113 LOCATION SEC. 35, T45N OWNER TOM BROWN COMPLETED 8	RADO. ETHANE ETHANE PROPANE REEK. N-BUTANE 1-35H. ISOBUTANE 06048. N-PENTANE R15W. ISOPENTANE VINC. CYCLOPENTANE 50520.	1.4 0.4 0.2 0.1 0.1 0.1
STATE COLO COUNTY SAN M FIELD HAMILTON C WELL NAME USA API 05113 LOCATION SEC. 35, T45N. OWNER TOM BROWN COMPLETED 8 SAMPLED 0	RADO. ETHANE PROPANE REEK. N-BUTANE 1-35H. ISOBUTANE 06048. N-PENTANE R15W. ISOPENTANE CYCLOPENTANE 50520. HEXANES PLUS 10829. NITROGEN	1.4 0.4 0.2 0.1 0.1 0.1
STATE COLO COUNTY SAN M FIELD HAMILTON C WELL NAME USA API 05113 LOCATION SEC. 35, T45N, OWNER TOM BROWN COMPLETED 8 SAMPLED 0 FORMATION PERM-CI	RADO. ETHANE PROPANE REEK. N-BUTANE 1-35H. ISOBUTANE 06048. N-PENTANE R15W. ISOPENTANE VYCLOPENTANE 50520. HEXANES PLUS 10829. NITROGEN OXYGEN	1.4 0.4 0.2 0.1 0.1 0.1 17.0
STATE COLO COUNTY SAN M FIELD HAMILTON C WELL NAME USA API 05113 LOCATION SEC. 35, T45N OWNER TOM BROWN COMPLETED 8 SAMPLED 0 FORMATION PERM-CI GEOLOGIC PROVINCE CODE	RADO. ETHANE FROPANE REEK. 1-35H. 150BUTANE 150BUTANE RI5W. ISOPENTANE LYCLOPENTANE HEXANES PLUS MIROGEN JILER OXYGEN ARGON	1.4 0.4 0.2 0.1 0.1 0.1 17.0 0.0
STATE COLO COUNTY SAN M FIELD HAMILTON C WELL NAME USA API 05113 LOCATION SEC. 35, T45N COMPLETED 8 SAMPLED 0 FORMATION PERM-CI GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	RADO. BETHANE FROPANE PROPANE 1-35H. BOBUTANE 1-35H. BOBUTANE N-PENTANE RISOPENTANE NINC CYCLOPENTANE DESCRIPTION NITROGEN JILER DXYGEN ARGON HYDROGEN LYDROGEN SHIEDE***	1.4 0.4 0.2 0.1 0.1 0.1 17.0 0.0 TRACE
STATE COLO COUNTY SAN M FIELD HAMILTON C WELL NAME USA API 05113 LOCATION SEC. 35, T45N COMPLETED 8 SAMPLED 0 FORMATION PERM-CI GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	RADO. IGUEL PROPANE PROPANE 1-35H. ISOBUTANE RESW. N-PENTANE RISW. ISOPENTANE SOPENTANE N-INC. CYCLOPENTANE SOS20. HEXANES PLUS NITROGEN JTLER OXYGEN ARGON HYDROGEN SULFIDE**	1.4 0.4 0.2 0.1 0.1 0.1 17.0 0.0 TRACE
STATE COLO COUNTY SAN M FIELD HAMILTON C WELL NAME USA API 05113 LOCATION SEC. 35, T45N OWNER TOM BROWN COMPLETED 8 SAMPLED 0 FORMATION PERM-CI GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	RADO. ETHANE	1.4 0.4 0.2 0.1 0.1 0.1 17.0 0.0 TRACE
STATE COLO COUNTY SAN M FIELD HAMILTON C WELL NAME USA API 05113 LOCATION SEC. 35, T45N OWNER TOM BROWN COMPLETED 8	RADO. ETHANE	1.4 0.4 0.2 0.1 0.1 0.1 17.0 0.0 TRACE 0.0 0.40

^{*} 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

SAMPLE	20833	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	78.8
COUNTY		ETHANE	1.4
		PROPANE	0.4
FIELD		N-BUTANE	0.2
WELL NAME		ISOBUTANE	0.1
API		N-PENTANE	0.1
LOCATION	SEC. 36, T45N, R15W	ISOPENTANE	
OWNER	TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED	860512	HEXANES PLUS	0.1
SAMPLED	010829	NITROGEN	18.3
FORMATION	PERM-CUTLER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	
TRUE VERTICAL DEPTH (FT)	2579	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.0
OPEN FLOW, MCFD		HELIUM	0.43
Of LIVI LOW, MOI D	300	HEATING VALUE*	857
		SPECIFIC GRAVITY	0.65
SAMPLE	04040		
SAIVII LL	21348	COMPONENT, MOLE PCT	
		,	77.8
STATE	COLORADO.	METHANE	
STATE	COLORADO. SAN MIGUEL	METHANE	1.3
STATE	COLORADO. SAN MIGUEL	METHANE	1.3 0.4
STATE COUNTY FIELD	COLORADO SAN MIGUEL HAMILTON CREEK	METHANE ETHANE PROPANE	1.3 0.4 0.2
STATE	COLORADO SAN MIGUEL HAMIL TON CREEK SHELL STATE 1-36C	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	1.3 0.4 0.2 0.2
STATE COUNTY FIELD WELL NAME	COLORADO. SAN MIGUEL HAMILTON CREEK. SHELL STATE 1-36C. 0511306047	METHANE ETHANE PROPANE N-BUTANE	1.3 0.4 0.2 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO SAN MIGUEL HAMILTON CREEK SHELL STATE 1-36C 0511306047 SEC 36, T45N, R15W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	1.3 0.4 0.2 0.2 0.1
STATE	COLORADO. SAN MIGUEL HAMILTON CREEK. SHELL STATE 1-36C. 0511306047. SEC 36, T45N, R15W. TOM BROWN, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.3 0.4 0.2 0.2 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	COLORADO SAN MIGUEL HAMILTON CREEK SHELL STATE 1-36C 0511306047 SEC 36, T45N, R15W TOM BROWN, INC. 840125	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE	1.3 0.4 0.2 0.2 0.1 0.1
STATE	COLORADO SAN MIGUEL HAMIL TON CREEK SHELL STATE 1-36C 0511306047 SEC 36, T45N, R15W TOM BROWN, INC. 840125	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.3 0.4 0.2 0.2 0.1 0.1 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	COLORADO SAN MIGUEL HAMILTON CREEK SHELL STATE 1-36C 0511306047 SEC 36, T45N, R15W TOM BROWN, INC. 840125 040823 PERM-CUTLER	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.3 0.4 0.2 0.2 0.1 0.1 0.2 19.2 0.0
STATE	COLORADO SAN MIGUEL HAMILTON CREEK SHELL STATE 1-36C 0511306047 SEC 36, T45N, R15W TOM BROWN, INC. 840125 040823 PERM-CUTLER 585	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.3 0.4 0.2 0.2 0.1 0.1 0.2 19.2 0.0 0.1
STATE	COLORADO. SAN MIGUEL HAMILTON CREEK. SHELL STATE 1-36C. 0511306047. SEC 36, T45N, R15W. TOM BROWN, INC. 840125. 040823. PERM-CUTLER. 585.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.3 0.4 0.2 0.2 0.1 0.1 0.2 19.2 0.0 0.1 TRACE
STATE	COLORADO SAN MIGUEL HAMILTON CREEK SHELL STATE 1-36C 0511306047 SEC 36, T45N, R15W TOM BROWN, INC. 840125 040823 PERM-CUTLER 585.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	1.3 0.4 0.2 0.1 0.1 0.2 19.2 0.0 0.1 TRACE
STATE	COLORADO SAN MIGUEL HAMILTON CREEK SHELL STATE 1-36C 0511306047 SEC 36, T45N, R15W TOM BROWN, INC 840125 040823 PERM-CUTLER 585	METHANE	1.3 0.4 0.2 0.1 0.1 0.1 0.2 19.2 0.0 0.1 TRACE 0.0
STATE	COLORADO SAN MIGUEL HAMILTON CREEK SHELL STATE 1-36C 0511306047 SEC 36, T45N, R15W TOM BROWN, INC 840125 040823 PERM-CUTLER 585	METHANE	1.3 0.4 0.2 0.1 0.1 0.2 19.2 0.0 0.1 TRACE 0.0 0.0

 $^{^\}star$ 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

METHANE	73.1
ETHANE	1.5
PROPANE	0.4
N-BUTANE	0.2
ISOBUTANE	0.2
N-PENTANE	0.1
ISOPENTANE	0.1
CYCLOPENTANE	
HEXANES PLUS	0.2
NITROGEN	23.6
OXYGEN	0.0
ARGON	TRACE
HYDROGEN	
HYDROGEN SULFIDE**	0.0
CARBON DIOXIDE	0.0
HELIUM	
ATING VALUE*	807
ECIFIC GRAVITY	0.675
MPONENT, MOLE PCT	
METHANE	95.0
ETHANE	1.1
PROPANE	0.3
N-BUTANE	0.2
ISOBUTANE	0.2
N-PENTANE	0.1
ISOPENTANE	0.1
CYCLOPENTANE	
HEXANES PLUS	0.2
NITROGEN	2.5
OVVOEN	0.0
OXYGEN	
ARGON	
ARGON	
ARGON	
ARGON HYDROGEN HYDROGEN SULFIDE** . CARBON DIOXIDE	
ARGON	0.04
A H C	

^{*} 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

SAMPLE	21347	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	95.5
		ETHANE	0.8
COUNTY		PROPANE	0.2
FIELD		N-BUTANE	0.1
WELL NAME	STATE 1-36H	ISOBUTANE	0.1
API	0511306047	N-PENTANE	TRACE
LOCATION	SEC 36, T45N, R15W	ISOPENTANE	0.1
OWNER	TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED	840125	HEXANES PLUS	0.2
SAMPLED	040823	NITROGEN	2.8
FORMATION	PENN-HERMOSA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	8430	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.05
OF LINT LOW, MICH D	5245	HEATING VALUE*	1,006
		SPECIFIC GRAVITY	0.582
SAMPLE	21349	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	88.3
COUNTY		ETHANE	2.1
·		PROPANE	1.0
FIELD		N-BUTANE	0.5
WELL NAME		ISOBUTANE	0.5
API	0511306123	N-PENTANE	0.2
LOCATION	SEC 36, T45N, R15W	ISOPENTANE	0.4
OWNER	TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED	031016	HEXANES PLUS	0.3
COMPLETEDSAMPLED		HEXANES PLUS	
	040823.		6.2
SAMPLEDFORMATION	040823 PENN-HERMOSA	NITROGEN	6.2
SAMPLED FORMATION GEOLOGIC PROVINCE CODE	040823. PENN-HERMOSA 585.	NITROGEN	6.2 0.0 0.1
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	040823 PENN-HERMOSA 585 7554	NITROGEN OXYGEN ARGON	6.2 0.0 0.1 TRACE
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	040823. PENN-HERMOSA 585. 7554.	NITROGEN OXYGEN ARGON HYDROGEN	6.2 0.0 0.1 TRACE 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	040823 PENN-HERMOSA 585 7554	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	6.2 0.0 0.1 TRACE 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	040823 PENN-HERMOSA 585 7554	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	6.2 0.0 0.1 TRACE 0.0 0.1

^{*} 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

SAMPLE	20834	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	98.7
COUNTY		ETHANE	0.4
		PROPANE	TRACE
FIELD		N-BUTANE	TRACE
WELL NAME		ISOBUTANE	TRACE
API	0511306047	N-PENTANE	0.0
LOCATION	SEC. 36, T45N, R15W.	ISOPENTANE	TRACE
OWNER	TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED	840125	HEXANES PLUS	TRACE
SAMPLED	010829	NITROGEN	0.6
FORMATION	PENN-HERMOSA U	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	8477	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.02
OI LIVI LOVV, IVIOI D	52-75	HEATING VALUE*	1,008
		SPECIFIC GRAVITY	0.561
SAMPLE	21324	COMPONENT, MOLE PCT	
3/ <u>-</u>		COMPONENT, MOLE PCT METHANE	87.8
STATE	COLORADO.		
STATE	COLORADO. WASHINGTON	METHANE	3.2
STATE COUNTY FIELD	COLORADO WASHINGTON LOBO	METHANE	3.2 1.5
STATE COUNTY FIELD WELL NAME	COLORADO. WASHINGTON LOBO. MILLER-REDIESS A-1.	METHANE ETHANE PROPANE	3.2 1.5 1.1
STATE COUNTY FIELD WELL NAME API	COLORADO. WASHINGTON LOBO. MILLER-REDIESS A-1. 0512107241.	METHANE ETHANE PROPANE N-BUTANE	3.2 1.5 1.1 0.9
STATE COUNTY FIELD WELL NAME API	COLORADO. WASHINGTON LOBO. MILLER-REDIESS A-1. 0512107241.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.2 1.5 1.1 0.9 0.8
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO WASHINGTON LOBO MILLER-REDIESS A-1 0512107241 SEC 23, T3N, R54W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.2 1.5 1.1 0.9 0.8 1.3
STATE	COLORADO. WASHINGTON LOBO. MILLER-REDIESS A-1. 0512107241 SEC 23, T3N, R54W PATRICK A. DOHENY.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.2 1.5 1.1 0.9 0.8 1.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	COLORADO WASHINGTON LOBO MILLER-REDIESS A-1 0512107241 SEC 23, T3N, R54W PATRICK A. DOHENY 831015	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE	3.2 1.5 1.1 0.9 0.8 1.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	COLORADO WASHINGTON LOBO MILLER-REDIESS A-1 0512107241 SEC 23, T3N, R54W PATRICK A DOHENY 831015 040527	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.2 1.5 1.1 0.9 0.8 1.3 1.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	COLORADO WASHINGTON LOBO MILLER-REDIESS A-1 0512107241 SEC 23, T3N, R54W PATRICK A. DOHENY 831015 040527 CRET-DAKOTA D & J	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN	3.2 1.5 1.1 0.9 0.8 1.3 1.4 1.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	COLORADO WASHINGTON LOBO MILLER-REDIESS A-1 0512107241 SEC 23, T3N, R54W PATRICK A DOHENY 831015 040527 CRET-DAKOTA D & J	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.2 1.5 1.1 0.9 0.8 1.3 1.4 1.9 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	COLORADO. WASHINGTON LOBO. MILLER-REDIESS A-1. 0512107241 SEC 23, T3N, R54W PATRICK A. DOHENY. 831015 040527 CRET-DAKOTA D & J 540. 4809.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.2 1.5 1.1 0.9 0.8 1.3 1.4 1.9 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLORADO WASHINGTON LOBO MILLER-REDIESS A-1 0512107241 SEC 23, T3N, R54W PATRICK A DOHENY 831015 040527 CRET-DAKOTA D & J 540 4809	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	3.2 1.5 1.1 0.9 0.8 1.3 1.4 1.9 0.0 0.0
STATE	COLORADO WASHINGTON LOBO MILLER-REDIESS A-1 0512107241 SEC 23, T3N, R54W PATRICK A DOHENY 831015 040527 CRET-DAKOTA D & J 540 4809	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	3.2 1.5 1.1 0.9 0.8 1.3 1.4 1.9 0.0 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLORADO WASHINGTON LOBO MILLER-REDIESS A-1 0512107241 SEC 23, T3N, R54W PATRICK A DOHENY 831015 040527 CRET-DAKOTA D & J 540 4809	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	3.2 1.5 1.1 0.9 0.8 1.3 1.4 1.9 0.0 0.0 0.0 TRACE

^{*} 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

SAMPLE	20988	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	81.1
		ETHANE	6.0
	RIO BLANCO	PROPANE	5.0
	LOWER HORSE DRAW	N-BUTANE	2.1
WELL NAME	GOVERNMENT NO. 1-3	ISOBUTANE	1.3
API	0510307927	N-PENTANE	0.6
LOCATION	SEC 1, T2S, R103W	ISOPENTANE	0.8
OWNER	GREAT NORTHERN GAS CO.	CYCLOPENTANE	
COMPLETED	770215	HEXANES PLUS	1.3
SAMPLED	020729	NITROGEN	1.5
FORMATION	CRET-EMERY	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595.	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	3008	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.1
		HELIUM	0.10
OPEN FLOW, MICFD	268_	HEATING VALUE*	1,282
		SPECIFIC GRAVITY	0.747
SAMPLE	21346	COMPONENT, MOLE PCT	
07475	001.004.00	METHANE	71.3
	COLORADO	ETHANE	3.5
	SAN MIGUEL	PROPANE	1.6
	MCINTYRE CANYON	N-BUTANE	0.6
	MCINTYRE CANYON 17-21	ISOBUTANE	0.6
API	0511306080	N-PENTANE	0.2
LOCATION	SEC 17, T44N, R19W	ISOPENTANE	0.3
OWNER	TOM BROWN, INC	CYCLOPENTANE	
COMPLETED	010619	HEXANES PLUS	0.3
SAMPLED	040823	NITROGEN	11.8
FORMATION	MISS-LEADVILLE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	0.1
		HYDROGEN	0.0
TRUE VERTICAL DEPTH (FT)	8398		0.4
. ,		HYDROGEN SULFIDE**	0.1
MEASURED DEPTH		HYDROGEN SULFIDE** CARBON DIOXIDE	
MEASURED DEPTH WELLHEAD PRESSURE, PSIG			8.7
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	8.7 0.95

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

SAMPLE	21318	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	76.1
-		ETHANE	4.9
COUNTY		PROPANE	5.7
FIELD		N-BUTANE	2.4
WELL NAME		ISOBUTANE	0.9
API	0507509258	N-PENTANE	0.7
LOCATION	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ISOPENTANE	0.7
OWNER	TIMKA RESOURCES, LTD	CYCLOPENTANE	
COMPLETED	930512	HEXANES PLUS	1.9
SAMPLED	040527	NITROGEN	5.7
FORMATION	CRET-DAKOTA J	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	540	ARGON	
TRUE VERTICAL DEPTH (FT)	4876	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.7
	55	HELIUM	0.30
OI EIVI EOVV, INIOI D		HEATING VALUE*	1,256
		SPECIFIC GRAVITY	0.783
SAMPLE	21321	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	63.0
		ETHANE	10.6
	WELD	PROPANE	12.2
	OASIS	N-BUTANE	4.8
WELL NAME		ISOBUTANE	1.4
	0512310341	N-PENTANE	1.5
LOCATION	SEC 33, T7N, R56W	ISOPENTANE	1.1
OWNER	WESTERN OPERATING CO.	CYCLOPENTANE	
COMPLETED	810807	HEXANES PLUS	2.0
SAMPLED	040527	NITROGEN	2.1
FORMATION	CRET-DAKOTA D	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	540	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	5795	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	1.2
WELLHEAD PRESSURE PSIG			
WELLHEAD PRESSURE, PSIG		HELIUM	
WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD		HELIUM HEATING VALUE*	

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

SAMPLE 20991	COMPONENT, MOLE PCT
STATECOLORADO	METHANE90.5.
	ETHANE4.8
COUNTY RIO BI ANCO	PROPANE1.5
FIELDPARK MOUNTAIN	N-BUTANE0.4
WELL NAME PARK MOUNTAIN FEDERAL NO. 9030	150BUTANE
API	N-PENTANE0.1
LOCATION SEC. 6, T3S, R103W	OOI LIVIANL
OWNER ENCANA OIL & GAS (USA) INC.	. CYCLOPENTANE
COMPLETED991214	HEXANES PLUS0.4
SAMPLED020729	NITROGEN0.7
FORMATION CRET-DAKOTA	OXYGEN0.0
GEOLOGIC PROVINCE CODE 595	ARGON0.0
TRUE VERTICAL DEPTH (FT)6958	HYDROGEN0.0
MEASURED DEPTH	HYDROGEN SULFIDE**0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE1.1
OPEN FLOW, MCFD 1600	HELIUM0.02
Of ENT LOW, MOI D	HEATING VALUE*1,089
	SPECIFIC GRAVITY0_629
SAMPLE 20992	COMPONENT, MOLE PCT
STATECOLORADO	METHANE 90.6
	ETHANE4.9
COUNTY RIO BLANCO	PROPANE1.6
FIELDPARK MOUNTAIN.	N-BUTANE0.4
WELL NAMEPARK MOUNTAIN FEDERAL NO. 9026.	ISOBUTANE0.3
API 0510310000	N-PENTANE0.1
LOCATION SEC. 7, T3S, R103W	ISOPENTANE0.2
OWNER FNCANA OIL & GAS (USA) INC	CYCLOPENTANE=
COMPLETED 000317	HEXANES PLUS0_4
SAMPLED020729	NITROGEN0.6
FORMATIONCRET-DAKOTA	OXYGEN0.0
0501 0010 0001 (1) 105 0005	ARGON0.0
GEOLOGIC PROVINCE CODE595	HYDROGEN0.0
	111 DI (OOLIV
TRUE VERTICAL DEPTH (FT)	
TRUE VERTICAL DEPTH (FT)	HYDROGEN SULFIDE**0.0. CARBON DIOXIDE1.0
TRUE VERTICAL DEPTH (FT)	HYDROGEN SULFIDE**
TRUE VERTICAL DEPTH (FT)	HYDROGEN SULFIDE**

^{*} 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

SAMPLE 20990	COMPONENT, MOLE PCT	
STATE COLORADO	METHANE	90.6
COUNTY RIO BLANCO	ETHANE	4.6
	PROPANE	1.6
FIELD PARK MOUNTAIN.	N-BUTANE	0.5
WELL NAME PARK MOUNTAIN NO. 13-8	ISOBUTANE	0.3
API0510309773.	N-PENTANE	0.1
LOCATIONSEC. 8, T3S, R103W	ISOPENTANE	0.2
OWNER CLX ENERGY, INC.	CYCLOPENTANE	
COMPLETED960429_	HEXANES PLUS	0.5
SAMPLED020729_	NITROGEN	
FORMATIONCRET-DAKOTA	OXYGEN	
GEOLOGIC PROVINCE CODE595	ARGON	0.0
TRUE VERTICAL DEPTH (FT)6512_	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.7
OPEN FLOW, MCFD	HELIUM	
51 ETT 2511, moi 5	HEATING VALUE*	1,099
	SPECIFIC GRAVITY	0.631
SAMPLE 20993	COMPONENT, MOLE PCT	
STATECOLORADO	METHANE	90.2
COUNTY RIO BLANCO	ETHANE	5.2
	PROPANE	1.7
FIELD PARK MOUNTAIN.	N-BUTANE	0.4
WELL NAMEPARK MOUNTAIN FEDERAL NO. 9011.	ISOBUTANE	0.3
API0510309775	N-PENTANE	0.1
LOCATION SEC. 5, T3S, R103W	ISOPENTANE	0.2
OWNER ENCANA OIL & GAS (USA) INC	CYCLOPENTANE	
COMPLETED 970326	HEXANES PLUS	0.4
SAMPLED020729_	NITROGEN	0.8
FORMATION CRET-DAKOTA, BUCKHORN	OXYGEN	0.0
	ARGON	
GEOLOGIC PROVINCE CODE595	HYDROGEN	0.0
GEOLOGIC PROVINCE CODE		
TRUE VERTICAL DEPTH (FT)6978_	HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (FT)	HYDROGEN SULFIDE**	0.8
TRUE VERTICAL DEPTH (FT)6978_ MEASURED DEPTH WELLHEAD PRESSURE, PSIG	HYDROGEN SULFIDE** CARBON DIOXIDEHELIUM	0.8
TRUE VERTICAL DEPTH (FT)	HYDROGEN SULFIDE**	0.8 0.02 1,101

^{*} 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

SAMPLE	20808	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	92.6
COUNTY		ETHANE	3.4
		PROPANE	1.0
FIELD		N-BUTANE	0.2
WELL NAME		ISOBUTANE	0.2
API		N-PENTANE	0.1
LOCATION	SEC. 21, T10S, R96W	ISOPENTANE	
OWNER	TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED	770909	HEXANES PLUS	0.2
SAMPLED	010828	NITROGEN	0.2
FORMATION	CRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	3541	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	2.1
OPEN FLOW, MCFD		HELIUM	0.01
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.614
SAMPLE	20807	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	92.0
		ETHANE	4.2
COUNTY		PROPANE	1.3
FIELD		N-BUTANE	0.3
WELL NAME		ISOBUTANE	0.2
API		N-PENTANE	0.1
LOCATION	SEC. 27, T10S, R96W	ISOPENTANE	0.1
OWNER	TOM BROWN, INC.	CYCLOPENTANE	- -
COMPLETED	740311	HEXANES PLUS	0.2
SAMPLED	010828	NITROGEN	0.3
FORMATION	CRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	
TRUE VERTICAL DEPTH (FT)	2963.	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
			0.01
OPEN FLOW MCFD		HELIUM	
OPEN FLOW, MCFD		HEATING VALUE*	

^{*} 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

SAMPLE	20956	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	86.2
COUNTY		ETHANE	5.2
		PROPANE	2.0
FIELD		N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION		ISOPENTANE	0.3
OWNER	PURE RESOURCES	CYCLOPENTANE	
COMPLETED	780524	HEXANES PLUS	0.5
SAMPLED	020618	NITROGEN	2.8
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595.	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	3962	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	1.6
OPEN FLOW, MCFD		HELIUM	0.23
OF LINT LOVY, IVIOL D	2110	HEATING VALUE*	1,092
		SPECIFIC GRAVITY	0.661
SAMPLE	20959	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	84.6
STATE		ETHANE	6.1
COUNTY		PROPANE	2.5
FIELD		N-BUTANE	0.7
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.3
LOCATION	SEC. 24, T7S, R105W	ISOPENTANE	0.3
OWNERLONE	MOUNTAIN PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	880712	HEXANES PLUS	0.5
SAMPLED	020618	NITROGEN	3.0
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595.	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	5468	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	1.4
WELLHEAD PRESSUIDE DOLC			0.20
WELLHEAD PRESSURE, PSIG		HELIUM	
WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD		HEATING VALUE*	

^{*} 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

SAMPLE	21319	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	77.7
COUNTY		ETHANE	7.5
		PROPANE	5.0
FIELD		N-BUTANE	1.8
WELL NAME		ISOBUTANE	0.7
API		N-PENTANE	0.5
LOCATION	SEC 7, T10N, R53W	ISOPENTANE	0.5
OWNER	ENPROP, INC.	CYCLOPENTANE	
COMPLETED	941108	HEXANES PLUS	
SAMPLED	040527	NITROGEN	3.3
FORMATION	CRET-DAKOTA J	OXYGEN	
GEOLOGIC PROVINCE CODE	540_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	5027	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	1.7
OPEN FLOW, MCFD		HELIUM	0.12
		HEATING VALUE*	,
		SPECIFIC GRAVITY	0.751
SAMPLE	20799	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	89.1
		ETHANE	5.7
COUNTY		PROPANE	1.8
FIELD		N-BUTANE	0.5
WELL NAME		ISOBUTANE	0.3
API	0507708134	N-PENTANE	0.1
LOCATION	SEC. 36, T9S, R97W	ISOPENTANE	0.2
OWNER	TOM BROWN, INC.	CYCLOPENTANE	<u></u>
COMPLETED	790301	HEXANES PLUS	0.3
		HEXANES PLUS NITROGEN	
SAMPLED	010827		0.4
SAMPLED	010827 CRET-CORCORAN	NITROGEN	0.4
SAMPLED FORMATION GEOLOGIC PROVINCE CODE	010827 CRET-CORCORAN 595	NITROGEN	0.4 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	010827 CRET-CORCORAN 595 3141	NITROGEN	0.4 0.0 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	010827 CRET-CORCORAN 595. 3141.	NITROGENOXYGENARGONHYDROGEN	0.4 0.0 0.0 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	010827 CRET-CORCORAN 595 3141	NITROGEN	0.4 0.0 0.0 0.0 0.0 1.6
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	010827 CRET-CORCORAN 595 3141	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.4 0.0 0.0 0.0 0.0 1.6

^{*} 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

SAMPLE	20794	COMPONENT, MOLE PCT	
STATE	COLOPADO	METHANE	90.1
		ETHANE	5.8
COUNTY		PROPANE	1.6
FIELD		N-BUTANE	0.4
WELL NAME		ISOBUTANE	0.3
API	0507708157	N-PENTANE	0.1
LOCATION		ISOPENTANE	0.2
OWNER	TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED	790510	HEXANES PLUS	0.2
SAMPLED	010827	NITROGEN	0.3
FORMATION	CRET-COZZETTE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	3091	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.8
OPEN FLOW, MCFD		HELIUM	0.03
OPEN FLOW, MOFD	1373	HEATING VALUE*	1,104
		SPECIFIC GRAVITY	0.629
SAMPLE	20798	COMPONENT, MOLE PCT	
STATE	COLOPADO	METHANE	89.2
		ETHANE	
	MECA		5.8
***************************************	MESA	PROPANE	
FIELD	SHIRE GULCH		1.9
FIELD	SHIRE GULCH FEDERAL 25-1	PROPANE	1.9 0.5
FIELD WELL NAMEAPI	SHIRE GULCH FEDERAL 25-1 0507708174	PROPANE N-BUTANE	1.9 0.5 0.3
FIELD	SHIRE GULCH FEDERAL 25-1 0507708174	PROPANEN-BUTANEISOBUTANE	1.9 0.5 0.3 0.1
FIELD WELL NAMEAPI	SHIRE GULCH FEDERAL 25-1 0507708174 SEC. 25, T9S, R97W	PROPANE N-BUTANE ISOBUTANE N-PENTANE	1.9 0.5 0.3 0.1 0.2
FIELD	SHIRE GULCH FEDERAL 25-1 0507708174 SEC. 25, T9S, R97W TOM BROWN, INC.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.9 0.5 0.3 0.1 0.2
FIELD	SHIRE GUI.CH. FEDERAL 25-1. 0507708174 SEC. 25, T9S, R97W. TOM BROWN, INC. 790723	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.9 0.5 0.3 0.1 0.2
FIELD	SHIRE GUI.CH FEDERAL 25-1 0507708174 SEC. 25, T9S, R97W TOM BROWN, INC. 790723 010827	PROPANE	1.9 0.5 0.3 0.1 0.2 0.3 0.4
WELL NAME	SHIRE GULCH. FEDERAL 25-1. 0507708174 SEC. 25, T9S, R97W TOM BROWN, INC. 790723 010827. CRET-COZZETTE	PROPANE	1.9 0.5 0.3 0.1 0.2 0.3 0.4 0.0
FIELD	SHIRE GULCH FEDERAL 25-1 0507708174 SEC. 25, T9S, R97W TOM BROWN, INC. 790723 010827 CRET-COZZETTE 595	PROPANE	1.9 0.5 0.3 0.1 0.2 0.3 0.4 0.0
WELL NAME	SHIRE GULCH FEDERAL 25-1 0507708174 SEC. 25, T9S, R97W TOM BROWN, INC. 790723 010827 CRET-COZZETTE 595. 3156.	PROPANE	1.9 0.5 0.3 0.1 0.2 0.3 0.4 0.0 0.0
FIELD	SHIRE GUI.CH. FEDERAL 25-1. 0507708174 SEC. 25, T9S, R97W. TOM BROWN, INC. 790723 010827. CRET-COZZETTE 595. 3156.	PROPANE	1.9 0.5 0.3 0.1 0.2 0.3 0.4 0.0 0.0
WELL NAME	SHIRE GULCH FEDERAL 25-1 0507708174 SEC. 25, T9S, R97W TOM BROWN, INC. 790723 010827 CRET-COZZETTE 595 3156.	PROPANE	1.9 0.5 0.3 0.1 0.2 0.3 0.4 0.0 0.0 0.0 1.3
FIELD	SHIRE GULCH FEDERAL 25-1 0507708174 SEC. 25, T9S, R97W TOM BROWN, INC. 790723 010827 CRET-COZZETTE 595 3156.	PROPANE	1.9 0.5 0.3 0.1 0.2 0.3 0.4 0.0 0.0 0.0 1.3

^{*} 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

SAMPLE	20797	COMPONENT, MOLE PCT	
STATE		METHANE	88.8
		ETHANE	6.3
COUNTY		PROPANE	1.9
FIELD		N-BUTANE	0.5
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	
LOCATION		ISOPENTANE	0.2
OWNER	TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED	940902	HEXANES PLUS	0.3
SAMPLED	010827	NITROGEN	0.3
FORMATION	CRET-COZZETTE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	3079	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	1.1
OPEN FLOW, MCFD		HELIUM	0.04
OPEN FLOW, MICFO	200	HEATING VALUE*	1,112
		SPECIFIC GRAVITY	0.64
SAMPLE	20965	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	78.6
STATE	COLORADO	METHANE	
STATE	COLORADO GARFIELD	,	4.1
STATE COUNTY FIELD	COLORADO GARFIELD SOUTH CANYON	METHANE	4.1 1.6
STATE	COLORADO GARFIELD SOUTH CANYON	METHANE ETHANE PROPANE	4.1 1.6 0.5
STATE COUNTY FIELD WELL NAME API	COLORADO. GARFIELD SOUTH CANYON. FEDERAL NO. 2-18. 0504506028	METHANE ETHANE PROPANE N-BUTANE	4.1 1.6 0.5 0.3
STATE	COLORADO. GARFIELD SOUTH CANYON. FEDERAL NO. 2-18. 0504506028	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.1 1.6 0.5 0.3 0.2
STATE COUNTY FIELD WELL NAME API	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 2-18. 0504506028 SEC. 18, T7S, R103W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.1 1.6 0.5 0.3 0.2
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 2-18 0504506028 SEC. 18, T7S, R103W PURE RESOURCES	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.1 1.6 0.5 0.3 0.2
STATE	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 2-18 0504506028 SEC. 18, T7S, R103W PURE RESOURCES. 730112	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE	4.1 1.6 0.5 0.3 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 2-18. 0504506028 SEC. 18, T7S, R103W PURE RESOURCES. 730112. 020618.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.1 1.6 0.5 0.3 0.2 0.2 0.2
STATE	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 2-18 0504506028 SEC. 18, T7S, R103W PURE RESOURCES 730112 020618 CRET-BUCKHORN	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.1 1.6 0.5 0.3 0.2 0.2 0.2 0.3 9.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 2-18 0504506028 SEC. 18, T7S, R103W PURE RESOURCES. 730112 020618 CRET-BUCKHORN 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.1 1.6 0.5 0.3 0.2 0.2 0.3 9.9 0.0
STATE	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 2-18 0504506028 SEC. 18, T7S, R103W PURE RESOURCES 730112 020618 CRET-BUCKHORN 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.1 1.6 0.5 0.3 0.2 0.2 0.3 9.9 0.0 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 2-18 0504506028 SEC. 18, T7S, R103W PURE RESOURCES 730112 020618 CRET-BUCKHORN 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGENARGON HYDROGEN	4.1 1.6 0.5 0.3 0.2 0.2 0.3 9.9 0.0 0.1 TRACE
STATE	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 2-18. 0504506028 SEC. 18, T7S, R103W PURE RESOURCES. 730112 020618 CRET-BUCKHORN 595. 4034	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	4.1 1.6 0.5 0.3 0.2 0.2 0.3 9.9 0.0 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 2-18. 0504506028 SEC. 18, T7S, R103W PURE RESOURCES. 730112 020618 CRET-BUCKHORN 595. 4034	METHANE	4.1 1.6 0.5 0.3 0.2 0.2 0.3 9.9 0.0 1. TRACE 0.0 3.8

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

SAMPLE	20955	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	87.8
COUNTY		ETHANE	4.2
		PROPANE	1.4
FIELD		N-BUTANE	0.4
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.2
LOCATION	SEC. 36, T7S, R105W	ISOPENTANE	0.2
OWNER	PURE RESOURCES	CYCLOPENTANE	
COMPLETED	800201	HEXANES PLUS	0.3
SAMPLED	020618	NITROGEN	3.9
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	4067	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	1.2
OPEN FLOW, MCFD		HELIUM	0.26
OI LIVI LOVV, WIOI D	107	HEATING VALUE*	1,048
		SPECIFIC GRAVITY	0.638
SAMPLE	20958	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	84.7
		ETHANE	4.9
COUNTY	GARFIELD	DDODANE	
FIELL)	OOLITIL OANDON	PROPANE	1.7
	SOUTH CANYON	N-BUTANE	
WELL NAME	FEDERAL NO. 1-17		0.5
WELL NAME	FEDERAL NO. 1-17	N-BUTANE	0.5 0.3
WELL NAME	FEDERAL NO. 1-17 0504506026	N-BUTANE	0.5 0.3 0.2
WELL NAMEAPILOCATION	FEDERAL NO. 1-17 0504506026 SEC. 17, T7S, R104W	N-BUTANEISOBUTANEN-PENTANE	0.5 0.3 0.2 0.2
WELL NAMEAPILOCATION	FEDERAL NO. 1-17 0504506026 SEC. 17, T7S, R104W PURE RESOURCES	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	0.5 0.3 0.2 0.2
WELL NAME	FEDERAL NO. 1-17. 0504506026 SEC. 17, T7S, R104W. PURE RESOURCES. 731127	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.5 0.3 0.2 0.2 0.3
WELL NAME	FEDERAL NO. 1-17 0504506026 SEC. 17, T7S, R104W PURE RESOURCES. 731127 020618	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUS	0.5 0.3 0.2 0.2 0.3 4.4
WELL NAME	FEDERAL NO. 1-17. 0504506026 SEC. 17, T7S, R104W. PURE RESOURCES. 731127 020618. CRET-DAKOTA.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUSNITROGEN	0.5 0.3 0.2 0.2 0.3 4.4 0.0
WELL NAME	FEDERAL NO. 1-17 0504506026 SEC. 17, T7S, R104W PURE RESOURCES 731127 020618 CRET-DAKOTA 595	N-BUTANE	0.5 0.3 0.2 0.2 0.3 4.4 0.0 TRACE
WELL NAME	FEDERAL NO. 1-17 0504506026 SEC. 17, T7S, R104W PURE RESOURCES. 731127 020618 CRET-DAKOTA. 595.	N-BUTANE	0.5 0.3 0.2 0.2 0.3 4.4 0.0 TRACE
WELL NAME	FEDERAL NO. 1-17. 0504506026 SEC. 17, T7S, R104W PURE RESOURCES 731127 020618 CRET-DAKOTA 595 4885	N-BUTANE	0.5 0.3 0.2 0.2 0.3 4.4 0.0 TRACE TRACE
WELL NAME	FEDERAL NO. 1-17 0504506026 SEC. 17, T7S, R104W PURE RESOURCES 731127 020618 CRET-DAKOTA 595 4885	N-BUTANE	0.5 0.3 0.2 0.2 0.3 4.4 0.0 TRACE TRACE 0.0
WELL NAME	FEDERAL NO. 1-17 0504506026 SEC. 17, T7S, R104W PURE RESOURCES 731127 020618 CRET-DAKOTA 595 4885	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.5 0.3 0.2 0.2 0.3 4.4 0.0 TRACE TRACE 0.0 2.3

 $^{^{\}star}$ 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

SAMPLE	20962	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	76.0
COUNTY		ETHANE	4.5
		PROPANE	1.7
FIELD		N-BUTANE	0.5
WELL NAME		ISOBUTANE	0.4
API	0504506754	N-PENTANE	0.2
LOCATION	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ISOPENTANE	0.2
OWNER LONE	MOUNTAIN PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	910821	HEXANES PLUS	0.4
SAMPLED	020618	NITROGEN	6.1
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	3650	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	9.7
		HELIUM	0.36
OPEN FLOW, MCFD	/40	HEATING VALUE*	955
		SPECIFIC GRAVITY	0.739
SAMPLE	20979	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	72.9
-		ETHANE	3.2
COUNTY		PROPANE	1.0
FIELD			<u> .U</u>
		N-BUTANE	
	FEDERAL NO. 11-7		0.3
	FEDERAL NO. 11-7	N-BUTANE	0.3
API	FEDERAL NO. 11-7 0504506984	N-BUTANE	0.3 0.2 0.1
API	FEDERAL NO. 11-7 0504506984 SEC. 11, T7S, R104W	N-BUTANEISOBUTANEN-PENTANE	0.3 0.2 0.1 0.1
WELL NAME API LOCATION OWNER COMPLETED	FEDERAL NO. 11-7 0504506984 SEC. 11, T7S, R104W TOM BROWN, INC.	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	0.3 0.2 0.1 0.1
API LOCATION OWNER	FEDERAL NO. 11-7. 0504506984 SEC. 11, T7S, R104W. TOM BROWN, INC. 951007	N-BUTANEISOBUTANEISOPENTANEISOPENTANECYCLOPENTANE	0.3 0.2 0.1 0.1
API LOCATION OWNER COMPLETED	FEDERAL NO. 11-7. 0504506984 SEC. 11, T7S, R104W TOM BROWN, INC. 951007. 020619.	N-BUTANEISOBUTANEISOPENTANEISOPENTANECYCLOPENTANEHEXANES PLUS	0.3 0.2 0.1 0.1 0.2 8.6
API LOCATION OWNER COMPLETED SAMPLED	FEDERAL NO. 11-7. 0504506984 SEC. 11, T7S, R104W TOM BROWN, INC. 951007. 020619.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.3 0.2 0.1 0.1 0.2 8.6 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	FEDERAL NO. 11-7. 0504506984 SEC. 11, T7S, R104W TOM BROWN, INC. 951007 020619 CRET-DAKOTA. 595	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.3 0.2 0.1 0.1 0.1 0.2 8.6 0.0 0.1
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	FEDERAL NO. 11-7 0504506984 SEC. 11, T7S, R104W TOM BROWN, INC. 951007 020619 CRET-DAKOTA 595.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.3 0.2 0.1 0.1 0.2 0.2 8.6 0.0 0.1 TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	FEDERAL NO. 11-7. 0504506984 SEC. 11, T7S, R104W TOM BROWN, INC. 951007 020619 CRET-DAKOTA 595. 5471	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.3 0.2 0.1 0.1 0.2 8.6 0.0 0.1 TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	FEDERAL NO. 11-7 0504506984 SEC. 11, T7S, R104W TOM BROWN, INC. 951007 020619 CRET-DAKOTA 595. 5471	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.3 0.2 0.1 0.1 0.1 0.2 8.6 0.0 0.1 TRACE 0.0 12.8
API LOCATION OWNER COMPLETED SAMPLED FORMATION	FEDERAL NO. 11-7 0504506984 SEC. 11, T7S, R104W TOM BROWN, INC. 951007 020619 CRET-DAKOTA 595. 5471	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.3 0.2 0.1 0.1 0.2 8.6 0.0 0.1 TRACE 0.0 12.8 0.47

^{*} 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

SAMPLE	20974	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	70.0
COUNTY		ETHANE	3.4
		PROPANE	1.3
FIELD		N-BUTANE	0.4
WELL NAME		ISOBUTANE	0.3
API	0504506171	N-PENTANE	0.2
LOCATION	SEC. 35, T7S, R104W	ISOPENTANE	0.2
OWNER	NATIONAL FUEL CORP.	CYCLOPENTANE	
COMPLETED	781129	HEXANES PLUS	0.4
SAMPLED	020619	NITROGEN	9.8
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3567	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	13.4
,		HELIUM	0.49
OPEN FLOW, MCFD	45	HEATING VALUE*	861
		ODEOLEIO ODAVITVI	0.70
		SPECIFIC GRAVITY	0.78
SAMPLE	20971	COMPONENT, MOLE PCT	0.78
-			
STATE	COLORADO.	COMPONENT, MOLE PCT	80.4
STATE	COLORADO. GARFIELD	COMPONENT, MOLE PCT METHANE ETHANE	80.4 4.5
STATE	COLORADO. GARFIELD	COMPONENT, MOLE PCT METHANE	80.4 4.5 1.9
STATECOUNTY	COLORADO GARFIELD SOUTH CANYON	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	80.4 4.5 1.9 0.6
STATE	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 18-12	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	80.4 4.5 1.9 0.6 0.3
STATE COUNTY FIELD WELL NAME	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 18-12 0504506636	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	80.4 4.5 1.9 0.6 0.3 0.2
STATE COUNTY FIELD WELL NAMEAPI	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 18-12 0504506636 SEC. 18, T7S, R103W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	80.4 4.5 1.9 0.6 0.3 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER LONE M	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 18-12 0504506636 SEC. 18, T7S, R103W 10UNTAIN PRODUCTION CO.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	80.4 4.5 1.9 0.6 0.3 0.2
SAMPLE STATE	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 18-12 0504506636 SEC. 18, T7S, R103W 10UNTAIN PRODUCTION CO. 900616	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	80.4 4.5 1.9 0.6 0.3 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER LONE N COMPLETED SAMPLED	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 18-12 0504506636 SEC. 18, T7S, R103W IOUNTAIN PRODUCTION CO. 900616 020618	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	80.4 4.5 1.9 0.6 0.3 0.2 0.2 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER LONE N COMPLETED SAMPLED FORMATION	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 18-12 0504506636 SEC. 18, T7S, R103W 10UNTAIN PRODUCTION CO. 900616 020618 CRET-DAKOTA	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN	80.4 4.5 1.9 0.6 0.3 0.2 0.2 0.3 9.3 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER LONE N COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 18-12 0504506636 SEC. 18, T7S, R103W IOUNTAIN PRODUCTION CO. 900616 020618 CRET-DAKOTA. 595	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	80.4 4.5 1.9 0.6 0.3 0.2 0.2 0.3 9.3 0.0 TRACE
STATE	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 18-12 0504506636 SEC. 18, T7S, R103W 10UNTAIN PRODUCTION CO. 900616 020618 CRET-DAKOTA 595	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	80.4 4.5 1.9 0.6 0.3 0.2 0.2 0.3 9.3 0.0 TRACE
STATE	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 18-12 0504506636 SEC. 18, T7S, R103W IOUNTAIN PRODUCTION CO. 900616 020618 CRET-DAKOTA 595	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	80.4 4.5 1.9 0.6 0.3 0.2 0.2 0.3 9.3 0.0 TRACE
STATE	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 18-12 0504506636 SEC. 18, T7S, R103W IOUNTAIN PRODUCTION CO. 900616 020618 CRET-DAKOTA 595	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	80.4 4.5 1.9 0.6 0.3 0.2 0.2 0.3 9.3 0.0 TRACE 0.0 0.0
STATE	COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 18-12 0504506636 SEC. 18, T7S, R103W IOUNTAIN PRODUCTION CO. 900616 020618 CRET-DAKOTA 595	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	80.4 4.5 1.9 0.6 0.3 0.2 0.2 0.3 9.3 0.0 TRACE 0.0 0.0

^{*} 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

20957	COMPONENT, MOLE PCT	
COLORADO	METHANE	79.7
	ETHANE	7.5
	PROPANE	3.3
	N-BUTANE	1.0
	ISOBUTANE	0.5
SEC_13, T7S, R105W	ISOPENTANE	0.4
PURE RESOURCES	CYCLOPENTANE	
820811	HEXANES PLUS	0.6
020618	NITROGEN	4.8
CRET-DAKOTA	OXYGEN	0.0
595		
4713	HYDROGEN	TRACE
	HYDROGEN SULFIDE**	0.0
	CARBON DIOXIDE	1.4
	HELIUM	0.49
(20.	HEATING VALUE*	1,127
	SPECIFIC GRAVITY	0.703
20949	COMPONENT MOLE DOT	
20343	COMPONENT, MOLE PCT	
	METHANE	66.0
COLORADO		
COLORADO GARFIELD	METHANE	3.7
COLORADO GARFIELD SOUTH CANYON	METHANE	3.7 1.7
COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 27-11	METHANE ETHANE PROPANE	3.7 1.7 0.7
COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 27-11. 0504506107	METHANE ETHANE PROPANE N-BUTANE	3.7 1.7 0.7 0.4
COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 27-11	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.7 1.7 0.7 0.4 0.3
COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 27-11. 0504506107	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.7 1.7 0.7 0.4 0.3 0.4
COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 27-11 0504506107 SEC. 27, T7S, R104W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.7 1.7 0.7 0.4 0.3 0.4
COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 27-11 0504506107 SEC. 27, T7S, R104W PURE RESOURCES	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.7 1.7 0.7 0.4 0.3 0.4
COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 27-11 0504506107 SEC. 27, T7S, R104W PURE RESOURCES. 770626	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.7 1.7 0.7 0.4 0.3 0.4 0.7 9.4
COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 27-11 0504506107 SEC. 27, T7S, R104W PURE RESOURCES. 770626	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.7 1.7 0.7 0.4 0.3 0.4 0.7 9.4 0.0
COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 27-11 0504506107 SEC. 27, T7S, R104W PURE RESOURCES 770626 020617 CRET-DAKOTA	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	3.7 1.7 0.7 0.4 0.3 0.4 0.7 9.4 0.0 0.1
COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 27-11 0504506107 SEC. 27, T7S, R104W PURE RESOURCES. 770626 020617 CRET-DAKOTA. 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.7 1.7 0.7 0.4 0.3 0.4 0.7 9.4 0.0 0.1
COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 27-11 0504506107 SEC. 27, T7S, R104W PURE RESOURCES 770626 020617 CRET-DAKOTA 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	3.7 1.7 0.7 0.4 0.3 0.4 0.7 9.4 0.0 0.1 TRACE
COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 27-11 0504506107 SEC. 27, T7S, R104W PURE RESOURCES. 770626 020617 CRET-DAKOTA 595. 3705	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	3.7 1.7 0.7 0.4 0.3 0.4 0.7 9.4 0.0 0.1 TRACE 0.0
COLORADO GARFIELD SOUTH CANYON FEDERAL NO. 27-11 0504506107 SEC. 27, T7S, R104W PURE RESOURCES 770626 020617 CRET-DAKOTA 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	
	COLORADO GAREJELD. SOUTH CANYON. FULLER USA NO. 13-16 0504506414. SEC. 13, T7S, R105W. PURE RESOURCES 820811. 020618. CRET-DAKOTA. 595. 4713.	COLORADO GAREJELD. SOUTH CANYON. FULLER USA NO. 13-16 0504506414 N-PENTANE SEC. 13, T7S, R105W. PURE RESOURCES 820811 HEXANES PLUS 020618. CRET-DAKOTA 595 A713 HYDROGEN HYDROGEN CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY

^{*} 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

SAMPLE	20970	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	77.2
	GARFIELD	ETHANE	5.5
	SOUTH CANYON	PROPANE	2.9
		N-BUTANE	1.0
	FEDERAL NO. 3-32	ISOBUTANE	0.5
	0504506029	N-PENTANE	0.4
	SEC. 32, T6S, R103W	ISOPENTANE	
	LONE MOUNTAIN PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	730503	HEXANES PLUS	
SAMPLED	020618	NITROGEN	7.5
FORMATION	CRET-DAKOTA	OXYGEN	
GEOLOGIC PROVINCE CO	ODE595_	ARGON	TRACE
TRUE VERTICAL DEPTH ((FT)4264	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	PSIG	CARBON DIOXIDE	3.5
,	1925	HELIUM	0.50
OI LIVI LOVV, MOI D	1020	HEATING VALUE*	1,058
		SPECIFIC GRAVITY	0.722
SAMPLE	20980	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	67.5
		ETHANE	3.1
	GARFIELD	PROPANE	1.1
	SOUTH CANYON		
		N-BUTANE	0.4
WELL NAME	FEDERAL NO. 1-12	N-BUTANE	
WELL NAME			0.2
WELL NAME	FEDERAL NO. 1-12	ISOBUTANE	0.2 0.1
WELL NAMEAPI	FEDERAL NO. 1-12 0504506105	ISOBUTANE	0.2 0.1 0.1
WELL NAMEAPI	FEDERAL NO. 1-12 0504506105 SEC. 12, T7S, R104W	ISOBUTANE N-PENTANE ISOPENTANE	0.2 0.1 0.1
WELL NAME	FEDERAL NO. 1-12 0504506105 SEC. 12, T7S, R104W TOM BROWN, INC.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.2 0.1 0.1
WELL NAME	FEDERAL NO. 1-12 0504506105 SEC. 12, T7S, R104W TOM BROWN, INC. 770801	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2 0.1 0.1 0.3 11.0
WELL NAME	FEDERAL NO. 1-12 0504506105 SEC. 12, T7S, R104W TOM BROWN, INC. 770801 020619	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.2 0.1 0.1 0.3 11.0 0.0
WELL NAME	FEDERAL NO. 1-12 0504506105 SEC. 12, T7S, R104W TOM BROWN, INC. 770801 020619 CRET-DAKOTA	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.2 0.1 0.1 0.3 11.0 0.0
WELL NAME	FEDERAL NO. 1-12 0504506105 SEC. 12, T7S, R104W TOM BROWN, INC. 770801 020619 CRET-DAKOTA DDE 595. (FT) 5540.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.1 0.1 0.3 11.0 0.0 0.1
WELL NAME	FEDERAL NO. 1-12 0504506105 SEC. 12, T7S, R104W TOM BROWN, INC. 770801 020619 CRET-DAKOTA DDE 595 (FT) 5540.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.2 0.1 0.1 0.3 11.0 0.0 0.1 0.0
WELL NAME	FEDERAL NO. 1-12 0504506105 SEC. 12, T7S, R104W TOM BROWN, INC. 770801 020619 CRET-DAKOTA DDE 595 (FT) 5540	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.2 0.1 0.1 0.3 11.0 0.0 0.1 0.0 15.3
WELL NAME	FEDERAL NO. 1-12 0504506105 SEC. 12, T7S, R104W TOM BROWN, INC. 770801 020619 CRET-DAKOTA DDE 595 (FT) 5540.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.2 0.1 0.1 0.3 11.0 0.0 0.1 0.0 15.3 0.57

^{*} 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

SAMPLE 20968	COMPONENT, MOLE PCT	
STATE COLORADO	METHANE	59.7
	ETHANE	2.5
COUNTY GARFIELD	PROPANE	0.9
FIELDSOUTH CANYON	N-BUTANE	0.3
WELL NAME FEDERAL NO. 1-31	ISOBUTANE	0.2
API0504506031_	N-PENTANE	0.1
LOCATIONSEC. 31, T6S, R103W.	ISOPENTANE	0.1
OWNERLONE MOUNTAIN PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.2
SAMPLED020618_	NITROGEN	11.3
FORMATIONCRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE595	ARGON	0.1
TRUE VERTICAL DEPTH (FT)4910	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	24.2
OPEN FLOW, MCFD 328	HELIUM	0.58
OPEN FLOW, INICED	HEATING VALUE*	700
	SPECIFIC GRAVITY	0.867
SAMPLE 20976	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT METHANE	60.4
STATECOLORADO_		
STATECOLORADO_ COUNTYGARFIELD_	METHANE	2.8
STATE COLORADO_ COUNTY GARFIELD FIELD SOUTH CANYON_	METHANE	2.8 1.1
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME YOUNG CATTLE CO. NO. 24-12	METHANE ETHANE PROPANE	2.8 1.1 0.4
STATE COLORADO_ COUNTY GARFIELD FIELD SOUTH CANYON_ WELL NAME YOUNG CATTLE CO. NO. 24-12 API 0504506346	METHANE ETHANE PROPANE N-BUTANE	2.8 1.1 0.4 0.2
STATE COLORADO_ COUNTY GARFIELD FIELD SOUTH CANYON_ WELL NAME YOUNG CATTLE CO. NO. 24-12 API 0504506346	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	2.8 1.1 0.4 0.2 0.1
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME YOUNG CATTLE CO. NO. 24-12 API 0504506346 LOCATION SEC. 24, T6S, R104W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	2.8 1.1 0.4 0.2 0.1 0.1
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME YOUNG CATTLE CO. NO. 24-12 API 0504506346 LOCATION SEC. 24, T6S, R104W OWNER TOM BROWN, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	2.8 1.1 0.4 0.2 0.1 0.1
STATE COLORADO_ COUNTY GARFIELD FIELD SOUTH CANYON_ WELL NAME YOUNG CATTLE CO. NO. 24-12_ API 0504506346_ LOCATION SEC. 24, T6S, R104W_ OWNER TOM BROWN, INC. COMPLETED 810829_	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	2.8 1.1 0.4 0.2 0.1 0.1
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME YOUNG CATTLE CO. NO. 24-12 API 0504506346 LOCATION SEC. 24, T6S, R104W OWNER TOM BROWN, INC. COMPLETED 810829 SAMPLED 020619	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.8 1.1 0.4 0.2 0.1 0.1 0.3
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME YOUNG CATTLE CO. NO. 24-12 API 0504506346 LOCATION SEC. 24, T6S, R104W OWNER TOM BROWN, INC. COMPLETED 810829 SAMPLED 020619 FORMATION CRET-DAKOTA	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	2.8 1.1 0.4 0.2 0.1 0.1 0.3 11.6
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME YOUNG CATTLE CO. NO. 24-12 API 0504506346 LOCATION SEC. 24, T6S, R104W OWNER TOM BROWN, INC. COMPLETED 810829 SAMPLED 020619 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 595.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	2.8 1.1 0.4 0.2 0.1 0.1 0.3 11.6 0.0
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME YOUNG CATTLE CO. NO. 24-12 API 0504506346 LOCATION SEC. 24, T6S, R104W OWNER TOM BROWN, INC. COMPLETED 810829 SAMPLED 020619 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 595 TRUE VERTICAL DEPTH (FT) 4523	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	2.8 1.1 0.4 0.2 0.1 0.1 0.3 11.6 0.0 0.1
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	2.8 1.1 0.4 0.2 0.1 0.1 0.3 11.6 0.0 0.1 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	2.8 1.1 0.4 0.2 0.1 0.1 0.3 11.6 0.0 0.1 0.0 0.0
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME YOUNG CATTLE CO. NO. 24-12 API 0504506346 LOCATION SEC. 24, T6S, R104W OWNER TOM BROWN, INC. COMPLETED 810829 SAMPLED 020619 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	2.8 1.1 0.4 0.2 0.1 0.1 0.3 11.6 0.0 0.1 0.0 0.0 22.4 0.59

^{*} 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

SAMPLE	20978	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	62.3
	GARFIELD	ETHANE	2.9
		PROPANE	1.1
	SOUTH CANYON	N-BUTANE	0.3
	YOUNG CATTLE NO. 12-B	ISOBUTANE	0.2
	0504506214	N-PENTANE	0.1
LOCATION	SEC. 12, T6S, R104W	ISOPENTANE	0.1
OWNER	TOM BROWN, INC.	CYCLOPENTANE	
COMPLETED	791121	HEXANES PLUS	0.2
SAMPLED	020619	NITROGEN	11.7
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	5251	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	20.3
	2247	HELIUM	0.62
OI EIVI EOVV, MOI D	2271	HEATING VALUE*	749
		SPECIFIC GRAVITY	0.84
SAMPLE	20966	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	64.3
	COLORADO	ETHANE	2.9
	GARFIELD	PROPANE	1.1
	SOUTH CANYON.	N-BUTANE	0.4
WELL NAME	SOUTH CANYON FEDERAL NO. 3.	ISOBUTANE	0.2
API	0504505062	NI DENITANIE	
		N-PENTANE	0.1
LOCATION	SEC. 7, T7S, R103W	ISOPENTANE	
	SEC. 7, T7S, R103W TOM BROWN, INC.		0.1
OWNER	······································	ISOPENTANE	0.1
OWNER	TOM BROWN, INC.	ISOPENTANE	0.1 0.2
OWNER COMPLETED SAMPLED	TOM BROWN, INC. 580113	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.2 12.1
OWNER COMPLETED SAMPLED FORMATION	TOM BROWN, INC	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.2 12.1 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	TOM BROWN, INC	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.2 12.1 0.0 0.1
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) .	TOM BROWN, INC. 580113 020618 CRET-DAKOTA 595 3840	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 0.2 12.1 0.0 0.1
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) . MEASURED DEPTH	TOM BROWN, INC. 580113 020618 CRET-DAKOTA 595 3840	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.1 0.2 12.1 0.0 0.1 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) . MEASURED DEPTH WELLHEAD PRESSURE, PSIG	TOM BROWN, INC. 580113 020618 CRET-DAKOTA 595 3840	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.1 0.2 12.1 0.0 0.1 0.0 17.8
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) . MEASURED DEPTH WELLHEAD PRESSURE, PSIG	TOM BROWN, INC. 580113 020618 CRET-DAKOTA 595 3840	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.2 12.1 0.0 0.1 0.0 17.8 0.62

^{*} 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

	COMPONENT, MOLE PCT	
STATECOLORADO	METHANE	64.2
COUNTY GARFIELD	ETHANE	3.1
	PROPANE	1.4
FIELD SOUTH CANYON	N-BUTANE	0.5
WELL NAME SOUTH CANYON FEDERAL NO. 2	ISOBUTANE	0.3
API0504505086	N-PENTANE	0.2
LOCATION SEC. 35, T6S, R104W	ISOPENTANE	0.2
OWNERTOM BROWN, INC.	CYCLOPENTANE	
COMPLETED570502_	HEXANES PLUS	0.4
SAMPLED020619_	NITROGEN	13.5
FORMATIONCRET-DAKOTA_	OXYGEN	0.0
GEOLOGIC PROVINCE CODE595	ARGON	0.1
TRUE VERTICAL DEPTH (FT)4039	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG 736	CARBON DIOXIDE	15.4
,	HELIUM	0.66
OPEN FLOW, MCFD2100	HEATING VALUE*	803
	SPECIFIC GRAVITY	0.815
SAMPLE 20961	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT METHANE	84.8
STATECOLORADO	METHANE	
STATECOLORADO	,	4.4
STATE COLORADO_ COUNTY GARFIELD FIELD SOUTH CANYON_	METHANE	4.4 1.6
STATE COLORADO_ COUNTY GARFIELD FIELD SOUTH CANYON_	METHANE ETHANE PROPANE	4.4 1.6 0.5
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME FEDERAL NO. 33-14	METHANE ETHANE PROPANE N-BUTANE	4.4 1.6 0.5 0.3
STATE COLORADO_ COUNTY GARFIELD FIELD SOUTH CANYON_ WELL NAME FEDERAL NO. 33-14_ API 0504507694_	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.4 1.6 0.5 0.3
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME FEDERAL NO. 33-14 API 0504507694 LOCATION SEC. 33, T7S, R104W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.4 1.6 0.5 0.3 0.2
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME FEDERAL NO. 33-14 API 0504507694 LOCATION SEC. 33, T7S, R104W OWNER LONE MOUNTAIN PRODUCTION CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.4 1.6 0.5 0.3 0.2
STATE	METHANE ETHANE PROPANE N-BUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	4.4 1.6 0.5 0.3 0.2 0.2
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME FEDERAL NO. 33-14 API 0504507694 LOCATION SEC. 33, T7S, R104W OWNER LONE MOUNTAIN PRODUCTION CO. COMPLETED 010309 SAMPLED 020618	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.4 1.6 0.5 0.3 0.2 0.2 0.2
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME FEDERAL NO. 33-14 API 0504507694 LOCATION SEC. 33, T7S, R104W OWNER LONE MOUNTAIN PRODUCTION CO. COMPLETED 010309 SAMPLED 020618 FORMATION CRET-DAKOTA, JURA-MORRISON	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.4 1.6 0.5 0.3 0.2 0.2 0.2 0.4 4.2
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.4 1.6 0.5 0.3 0.2 0.2 0.4 4.2 0.0
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME FEDERAL NO. 33-14 API 0504507694 LOCATION SEC. 33, T7S, R104W OWNER LONE MOUNTAIN PRODUCTION CO. COMPLETED 010309 SAMPLED 020618 FORMATION CRET-DAKOTA, JURA-MORRISON GEOLOGIC PROVINCE CODE 595 TRUE VERTICAL DEPTH (FT) 3621	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.4 1.6 0.5 0.3 0.2 0.2 0.4 4.2 0.0 TRACE
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME FEDERAL NO. 33-14 API 0504507694 LOCATION SEC. 33, T7S, R104W OWNER LONE MOUNTAIN PRODUCTION CO. COMPLETED 010309 SAMPLED 020618 FORMATION CRET-DAKOTA. JURA-MORRISON GEOLOGIC PROVINCE CODE 595 TRUE VERTICAL DEPTH (FT) 3621 MEASURED DEPTH	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.4 1.6 0.5 0.3 0.2 0.2 0.4 4.2 0.0 TRACE
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	4.4 1.6 0.5 0.3 0.2 0.2 0.4 4.2 0.0 TRACE TRACE
STATE COLORADO COUNTY GARFIELD FIELD SOUTH CANYON WELL NAME FEDERAL NO. 33-14	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	4.4 1.6 0.5 0.3 0.2 0.2 0.4 4.2 0.0 TRACE TRACE 0.0 3.1

^{*} 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

SAMPLE	20954	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	77.9
	GARFIELD	ETHANE	5.6
	SOUTH CANYON	PROPANE	2.6
		N-BUTANE	1.0
	FEDERAL NO. 6-13	ISOBUTANE	0.6
	0504506159	N-PENTANE	0.4
	SEC. 6, T8S, R104W	ISOPENTANE	0.5
OWNER	PURE RESOURCES	CYCLOPENTANE	
COMPLETED	790519	HEXANES PLUS	
SAMPLED	020618	NITROGEN	9.2
FORMATION	CRET-DAKOTA, JURA-MORRISON	OXYGEN	
GEOLOGIC PROVINCE COL	DE595.	ARGON	TRACE
TRUE VERTICAL DEPTH (F	T)3724	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE. PS	SIG	CARBON DIOXIDE	1.1
,	3752	HELIUM	0.47
		HEATING VALUE*	,
		SPECIFIC GRAVITY	0.71
SAMPLE	20964	COMPONENT, MOLE PCT	
CTATE	COLORADO.	METHANE	69.4
		ETHANE	3.5
	GARFIELD	PROPANE	1.5
	SOUTH CANYON.	N-BUTANE	0.6
	FEDERAL NO. 26-4	ISOBUTANE	0.4
API	0504506753	N-PENTANE	0.2
LOCATION	SEC. 26, T7S, R104W	ISOPENTANE	0.3
OWNER	LONE MOUNTAIN PRODUCTION CO.	CYCLOPENTANE	==
COMPLETED	910826	HEXANES PLUS	0.5
SAMPLED	020618	NITROGEN	8.9
FORMATION	CRET-DAKOTA, JURA-MORRISON	OXYGEN	0.0
GEOLOGIC PROVINCE COL	DE595_	ARGON	0.1
OLOLOGIO I NOVINOL GOL		HYDROGEN	0.0
	T)3808_		
TRUE VERTICAL DEPTH (F	T)3808.	HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (F		HYDROGEN SULFIDE** CARBON DIOXIDE	
TRUE VERTICAL DEPTH (F MEASURED DEPTH WELLHEAD PRESSURE, PS	GIG		14.3
TRUE VERTICAL DEPTH (F MEASURED DEPTH WELLHEAD PRESSURE, PS		CARBON DIOXIDE	14.3 0.49

^{*} 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

SAMPLE	20945	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	83.3
COUNTY		ETHANE	4.4
		PROPANE	1.6
FIELD		N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION		ISOPENTANE	0.2
OWNER LINN BE	ROTHERS OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	811120	HEXANES PLUS	0.3
SAMPLED	020617	NITROGEN	8.0
FORMATION	JURA-MORRISON	OXYGEN	
GEOLOGIC PROVINCE CODE	595	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	3228	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.5
OPEN FLOW, MCFD		HELIUM	0.47
OI LIVI LOVV, IVIOI D		HEATING VALUE*	1,023
		SPECIFIC GRAVITY	0.656
SAMPLE	20908	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	60.3
COUNTY		ETHANE	5.6
FIELD		PROPANE	3.5
WELL NAME		N-BUTANE	1.1
		ISOBUTANE	0.4
API	0500906131	N-PENTANE	
	050 5 5000 54044		
	SEC. 5, T32S, R42W	ISOPENTANE	0.2
OWNERSAWTOOT	H ENERGY PARTNERS LLC	CYCLOPENTANE	-
OWNERSAWTOOT	H ENERGY PARTNERS LLC		-
OWNERSAWTOOT	H ENERGY PARTNERS LLC. 760613	CYCLOPENTANE	0.2
OWNERSAWTQOT COMPLETED SAMPLED	H ENERGY PARTNERS.LLC. 760613 011031	CYCLOPENTANEHEXANES PLUS	
OWNERSAWTOOT COMPLETED SAMPLED FORMATION	H ENERGY PARTNERS LLC. 760613 011031 PENN-TOPEKA	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	27.6 0.1
OWNERSAWTOOT	H ENERGY PARTNERS I.L.C. 760613 011031 PENN-TOPEKA 360	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.2 27.6 0.0 0.1
OWNERSAWTQOT COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	H ENERGY PARTNERS LLC. 760613 011031 PENN-TOPEKA 360. 3194	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 27.6 0.0 0.1
OWNERSAWTOOT COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PENN-TOPEKA	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.2 27.6 0.0 0.1 0.0
OWNERSAWTQOT COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	H ENERGY PARTNERS LLC. 760613 011031 PENN-TOPEKA 360. 3194 3259 180.	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.2 27.6 0.0 0.1 0.0 0.0 0.1
OWNERSAWTQOT COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	H ENERGY PARTNERS LLC. 760613 011031 PENN-TOPEKA 360. 3194 3259 180.	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	((((((((((((((((((((
OWNERSAWTQOT COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	H ENERGY PARTNERS LLC. 760613 011031 PENN-TOPEKA 360. 3194 3259 180.	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0. 27. 0. 0. 0. 0. 0. 0. 0. 87.

^{*} 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

SAMPLE	20907	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	54.1
COUNTY		ETHANE	6.4
		PROPANE	4.0
FIELD		N-BUTANE	1.3
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.3
LOCATION		ISOPENTANE	0.2
OWNER SAWTO	OOTH ENERGY PARTNERS LLC	CYCLOPENTANE	
COMPLETED	850329	HEXANES PLUS	0.3
SAMPLED	011031	NITROGEN	31.9
FORMATION	PENN-TOPEKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3220	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.86
OPEN FLOW, MOFD	750	HEATING VALUE*	854
		SPECIFIC GRAVITY	0.796
SAMPLE	20913	SPECIFIC GRAVITY	0.796
STATE	COLORADO	COMPONENT, MOLE PCT	44.5
STATE	COLORADO BACA	COMPONENT, MOLE PCT METHANE	44.5 6.4
STATE	COLORADO BACA	COMPONENT, MOLE PCT METHANE ETHANE	44.5 6.4 4.5
STATE	COLORADO BACA STONINGTON	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	44.5 6.4 4.5 1.5
STATE COUNTY FIELD	COLORADO BACA STONINGTON STATE NO. 267-S2	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	44.5 6.4 4.5 1.5
STATE	COLORADO BACA STONINGTON STATE NO. 267-S2 0500906175	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	44.5 6.4 4.5 1.5 0.6
STATE COUNTY FIELD WELL NAME API	COLORADO BACA STONINGTON STATE NO. 267-S2 0500906175 SEC. 17, T31S, R42W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	44.5 6.4 4.5 1.5 0.6 0.4
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO BACA STONINGTON STATE NO. 267-S2 0500906175 SEC. 17, T31S, R42W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	44.5 6.4 4.5 1.5 0.6 0.4 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER SAWTO	COLORADO BACA STONINGTON STATE NO. 267-S2 0500906175 SEC. 17, T31S, R42W DOTH ENERGY PARTNERS LLC. 770727	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	44.5 6.4 4.5 1.5 0.6 0.4 0.3
STATE	COLORADO BACA STONINGTON STATE NO. 267-S2 0500906175 SEC. 17, T31S, R42W DOTH ENERGY PARTNERS LLC 770727 011101	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	44.5 6.4 4.5 0.6 0.4 0.3 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNERSAWTO COMPLETED	COLORADO BACA STONINGTON STATE NO. 267-S2 0500906175 SEC. 17, T31S, R42W DOTH ENERGY PARTNERS ILC. 770727 011101 PENN-TOPEKA	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN	44.5 6.4 4.5 1.5 0.6 0.4 0.3 0.3 40.2
STATE	COLORADO BACA STONINGTON STATE NO. 267-S2 0500906175 SEC. 17, T31S, R42W DOTH ENERGY PARTNERS LLC 770727 011101 PENN-TOPEKA 360	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	44.5 6.4 4.5 1.5 0.6 0.4 0.3 40.2 0.0
STATE	COLORADO BACA STONINGTON STATE NO. 267-S2 0500906175 SEC. 17, T31S, R42W DOTH ENERGY PARTNERS LLC. 770727 011101 PENN-TOPEKA 360 3254	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	44.5 6.4 4.5 0.6 0.4 0.3 40.2 0.0 0.1
STATE COUNTY FIELD WELL NAME API LOCATION SAWTO COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLORADO BACA STONINGTON STATE NO. 267-S2 0500906175 SEC. 17, T31S, R42W DOTH ENERGY PARTNERS LLC 770727 011101 PENN-TOPEKA 360 3254	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	44.5 6.4 4.5 1.5 0.6 0.4 0.3 0.3 40.2 0.0 0.1
STATE	COLORADO BACA STONINGTON STATE NO. 267-S2 0500906175 SEC. 17, T31S, R42W DOTH ENERGY PARTNERS LLC 770727 011101 PENN-TOPEKA 360 3254	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	44.5 6.4 4.5 0.6 0.4 0.3 40.2 0.0 0.1 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION SAWTO COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLORADO BACA STONINGTON STATE NO. 267-S2 0500906175 SEC. 17, T31S, R42W DOTH ENERGY PARTNERS LLC 770727 011101 PENN-TOPEKA 360 3254	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	44.5 6.4 4.5 0.6 0.4 0.3 40.2 0.0 0.1 0.0 0.1

^{*} 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

SAMPLE	21315	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	68.5
		ETHANE	7.2
	PROWERS	PROPANE	3.1
	TABLETOP	N-BUTANE	0.7
	ELLENBERGER NO. 1	ISOBUTANE	0.4
API	0509906138	N-PENTANE	0.2
LOCATION	SEC 18, T25S, R47W	ISOPENTANE	0.2
OWNER	HORSESHOE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	801216	HEXANES PLUS	0.4
SAMPLED	040526	NITROGEN	18.3
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	5242	HYDROGEN	TRACE
		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.4
		HELIUM	0.55
OPEN FLOVV, IVICED	1988	HEATING VALUE*	969
		SPECIFIC GRAVITY	0.73
SAMPLE	21322	COMPONENT, MOLE PCT	
07475	001.00400	METHANE	47.8
	COLORADO	ETHANE	17.6
-	WELD	PROPANE	18.7
	TERRACE	N-BUTANE	5.6
	NELSON RANCHES A1-7	ISOBUTANE	1.9
API	0512319651	N-PENTANE	2.4
LOCATION	SEC 20, T10N, R58W	ISOPENTANE	1.7
E00/111011			
	ANTELOPE ENERGY CO.	CYCLOPENTANE	
OWNER	, ,		
OWNER	ANTELOPE ENERGY CO.	CYCLOPENTANE	0.4
OWNER COMPLETED SAMPLED	ANTELOPE ENERGY CO	CYCLOPENTANE	0.4 0.5
OWNER	ANTELOPE ENERGY CO	CYCLOPENTANE HEXANES PLUS NITROGEN	0.4 0.5 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	ANTEL OPE ENERGY CO	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.4 0.5 0.0 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	ANTEL OPE ENERGY CO	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.4 0.5 0.0 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	ANTEL OPE ENERGY CO	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.4 0.5 0.0 TRACE 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	ANTELOPE ENERGY CO. 980911 040527 CRET-DAKOTA D 540 6658	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.4 0.5 0.0 TRACE 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	ANTELOPE ENERGY CO. 980911 040527 CRET-DAKOTA D 540 6658	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.4 0.5 0.0 TRACE 0.0 0.0 3.3

^{*} 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

SAMPLE 20994		COMPONENT, MOLE PCT	
STATECOLO		METHANE	86.4
		ETHANE	3.2
COUNTY RIO BI		PROPANE	0.8
FIELDTEXAS MOL		N-BUTANE	0.3
WELL NAME MISSOURI CREEK 28 N		ISOBUTANE	0.2
API05103	306059	N-PENTANE	0.1
LOCATIONSEC. 28, T3S, I		ISOPENTANE	0.2
OWNER ENCANA OIL & GAS (US/	A) INC.	CYCLOPENTANE	
COMPLETED	501122	HEXANES PLUS	0.5
SAMPLED	20729	NITROGEN	7.0
FORMATION JURA-SALT	WASH	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	6563	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.7
OPEN FLOW, MCFD		HELIUM	0.41
OI ENT EGW, WOLD		HEATING VALUE*	1,006
		SPECIFIC GRAVITY	0.638
SAMPLE 20899		SPECIFIC GRAVITY	0.638
	ODADO.		
STATECOLC		COMPONENT, MOLE PCT	50.4
STATECOLC	BACA	COMPONENT, MOLE PCT METHANE	50.4 6.4
STATECOLC	BACA VILAS	COMPONENT, MOLE PCT METHANE ETHANE	50.4 6.4 5.9
STATECOLC	BACA VILAS	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	50.4 6.4 5.9 2.9
STATE COLC COUNTY FIELD WELL NAME COPE-FEDERAL N	BACA VILAS O. 1-16	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	50.4 6.4 5.9 2.9
STATE COLO COUNTY FIELD WELL NAME COPE-FEDERAL N API 05000	BACA VILAS O. 1-16 906034	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	50.4 6.4 5.9 2.9 0.9
STATE COLC COUNTY	BACA VII.AS. O. 1-16. 006034 R44W.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	50.4 6.4 5.9 2.9 0.9 1.1
STATE COLO COUNTY FIELD WELL NAME COPF-FEDERAL N API 05000 LOCATION SEC. 16, T31S, OWNER SAWTOOTH ENERGY PARTNEI	BACA VILAS O. 1-16 006034 .R44W.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	50.4 6.4 5.9 2.9 0.9 1.1 0.8
STATE COLC COUNTY	BACA VILAS O. 1-16. 006034 R44W RS LLC 700129	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	50.4 6.4 5.9 2.9 0.9 1.1 0.8
STATE COLC COUNTY	BACA VILAS O. 1-16	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	50.4 6.4 5.9 2.9 0.9 1.1 0.8 1.2 29.3
STATE COLC COUNTY FIELD WELL NAME COPF-FEDERAL N API 05000 LOCATION SEC. 16, T31S, OWNER SAWTOOTH ENERGY PARTNEI COMPLETED 7 SAMPLED (FORMATION PENN-TO	BACA VILAS O. 1-16 006034 R44W RS LLC 700129 011031 OPEKA	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	50.4 6.4 5.9 2.9 0.9 1.1 0.8 1.2 29.3
STATE COLC COUNTY	BACA VILAS O. 1-16 006034 .R44W RS.LLC 700129 011031 OPEKA .360	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	50.4 6.4 5.9 2.9 0.9 1.1 0.8 1.2 29.3 0.0
STATE	BACA VILAS O. 1-16 206034 R44W RS LLC 200129 011031 OPEKA 360 3329	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	50.4 6.4 5.9 2.9 0.9 1.1 0.8 1.2 29.3 0.0 0.1 TRACE
STATE	BACA VILAS O. 1-16 006034 .R44W RS LLC 700129 011031 OPEKA .360 .3329	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	50.4 6.4 5.9 2.9 0.9 1.1 0.8 1.2 29.3 0.0 0.1 TRACE
STATE	BACA VILAS O. 1-16 006034 RA4W RS LLC 700129 011031 OPEKA 360 3329	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	50.4 6.4 5.9 2.9 0.9 1.1 0.8 1.2 29.3 0.0 0.1 TRACE 0.0
STATECOLC	BACA VILAS O. 1-16 006034 RA4W RS LLC 700129 011031 OPEKA 360 3329	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	50.4 6.4 5.9 2.9 0.9 1.1 0.8 1.2 29.3 0.0 0.1 TRACE 0.0

^{*} 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

SAMPLE	20895	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	54.6
	BACA	ETHANE	5.7
		PROPANE	4.1
	VILAS	N-BUTANE	1.6
	OLIVER NO. 1-18	ISOBUTANE	0.5
	0500905303	N-PENTANE	0.5
	SEC. 18, T31S, R44W	ISOPENTANE	0.4
OWNERSAN	NTOOTH ENERGY PARTNERS LLC	CYCLOPENTANE	
COMPLETED	660502	HEXANES PLUS	0.7
SAMPLED	011031	NITROGEN	30.7
FORMATION	PENN-TOPEKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3368	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.3
,	7000	HELIUM	0.84
OI LIVI LOVV, IVIOI D	7000	HEATING VALUE*	894
		SPECIFIC GRAVITY	0.812
SAMPLE	20893	COMPONENT, MOLE PCT	
CTATE	COLORADO.	METHANE	53.3
		ETHANE	6.1
COUNTY		PROPANE	4.4
	VILAS.	N-BUTANE	1.7
WELL NAME	LOFLIN-FEDERAL NO. 1-21	ISOBUTANE	0.6
API	0500906035	N-PENTANE	0.6
		IN-FEINTAINE	0.0
LOCATION	SEC. 21, T31S, R44W	ISOPENTANE	
	SEC. 21, T31S, R44W WTOOTH ENERGY PARTNERS LLC		0.4
OWNERSA	, , , , , , , , , , , , , , , , , , , 	ISOPENTANE	0.4
OWNERSAI	NTOOTH ENERGY PARTNERS LLC.	ISOPENTANE	0.4
OWNERSAI COMPLETED	NTOOTH ENERGY PARTNERS LLC 700129	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.4 0.7 31.0
OWNERSAI COMPLETED SAMPLED FORMATION	NTOOTH ENERGY PARTNERS LLC. 700129 011031	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.4 0.7 31.0 0.0
OWNERSAI COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	NTOOTH ENERGY PARTNERS LLC. 700129 011031 PENN-TOPEKA 360	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.4 0.7 31.0 0.0
OWNERSAI COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	MTOOTH ENERGY PARTNERS I.I.C. 700129 011031 PENN-TOPEKA 360. 3351	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.4 0.7 31.0 0.0 0.1
OWNERSAI COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	### ATOOTH ENERGY PARTNERS LLC. ### 700129 ### 011031 PENN-TOPEKA ### 360 ### 3351	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.4 0.7 31.0 0.0 0.1 0.0
OWNERSAI COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	### MTOOTH ENERGY PARTNERS I.C. ### 700129 ### 011031 PENN-TOPEKA ### 360 ### 3351	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.4 0.7 31.0 0.0 0.1 0.0 0.0 0.0
OWNERSAI COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	### ATOOTH ENERGY PARTNERS LLC. ### 700129 ### 011031 PENN-TOPEKA ### 360 ### 3351	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.4 0.7 31.0 0.0 0.1 0.0 0.0 0.5 0.85

^{*} 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

SAMPLE 20894		COMPONENT, MOLE PCT	
STATEC		METHANE	50.6
COUNTY		ETHANE	5.1
		PROPANE	3.9
FIELD		N-BUTANE	1.8
WELL NAME ROLLINS-RUTHERFOR		ISOBUTANE	0.6
API05	00906200.	N-PENTANE	0.6
LOCATION SEC. 20, T3		ISOPENTANE	0.5
OWNER SAWTOOTH ENERGY PART	NERS LLC	CYCLOPENTANE	
COMPLETED	791217	HEXANES PLUS	0.8
SAMPLED	011031	NITROGEN	35.0
FORMATION PEN	N-TOPEKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3330	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	0.2
,		HELIUM	0.86
OPEN FLOW, MCFD	119	LICATING VALUE*	050
		HEATING VALUE*	858
		SPECIFIC GRAVITY	
SAMPLE 20898			
		SPECIFIC GRAVITY	0.834
STATEC	OLORADO.	SPECIFIC GRAVITY	0.834 54.3
STATEC	OLORADO.	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE	0.834 54.3 5.9
STATECOUNTY	OLORADO BACA	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE	54.3 5.9 4.1
STATECOUNTY	OLORADO BACA VILAS	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE	54.3 5.9 4.1 1.5
STATE	OLORADO BACA VILAS IN NO. 1-8.	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	54.3 5.9 4.1 1.5
STATE	OLORADO BACA VILAS IN NO. 1-8.	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	54.3 5.9 4.1 1.5 0.5
STATECOUNTY	DI.ORADO BACA VII.AS IN NO. 1-8. 00906322	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.834 54.3 5.9 4.1 1.5 0.5 0.5
STATECOUNTY	DLORADO BACA VILAS IN NO. 1-8 00906322 B1S, R44W NERS LLC	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.834 54.3 5.9 4.1 1.5 0.5 0.5
	OLORADO BACA VILAS IN NO. 1-8 00906322 31S, R44W NERS LLC 811014	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	54.3 5.9 4.1 1.5 0.5 0.3
STATE	DLORADO BACA VILAS IN NO. 1-8. 00906322 31S, R44W NERS LLC 811014	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.834 54.3 5.9 4.1 1.5 0.5 0.3 0.6 31.1
STATE	DLORADO BACA VILAS IN NO. 1-8. 00906322 MS, R44W NERS LLC 811014 011031	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN	0.834 54.3 5.9 4.1 1.5 0.5 0.3 0.6 31.1
STATE	DI.ORADO BACA VII.AS IN NO. 1-8 00906322 31S, R44W NERS LLC 811014 011031 N-TOPEKA	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.834 54.3 5.9 4.1 1.5 0.5 0.3 0.6 31.1 0.0 0.1
STATE	DLORADO. BACA. VILAS. IN NO. 1-8. 100906322. 81S, R44W. NERS LLC. 811014. 011031. N-TOPEKA. 360. 3288.	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.834 54.3 5.9 4.1 1.5 0.5 0.3 0.6 31.1 0.0 0.1
STATE	DLORADO BACA VILAS IN NO. 1-8. 009906322 31S, R44W NERS LLC 811014 011031 N-TOPEKA 360 3288	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.834 54.3 5.9 4.1 1.5 0.5 0.3 0.6 31.1 0.0 0.1 0.0
STATE	DLORADO BACA VILAS IN NO. 1-8. 300906322 31S, R44W NERS LLC 811014 011031 N-TOPEKA 360 3288	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.834 54.3 5.9 4.1 1.5 0.5 0.3 0.6 31.1 0.0 0.1 0.0 0.0
STATE	DLORADO BACA VILAS IN NO. 1-8. 300906322 31S, R44W NERS LLC 811014 011031 N-TOPEKA 360 3288	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	0.834 54.3 5.9 4.1 1.5 0.5 0.3 0.6 31.1 0.0 0.1 0.0 0.0 0.3

^{*} 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

SAMPLE	20900	COMPONENT, MOLE PCT	
STATE		METHANE	51.3
		ETHANE	5.7
COUNTY		PROPANE	4.5
FIELD		N-BUTANE	2.0
WELL NAME		ISOBUTANE	0.6
API		N-PENTANE	0.7
LOCATION		ISOPENTANE	
OWNERSAWTO	OTH ENERGY PARTNERS LLC	CYCLOPENTANE	
COMPLETED	930627	HEXANES PLUS	0.8
SAMPLED	011031	NITROGEN	32.5
FORMATION	PENN-TOPEKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3340	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.2
OPEN FLOW, MCFD		HELIUM	0.87
Of LIVI LOVY, WOLD		HEATING VALUE*	911
		SPECIFIC GRAVITY	0.842
SAMPLE	20896	COMPONENT, MOLE PCT	
CTATE		METHANIE	
STATE		METHANE	<u>54.1</u>
COLINITY	COLORADO	ETHANE	
	BACA		5.5
COUNTY	BACA	ETHANE	5.5 4.0
FIELD	BACA	PROPANE	5.5 4.0 1.6
	BACA	ETHANEPROPANEN-BUTANE	5.5 4.0 1.6 0.5
FIELD	BACA VILAS STROBEL NO. 2-19 0500906222	ETHANE PROPANE N-BUTANE ISOBUTANE	5.5 4.0 1.6 0.5
FIELD WELL NAME API	BACA VILAS STROBEL NO. 2-19 0500906222 SEC. 19, T31S, R44W	ETHANEPROPANEN-BUTANEISOBUTANEN-PENTANE	5.5 4.0 1.6 0.5 0.6
FIELD	BACA VILAS STROBEL NO. 2-19 0500906222 SEC. 19, T31S, R44W OTH ENERGY PARTNERS LLC.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	5.5 4.0 1.6 0.5 0.6 0.4
FIELD	BACA VILAS. STROBEL NO. 2-19. 0500906222 SEC. 19, T31S, R44W. OTH ENERGY PARTNERS LLC. 790601	ETHANE	5.5 4.0 1.6 0.5 0.6 0.4
FIELD	BACA VILAS STROBEL NO. 2-19 0500906222 SEC. 19, T31S, R44W OTH ENERGY PARTNERS LLC. 790601 011031	ETHANE	5.5 4.0 1.6 0.5 0.6 0.4 0.7 31.3
FIELD	BACA VILAS STROBEL NO. 2-19 0500906222 SEC. 19, T31S, R44W OTH ENERGY PARTNERS LLC. 790601 011031 PENN-TOPEKA	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	5.5 4.0 1.6 0.5 0.6 0.4 0.7 31.3
FIELD	BACA VILAS STROBEL NO. 2-19 0500906222 SEC. 19, T31S, R44W OTH ENERGY PARTNERS LLC. 790601 011031 PENN-TOPEKA 360	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	5.5 4.0 1.6 0.5 0.6 0.4 0.7 31.3 0.0
FIELD	BACA VILAS STROBEL NO. 2-19 0500906222 SEC. 19, T31S, R44W OTH ENERGY PARTNERS LLC. 790601 011031 PENN-TOPEKA 360. 3307	ETHANE	5.5 4.0 1.6 0.5 0.6 0.4 0.7 31.3 0.0 0.1
FIELD	BACA VILAS STROBEL NO. 2-19 0500906222 SEC. 19, T31S, R44W OTH ENERGY PARTNERS LLC. 790601 011031 PENN-TOPEKA 360 3307	ETHANE	5.5 4.0 1.6 0.5 0.6 0.4 0.7 31.3 0.0 0.1 0.0
FIELD	BACA VILAS STROBEL NO. 2-19 0500906222 SEC. 19, T31S, R44W OTH ENERGY PARTNERS LLC. 790601 011031 PENN-TOPEKA 360. 3307	ETHANE	5.5 4.0 1.6 0.5 0.6 0.4 0.7 31.3 0.0 0.1 0.0 0.0
FIELD	BACA VILAS STROBEL NO. 2-19 0500906222 SEC. 19, T31S, R44W OTH ENERGY PARTNERS LLC. 790601 011031 PENN-TOPEKA 360. 3307	ETHANE	5.5 4.0 1.6 0.5 0.6 0.4 0.7 31.3 0.0 0.1 0.0 0.0 0.4

^{*} 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

SAMPLE	20892	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	55.3
	BACA	ETHANE	5.5
		PROPANE	3.9
	VILAS	N-BUTANE	1.4
	BROWN 1-13	ISOBUTANE	0.5
	0500905317	N-PENTANE	0.4
	SEC. 13, T31S, R45W	ISOPENTANE	0.3
OWNER SAWTO	OOTH ENERGY PARTNERS LLC	CYCLOPENTANE	
COMPLETED	660822	HEXANES PLUS	0.5
SAMPLED	011031	NITROGEN	30.9
FORMATION	PENN-TOPEKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3308	HYDROGEN	TRACE
	3455	HYDROGEN SULFIDE**	TRACE
		CARBON DIOXIDE	0.3
,	8500	HELIUM	0.88
OI LIVI LOVV, IVIOI D	0300	HEATING VALUE*	866
		SPECIFIC GRAVITY	U.7.90
SAMPLE	20901	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	49.9
	BACA	ETHANE	6.0
	VILAS	PROPANE	4.8
		N-BUTANE	
	STATE NO. 1-15	ISOBUTANE	0.7
	0500906047	N-PENTANE	0.7
LOCATION			
	SEC. 15, T31S, R44W	ISOPENTANE	0.5
OWNERSAWT	SEC. 15, T31S, R44W. OOTH ENERGY PARTNERS LLC.	ISOPENTANE	
	,		
COMPLETED	OOTH ENERGY PARTNERS LLC.	CYCLOPENTANE	0.8
COMPLETED	OOTH ENERGY PARTNERS LLC 720221	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.8 33.4 0.0
COMPLETED	OOTH ENERGY PARTNERS LLC 720221 011031 PENN-TOPEKA	CYCLOPENTANE HEXANES PLUS NITROGEN	0.8 33.4 0.0
COMPLETEDSAMPLEDFORMATION	00TH ENERGY PARTNERS LLC. 720221 011031 PENN-TOPEKA 360	CYCLOPENTANE	0.8 33.4 0.0 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	OOTH ENERGY PARTNERS LLC. 720221 011031 PENN-TOPEKA 360. 3379	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.8 33.4 0.0 0.1 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	00TH ENERGY PARTNERS LLC. 720221 011031 PENN-TOPEKA. 360 3379	CYCLOPENTANE	0.8 33.4 0.0 0.1 0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	OOTH ENERGY PARTNERS LLC. 720221 011031 PENN-TOPEKA 360 3379	CYCLOPENTANE	0.8 33.4 0.0 0.1 0.0 0.0 0.2
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	OOTH ENERGY PARTNERS LLC. 720221 011031 PENN-TOPEKA 360 3379	CYCLOPENTANE	0.8 33.4 0.0 0.1 0.0 0.0 0.2 0.90

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

SAMPLE	20905	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	52.8
	BACA	ETHANE	5.8
	VILAS	PROPANE	3.9
		N-BUTANE	1.3
	THOMPSON NO. 1-25	ISOBUTANE	0.5
	0500906164	N-PENTANE	0.3
	SEC. 25, T31S, R44W	ISOPENTANE	0.3
OWNERSAV	VTOOTH ENERGY PARTNERS LLC	CYCLOPENTANE	
COMPLETED	770403	HEXANES PLUS	0.3
SAMPLED	011031	NITROGEN	33.6
FORMATION	PENN-TOPEKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE .	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3304	HYDROGEN	
		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.2
	802	HELIUM	0.91
OF LIVE LOW, MOI D	002	HEATING VALUE*	830
		SPECIFIC GRAVITY	0.802
SAMPLE	20897	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	53.4
-		ETHANE	5.8
	BACA	PROPANE	3.9
	VILAS	N-BUTANE	4.0
\Λ/ΕΙΙ ΝΙΔΜΕ			1.3
	FREIGHBERGER NO. 1-7	ISOBUTANE	
	FREIGHBERGER NO. 1-7. 0500906163		0.5
API		ISOBUTANE	0.5 0.3
API	0500906163	ISOBUTANE	0.5 0.3 0.3
APILOCATIONSAV	0500906163 SEC. 7, T31S, R44W	ISOBUTANE N-PENTANE ISOPENTANE	0.5 0.3 0.3
API	0500906163 SEC. 7, T31S, R44W VTOOTH ENERGY PARTNERS LLC.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.5 0.3 0.3 0.3
API	0500906163 SEC. 7, T31S, R44W VTOOTH ENERGY PARTNERS LLC 770309	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.5 0.3 0.3 0.3 33.0
API	0500906163 SEC. 7, T31S, R44W VTOOTH ENERGY PARTNERS LLC. 770309 011031 PENN-TOPEKA	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.5 0.3 0.3 0.3 33.0
API	0500906163 SEC. 7, T31S, R44W VTOOTH ENERGY PARTNERS LLC. 770309 011031 PENN-TOPEKA	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.5 0.3 0.3 0.3 33.0 0.0
API	0500906163 SEC. 7, T31S, R44W. VTOOTH ENERGY PARTNERS LLC. 770309 011031. PENN-TOPEKA. 360. 3299	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.5 0.3 0.3 0.3 33.0 0.0 0.1 TRACE
API	0500906163 SEC. 7, T31S, R44W VTOOTH ENERGY PARTNERS LLC. 770309 011031 PENN-TOPEKA 360. 3299	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.5 0.3 0.3 0.3 33.0 0.0 0.1 TRACE 0.0
API	0500906163 SEC. 7, T31S, R44W. VTOOTH ENERGY PARTNERS LLC. 770309 011031. PENN-TOPEKA. 360. 3299.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.5 0.3 0.3 0.3 0.3 33.0 0.0 0.1 TRACE 0.0 0.3
API	0500906163 SEC. 7, T31S, R44W VTOOTH ENERGY PARTNERS LLC. 770309 011031 PENN-TOPEKA 360. 3299	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.5 0.3 0.3 0.3 33.0 0.0 0.1 TRACE 0.0 0.3

^{*} 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

SAMPLE 20903	COMPONENT, MOLE PCT	•
STATECOLOF	METHANE	45.5
	ETHANE	6.3
COUNTYE	PROPANE	5.4
FIELDV	N-BUTANE	2.5
WELL NAME THOMPSON-PORTER NO	ISOBUTANE	3.0
API050090	6081 N-PENTANE	0.9
LOCATION SEC. 10, T31S, F	R44W. ISOPENTANE	0.6
OWNERSAWTOOTH ENERGY PARTNER:	SLLC CYCLOPENTANE	
COMPLETED	Ω7.1Ω HEXANES PLUS	1.0
SAMPLED01	1031_ NITROGEN	35.6
FORMATIONPENN-TO	PEKA OXYGEN	0.0
GEOLOGIC PROVINCE CODE	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3350 HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFI	DE** <u>0.0</u>
WELLHEAD PRESSURE. PSIG	CARBON DIOXIDE	0.3
, <u></u>	HELIUM	0.96
OPEN FLOW, MCFD	HEATING VALUE*	925
	TILATING VALUE	
	SPECIFIC GRAVITY	
SAMPLE 20902		0.88
	SPECIFIC GRAVITY COMPONENT, MOLE PCT	О.88:
STATECOLOR	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE	0.88 : Г 46.:
STATE COLOR	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE	0.88: r 46.;
STATE COLOR	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE II AS	0.889 F 46.3 6.4
STATE COLOR COUNTY E FIELD	COMPONENT, MOLE PCT METHANE FACA PROPANE JILAS N-BUTANE	0.889 F 46.3 6.4.1
STATE GOLOF COUNTY E FIELD WELL NAME HARTMETZ NO	COMPONENT, MOLE PCT METHANE EACA PROPANE JLAS N-BUTANE S150BUTANE S150BUTANE	0.889 7 46.5 6.7 4.7 1.9
STATE COLOR COUNTY E FIELD WELL NAME HARTMETZ NO API 050090	COMPONENT, MOLE PCT METHANE ETHANE MACA PROPANE JLAS N-BUTANE D. 1-9 ISOBUTANE 6158 N-PENTANE	0.888 7 46.3 6.4 1.9 0.6
STATE COLOR COUNTY E FIELD V WELL NAME HARTMETZ NO API 050090 LOCATION SEC. 9, T31S, F	COMPONENT, MOLE PCT METHANE ETHANE ACA PROPANE ILAS. D. 1-9. ISOBUTANE 6158. N-PENTANE R44W. ISOPENTANE	0.889 7 46.3 6. 4.3 0.6 0.6
STATE COLOR COUNTY E FIELD Y WELL NAME HARTMETZ NO API 050090 LOCATION SEC. 9, T31S, F OWNER SAWTOOTH ENERGY PARTNERS	COMPONENT, MOLE PCT METHANE ETHANE PROPANE JILAS. D. 1-9 ISOBUTANE S11-8 ISOPENTANE CYCLOPENTANE CYCLOPENTANE	0.889 Γ 46.3 6.1 1.9 0.6 0.6
STATE COLOR COUNTY E FIELD	COMPONENT, MOLE PCT METHANE ETHANE ACA PROPANE JLAS N-BUTANE 150BUTANE 150BUTANE 150PENTANE SLLC CYCLOPENTANE 0407 HEXANES PLUS	0.889 7 46.3 6.3 4.3 1.9 0.6 0.6 0.4
STATE COLOR COUNTY E FIELD V WELL NAME HARTMETZ NO API 050090 LOCATION SEC. 9, T31S, F OWNER SAWTOOTH ENERGY PARTNER: COMPLETED 77 SAMPLED 01	COMPONENT, MOLE PCT METHANE AADO. ETHANE AACA PROPANE ILAS. D. 1-9. ISOBUTANE 6158. N-PENTANE SALLC. CYCLOPENTANE 0407. HEXANES PLUS 1031. NITROGEN	0.889 7 46.3 6.4 1.9 0.0 0.0 37.3
STATE COLOR COUNTY E FIELD	COMPONENT, MOLE PCT METHANE ETHANE PROPANE ILLAS D. 1-9 ISOBUTANE SILLC CYCLOPENTANE O407 HEXANES PLUS D1031 NITROGEN OXYGEN	0.889 7 46.3 6. 4.1 1.9 0.6 0.6 37.3
STATE COLOR COUNTY	COMPONENT, MOLE PCT METHANE ETHANE ACA PROPANE ILAS D. 1-9 ISOBUTANE 6158 N-PENTANE SULC CYCLOPENTANE D. 1031 NITROGEN DEKA ARGON LYDROGEN	0.889 7 46.3 6.7 4.1 1.5 0.6 0.4 37.3 0.6 0.0
STATE	COMPONENT, MOLE PCT METHANE ETHANE ACA PROPANE J. 1-9 ISOBUTANE 6158 N-PENTANE SLLC CYCLOPENTANE 1031 NITROGEN ARGON ARGON HYDROGEN LYDROGEN SUIL EIT	0.889 T 46.3 6.4 1.9 0.6 0.4 37.3 0.0 TRACE
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE ILAS N-BUTANE SOBUTANE SILLC CYCLOPENTANE DA19 ISOBUTANE SILLC CYCLOPENTANE DA1031 NITROGEN DEKA ARGON ARGON HYDROGEN HYDROGEN SULFIII CARBON DIOXIDE	0.889 T 46.3 6.4 1.9 0.6 0.6 37.3 0.0 TRACE
STATE	COMPONENT, MOLE PCT METHANE ADDO. ETHANE BACA. PROPANE JLAS. D. 1-9. ISOBUTANE 6158. N-PENTANE SILLC. CYCLOPENTANE 1031. NITROGEN DEKA ARGON ARGON HYDROGEN SULFIE CARBON DIOXIDE HELIUM	0.889 7 46.3 6.7 4.7 1.9 0.6 0.6 0.4 37.3 0.0 0.7 TRACE DE** 0.2
STATE COLOR COUNTY E FIELD V WELL NAME HARTMETZ NO	COMPONENT, MOLE PCT METHANE ETHANE PROPANE JLAS. D. 1-9 ISOBUTANE SILLC. CYCLOPENTANE O407 HEXANES PLUS D1031 NITROGEN OXYGEN ARGON HYDROGEN SULFII CARBON DIOXIDE	0.885 7 46.3 6.1 4.7 1.5 0.6 0.6 0.6 0.7 TRACE DE** 0.2 1.01

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

	20904	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	45.0
		ETHANE	6.0
COUNTY		PROPANE	4.2
FIELD		N-BUTANE	1.5
WELL NAME		ISOBUTANE	0.5
API	0500906184	N-PENTANE	0.4
LOCATION	,,	ISOPENTANE	0.3
OWNER <u>SAWTO</u>	OOTH ENERGY PARTNERS LLC	CYCLOPENTANE	
COMPLETED	771229	HEXANES PLUS	0.4
SAMPLED	011031	NITROGEN	40.1
FORMATION	PENN-TOPEKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3364	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	0.2
OPEN FLOW. MCFD		HELIUM	1.08
OPEN FLOW, MOPD	130.	HEATING VALUE*	784
		SPECIFIC GRAVITY	0.842
SAMPLE	21314	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	46.5
STATE	COLORADO	METHANE	
STATE	COLORADO BACA	,	3.0
STATE	COLORADO BACA	METHANE	3.0
STATE COUNTY FIELD	COLORADO BACA WALSH	METHANE ETHANE PROPANE	3.0 3.0 1.3
SAMPLE STATE COUNTY FIELD WELL NAME API	COLORADO BACA WALSH COOK 1-5	METHANE ETHANE PROPANE N-BUTANE	3.0 3.0 1.3 0.5
STATE COUNTY FIELD WELL NAME	COLORADO BACA WALSH COOK 1-5 0500905117	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.0 3.0 1.3 0.5 0.4
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO BACA WALSH COOK 1-5. 0500905117 SEC 5, T33S, R43W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.0 3.0 1.3 0.5 0.4
STATE	COLORADO BACA WALSH COOK 1-5 0500905117 SEC 5, T33S, R43W TINDALL OPERATING CO	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE	3.0 3.0 1.3 0.5 0.4 0.4
STATE COUNTY FIELD WELL NAME	COLORADO BACA WALSH COOK 1-5. 0500905117 SEC 5, T33S, R43W TINDALL OPERATING CO. 631202	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	3.0 3.0 1.3 0.5 0.4 0.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	COLORADO BACA WALSH COOK 1-5 0500905117 SEC 5, T33S, R43W TINDALL OPERATING CO. 631202 040525	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.0 3.0 1.3 0.5 0.4 0.4 1.0 42.8
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	COLORADO BACA WALSH COOK 1-5 0500905117 SEC 5, T33S, R43W TINDALL OPERATING CO 631202 040525 PENN-WABAUNSEE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.0 3.0 1.3 0.5 0.4 0.4 1.0 42.8
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	COLORADO BACA WALSH COOK 1-5 0500905117 SEC 5, T33S, R43W TINDALL OPERATING CO. 631202 040525 PENN-WABAUNSEE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.0 3.0 1.3 0.5 0.4 0.4 1.0 42.8 0.0
STATE	COLORADO BACA WALSH COOK 1-5 0500905117 SEC 5, T33S, R43W TINDALL OPERATING CO 631202 040525 PENN-WABAUNSEE 360 3180	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.0 3.0 1.3 0.5 0.4 0.4 1.0 42.8 0.0 0.1
STATE	COLORADO BACA WALSH COOK 1-5 0500905117 SEC 5, T33S, R43W TINDALL OPERATING CO 631202 040525 PENN-WABAUNSEE 360 3180	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	3.0 3.0 1.3 0.5 0.4 0.4 1.0 42.8 0.0 0.1 0.0
STATE	COLORADO BACA WALSH COOK 1-5 0500905117 SEC 5, T33S, R43W TINDALL OPERATING CO 631202 040525 PENN-WABAUNSEE 360 3180	METHANE	3.0 3.0 1.3 0.5 0.4 0.4 1.0 42.8 0.0 0.1 0.0 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	COLORADO BACA WALSH COOK 1-5 0500905117 SEC 5, T33S, R43W TINDALL OPERATING CO 631202 040525 PENN-WABAUNSEE 360 3180	METHANE	3.0 3.0 1.3 0.5 0.4 0.4 1.0 42.8 0.0 0.1 0.0 0.1 0.94

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

	COMPONENT, MOLE PCT	
STATE COLORADO	METHANE	69.3
	ETHANE	6.9
COUNTY WELD.	PROPANE	9.5
FIELD WHITE BUTTE	N-BUTANE	3.8
WELL NAME MAIS NO. 1-35	ISOBUTANE	1.1
API0512319817_	N-PENTANE	1.0
LOCATIONSEC 35, T8N, R56W	ISOPENTANE	0.8
OWNER KEITH F. WALKER OIL & GAS CO.	CYCLOPENTANE	
COMPLETED000421_	HEXANES PLUS	1.9
SAMPLED040527_	NITROGEN	3.8
FORMATIONCRET-DAKOTA D	OXYGEN	0.0
GEOLOGIC PROVINCE CODE540.	ARGON	0.0
TRUE VERTICAL DEPTH (FT)5670	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG	CARBON DIOXIDE	1.8
OPEN FLOW, MCFD900	HELIUM	0.13
OF LIVE LOVY, IVICE D	HEATING VALUE*	1,384
	SPECIFIC GRAVITY	0.864
SAMPLE 50597	COMPONENT, MOLE PCT	
STATE COLORADO	METHANE	46.2
COUNTY CHEYENNE	METHANE	7.0
COUNTY CHEYENNE FIELD WILD SAGE BRUSH	METHANE	7.0 4.7
COUNTY CHEYENNE FIELD WILD SAGE BRUSH. WELL NAME SCHEIMER NO. 1-24.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	7.0 4.7 1.5
COUNTY CHEYENNE FIELD WILD SAGE BRUSH WELL NAME SCHEIMER NO. 1-24 API 0501707618	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	7.0 4.7 1.5 0.6
COUNTY CHEYENNE FIELD WILD SAGE BRUSH WELL NAME SCHEIMER NO. 1-24 API 0501707618	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	7.0 4.7 1.5 0.6
COUNTY CHEYENNE FIELD WILD SAGE BRUSH WELL NAME SCHEIMER NO. 1-24 API 0501707618 LOCATION SEC. 24, T16S, R46W OWNER MONUMENT GAS MARKETING, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	7.0 4.7 1.5 0.6 0.4
STATE COLORADO COUNTY CHEYENNE FIELD WILD SAGE BRUSH WELL NAME SCHEIMER NO. 1-24 API 0501707618 LOCATION SEC. 24, T16S, R46W OWNER MONUMENT GAS MARKETING, INC. COMPLETED 020730	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	7.0 4.7 1.5 0.6 0.4 0.4
COUNTY CHEYENNE FIELD WILD SAGE BRUSH WELL NAME SCHEIMER NO. 1-24 API 0501707618 LOCATION SEC. 24, T16S, R46W OWNER MONUMENT GAS MARKETING, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	7.0 4.7 1.5 0.6 0.4 0.4
COUNTY CHEYENNE FIELD WILD SAGE BRUSH WELL NAME SCHEIMER NO. 1-24 API 0501707618 LOCATION SEC. 24, T16S, R46W OWNER MONUMENT GAS MARKETING, INC. COMPLETED 020730 SAMPLED 020827	METHANE	7.0 4.7 1.5 0.6 0.4 0.4 0.6 35.3
COUNTY CHEYENNE FIELD WILD SAGE BRUSH WELL NAME SCHEIMER NO. 1-24 API 0501707618 LOCATION SEC. 24, T16S, R46W OWNER MONUMENT GAS MARKETING, INC. COMPLETED 020730 SAMPLED 020827 FORMATION PENN-MORROW	METHANE	7.0 4.7 1.5 0.6 0.4 0.4 0.6 35.3
COUNTY CHEYENNE FIELD WILD SAGE BRUSH. WELL NAME SCHEIMER NO. 1-24. API 0501707618 LOCATION SEC. 24, T16S, R46W. OWNER MONUMENT GAS MARKETING, INC. COMPLETED 020730	METHANE	7.0 4.7 1.5 0.6 0.4 0.4 0.6 35.3 0.0
COUNTY CHEYENNE FIELD WILD SAGE BRUSH WELL NAME SCHEIMER NO. 1-24 API 0501707618 LOCATION SEC. 24, T16S, R46W OWNER MONUMENT GAS MARKETING, INC. COMPLETED 020730 SAMPLED 020827 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 450 TRUE VERTICAL DEPTH (FT) 5044	METHANE	7.0 4.7 1.5 0.6 0.4 0.4 0.6 35.3 0.0 0.0
COUNTY CHEYENNE FIELD WILD SAGE BRUSH WELL NAME SCHEIMER NO. 1-24 API 0501707618 LOCATION SEC. 24, T16S, R46W OWNER MONUMENT GAS MARKETING, INC. COMPLETED 020730 SAMPLED 020827 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 450 TRUE VERTICAL DEPTH (FT) 5044 MEASURED DEPTH	METHANE	7.0 4.7 1.5 0.6 0.4 0.4 0.6 35.3 0.0 0.0
COUNTY CHEYENNE FIELD WILD SAGE BRUSH WELL NAME SCHEIMER NO. 1-24 API 0501707618 LOCATION SEC. 24, T16S, R46W OWNER MONUMENT GAS MARKETING, INC. COMPLETED 020730 SAMPLED 020827 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 450 TRUE VERTICAL DEPTH (FT) 5044 MEASURED DEPTH WELLHEAD PRESSURE, PSIG	METHANE	7.0 4.7 1.5 0.6 0.4 0.4 0.6 35.3 0.0 0.0 0.0
COUNTY CHEYENNE FIELD WILD SAGE BRUSH WELL NAME SCHEIMER NO. 1-24 API 0501707618 LOCATION SEC. 24, T16S, R46W OWNER MONUMENT GAS MARKETING, INC. COMPLETED 020730 SAMPLED 020827 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 450 TRUE VERTICAL DEPTH (FT) 5044 MEASURED DEPTH	METHANE	7.0 4.7 1.5 0.6 0.4 0.4 0.6 35.3 0.0 0.0 0.0 0.0 0.8 2.51

 $^{^{\}star}$ 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

SAMPLE	21185	COMPONENT, MOLE PCT	
STATE	KANCAC	METHANE	93.8
STATE		ETHANE	2.8
COUNTY		PROPANE	1.0
FIELD		N-BUTANE	0.3
WELL NAME		ISOBUTANE	0.1
API	1503321153	N-PENTANE	0.1
LOCATION	SEC. 14, T32S, R19W	ISOPENTANE	0.1
OWNER	AMERICAN WARRIOR, INC.	CYCLOPENTANE	
COMPLETED	001116.	HEXANES PLUS	0.4
SAMPLED	030522	NITROGEN	1.0
FORMATION	ORDO-VIOLA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)	5932	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.2
OPEN FLOW, MCFD		HELIUM	0.09
JEIN FLOW, WICHD		HEATING VALUE*	1,065
		SPECIFIC GRAVITY	0.604
SAMPLE	21212	COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	79.5
	KANSAS	ETHANE	8.7
COUNTY		PROPANE	4.8
FIELD		N-BUTANE	1.5
WELL NAME		ISOBUTANE	0.6
API		N-PENTANE	0.4
_OCATION	SEC. 32, T33S, R13W	ISOPENTANE	0.4
OWNER	WOOLSEY PETROLEUM CORP	CYCLOPENTANE	
COMPLETED	881224	HEXANES PLUS	0.7
SAMPLED	030612	NITROGEN	2.8
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	375.	ARGON	0.1
		HYDROGEN	TRACE
TRUE VERTICAL DEPTH (FT)	4924		
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
MEASURED DEPTH		HYDROGEN SULFIDE** CARBON DIOXIDE	
MEASURED DEPTH	1231		0.1
MEASURED DEPTH	1231	CARBON DIOXIDE	-

^{*} 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

	SAMPLE 21160		COMPONENT, MOLE PCT	
STATE	KAN	ISAS	METHANE	86.0
	Klo		ETHANE	5.5
			PROPANE	2.9
	ALE		N-BUTANE	1_1
	PAXT		ISOBUTANE	0.5
	150972		N-PENTANE	0.3
	SEC. 33, T30S, R		ISOPENTANE	0.3
OWNER	OIL PRODUCERS INC., OF KAN	NSAS_	CYCLOPENTANE	
COMPLETED	98	0811	HEXANES PLUS	0.6
SAMPLED	03	0520	NITROGEN	2.4
FORMATION	PENN-MARMATON,CHRK, MISS-N	MSSP_	OXYGEN	0.0
GEOLOGIC PI	ROVINCE CODE	360	ARGON	0.1
TRUE VERTIC	CAL DEPTH (FT)	5034	HYDROGEN	TRACE
MEASURED D	DEPTH		HYDROGEN SULFIDE**	0.0
	PRESSURE. PSIG		CARBON DIOXIDE	0.2
	MCFD		HELIUM	
OF LIVI LOVV,	WOLD		HEATING VALUE*	1,146
			SPECIFIC GRAVITY	0.669
	SAMPLE 21196		COMPONENT, MOLE PCT	
CTATE		ICAC	COMPONENT, MOLE PCT METHANE	77.9
	KAN		, ,	
COUNTY	KAN BAF	RBER	METHANE	8.2
COUNTY	KAN	RBER	METHANE	8.2 5.8
COUNTY	KAN BAF	RBER RIM.S.	METHANE ETHANE PROPANE	8.2 5.8 1.8
COUNTY FIELD WELL NAME	KAN BAF ANTF	RBER RIM.S. Y.1A.	METHANE ETHANE PROPANE N-BUTANE	8.2 5.8 1.8 0.7
COUNTY FIELD WELL NAME . API	KAN BAF ANTE VICKER	RBER RIM.S. Y.1A. 1562	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	8.2 5.8 1.8 0.7 0.5
COUNTY FIELD WELL NAME API LOCATION	KAN BAF ANTE VICKER 150072	RBER RIM.S. Y.1A. 1562. R10W.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	8.2 5.8 1.8 0.7 0.5 0.4
COUNTY FIELD WELL NAME API LOCATION OWNER	KAN BAF ANTE VICKER 150072 SEC. 31, T32S, F	RBER RIM S. Y 1A. 1562 R10W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE	8.2 5.8 1.8 0.7 0.5 0.4
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	KAN BAF ANTE VICKER 150072 SEC. 31, T32S, R R & B OIL & GAS	RBER. RIM.S. Y.1A. 1562. R10W. S.CO. 0427.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	8.2 5.8 1.8 0.7 0.5 0.4
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	KAN BAF ANTE VICKER 150072 SEC. 31, T32S, R R & B OIL & GAS 83	RBER. RIM.S. Y.1A. 1562. R10W. S.CO. 0427.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	8.2 5.8 1.8 0.7 0.5 0.4 1.1 3.4
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	KAN BAF ANTE VICKER 150072 SEC. 31, T32S, F R & B OIL & GAS 83	RBER. RIM.S. Y.1A. 1562. R10W. S.CO. 0427. 0610. DKEE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	8.2 5.8 1.8 0.7 0.5 0.4 1.1 3.4 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PI	KAN BAF ANTE VICKER 150072 SEC. 31, T32S, R R & B OIL & GAS 83 03 PENN-CHERC	RBER. RIM.S. Y.1A. 1562. R10W. S.CO. 0427. 0610. DKEE375.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	8.2 5.8 1.8 0.7 0.5 0.4 1.1 3.4 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PI	KAN BAF ANTE VICKER 150072 SEC. 31, T32S, R R & B OIL & GAS 83 03 PENN-CHERG ROVINCE CODE	RBER. RIM.S. Y.1A. 1562. R10W. S.CO. 0427. 0610. OKEE. 375.	METHANE	8.2 5.8 1.8 0.7 0.5 0.4 1.1 3.4 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PI TRUE VERTIC MEASURED D	KAN BAF ANTE	RBER. RIM.S. Y.1A. 1562. R10W. S.CO. 0427. 0610. DKEE. 375. 4462.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGENARGON HYDROGEN	8.2 5.8 1.8 0.7 0.5 0.4 1.1 3.4 0.0 0.1 0.0
COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PITUE VERTICE MEASURED DE WELLHEAD P	KAN BAF	RBER RIM.S. Y.1A. 1562 R10W. S.CO. 0427 0610. OKEE 	METHANE	8.2 5.8 1.8 0.7 0.5 0.4 1.1 3.4 0.0 0.1 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PITUE VERTIC MEASURED D WELLHEAD P	KAN BAF ANTE	RBER RIM.S. Y.1A. 1562 R10W. S.CO. 0427 0610. OKEE 	METHANE	8.2 5.8 1.8 0.7 0.5 0.4 1.1 3.4 0.0 0.1 0.0 0.0 0.1

^{*} 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

SAMPLE	21151	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	93.2
		ETHANE	3.2
COUNTY		PROPANE	1.2
FIELD		N-BUTANE	0.4
WELL NAME	BOOTH NO. 1-23	ISOBUTANE	0.2
API	1503320640	N-PENTANE	0.1
LOCATION	SEC. 23, T32S, R17W	ISOPENTANE	0.1
OWNER	MIDCO EXPLORATION, INC.	CYCLOPENTANE	
COMPLETED	840930	HEXANES PLUS	0.3
SAMPLED	030520	NITROGEN	1.1
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	5132	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
		HELIUM	0.10
OPEN FLOW, MCFD		HEATING VALUE*	1,069
		SPECIFIC GRAVITY	0.605
SAMPLE	21174	COMPONENT, MOLE PCT	
07475	I/ANIOAO	METHANE	72.1
STATE		ETHANE	6.6
COUNTY	COMANCHE	PROPANE	2.6
EIEI D			3.0
rield	BIRD	N-BUTANE	
			1.2
WELL NAME	LENERTZ 2	N-BUTANE	1.2 0.5
WELL NAME	LENERTZ 2 1503321086	N-BUTANE	1.2 0.5 0.4
WELL NAMEAPI	LENERTZ 2 1503321086 SEC. 13, T32S, R19W	N-BUTANEISOBUTANEN-PENTANE	1.2 0.5 0.4 0.3
WELL NAME	LENERTZ 2 1503321086 SEC. 13, T32S, R19W AMERICAN WARRIOR, INC.	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	1.2 0.5 0.4 0.3
WELL NAME	LENERTZ 2 1503321086 SEC. 13, T32S, R19W AMERICAN WARRIOR, INC. 000823	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	1.2 0.5 0.4 0.3
WELL NAME	LENERTZ 2 1503321086 SEC. 13, T32S, R19W AMERICAN WARRIOR, INC. 000823 030521	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.2 0.5 0.4 0.3 0.9
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	LENERTZ 2. 1503321086. SEC. 13, T32S, R19W. AMERICAN WARRIOR, INC. 000823. 030521. MISS-MISSISSIPPIAN	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.2 0.5 0.4 0.3 0.9 13.3
WELL NAME	LENERTZ 2 1503321086 SEC. 13, T32S, R19W AMERICAN WARRIOR, INC. 000823 030521 MISS-MISSISSIPPIAN 360	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.2 0.5 0.4 0.3 0.9 13.3 0.0
WELL NAME	LENERTZ 2 1503321086 SEC. 13, T32S, R19W AMERICAN WARRIOR, INC 000823 030521 MISS-MISSISSIPPIAN 360.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.2 0.5 0.4 0.3 0.9 13.3 0.0 0.1
WELL NAME	LENERTZ 2 1503321086 SEC. 13, T32S, R19W AMERICAN WARRIOR, INC. 000823 030521. MISS-MISSISSIPPIAN 360.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	1.2 0.5 0.4 0.3 0.9 13.3 0.0 0.1 TRACE
WELL NAME	LENERTZ 2 1503321086 SEC. 13, T32S, R19W AMERICAN WARRIOR, INC. 000823 030521 MISS-MISSISSIPPIAN 360	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	1.2 0.5 0.4 0.3 0.9 13.3 0.0 0.1 TRACE 0.0
WELL NAME	LENERTZ 2 1503321086 SEC. 13, T32S, R19W AMERICAN WARRIOR, INC. 000823 030521 MISS-MISSISSIPPIAN 360	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	1.2 0.5 0.4 0.3

^{*} 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

21183	COMPONENT, MOLE PCT	
KVNCVC	METHANE	78.1
	ETHANE	7.9
	PROPANE	3.9
	N-BUTANE	1.6
	ISOBUTANE	0.6
1503321341	N-PENTANE	0.5
SEC. 28, T32S, R19W	ISOPENTANE	0.4
AMERICAN WARRIOR, INC.	CYCLOPENTANE	
030116	HEXANES PLUS	0.8
030522	NITROGEN	5.7
ORDO-VIOLA	OXYGEN	0.0
360	ARGON	0.1
***************************************	HYDROGEN	0.0
	HYDROGEN SULFIDE**	0.0
	CARBON DIOXIDE	0.2
	-	
	HEATING VALUE*	1,174
	SPECIFIC GRAVITY	0.723
21163	COMPONENT, MOLE PCT	
KANCAC	METHANE	85.7
	ETHANE	4.3
	PROPANE	3.5
	N-BUTANE	1.3
	ISOBUTANE	0.4
	N-PENTANE	0.4
SEC. 33, T32S, R19W	ISOPENTANE	0.3
AMERICAN WARRIOR, INC.	CYCLOPENTANE	
000429	HEXANES PLUS	1.0
030521	NITROGEN	2.8
	OXYGEN	0.0
PENN-PAWNEE	OXTGEN	
PENN-PAWNEE	ARGON	0.1
		0.1
	ARGON	0.1 TRACE
360.	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 TRACE 0.0
	ARGONHYDROGENHYDROGEN SULFIDE**	0.1 TRACE 0.0 0.1
	KANSAS COMANCHE BIRD BIRD 3-28 1503321341 SEC. 28, T32S, R19W AMERICAN WARRIOR, INC. 030116 030522 ORDO-VIOLA 360 21163 KANSAS COMANCHE BIRD.E KERSTETTER 2-33 1503320450 SEC. 33, T32S, R19W AMERICAN WARRIOR, INC. 000429 030521	KANSAS

^{*} 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

SAMPLE	21181	COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	92.0
STATE		ETHANE	2.9
COUNTY		PROPANE	1.3.
FIELD		N-BUTANE	0.5
WELL NAME	RICH 23-14	ISOBUTANE	0.2
API	1503321042	N-PENTANE	0.2
LOCATION	,,,,,,	ISOPENTANE	0.2
OWNERGARY	SAMUEL, JR. & ASSOCIATES	CYCLOPENTANE	
COMPLETED	000215	HEXANES PLUS	0.6
SAMPLED	030522	NITROGEN	1.6
FORMATION	ORDO-VIOLA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)	5808	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.3
OPEN FLOW, MCFD		HELIUM	0.12
OF LINT LOW, MICH D	230	HEATING VALUE*	1,081
		SPECIFIC GRAVITY	0.622
SAMPLE	21179	COMPONENT, MOLE PCT	
CTATE	KANGAG	METHANE	87.8
STATE		ETHANE	3.9
COUNTY		PROPANE	3.6
FIELD		N-BUTANE	1.1
WELL NAME	LYON 1	ISOBUTANE	0.4
ΔΡΙ			<u>V.</u>
	1503320980	N-PENTANE	
			0.3
LOCATION	SEC. 21, T32S, R19W	N-PENTANE	0.3
LOCATIONOIL	SEC. 21, T32S, R19W. PRODUCERS INC., OF KANSAS	N-PENTANE	0.3 0.3
LOCATION	SEC. 21, T32S, R19W. PRODUCERS INC., OE KANSAS. 990117	N-PENTANE ISOPENTANE CYCLOPENTANE	0.3 0.3 0.7
LOCATIONOIL.I OWNEROIL.I COMPLETED SAMPLED	SEC. 21, T32S, R19W. PRODUCERS INC., OF KANSAS. 990117. 030522.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.3 0.3 0.7 1.7
LOCATIONOIL I OWNEROIL I COMPLETED SAMPLED FORMATION	SEC. 21, T32S, R19W. PRODUCERS INC., OF KANSAS. 990117 030522 MISS-MISSISSIPPIAN	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.3 0.3 0.7 1.7 0.0
LOCATIONOIL.I OWNEROIL.I COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	SEC. 21, T32S, R19W. PRODUCERS INC., OF KANSAS. 990117 030522 MISS-MISSISSIPPIAN 360	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.3 0.3 0.7 1.7 0.0
LOCATIONOIL I OWNEROIL I COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SEC. 21, T32S, R19W. PRODUCERS INC., OF KANSAS. 990117 030522 MISS-MISSISSIPPIAN 360. 5120.	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGENARGON	0.3 0.3 0.7 0.7 1.7 0.0 0.1 TRACE
LOCATIONOIL I OWNEROIL I COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SEC. 21, T32S, R19W. PRODUCERS INC., OE KANSAS. 990117 030522 MISS-MISSISSIPPIAN 360. 5120.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.3 0.3 0.7 0.7 1.7 0.0 0.1 TRACE
LOCATIONOIL.I OWNEROIL.I COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SEC. 21, T32S, R19W. PRODUCERS INC., OF KANSAS. 990117 030522 MISS-MISSISSIPPIAN 360. 5120.	N-PENTANE	0.3 0.3 0.7 1.7 0.0 0.1 TRACE 0.0
LOCATIONOIL I OWNEROIL I COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SEC. 21, T32S, R19W. PRODUCERS INC., OF KANSAS. 990117 030522 MISS-MISSISSIPPIAN 360. 5120.	N-PENTANE	0.3 0.3 0.7 0.7 1.7 0.0 0.1 TRACE 0.0 0.1 0.11
LOCATIONOIL.I OWNEROIL.I COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SEC. 21, T32S, R19W. PRODUCERS INC., OF KANSAS. 990117 030522 MISS-MISSISSIPPIAN 360. 5120.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.3 0.3 0.7 0.7 1.7 0.0 0.1 TRACE 0.0 0.1 0.11 1.152

^{*} 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

SAMPLE	21243	COMPONENT, MOLE PCT	
CTATE	KANSAS	METHANE	89.1
-		ETHANE	3.1
	EDWARDS	PROPANE	1.1
	BORDEWICK E	N-BUTANE	0.4
	TAYLOR 1	ISOBUTANE	0.2
	1504720888	N-PENTANE	0.1
	SEC. 24, T26S, R18W	ISOPENTANE	0.1
OWNER	KODIAK PETROLEUM, INC.	CYCLOPENTANE	
COMPLETED	811028	HEXANES PLUS	0.4
SAMPLED	030820	NITROGEN	4.8
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	4558	HYDROGEN	TRACE
, , , , , , , , , , , , , , , , , , , ,		HYDROGEN SULFIDE**	0.0
	1250	CARBON DIOXIDE	0.2
,	166	HELIUM	0.50
OF LINT LOW, MICH D	100	HEATING VALUE*	1,031
		SPECIFIC GRAVITY	0.622
SAMPLE	21210	COMPONENT, MOLE PCT	
07475	KANDAD	METHANE	79.4
	KANSAS	ETHANE	6.4
	BARBER	PROPANE	3.1
	BROOKS-YOUNGER N	N-BUTANE	0.9
WELL NAME	LENKNER 1.	ISOBUTANE	0.4
API	1500721781	N-PENTANE	0.3
LOCATION	SEC. 15, T32S, R13W	ISOPENTANE	0.2
OWNER	PRATT WELL SERVICE, INC.	CYCLOPENTANE	_ ==
COMPLETED	840523	HEXANES PLUS	0.5
SAMPLED	030612	NITROGEN	8.5
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	375.	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	4435	HYDROGEN	TRACE
` '		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.1
WELLHEAD PRESSURE PSIC	1617		
WELLHEAD PRESSURE, PSIG		HELIUM	0.26
	210.	HELIUM	

^{*} 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

SAMPLE	50586	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	93.0
	COMANCHE	ETHANE	2.5
		PROPANE	0.8
	BUTTERMILK E	N-BUTANE	0.3
	COLE NO. 1	ISOBUTANE	0.1
	1503321078	N-PENTANE	0.1
	SEC. 9, T34S, R18W	ISOPENTANE	0.1
OWNER	CRAWFORD OIL & GAS, INC.	CYCLOPENTANE	
COMPLETED	000412	HEXANES PLUS	0.6
SAMPLED	000400	NITROGEN	2.1
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	0.2
,		HELIUM	0.09
OI LIVI LOVV, MOI D		HEATING VALUE*	1,066
		SPECIFIC GRAVITY	0.613
SAMPLE	21258	COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	88.1
	KANSAS	METHANE	
COUNTY	PAWNEE		3.6
COUNTY	PAWNEE CARPENTER	ETHANE	3.6 1.5
COUNTY FIELD WELL NAME	PAWNEE CARPENTER HAWES 1B.	ETHANE	3.6 1.5 0.6
COUNTY FIELD WELL NAME	PAWNEE CARPENTER	PROPANEN-BUTANE	3.6 1.5 0.6 0.3
COUNTY FIELD WELL NAMEAPI	PAWNEE CARPENTER HAWES 1B.	ETHANE PROPANE N-BUTANE ISOBUTANE	3.6 1.5 0.6 0.3
COUNTY FIELD WELL NAME API LOCATION	PAWNEE CARPENTER HAWES 1B 1514520205	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.6 1.5 0.6 0.3 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER	PAWNEE CARPENTER HAWES 1B 1514520205 SEC. 29, T23S, R16W	ETHANEPROPANE N-BUTANEISOBUTANE N-PENTANEISOPENTANE	3.6 1.5 0.6 0.3 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	PAWNEE CARPENTER HAWES 1B 1514520205 SEC. 29, T23S, R16W RENEGADE RESOURCES CORP.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.6 1.5 0.6 0.3 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	PAWNEE CARPENTER. HAWES 1B. 1514520205 SEC. 29, T23S, R16W. RENEGADE RESOURCES CORP. 710622	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.6 1.5 0.6 0.3 0.2 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	PAWNEE CARPENTER HAWES 1B 1514520205 SEC. 29, T23S, R16W RENEGADE RESOURCES CORP. 710622 030820	ETHANE	3.6 1.5 0.6 0.3 0.2 0.2 0.7 4.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	PAWNEE CARPENTER HAWES 1B 1514520205 SEC. 29, T23S, R16W RENEGADE RESOURCES CORP. 710622 030820 PENN-CHEROKEE 385	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.6 1.5 0.6 0.3 0.2 0.2 0.7 4.2 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	PAWNEE CARPENTER HAWES 1B 1514520205 SEC. 29, T23S, R16W RENEGADE RESOURCES CORP. 710622 030820 PENN-CHEROKEE 385. 4156	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.6 1.5 0.6 0.3 0.2 0.2 0.7 4.2 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	PAWNEE CARPENTER HAWES 1B 1514520205 SEC. 29, T23S, R16W RENEGADE RESOURCES CORP. 710622 030820. PENN-CHEROKEE 385. 4156.	ETHANE	3.6 1.5 0.6 0.3 0.2 0.2 0.7 4.2 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	PAWNEE CARPENTER HAWES 1B 1514520205 SEC. 29, T23S, R16W RENEGADE RESOURCES CORP. 710622 030820 PENN-CHEROKEE 385 4156.	ETHANE	3.6 1.5 0.6 0.3 0.2 0.2 0.7 4.2 0.0 0.1 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	PAWNEE CARPENTER HAWES 1B 1514520205 SEC. 29, T23S, R16W RENEGADE RESOURCES CORP. 710622 030820 PENN-CHEROKEE 385 4156.	ETHANE	3.6. 1.5 0.6 0.3 0.2 0.2 0.7 4.2 0.0 0.1 0.0 0.1 0.51

^{*} 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

SAMPLE	21254	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	82.4
COUNTY		ETHANE	2.3
		PROPANE	0.8
FIELD		N-BUTANE	0.2
WELL NAME		ISOBUTANE	0.1
API	1514500147_	N-PENTANE	0.1
LOCATION	SEC. 11, T23S, R17W	ISOPENTANE	0.1
OWNER	HERMAN L. LOEB	CYCLOPENTANE	
COMPLETED	660127_	HEXANES PLUS	0.2
SAMPLED	030820	NITROGEN	12.9
FORMATION	MISS-CONGLOMERATE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	385_	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	4083	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.73
OI EIVI LOVV, WIOI D	2300	HEATING VALUE*	923
		SPECIFIC GRAVITY	0.637
SAMPLE	21257	COMPONENT, MOLE PCT	
CTATE	KANGAG	METHANE	88.5
STATE		ETHANE	3.4
COUNTY			
=== =		PROPANE	1.4
FIELD	CARPENTER	PROPANE N-BUTANE	
	CARPENTER		0.5
FIELD WELL NAMEAPI	CARPENTER. ROW 1.	N-BUTANE	0.5 0.2
WELL NAME	CARPENTER. ROW 1. 1514520222	N-BUTANEISOBUTANE	0.5 0.2 0.1
WELL NAME	CARPENTER. ROW 1. 1514520222 SEC. 30, T23S, R16W.	N-BUTANEISOBUTANEN-PENTANE	0.5 0.2 0.1
WELL NAMEAPILOCATION	CARPENTER. ROW 1. 1514520222 SEC. 30, T23S, R16W. AMERICAN WARRIOR, INC.	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	0.5 0.2 0.1 0.1
WELL NAME	CARPENTER. ROW 1. 1514520222 SEC. 30, T23S, R16W. AMERICAN WARRIOR, INC. 710728	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.5 0.2 0.1 0.1
WELL NAME API LOCATION OWNER COMPLETED	CARPENTER. ROW 1. 1514520222 SEC. 30, T23S, R16W. AMERICAN WARRIOR, INC. 710728 030820.	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.5 0.2 0.1 0.1 0.3 4.8
WELL NAME	CARPENTER. ROW 1. 1514520222 SEC. 30, T23S, R16W. AMERICAN WARRIOR, INC. 710728 030820. MISS-MISSISSIPPIAN	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUSNITROGEN	0.5 0.2 0.1 0.1 0.3 4.8 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	CARPENTER. ROW 1. 1514520222 SEC. 30, T23S, R16W. AMERICAN WARRIOR, INC. 710728 030820. MISS-MISSISSIPPIAN 385	N-BUTANEISOBUTANEISOPENTANE	0.5 0.2 0.1 0.1 0.3 4.8 0.0
WELL NAME	CARPENTER. ROW 1. 1514520222 SEC. 30, T23S, R16W. AMERICAN WARRIOR, INC. 710728 030820. MISS-MISSISSIPPIAN 385. 4192	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.5 0.2 0.1 0.1 0.3 4.8 0.0 TRACE
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CARPENTER. ROW 1. 1514520222 SEC. 30, T23S, R16W. AMERICAN WARRIOR, INC. 710728 030820. MISS-MISSISSIPPIAN 385. 4192.	N-BUTANE	0.5 0.2 0.1 0.1 0.3 4.8 0.0 TRACE 0.0
WELL NAME	CARPENTER. ROW 1. 1514520222 SEC. 30, T23S, R16W. AMERICAN WARRIOR, INC. 710728 030820. MISS-MISSISSIPPIAN 385 4192	N-BUTANE	0.5 0.2 0.1 0.1 0.3 4.8 0.0 TRACE 0.0 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CARPENTER. ROW 1. 1514520222 SEC. 30, T23S, R16W. AMERICAN WARRIOR, INC. 710728 030820. MISS-MISSISSIPPIAN 385. 4192.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.5 0.2 0.1 0.1 0.3 4.8 0.0 TRACE 0.0 0.0 0.1

^{*} 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

SAMPLE	21256	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	87.4
COUNTY		ETHANE	3.6
		PROPANE	1.6
FIELD		N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.2
LOCATION		ISOPENTANE	0.1
OWNER	AMERICAN WARRIOR, INC.	CYCLOPENTANE	
COMPLETED	700812	HEXANES PLUS	0.5
SAMPLED	030820	NITROGEN	5.0
FORMATION	ORDO-VIOLA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	385	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	4257	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.64
OI EIVI EOVV, MOI D		HEATING VALUE*	1,052
		SPECIFIC GRAVITY	0.637
SAMPLE	21241	COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	72.9
STATE		ETHANE	1.8
COUNTY		PROPANE	0.7
FIELD		N-BUTANE	0.5
WELL NAME	GRANT 1.	ISOBUTANE	0.2
API	1500920798	N-PENTANE	0.4
LOCATION			
	SEC. 20, T20S, R11W	ISOPENTANE	0.3
OWNER	,	ISOPENTANE	
	BEAR PETROLEUM CO.		
COMPLETED	BEAR PETROLEUM CO. 740331	CYCLOPENTANE	0.5
COMPLETED	BEAR PETROLEUM CO	CYCLOPENTANE	0.5 21.6
COMPLETEDSAMPLEDFORMATION	BEAR PETROLEUM CO. 740331 030819 PERM-CHASE GROUP	CYCLOPENTANE HEXANES PLUS NITROGEN	0.5 21.6 0.0
COMPLETEDSAMPLEDFORMATIONGEOLOGIC PROVINCE CODE	BEAR PETROLEUM CO. 740331 030819 PERM-CHASE GROUP 385	CYCLOPENTANE	0.5 21.6 0.0 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	BEAR PETROLEUM CO. 740331 030819 PERM-CHASE GROUP 385. 1544	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.5 21.6 0.0 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	BEAR PETROLEUM CO. 740331 030819 PERM-CHASE GROUP 385	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.5 21.6 0.0 0.1 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	BEAR PETROLEUM CO. 740331 030819 PERM-CHASE GROUP 385 1544	CYCLOPENTANE	0.5 21.6 0.0 0.1 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	BEAR PETROLEUM CO. 740331 030819 PERM-CHASE GROUP 385 1544	CYCLOPENTANE	0.5 21.6 0.0 0.1 0.0 0.0 0.1

^{*} 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

SAMPLE	21259	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	88.7
		ETHANE	3.3
	EDWARDS.	PROPANE	1.2
	CLW E	N-BUTANE	0.4
	NEFF A-1	ISOBUTANE	0.2
API	1504720386	N-PENTANE	0.1
	SEC. 26, T25S, R18W	ISOPENTANE	0.1
OWNER	PINTAIL PETROLEUM LIMITED	CYCLOPENTANE	
COMPLETED	780830	HEXANES PLUS	0.4
SAMPLED	030820	NITROGEN	4.9
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT) _	4597	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	1258	CARBON DIOXIDE	0.2
,	453	HELIUM	0.45
OI LIVI LOW, MOI D	735	HEATING VALUE*	1,035
		SPECIFIC GRAVITY	0.625
SAMPLE	50593	COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	84.6
	KANSAS	ETHANE	3.8
	COMANCHE	PROPANE	2.2
	COLDWATER TOWNSITE	N-BUTANE	0.9
	WILLBANKS NO. 1-9	ISOBUTANE	0.3
API	1503321275	N-PENTANE	0.3
LOCATION	SEC. 9, T32S, R18W	ISOPENTANE	0.2
OWNER	IMPERIAL OIL PROPERTIES, INC.	CYCLOPENTANE	
COMPLETED	020226	HEXANES PLUS	0.3
SAMPLED	020107	NITROGEN	7.1
FORMATION	PENN-CHEROKEE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)	5133.	HYDROGEN	0.0
` ,		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
		HELIUM	
OPEN ELOW MOED	260		
OPEN FLOW, MCFD	250	HEATING VALUE*	1,052

^{*} 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

SAMPLE	21175	COMPONENT, MOLE PCT	
CTATE	KANSAS	METHANE	71.5
		ETHANE	10.1
	COMANCHE	PROPANE	5.3
	COLDWATER TOWNSITE	N-BUTANE	2.0
	LAKE NO. 4	ISOBUTANE	0.7
	1503321216	N-PENTANE	0.7
LOCATION	SEC. 13, T32S, R19W	ISOPENTANE	0.5
OWNER	AMERICAN WARRIOR, INC.	CYCLOPENTANE	
COMPLETED	010502	HEXANES PLUS	0.7
SAMPLED	030521	NITROGEN	7.8
FORMATION	ORDO-VIOLA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
. ,		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.5
,		HELIUM	0.22
OPEN FLOW, MIGFD		HEATING VALUE*	1,204
		SPECIFIC GRAVITY	0.769
SAMPLE	21156	COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	94.1
	KANSAS		
	0014110115	ETHANE	2.6
	COMANCHE	PROPANE	
FIELD	COLLIER FLATS.		1.0
FIELD		PROPANE	1.0 0.3
FIELD	COLLIER FLATS.	PROPANE N-BUTANE	1.0 0.3 0.1
FIELD WELL NAMEAPI	COLLIER FLATS BAKER FARMS A1	PROPANEN-BUTANEISOBUTANE	1.0 0.3 0.1 0.1
FIELD	COLLIER FLATS. BAKER FARMS A1. 1503320987	PROPANEN-BUTANEISOBUTANEN-PENTANE	1.0 0.3 0.1 0.1 0.1
FIELD WELL NAME API LOCATION OWNER	COLLIER FLATS. BAKER FARMS A1. 1503320987 SEC. 24, T33S, R20W.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.0 0.3 0.1 0.1 0.1
FIELD WELL NAME API LOCATION OWNER COMPLETED	COLLIER FLATS. BAKER FARMS A1. 1503320987 SEC. 24, T33S, R20W. PICKRELL DRILLING CO., INC.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.0 0.3 0.1 0.1 0.1
FIELD	COLLIER FLATS. BAKER FARMS A1. 1503320987 SEC. 24, T33S, R20W. PICKRELL DRILLING CO., INC. 990215	PROPANE	1.0 0.3 0.1 0.1 0.1 0.2
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	COLLIER FLATS BAKER FARMS A1. 1503320987 SEC. 24, T33S, R20W PICKRELL DRILLING CO., INC. 990215 030520	PROPANE	1.0 0.3 0.1 0.1 0.1 0.2 1.0
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	COLLIER FLATS BAKER FARMS A1. 1503320987 SEC. 24, T33S, R20W. PICKRELL DRILLING CO., INC. 990215 030520. PENN-CHEROKEE	PROPANE	1.0 0.3 0.1 0.1 0.1 0.2 1.0 0.0 TRACE
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	COLLIER FLATS. BAKER FARMS A1. 1503320987 SEC. 24, T33S, R20W PICKRELL DRILLING CO., INC. 990215 030520 PENN-CHEROKEE 360. 5192	PROPANE	1.0 0.3 0.1 0.1 0.1 0.2 1.0 0.0 TRACE
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLLIER FLATS BAKER FARMS A1. 1503320987 SEC. 24, T33S, R20W PICKRELL DRILLING CO., INC. 990215 030520 PENN-CHEROKEE 360. 5192	PROPANE	1.0 0.3 0.1 0.1 0.1 0.2 1.0 0.0 TRACE TRACE
FIELD	COLLIER FLATS BAKER FARMS A1. 1503320987 SEC. 24, T33S, R20W. PICKRELL DRILLING CO., INC. 990215 030520. PENN-CHEROKEE 360. 5192.	PROPANE	1.0 0.3 0.1 0.1 0.1 0.2 1.0 0.0 TRACE TRACE 0.0
FIELD	COLLIER FLATS BAKER FARMS A1. 1503320987 SEC. 24, T33S, R20W PICKRELL DRILLING CO., INC. 990215 030520 PENN-CHEROKEE 360. 5192	PROPANE	1.0 0.3 0.1 0.1 0.1 0.2 1.0 0.0 TRACE TRACE 0.0

^{*} 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

SAMPLE 21157		COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	91.2
COUNTY		ETHANE	3.3
		PROPANE	1.6
FIELD		N-BUTANE	0.6
WELL NAMECH		ISOBUTANE	0.2
API		N-PENTANE	0.2
LOCATIONS	,	ISOPENTANE	0.2
OWNER DAYSTAF	R PETROLEUM, INC.	CYCLOPENTANE	
COMPLETED	000708	HEXANES PLUS	0.6
SAMPLED	030520	NITROGEN	1.6
FORMATION	ORDO-VIOLA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	6123	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	0.4
OPEN FLOW, MCFD	400	HELIUM	
	······································	HEATING VALUE*	,,
		SPECIFIC GRAVITY	0 629
		or con to divertif	
SAMPLE 21170		COMPONENT, MOLE PCT	
	KANCAC		
STATE		COMPONENT, MOLE PCT	84.5
STATE	COMANCHE	COMPONENT, MOLE PCT METHANE	84.5 4.0
STATE COUNTY FIELD	COMANCHE COLTER	COMPONENT, MOLE PCT METHANE ETHANE	84.5 4.0 3.2
STATE COUNTY FIELD WELL NAME	COMANCHE COLTER. PHILLIPS NO. 1-7	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	84.5 4.0 3.2 1.5
STATE COUNTY FIELD WELL NAME	COMANCHE COLTER PHILLIPS NO. 1-7 1503320905	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	84.5 4.0 3.2 1.5 0.5
STATE COUNTY FIELD WELL NAME	COMANCHE COLTER PHILLIPS NO. 1-7 1503320905	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	84.5 4.0 3.2 1.5 0.5
STATE COUNTY FIELD WELL NAME	COMANCHE COLTER. PHILLIPS NO. 1-7. 1503320905 SEC. 1, T33S, R19W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	84.5 4.0 3.2 1.5 0.5 0.4
STATE COUNTY FIELD WELL NAME API LOCATION	COMANCHE COLTER PHILLIPS NO. 1-7 1503320905 SEC. 1, T33S, R19W JR. & ASSOCIATES	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	84.5 4.0 3.2 1.5 0.5 0.4 0.4
STATE COUNTY FIELD WELL NAME API LOCATION GARY SAMUEL,	COMANCHE COLTER PHILLIPS NO. 1-7 1503320905 SEC. 1, T33S, R19W JR. & ASSOCIATES 971114	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	84.5 4.0 3.2 1.5 0.5 0.4 0.4
STATE COUNTY FIELD WELL NAME API LOCATION SOWNERSARY_SAMUEL, COMPLETED	COMANCHE COLTER. PHILLIPS NO. 1-7 1503320905 SEC. 1, T33S, R19W JR. & ASSOCIATES 971114 030521	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	84.5 4.0 3.2 1.5 0.5 0.4 0.4 0.9
STATE COUNTY FIELD WELL NAME API LOCATIONS OWNER GARY SAMUEL COMPLETED SAMPLED	COMANCHE COLTER PHILLIPS NO. 1-7 1503320905 SEC. 1, T33S, R19W JR. & ASSOCIATES 971114 030521	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN	84.5 4.0 3.2 1.5 0.5 0.4 0.4 0.9 4.3
STATE	COMANCHE COLTER. PHILLIPS NO. 1-7 1503320905 SEC. 1, T33S, R19W JR. & ASSOCIATES 971114 030521 UM. SWOPE, MRMN 360	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	84.5 4.0 3.2 1.5 0.5 0.4 0.4 0.9 4.3 0.0
STATE	COMANCHE COLTER PHILLIPS NO. 1-7 1503320905 SEC. 1, T33S, R19W JR. & ASSOCIATES 971114 030521 MM. SWOPE, MRMN 360. 4982	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	84.5 4.0 3.2 1.5 0.5 0.4 0.4 0.9 4.3 0.0 0.1 TRACE
STATE	COMANCHE COLTER. PHILLIPS NO. 1-7. 1503320905 SEC. 1, T33S, R19W JR. & ASSOCIATES 971114 030521 PUM. SWOPE, MRMN 360. 4982	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	84.5 4.0 3.2 1.5 0.5 0.4 0.4 0.9 4.3 0.0 0.1 TRACE
STATE	COMANCHE COLTER PHILLIPS NO. 1-7 1503320905 SEC. 1, T33S, R19W JR. & ASSOCIATES 971114 030521 SUM. SWOPE, MRMN 360. 4982	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	84.5 4.0 3.2 1.5 0.5 0.4 0.4 0.9 4.3 0.0 0.1 TRACE 0.0 0.1
STATE	COMANCHE COLTER PHILLIPS NO. 1-7 1503320905 SEC. 1, T33S, R19W JR. & ASSOCIATES 971114 030521 SUM. SWOPE, MRMN 360. 4982	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	84.5 4.0 3.2 1.5 0.5 0.4 0.4 0.9 4.3 0.0 0.1 TRACE 0.0 0.1 0.19

^{*} 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

SAMPLE 21171		COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	87.3
		ETHANE	4.0
COUNTY		PROPANE	2.8
FIELD		N-BUTANE	1_1
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.3
LOCATIONSEC.		ISOPENTANE	0.3
OWNER GARY SAMUEL, JR.	& ASSOCIATES	CYCLOPENTANE	
COMPLETED	900310	HEXANES PLUS	0.8
SAMPLED	030521	NITROGEN	2.9
FORMATION PENN-MARMATON, MIS	S-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	5072	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
,		HELIUM	0.15
OPEN FLOW, MCFD	425	HEATING VALUE*	1,131
		SPECIFIC GRAVITY	0.664
SAMPLE 21178		COMPONENT, MOLE PCT	
SAMPLE 21178		COMPONENT, MOLE PCT	84.3
SAMPLE 21178	KANSAS.	METHANE	
STATE		METHANE	5.3
STATE	COMANCHE	METHANE ETHANE PROPANE	5.3 2.1
STATE COUNTY FIELD	COMANCHE COLTER	METHANE ETHANE PROPANE N-BUTANE	5.3 2.1 0.7
STATE	COMANCHE COLTER CARY NO. 36-16	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	5.3 2.1 0.7 0.3
STATE COUNTY FIELD WELL NAME	COMANCHE COLTER CARY NO. 36-16 1503320966	METHANE ETHANE PROPANE N-BUTANE	5.3 2.1 0.7 0.3 0.2
STATE	COMANCHE COLTER CARY NO. 36-16. 1503320966 36, T32S, R19W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	5.3 2.1 0.7 0.3 0.2 0.2
STATE	COMANCHE COLTER CARY NO. 36-16 1503320966 36, T32S, R19W & ASSOCIATES	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	5.3 2.1 0.7 0.3 0.2 0.2
STATE	COMANCHE COLTER CARY NO. 36-16. 1503320966 36, T32S, R19W & ASSOCIATES 980827	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	5.3 2.1 0.7 0.3 0.2 0.2
STATE	COMANCHE COLTER CARY NO. 36-16 1503320966 36, T32S, R19W & ASSOCIATES 980827 030521	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	5.3 2.1 0.7 0.3 0.2 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION SEC. OWNER GARY SAMUEL, JR. COMPLETED SAMPLED FORMATION	COMANCHE COLTER CARY NO. 36-16 1503320966 36, T32S, R19W & ASSOCIATES 980827 030521 PENN-PAWNEE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	5.3 2.1 0.7 0.3 0.2 0.2 0.2 6.2
STATE	COMANCHE COLTER CARY NO. 36-16. 1503320966 36, T32S, R19W & ASSOCIATES 980827 030521 PENN-PAWNEE 360	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	5.3 2.1 0.7 0.3 0.2 0.2 0.2 6.2 0.0 TRACE
STATE	COMANCHE COLTER CARY NO. 36-16 1503320966 36, T32S, R19W & ASSOCIATES 980827 030521 PENN-PAWNEE 360	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	5.3 2.1 0.7 0.3 0.2 0.2 0.2 6.2 0.0 TRACE
STATE	COMANCHE COLTER CARY NO. 36-16. 1503320966 36, T32S, R19W & ASSOCIATES 980827 030521. PENN-PAWNEE 360.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGENARGON HYDROGEN	5.3 2.1 0.7 0.3 0.2 0.2 0.2 6.2 0.0 TRACE 0.0
STATE	COMANCHE COLTER CARY NO. 36-16 1503320966 36, T32S, R19W & ASSOCIATES 980827 030521 PENN-PAWNEE 360	METHANE	5.3 2.1 0.7 0.3 0.2 0.2 0.2 6.2 0.0 TRACE TRACE 0.0
STATE	COMANCHE COLTER CARY NO. 36-16 1503320966 36, T32S, R19W & ASSOCIATES 980827 030521 PENN-PAWNEE 360	METHANE	5.3 2.1 0.7 0.3 0.2 0.2 0.2 6.2 0.0 TRACE TRACE 0.0 0.2

^{*} 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

SAMPLE	21166	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	86.5
COUNTY		ETHANE	3.9
		PROPANE	2.9
FIELD		N-BUTANE	1.3
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.5
LOCATION		ISOPENTANE	0.4
OWNER	LARIO OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	000421	HEXANES PLUS	1.3
SAMPLED	030521	NITROGEN	2.5
FORMATION	PENN-FORT SCOTT	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)	5188	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.15
OF ENT LOW, WICH D	390	HEATING VALUE*	1,168
		SPECIFIC GRAVITY	0.685
SAMPLE	21167	COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	86.3
STATE		METHANE	
COUNTY	COMANCHE		4.0
COUNTY	COMANCHE COLTER S	ETHANE	4.0 3.0
COUNTY	COMANCHE COLTER S	PROPANE	4.0 3.0 1.3
COUNTY	COMANCHE COLTER S. KANISS NO. 1.	ETHANE PROPANE N-BUTANE	4.0 3.0 1.3 0.4
COUNTY FIELD WELL NAME	COMANCHE COLTER S KANISS NO. 1. 1503320735	ETHANE PROPANE N-BUTANE ISOBUTANE	4.0 3.0 1.3 0.4 0.4
COUNTY	COMANCHE COLTER S. KANISS NO. 1. 1503320735 SEC. 12, T33S, R19W	ETHANEPROPANEN-BUTANEISOBUTANEN-PENTANE	4.0 3.0 1.3 0.4 0.4 0.3
COUNTY FIELD WELL NAME API LOCATION	COMANCHE COLTER S. KANISS NO. 1. 1503320735 SEC. 12, T33S, R19W. LARIO OIL & GAS CO.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.0 3.0 1.3 0.4 0.4 0.3
COUNTY FIELD WELL NAME API LOCATION OWNER	COMANCHE COLTER S. KANISS NO. 1. 1503320735. SEC. 12, T33S, R19W. LARIO OIL & GAS CO. 881115	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	4.0 3.0 1.3 0.4 0.4 0.3
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	COMANCHE COLTER S. KANISS NO. 1. 1503320735 SEC. 12, T33S, R19W LARIO OIL & GAS.CO. 881115 030521	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.0 3.0 1.3 0.4 0.4 0.3 1.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	COMANCHE COLTER S. KANISS NO. 1. 1503320735 SEC. 12, T33S, R19W. LARIO OIL & GAS CO. 881115 030521 PENN-FORT SCOTT	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.0 3.0 1.3 0.4 0.4 0.3 1.1 2.7 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	COMANCHE COLTER S. KANISS NO. 1. 1503320735 SEC. 12, T33S, R19W LARIO OIL & GAS CO. 881115 030521 PENN-FORT SCOTT 360.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.0 3.0 1.3 0.4 0.4 0.3 1.1 2.7 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	COMANCHE COLTER S. KANISS NO. 1. 1503320735 SEC. 12, T33S, R19W LARIO OIL & GAS CO. 881115 030521. PENN-FORT SCOTT. 360. 5188.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.0 3.0 1.3 0.4 0.3 1.1 2.7 0.0 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COMANCHE COLTER S. KANISS NO. 1. 1503320735 SEC. 12, T33S, R19W LARIO OIL & GAS CO. 881115 030521 PENN-FORT SCOTT 360. 5188.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.0 3.0 1.3 0.4 0.4 0.3 1.1 2.7 0.0 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	COMANCHE COLTER S. KANISS NO. 1. 1503320735. SEC. 12, T33S, R19W. LARIO OIL & GAS CO. 881115. 030521. PENN-FORT SCOTT. 360. 5188.	ETHANE	4.0 3.0 1.3 0.4 0.4 0.3 1.1 2.7 0.0 0.1 TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COMANCHE COLTER S. KANISS NO. 1. 1503320735. SEC. 12, T33S, R19W. LARIO OIL & GAS CO. 881115. 030521. PENN-FORT SCOTT. 360. 5188.	ETHANE	4.0 3.0 1.3 0.4 0.4 0.3 1.1 2.7 0.0 0.1 TRACE 0.0 0.1

* 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

SAMPLE 21164		COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	93.5
STATE		ETHANE	2.8
COUNTYCO		PROPANE	1.0
FIELD CO		N-BUTANE	0.4
WELL NAME		ISOBUTANE	0.2
API150	3321092	N-PENTANE	0.1
LOCATION SEC. 10, T33	S, R19W	ISOPENTANE	0.1
OWNER GARY SAMUEL, JR. & ASSO	OCIATES .	CYCLOPENTANE	
COMPLETED	000624	HEXANES PLUS	0.4
SAMPLED	030521	NITROGEN	1.2
FORMATION PENN-CH	HEROKEE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	5215	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	0.2
OPEN FLOW, MCFD		HELIUM	0.10
OPEN FLOW, MICFO		HEATING VALUE*	1,067
		SPECIFIC GRAVITY	0.607
SAMPLE 21162			
		COMPONENT, MOLE PCT	
OTATE	KANOAO	COMPONENT, MOLE PCT METHANE	90.0
COUNTYCO	MANCHE	METHANE	3.3
COUNTYCO	MANCHE	METHANE	3.3 1.9
COUNTY CO	MANCHE OLTER W.	METHANE ETHANE PROPANE	3.3 1.9 0.8
COUNTY CO FIELD CC WELL NAME HE	MANCHE OLTER W. RD 34-14	METHANE ETHANE PROPANE N-BUTANE	3.3 1.9 0.8 0.3
COUNTY CO FIELD CI WELL NAME HE API 150	MANCHE DLTER W. RD 34-14 3320921	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.3 1.9 0.8 0.3
COUNTY CO FIELD CO WELL NAME HE API 150 LOCATION SEC. 34, T32	MANCHE. DLIER W. RD 34-14. 3320921. S. R19W.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.3 1.9 0.8 0.3 0.3
COUNTY CO FIELD CI WELL NAME HE API 150 LOCATION SEC. 34, T32 OWNER GARY SAMUEL, JR. & ASSO	MANCHE DLIER W. RD 34-14 3320921 S. R19W. DCIATES.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.3 1.9 0.8 0.3 0.3
COUNTY CO FIELD CC WELL NAME HE API 150 LOCATION SEC. 34, T32 OWNER GARY SAMUEL, JR. & ASSO COMPLETED	MANCHE DITER W RD 34-14 3320921 S, R19W DCIATES 01722	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE	3.3 1.9 0.8 0.3 0.3 0.3
COUNTY CO FIELD CC WELL NAME HE API 150 LOCATION SEC. 34, T32 OWNER GARY SAMUEL, JR & ASSO COMPLETED SAMPLED	MANCHE DLIER W. RD 34-14 3320921 S. R19W DCIATES 01722 030521	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.3 1.9 0.8 0.3 0.3 0.3 1.0
COUNTY	MANCHE DITER W. RD 34-14. 3320921 PS, R19W. DCIATES. 01722. 030521. RMATON.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN	3.3 1.9 0.8 0.3 0.3 0.3 1.0 1.8
COUNTY	MANCHE DLIER W. RD 34-14 3320921 S. R19W DCIATES. 01722 030521 RMATON 360	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.3 1.9 0.8 0.3 0.3 0.3 1.0 1.8 0.0
COUNTY	MANCHE DLIER W. RD 34-14 3320921 S. R19W DCIATES 01722 030521 RMATON 360 4932	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.3 1.9 0.8 0.3 0.3 0.3 1.0 1.8 0.0 0.1 TRACE
COUNTY	MANCHE DLIER W. RD 34-14. 3320921 S, R19W. DCIATES. 01722 030521. RMATON 360. 4932.	METHANE	3.3 1.9 0.8 0.3 0.3 0.3 1.0 1.8 0.0 0.1 TRACE 0.0
COUNTY	MANCHE DLTER W. RD 34-14 3320921 S, R19W DCIATES 01722 030521 RMATON 360 4932	METHANE	3.3 1.9 0.8 0.3 0.3 0.3 1.0 1.8 0.0 0.1 TRACE 0.0
STATE COUNTY	MANCHE DLTER W. RD 34-14 3320921 S, R19W DCIATES 01722 030521 RMATON 360 4932	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	3.3 1.9 0.8 0.3 0.3 0.3 1.0 1.8 0.0 0.1 TRACE 0.0

^{*} 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

	21165	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	93.9
	COMANCHE	ETHANE	2.7
		PROPANE	1.0
	COLTER W	N-BUTANE	0.3
	WEBSTER 3-10	ISOBUTANE	0.1
	1503321050	N-PENTANE	0.1
	SEC. 3, T33S, R19W	ISOPENTANE	0.1
OWNER <u>GAR</u>	Y SAMUEL, JR. & ASSOCIATES	CYCLOPENTANE	
COMPLETED	000301	HEXANES PLUS	0.3
SAMPLED	030521	NITROGEN	1.0
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	5261	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG	1129	CARBON DIOXIDE	0.2
, 	608	HELIUM	
o. 2.1. 2011, 2		HEATING VALUE*	1,062
		SPECIFIC GRAVITY	0.602
SAMPLE	21180	COMPONENT, MOLE PCT	
STATE	KANSAS.	METHANE	93.9
	COMANCHE	ETHANE	2.7
		PROPANE	4.0
FIELD			1.0
	COLTER W	N-BUTANE	
	BIRD 2-28.		0.3
API	BIRD 2-28 1503321317	N-BUTANE	0.3 0.1
API	BIRD 2-28.	N-BUTANE	0.3 0.1 0.1
API	BIRD 2-28 1503321317	N-BUTANEISOBUTANEN-PENTANE	0.3 0.1 0.1 0.1
API	BIRD 2-28 1503321317 SEC. 28, T32S, R19W AMERICAN WARRIOR, INC	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	0.3 0.1 0.1 0.1
API	BIRD 2-28 1503321317 SEC. 28, T32S, R19W AMERICAN WARRIOR, INC	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.3 0.1 0.1 0.1
API LOCATION OWNER COMPLETED SAMPLED	BIRD 2-28. 1503321317 SEC. 28, T32S, R19W. AMERICAN WARRIOR, INC.	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.3 0.1 0.1 0.1 0.3 1.0
API LOCATION OWNER COMPLETED SAMPLED	BIRD 2-28. 1503321317. SEC. 28, T32S, R19W. AMERICAN WARRIOR, INC. 030522. MISS-MISSISSIPPIAN	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUSNITROGEN	0.3 0.1 0.1 0.1 0.3 1.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	BIRD 2-28. 1503321317. SEC. 28, T32S, R19W. AMERICAN WARRIOR, INC. 030522. MISS-MISSISSIPPIAN	N-BUTANE	0.3 0.1 0.1 0.3 0.3 1.0 0.0 TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	BIRD 2-28. 1503321317 SEC. 28, T32S, R19W. AMERICAN WARRIOR, INC. 030522 MISS-MISSISSIPPIAN 360.	N-BUTANE	0.3 0.1 0.1 0.3 0.3 1.0 0.0 TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	BIRD 2-28. 1503321317. SEC. 28, T32S, R19W. AMERICAN WARRIOR, INC. 030522. MISS-MISSISSIPPIAN 360.	N-BUTANE	0.3 0.1 0.1 0.1 0.3 1.0 0.0 TRACE
API	BIRD 2-28. 1503321317. SEC. 28, T32S, R19W. AMERICAN WARRIOR, INC. 030522. MISS-MISSISSIPPIAN 360.	N-BUTANE	0.3 0.1 0.1 0.1 0.3 1.0 0.0 TRACE TRACE 0.0 0.3
API	BIRD 2-28. 1503321317. SEC. 28, T32S, R19W. AMERICAN WARRIOR, INC. 030522. MISS-MISSISSIPPIAN 360.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.3 0.1 0.1 0.1 0.3 1.0 0.0 TRACE TRACE 0.0 0.3

^{*} 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

SAMPLE 21161	COMPONENT, MOLE PCT	
STATE KANSAS	METHANE	89.0
	ETHANE	4.7
COUNTY COMANCHE	PROPANE	2.3
FIELD COLTER W	N-BUTANE	8.0
WELL NAME NEILSON 1-33	ISOBUTANE	0.4
API1503320924	N-PENTANE	0.2
LOCATION SEC. 33, T32S, R19W	ISOPENTANE	0.2
OWNERAMERICAN WARRIOR, INC.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.4
SAMPLED030521_	NITROGEN	1.4
FORMATION MISS-MISSISSIPPIAN	OXYGEN	
GEOLOGIC PROVINCE CODE360_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)5272	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.4
OPEN FLOW, MCFD	HELIUM	0.11
OI EIVI EOVV, MOI D	HEATING VALUE*	1,118
	SPECIFIC GRAVITY	0.644
SAMPLE 21182	COMPONENT, MOLE PCT	
STATE KANSAS	METHANE	90.7
COUNTYCOMANCHE_	ETHANE	3.3
	PROPANE	1.8
FIELD COLTER W.	N-BUTANE	0.7
WELL NAME WEBSTER 3-4	ISOBUTANE	0.3
API1503320975_	N-PENTANE	0.3
LOCATION SEC. 3, T33S, R19W	ISOPENTANE	0.2
OWNERGARY SAMUEL, JR & ASSOCIATES.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.7
SAMPLED030522_	NITROGEN	1.6
FORMATION PENN-PAWNEE, MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE360.	ARGON	
TRUE VERTICAL DEPTH (FT)	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.2
	HELIUM	0.11
OPEN FLOW MCFD		
OPEN FLOW, MCFD	HEATING VALUE*SPECIFIC GRAVITY	,

^{*} 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

SAMPLE	21097	COMPONENT, MOLE PCT	
STATE	KVVIGVE	METHANE	42.4
		ETHANE	1.1
COUNTY		PROPANE	0.7
FIELD		N-BUTANE	0.4
WELL NAME		ISOBUTANE	0.3
API	1512920513	N-PENTANE	0.2
LOCATION	SEC. 8, T35S, R43W.	ISOPENTANE	0.2
OWNER	R.M. NAIRN	CYCLOPENTANE	
COMPLETED	810618	HEXANES PLUS	0.6
SAMPLED	021120	NITROGEN	52.6
FORMATION	PERM-RED CAVE	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	1326	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	
OI LIVI LOVV, MOI D		HEATING VALUE*	534
		SPECIFIC GRAVITY	0.812
SAMPLE	21211	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	86.7
COUNTY		ETHANE	5.8
FIELD		PROPANE	2.9
		N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.3
LOCATION	SEC. 34, T32S, R14W	ISOPENTANE	
OWNER		0.401.0051.544.55	
	REX MONAHAN CO	CYCLOPENTANE	- -
COMPLETED		HEXANES PLUS	
	570807		0.7
COMPLETED	570807 030612	HEXANES PLUS NITROGEN OXYGEN	0.7 1.6 0.0
COMPLETED	570807 030612 MISS-MISSISSIPPIAN	HEXANES PLUS NITROGEN OXYGEN ARGON	0.7 1.6 0.0 0.1
COMPLETEDSAMPLEDFORMATION	570807 030612 MISS-MISSISSIPPIAN 375	HEXANES PLUS NITROGEN OXYGEN	0.7 1.6 0.0 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	570807 030612 MISS-MISSISSIPPIAN 375. 4733.	HEXANES PLUS NITROGEN OXYGEN ARGON	0.7 1.6 0.0 0.1 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	570807 030612 MISS-MISSISSIPPIAN 375 4733	HEXANES PLUS	0.7 1.6 0.0 0.1 TRACE 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	570807 030612 MISS-MISSISSIPPIAN 375 4733 1418	HEXANES PLUS	0.7 1.6 0.0 0.1 TRACE 0.0 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	570807 030612 MISS-MISSISSIPPIAN 375 4733 1418	HEXANES PLUS	0.7 1.6 0.0 0.1 TRACE 0.0 0.1 0.11

^{*} 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

SAMPLE	50601	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	84.6
		ETHANE	2.6
COUNTY		PROPANE	0.7
FIELD		N-BUTANE	0.1
WELL NAME		ISOBUTANE	0.1
API	1504721474	N-PENTANE	TRACE
LOCATION	SEC. 13, T24S, R17W	ISOPENTANE	TRACE
OWNER	HOLL, F.G., CO. LLC	CYCLOPENTANE	
COMPLETED	021216	HEXANES PLUS	0.1
SAMPLED	030409	NITROGEN	11.2
FORMATION	PERM-FORT RILEY	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)	2350	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	0.57
OF LINT LOW, INICI D	1104	HEATING VALUE*	929
		SPECIFIC GRAVITY	0.624
SAMPLE	21264	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	88.0
COUNTY		ETHANE	3.5
		PROPANE	1.5
FIELD		N-BUTANE	0.5
WELL NAME		ISOBUTANE	0.2
API		N-PENTANE	
LOCATION	SEC. 16, T24S, R16W	ISOPENTANE	0.1
OWNER	HOLL, F.G., CO. LLC	CYCLOPENTANE	
COMPLETED	841215	HEXANES PLUS	0.5
COMPLETEDSAMPLED		HEXANES PLUS	
	030821		5.0
SAMPLED	030821 MISS-KINDERHOOK	NITROGEN OXYGEN ARGON	5.0 0.0 0.1
SAMPLEDFORMATION	030821 MISS-KINDERHOOK 360	NITROGEN	5.0 0.0 0.1
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	030821 MISS-KINDERHOOK 360 4281	NITROGEN OXYGEN ARGON	5.0 0.0 0.1 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	030821 MISS-KINDERHOOK 360 4281	NITROGEN OXYGEN ARGON HYDROGEN	5.0 0.0 0.1 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	030821 MISS-KINDERHOOK 360 4281	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	5.0 0.0 0.1 0.0 0.0 0.1 0.43
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	030821 MISS-KINDERHOOK 360 4281	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	5.0. 0.0. 0.1. 0.0. 0.0. 0.1. 0.43.

^{*} 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

SAMPLE	21260	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	88.6
COUNTY		ETHANE	3.8
		PROPANE	1.7
FIELD		N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.2
LOCATION	SEC. 19, T24S, R15W	ISOPENTANE	0.2
OWNER	HOLL, F.G., CO. LLC	CYCLOPENTANE	
COMPLETED	001229	HEXANES PLUS	0.6
SAMPLED	030821	NITROGEN	3.5
FORMATION	MISS-KINDERHOOK	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	385	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	4233	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.42
OI LIVI LOVV, IVIOI D	07.	HEATING VALUE*	1,080
		SPECIFIC GRAVITY	0.639
SAMPLE	21249	COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	88.9
		METHANE	
COUNTY	STAFFORD		3.9
COUNTY	STAFFORD FARMINGTON W	ETHANE	3.9 1.7
COUNTY	STAFFORD FARMINGTON W	ETHANEPROPANE	3.9 1.7 0.6
COUNTY FIELD WELL NAME	STAFFORD. FARMINGTON W. SIEBERT 1.	PROPANEN-BUTANE	3.9 1.7 0.6 0.3
COUNTY	STAFFORD FARMINGTON W SIEBERT 1 1518520181	ETHANE PROPANE N-BUTANE ISOBUTANE	3.9 1.7 0.6 0.3 0.2
COUNTY FIELD WELL NAME API LOCATION	STAFFORD FARMINGTON W SIEBERT 1 1518520181 SEC. 32, T24S, R15W	ETHANEPROPANEN-BUTANEISOBUTANEN-PENTANE	3.9 1.7 0.6 0.3 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER	STAFFORD FARMINGTON W SIEBERT 1 1518520181 SEC. 32, T24S, R15W KAISER-FRANCIS OIL CO.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.9 1.7 0.6 0.3 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	STAFFORD. FARMINGTON W. SIEBERT 1. 1518520181 SEC. 32, T24S, R15W. KAISER-FRANCIS OIL CO. 690819	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE	3.9 1.7 0.6 0.3 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	STAFFORD FARMINGTON W SIEBERT 1 1518520181 SEC. 32, T24S, R15W KAISER-FRANCIS OIL CO. 690819 030820	ETHANEPROPANE	3.9 1.7 0.6 0.3 0.2 0.2 0.5 3.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	STAFFORD FARMINGTON W SIEBERT 1. 1518520181 SEC. 32, T24S, R15W KAISER-FRANCIS OIL CO. 690819 030820. MISS-CONGLOMERATE	ETHANEPROPANE	3.9 1.7 0.6 0.3 0.2 0.2 0.5 3.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	STAFFORD FARMINGTON W SIEBERT 1 1518520181 SEC. 32, T24S, R15W KAISER-FRANCIS OIL CO. 690819 030820. MISS-CONGLOMERATE 385	ETHANE	3.9 1.7 0.6 0.3 0.2 0.2 0.5 3.1 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	STAFFORD. FARMINGTON W. SIEBERT 1. 1518520181. SEC. 32, T24S, R15W. KAISER-FRANCIS OIL CO. 690819 030820. MISS-CONGLOMERATE 385. 4184.	ETHANE	3.9 1.7 0.6 0.3 0.2 0.2 0.5 3.1 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	STAFFORD FARMINGTON W SIEBERT 1. 1518520181 SEC. 32, T24S, R15W KAISER-FRANCIS OIL CO. 690819 030820. MISS-CONGLOMERATE 385. 4184	ETHANE	3.9 1.7 0.6 0.3 0.2 0.2 0.5 3.1 0.0 0.1
COUNTY	STAFFORD FARMINGTON W SIFBERT 1 1518520181 SEC. 32, T24S, R15W KAISER-FRANCIS OIL CO. 690819 030820 MISS-CONGLOMERATE 385 4184	ETHANE	3.9 1.7 0.6 0.3 0.2 0.2 0.5 3.1 0.0 0.1 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	STAFFORD FARMINGTON W SIFBERT 1 1518520181 SEC. 32, T24S, R15W KAISER-FRANCIS OIL CO. 690819 030820 MISS-CONGLOMERATE 385 4184	ETHANE	3.9 1.7 0.6 0.3 0.2 0.2 0.5 3.1 0.0 0.1 0.0 0.1 0.37

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

21265	COMPONENT, MOLE PCT	
KANSAS	METHANE	90.8
	ETHANE	3.2
	PROPANE	1.2
	N-BUTANE	0.4
	ISOBUTANE	0.2
	N-PENTANE	0.1
SEC. 14, T26S, R17W	ISOPENTANE	0.1
HOLL, F.G., CO. LLC	CYCLOPENTANE	
770714	HEXANES PLUS	0.3
030821	NITROGEN	3.0
MISS-MISSISSIPPIAN	OXYGEN	0.0
360	ARGON	0.1
4527	HYDROGEN	0.0
	HYDROGEN SULFIDE**	0.0
	CARBON DIOXIDE	0.2
	HELIUM	0.34
1000	HEATING VALUE*	1,052
	SPECIFIC GRAVITY	0.616
21245	COMPONENT, MOLE PCT	
KANSAS	METHANE	89.9
	ETHANE	3.2
	PROPANE	1.2
	N-BUTANE	0.4
	ISOBUTANE	0.2
SEC. 4, T26S, R17W	ISOPENTANE	0.1
MURFIN DRILLING CO.	CYCLOPENTANE	- -
770608	HEXANES PLUS	0.4
030820	NITROGEN	3.8
030820 MISS-MISSISSIPPIAN	NITROGEN	
	OXYGEN	0.0
MISS-MISSISSIPPIAN	OXYGEN	0.0
MISS-MISSISSIPPIAN 360. 4543.	OXYGEN	0.0 0.1 0.0
MISS-MISSISSIPPIAN 360. 4543	OXYGEN ARGON HYDROGEN	0.0 0.1 0.0 0.0
MISS-MISSISSIPPIAN 360. 4543.	OXYGENARGONHYDROGENHYDROGEN SULFIDE**	0.0 0.1 0.0 0.0 0.2 0.47
	KANSAS EDWARDS FATZER NEWSOM 1-14 1504720253 SEC. 14, T26S, R17W HOLL, F.G., CO. LLC 770714 030821 MISS-MISSISSIPPIAN 360. 4527 255. 1800. 21245 KANSAS EDWARDS FELLSBURG PARKER ESTATE 1. 1504720247 SEC. 4, T26S, R17W MURFIN DRILLING CO.	KANSAS

^{*} 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

SAMPLE	21274	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	83.4
COUNTY		ETHANE	3.3
		PROPANE	1.3
FIELD		N-BUTANE	0.4
WELL NAME		ISOBUTANE	0.2
API		N-PENTANE	0.1
LOCATION	SEC. 6, T24S, R17W	ISOPENTANE	0.1
OWNER	HOLL, F.G., CO. LLC	CYCLOPENTANE	
COMPLETED	780512	HEXANES PLUS	0.4
SAMPLED	030821	NITROGEN	9.6
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	4409	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.97
OF LIVE LOW, MICE D	2500	HEATING VALUE*	985
		SPECIFIC GRAVITY	0.644
SAMPLE	21273	COMPONENT, MOLE PCT	
OTATE	KANGAG	METHANE	83.4
STATE		ETHANE	3.3
COUNTY		PROPANE	1.3
FIELD	GARFIELD SW		
		N-BUTANE	0.4
WELL NAME	CITY OF GARFIELD 1		
	CITY OF GARFIELD 1.	N-BUTANE ISOBUTANE N-PENTANE	0.2
API	CITY OF GARFIELD 1 1514520498	ISOBUTANE	0.2 0.1
API	CITY OF GARFIELD 1. 1514520498 SEC. 31, T23S, R17W	ISOBUTANE	0.2 0.1 0.1
API LOCATION OWNER	CITY OF GARFIELD 1. 1514520498 SEC. 31, T23S, R17W HOLL, F.G., CO. LLC	ISOBUTANE N-PENTANE ISOPENTANE	0.2 0.1 0.1
API	CITY OF GARFIELD 1. 1514520498. SEC. 31, T23S, R17W. HOLL, F.G., CO. LLC. 780203.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.2 0.1 0.1
API LOCATION OWNER COMPLETED SAMPLED	CITY OF GARFIELD 1. 1514520498 SEC. 31, T23S, R17W HOLL, F.G., CO. LLC. 780203 030821	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2 0.1 0.1 0.4 9.6
API	CITY OF GARFIELD 1. 1514520498. SEC. 31, T23S, R17W. HOLL, F.G., CO. LLC. 780203. 030821. MISSISSIPPIAN, KINDERHOOK.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.2 0.1 0.1 0.4 9.6
API	CITY OF GARFIELD 1 1514520498 SEC. 31, T23S, R17W HOLL, F.G., CO. LLC 780203 030821 MISSISSIPPIAN, KINDERHOOK 385	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.2 0.1 0.1 0.4 9.6 0.0
API	CITY OF GAREIELD 1. 1514520498. SEC. 31, T23S, R17W. HOLL, F.G., CO. LLC. 780203. 030821. MISSISSIPPIAN, KINDERHOOK. 385. 4363.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.1 0.1 0.4 9.6 0.0 0.1
API LOCATION OWNER COMPLETED SAMPLED FORMATIONMISS- GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CITY OF GAREIELD 1. 1514520498. SEC. 31, T23S, R17W. HOLL, F.G., CO. LLC. 780203. 030821. MISSISSIPPIAN, KINDERHOOK. 385. 4363.	ISOBUTANE	0.2 0.1 0.1 0.4 9.6 0.0 0.1 0.0
API	CITY OF GARFIELD 1 1514520498 SEC. 31, T23S, R17W HOLL, F.G., CO. LLC 780203 030821 MISSISSIPPIAN, KINDERHOOK 385 4363.	ISOBUTANE	0.2 0.1 0.1 0.4 9.6 0.0 0.1 0.0 0.0
WELL NAME	CITY OF GARFIELD 1 1514520498 SEC. 31, T23S, R17W HOLL, F.G., CO. LLC 780203 030821 MISSISSIPPIAN, KINDERHOOK 385 4363.	ISOBUTANE	0.2 0.1 0.1 0.4 9.6 0.0 0.1 0.0 0.2 0.95

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

SAMPLE	20226	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	65.0
COUNTY		ETHANE	6.3
		PROPANE	3.9
FIELD		N-BUTANE	1.2
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.4
LOCATION	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ISOPENTANE	0.3
OWNER	KAISER-FRANCIS OIL CO.	CYCLOPENTANE	
COMPLETED	540414	HEXANES PLUS	0.4
SAMPLED	000511	NITROGEN	21.3
FORMATION	PENN-TOPEKA	OXYGEN	0.1
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	3092	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.2
OPEN FLOW, MCFD		HELIUM	0.52
OPEN FLOVV, MICFD	0029	HEATING VALUE*	977
		SPECIFIC GRAVITY	0.76
SAMPLE	21096	COMPONENT, MOLE PCT	
07.75		METHANE	66.8
STATE		ETHANE	5.6
COUNTY		PROPANE	3.6
FIELD	GREENWOOD	N-BUTANE	1.1
WELL NAME	TUCKER NO. C-1	ISOBUTANE	0.4
API	1512910375	N-PENTANE	0.3
LOCATION	SEC. 14, T34S, R42W	ISOPENTANE	0.2
OWNER	OXY USA, INC.	CYCLOPENTANE	
COMPLETED	010517	HEXANES PLUS	0.5
		HEXANES PLUS NITROGEN	
SAMPLED	021120		20.8
SAMPLEDFORMATION	021120 PENN-TOPEKA	NITROGEN	20.8
SAMPLED FORMATION GEOLOGIC PROVINCE CODE	021120. PENN-TOPEKA. 360.	NITROGEN	20.8 0.0 TRACE
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	021120 PENN-TOPEKA 360	NITROGEN	20.8 0.0 TRACE 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	021120. PENN-TOPEKA. 360.	NITROGEN OXYGEN ARGON HYDROGEN	20.8 0.0 TRACE 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	021120. PENN-TOPEKA. 360.	NITROGEN	20.8 0.0 TRACE 0.0 0.0
COMPLETED	021120. PENN-TOPEKA. 360.	NITROGEN	20.8 0.0 TRACE 0.0 0.0 0.1 0.55

^{*} 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

SAMPLE	21099	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	63.2
COUNTY		ETHANE	6.5
		PROPANE	5.0
FIELD		N-BUTANE	2.0
WELL NAME		ISOBUTANE	0.6
API	1512910229	N-PENTANE	0.7
LOCATION	SEC. 11, T34S, R42W	ISOPENTANE	0.5
OWNER	MM RESOURCES	CYCLOPENTANE	
COMPLETED	560328	HEXANES PLUS	2.0
SAMPLED	021120	NITROGEN	18.7
FORMATION	PENN-WABAUNSEE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.2
TRUE VERTICAL DEPTH (FT)	3193	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.52
OPEN FLOVV, IVICED	42141	HEATING VALUE*	1,109
		SPECIFIC GRAVITY	0.821
SAMPLE	21250	COMPONENT, MOLE PCT	
			81.5
STATE	KANSAS	COMPONENT, MOLE PCT METHANE ETHANE	
STATE	KANSAS. STAFFORD	METHANE	4.2
STATE	KANSAS. STAFFORD	METHANE	4.2 2.4
STATE COUNTY FIELD	KANSAS STAFFORD GRUNDER	METHANE ETHANE PROPANE	4.2 2.4 1.0
	KANSAS STAFFORD GRUNDER BARSTOW B2	METHANE ETHANE PROPANE N-BUTANE	4.2 2.4 1.0 0.5
STATE COUNTY FIELD WELL NAME	KANSAS STAFFORD GRUNDER BARSTOW B2 1518522382	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.2 2.4 1.0 0.5 0.3
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS STAFFORD GRUNDER BARSTOW B2 1518522382 SEC. 3, T25S, R15W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.2 2.4 1.0 0.5 0.3 0.2
STATE COUNTY FIELD WELL NAME API	KANSAS. STAFFORD. GRUNDER. BARSTOW B2. 1518522382. SEC. 3, T25S, R15W. GOULD OIL INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.2 2.4 1.0 0.5 0.3 0.2
STATE	KANSAS STAFFORD GRUNDER BARSTOW B2 1518522382 SEC. 3, T25S, R15W. GOULD OIL INC. 870616	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	4.2 2.4 1.0 0.5 0.3 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	KANSAS STAFFORD GRUNDER BARSTOW B2 1518522382 SEC. 3, T25S, R15W GOULD OIL INC. 870616 030820	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.2 2.4 1.0 0.5 0.3 0.2 0.7 8.1
STATE	KANSAS. STAFFORD. GRUNDER. BARSTOW B2. 1518522382. SEC. 3, T25S, R15W. GOULD OIL INC. 870616. 030820. MISS-MISSISSIPPIAN.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.2 2.4 1.0 0.5 0.3 0.2 0.7 8.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	KANSAS STAFFORD GRUNDER BARSTOW B2 1518522382 SEC. 3, T25S, R15W GOULD OIL INC. 870616 030820 MISS-MISSISSIPPIAN 385	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.2 2.4 1.0 0.5 0.3 0.2 0.7 8.1 0.0
STATE	KANSAS STAFFORD GRUNDER BARSTOW B2 1518522382 SEC. 3, T25S, R15W GOULD OIL INC. 870616 030820 MISS-MISSISSIPPIAN 385 4208	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.2 2.4 1.0 0.5 0.3 0.2 0.7 8.1 0.0 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KANSAS STAFFORD GRUNDER BARSTOW B2 1518522382 SEC. 3, T25S, R15W GOULD OIL INC. 870616 030820 MISS-MISSISSIPPIAN 385 4208	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.2 2.4 1.0 0.5 0.3 0.2 0.7 8.1 0.0 0.1
STATE	KANSAS STAFFORD GRUNDER. BARSTOW B2 1518522382 SEC. 3, T25S, R15W GOULD OIL INC. 870616 030820 MISS-MISSISSIPPIAN 385 4208	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	4.2 2.4 1.0 0.5 0.3 0.2 0.7 8.1 0.0 0.1 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KANSAS STAFFORD GRUNDER. BARSTOW B2 1518522382 SEC. 3, T25S, R15W GOULD OIL INC. 870616 030820 MISS-MISSISSIPPIAN 385 4208	METHANE	4.2 2.4 1.0 0.5 0.3 0.2 0.7 8.1 0.0 0.1 0.0 0.0 0.2

^{*} 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

SAMPLE	21193	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	86.5
	BARBER	ETHANE	3.2
		PROPANE	1.4
	HARDING.	N-BUTANE	0.4
	ROLF L 1A	ISOBUTANE	0.2
	1500720394	N-PENTANE	0.1
LOCATION	SEC. 3, T30S, R11W	ISOPENTANE	
OWNER	WOOLSEY PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	760512	HEXANES PLUS	0.1
SAMPLED	030610	NITROGEN	7.5
FORMATION	PENN-INDIAN CAVE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE .	375	ARGON	
TRUE VERTICAL DEPTH (FT)	2731	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	778.	CARBON DIOXIDE	0.2
,	6932	HELIUM	0.29
OF LINT LOW, MOI D	0932	HEATING VALUE*	998
		SPECIFIC GRAVITY	0.629
SAMPLE	21192	COMPONENT, MOLE PCT	
07475	WANGAG	METHANE	84.5
STATE	KANSAS		
001111771	2.555	ETHANE	4.0
	BARBER	ETHANEPROPANE	
	BARBER HARDING	PROPANE N-BUTANE	2.0
FIELD		PROPANE	2.0 0.7
FIELD	HARDING.	PROPANEN-BUTANEISOBUTANE	2.0 0.7 0.3
FIELD WELL NAMEAPI	HARDING. MARTIN NO. 1.	PROPANEN-BUTANE	2.0 0.7 0.3 0.2
FIELD	HARDING. MARTIN NO. 1. 1500722491	PROPANE N-BUTANE ISOBUTANE N-PENTANE	2.0 0.7 0.3 0.2
FIELD WELL NAME API LOCATION OWNER	HARDING. MARTIN NO. 1. 1500722491. SEC. 1, T30S, R12W.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	2.0 0.7 0.3 0.2 0.2
FIELD WELL NAME API LOCATION OWNER COMPLETED	HARDING. MARTIN NO. 1. 1500722491 SEC. 1, T30S, R12W MCGINNESS OIL CO.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	2.0 0.7 0.3 0.2 0.2
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	HARDING. MARTIN NO. 1. 1500722491. SEC. 1, T30S, R12W. MCGINNESS OIL CO. 960228	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.0 0.7 0.3 0.2 0.2 0.3 6.9
FIELD	HARDING. MARTIN NO. 1. 1500722491 SEC. 1, T30S, R12W MCGINNESS OIL CO. 960228 030610	PROPANE	2.0 0.7 0.3 0.2 0.2 0.3 6.9
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE .	HARDING. MARTIN NO. 1. 1500722491 SEC. 1, T30S, R12W MCGINNESS OIL CO. 960228 030610 PENN-TARKIO 375	PROPANE	2.0 0.7 0.3 0.2 0.2 0.3 6.9 0.0
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) .	HARDING. MARTIN NO. 1. 1500722491 SEC. 1, T30S, R12W MCGINNESS OIL CO. 960228 030610 PENN-TARKIO 375. 2947	PROPANE	2.0 0.7 0.3 0.2 0.2 0.3 6.9 0.0
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE : TRUE VERTICAL DEPTH (FT) . MEASURED DEPTH	HARDING. MARTIN NO. 1. 1500722491 SEC. 1, T30S, R12W MCGINNESS OIL CO. 960228 030610 PENN-TARKIO 375. 2947.	PROPANE	2.0 0.7 0.3 0.2 0.2 0.3 6.9 0.0 0.1 TRACE
FIELD	HARDING. MARTIN NO. 1. 1500722491 SEC. 1, T30S, R12W MCGINNESS OIL CO. 960228 030610 PENN-TARKIO 375. 2947.	PROPANE	2.0 0.7 0.3 0.2 0.2 0.3 6.9 0.0 0.1 TRACE 0.0
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) .	HARDING. MARTIN NO. 1. 1500722491 SEC. 1, T30S, R12W MCGINNESS OIL CO. 960228 030610 PENN-TARKIO 375. 2947.	PROPANE	2.0 0.7 0.3 0.2 0.3 6.9 0.0 0.1 TRACE 0.0 0.6

 $^{^\}star$ 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

SAMPLE	21202	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	89.8
COUNTY		ETHANE	4.6
		PROPANE	2.1
FIELD		N-BUTANE	8.0
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.3
LOCATION	·	ISOPENTANE	0.2
OWNER	MOLZ OIL CO., INC.	CYCLOPENTANE	
COMPLETED	830428	HEXANES PLUS	0.4
SAMPLED	030611	NITROGEN	
FORMATION	<u>-</u>	OXYGEN	
GEOLOGIC PROVINCE CODE	375.	ARGON	0.1
TRUE VERTICAL DEPTH (FT)		HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*SPECIFIC GRAVITY	,
		OI EOII IO OI VIVI I	
		GI EGII IO GIVWITI	
SAMPLE	21204	COMPONENT, MOLE PCT	
SAMPLE STATE		COMPONENT, MOLE PCT METHANE	92.0
	KANSAS	COMPONENT, MOLE PCT METHANE ETHANE	92.0 3.7
STATE	KANSAS. BARBER	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	92.0 3.7 1.5
STATECOUNTY	KANSAS BARBER HARDTNER W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	92.0 3.7 1.5 0.5
STATE	KANSAS BARBER HARDTNER W. PIERSON NO. 1	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	92.0 3.7 1.5 0.5
STATE COUNTY FIELD WELL NAME	KANSAS BARBER HARDTNER W PIERSON NO. 1 1500720522	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	92.0 3.7 1.5 0.5 0.2
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS BARBER HARDTNER W PIERSON NO. 1. 1500720522 SEC. 10, T35S, R13W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	92.0 3.7 1.5 0.5 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	KANSAS. BARBER. HARDTNER W. PIERSON NO. 1. 1500720522. SEC. 10, T35S, R13W. BEREXCO, INC.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	92.0 3.7 1.5 0.5 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	KANSAS. BARBER HARDTNER W. PIERSON NO. 1. 1500720522. SEC. 10, T35S, R13W. BEREXCO, INC. 771000.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	92.0 3.7 1.5 0.5 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	KANSAS BARBER HARDTNER W PIERSON NO. 1 1500720522 SEC. 10, T35S, R13W BEREXCO, INC. 771000 030611	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE ISOPENTANE INTROGEN	92.0 3.7 1.5 0.5 0.2 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	KANSAS. BARBER. HARDTNER W. PIERSON NO. 1. 1500720522. SEC. 10, T35S, R13W. BEREXCO, INC. 771000. 030611. MISS-MISSISSIPPIAN	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	92.0 3.7 1.5 0.5 0.2 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	KANSAS BARBER HARDTNER W PIERSON NO. 1. 1500720522 SEC. 10, T35S, R13W BEREXCO, INC. 771000 030611 MISS-MISSISSIPPIAN 375.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	92.0 3.7 1.5 0.5 0.2 0.2 0.1
STATE	KANSAS BARBER HARDTNER W. PIERSON NO. 1. 1500720522 SEC. 10, T35S, R13W BEREXCO, INC. 771000 030611 MISS-MISSISSIPPIAN 375. 4918	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	92.0 3.7 1.5 0.5 0.2 0.1 0.2 0.1 1.3 0.0 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	KANSAS BARBER HARDTNER W. PIERSON NO. 1. 1500720522 SEC. 10, T35S, R13W BEREXCO, INC. 771000 030611 MISS-MISSISSIPPIAN 375. 4918	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	92.0 3.7 1.5 0.5 0.2 0.1 0.1 1.3 0.0 0.1 TRACE
STATE	KANSAS BARBER HARDTNER W PIERSON NO. 1 1500720522 SEC. 10, T35S, R13W BEREXCO, INC. 771000 030611 MISS-MISSISSIPPIAN 375. 4918	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	92.0 3.7 1.5 0.5 0.2 0.1 0.4 1.3 0.0 0.1 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KANSAS BARBER HARDTNER W. PIERSON NO. 1. 1500720522 SEC. 10, T35S, R13W BEREXCO, INC. 771000 030611 MISS-MISSISSIPPIAN 375. 4918	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	92.0 3.7 1.5 0.5 0.2 0.1 0.4 1.3 0.0 0.1 TRACE 0.0

^{*} 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

SAMPLE 21224	COMPONENT, MOLE PCT	
CTATE	METHANE	74.6
STATE KANSAS	ETHANE	1.6
COUNTY BARTON	PROPANE	0.4
FIELD HEIZER.SW	N-BUTANE	0.1
WELL NAME ALDRICH 2	ISOBUTANE	0.1
API1500900741_	N-PENTANE	TRACE
LOCATIONSEC. 29, T19S, R14W	ISOPENTANE	TRACE
OWNERLEBSACK OIL PRODUCTION, INC.	CYCLOPENTANE	
COMPLETED020128_	HEXANES PLUS	TRACE
SAMPLED030818.	NITROGEN	22.1
FORMATIONPERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE385_	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.0
OPEN FLOW, MCFD	HELIUM	1.05
OPEN FLOW, INICFD	HEATING VALUE*	799
	SPECIFIC GRAVITY	0.655
SAMPLE 21225	COMPONENT, MOLE PCT	
CTATE KANDAC	METHANE	69.9
STATE KANSAS	ETHANE	1.8
COUNTY BARTON		
	PROPANE	0.7
	PROPANE N-BUTANE	
WELL NAMEALDRICH 1		0.2
WELL NAMEALDRICH 1. API1500924718	N-BUTANE	0.2 0.1
WELL NAMEALDRICH 1. API1500924718	N-BUTANE	0.2 0.1 TRACE
WELL NAME	N-BUTANE ISOBUTANE N-PENTANE	0.2 0.1 TRACE TRACE
WELL NAME	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	0.2 0.1 TRACE TRACE
WELL NAME ALDRICH 1 API 1500924718 LOCATION SEC. 29, T19S, R14W. OWNER LEBSACK OIL PRODUCTION, INC. COMPLETED 011201	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.2 0.1 TRACE TRACE TRACE
WELL NAME ALDRICH 1. API 1500924718. LOCATION SEC. 29, T19S, R14W. OWNER LEBSACK OIL PRODUCTION, INC. COMPLETED 011201. SAMPLED 030818.	N-BUTANEISOBUTANEISOPENTANE ISOPENTANECYCLOPENTANEHEXANES PLUS	0.2 0.1 TRACE TRACE TRACE 26.0
WELL NAME ALDRICH 1. API 1500924718 LOCATION SEC. 29, T19S, R14W. OWNER LEBSACK OIL PRODUCTION, INC. COMPLETED 011201 SAMPLED 030818. FORMATION PERM-CHASE GROUP	N-BUTANEISOBUTANEISOBUTANEISOPENTANE CYCLOPENTANEHEXANES PLUS NITROGEN	0.2 0.1 TRACE TRACE TRACE 26.0
WELL NAME ALDRICH 1. API 1500924718. LOCATION SEC. 29, T19S, R14W. OWNER LERSACK OIL PRODUCTION, INC. COMPLETED 011201. SAMPLED 030818. FORMATION PERM-CHASE GROUP. GEOLOGIC PROVINCE CODE 385.	N-BUTANE	0.2 0.1 TRACE TRACE TRACE 26.0 0.0
WELL NAME ALDRICH 1. API 1500924718 LOCATION SEC. 29, T19S, R14W. OWNER LEBSACK OIL PRODUCTION, INC. COMPLETED 011201 SAMPLED 030818. FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 385. TRUE VERTICAL DEPTH (FT)	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.1 TRACE TRACE TRACE 26.0 0.0 TRACE
WELL NAME ALDRICH 1 API 1500924718 LOCATION SEC. 29, T19S, R14W. OWNER LEBSACK OIL PRODUCTION, INC. COMPLETED 011201 SAMPLED 030818. FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 385. TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	N-BUTANE	0.2 0.1 TRACE TRACE TRACE 26.0 0.0 TRACE 0.0
WELL NAME	N-BUTANE	0.2 0.1 TRACE TRACE TRACE 26.0 0.0 TRACE 0.0
FIELD HEIZER SW. WELL NAME ALDRICH 1. API 1500924718 LOCATION SEC. 29, T19S, R14W. OWNER LEBSACK OIL PRODUCTION, INC. COMPLETED 011201 SAMPLED 030818. FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 385. TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	N-BUTANE	0.2 0.1 TRACE TRACE TRACE 26.0 0.0 TRACE 0.0 0.0

^{*} 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

SAMPLE	21227	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	71.5
-		ETHANE	2.0
COUNTY		PROPANE	0.8
FIELD		N-BUTANE	0.2
WELL NAME		ISOBUTANE	0.1
API		N-PENTANE	0.1
LOCATION		ISOPENTANE	0.1
OWNER	CAMBRIA CORP.	CYCLOPENTANE	
COMPLETED	000516	HEXANES PLUS	TRACE
SAMPLED	030818	NITROGEN	24.0
FORMATION	PERM-PERMIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	385	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.0
OPEN FLOW, MCFD		HELIUM	1.24
OI EIVI EOVV, MOI D		HEATING VALUE*	796
		SPECIFIC GRAVITY	0.673
SAMPLE	21228	COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	71.9
STATE		ETHANE	2.1
COUNTY		PROPANE	0.8
FIELD		N-BUTANE	0.2
WELL NAME	RUSCO A1_	ISOBUTANE	0.1
API	1500921552	N-PENTANE	0.1
LOCATION	SEC. 14, T18S, R13W	ISOPENTANE	0.1
OWNER	CAMBRIA CORP.	CYCLOPENTANE	
COMPLETED	001027	HEXANES PLUS	0.1
SAMPLED	030818	NITROGEN	23.4
-		NITROGEN	
FORMATION			0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	PERM-PERMIAN	OXYGEN	0.0 TRACE
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	PERM-PERMIAN 	OXYGEN	0.0 TRACE 0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PERM-PERMIAN 385	OXYGEN ARGON HYDROGEN	0.0 TRACE 0.0 0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	PERM-PERMIAN. 385.	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.0. TRACE 0.0 0.0 0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PERM-PERMIAN. 385.	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 TRACE 0.0 0.0 0.0 1.18

^{*} 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

SAMPLE	21089	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	67.4
		ETHANE	3.6
	FINNEY	PROPANE	2.1
	HUGOTON	N-BUTANE	0.7
	LIGHTNER NO. 2-1	ISOBUTANE	0.3
API	1505521770	N-PENTANE	0.1
	SEC. 2, T26S, R32W	ISOPENTANE	0.1
OWNER	AMERICAN WARRIOR, INC.	CYCLOPENTANE	
COMPLETED	020315	HEXANES PLUS	0.1
SAMPLED	021119	NITROGEN	24.8
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.1
		HELIUM	0.63
OI LIVI LOVV, IVIOI D		HEATING VALUE*	850
		SPECIFIC GRAVITY	0.716
SAMPLE	20921	COMPONENT, MOLE PCT	
STATE	KANSAS.	METHANE	69.2
	PRATT	ETHANE	3.2
		PROPANE	2.7
	IUKA-CARMI	N-BUTANE	1.2
	LUDERS NO. 7	ISOBUTANE	0.6
	1515122163	N-PENTANE	
LOCATION	SEC 7, T27S, R12W	ISOPENTANE	0.3
OWNER	PRATT WELL SERVICE, INC.	CYCLOPENTANE	- -
COMPLETED	000700	HEXANES PLUS	0.6
COMPLETED	980726	HEXANES PLOS	U.D.
	020325	NITROGEN	
SAMPLED			21.2
SAMPLED	020325 PENN-LANGDON	NITROGEN OXYGEN ARGON	21.2 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE	020325 PENN-LANGDON	NITROGEN OXYGEN ARGON HYDROGEN	21.2 0.0 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	020325 PENN-LANGDON 385 2754	NITROGEN OXYGEN ARGON	21.2 0.0 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	020325 PENN-LANGDON 385	NITROGEN OXYGEN ARGON HYDROGEN	21.2 0.0 0.0 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	020325. PENN-LANGDON. 385. 2754.	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	21.2 0.0 0.0 0.0 0.0 0.0 0.1 0.52

^{*} 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

SAMPLE	21168	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	88.1
-		ETHANE	3.5
COUNTY		PROPANE	1.6
FIELD		N-BUTANE	0.7
WELL NAME		ISOBUTANE	0.3
API	1503321025	N-PENTANE	0.2
LOCATION	, , , , , , , , , , , , , , , , , , , ,	ISOPENTANE	0.2
OWNER	AMERICAN WARRIOR, INC.	CYCLOPENTANE	
COMPLETED	990914	HEXANES PLUS	0.9
SAMPLED	030521	NITROGEN	4.0
FORMATION	PENN-KANSAS CITY	OXYGEN	
GEOLOGIC PROVINCE CODE	360.	ARGON	
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.2
OPEN FLOW, MCFD		HELIUM	
o. 2.1. 2011, mo. 2		HEATING VALUE*	1,087
		SPECIFIC GRAVITY	0.04.9
SAMPLE	21169	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	89.2
COUNTY		ETHANE	3.3
FIELD		PROPANE	
ILLD			
VA/CLI NIVIA		N-BUTANE	
WELL NAME	BEELEY NO. 1.		0.6
API	BEFLEY NO. 1. 1503321040	N-BUTANEISOBUTANEN-PENTANE	0.6 0.3 0.1
API	BEELEY NO. 1. 1503321040 SEC. 10, T33S, R18W	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	0.6 0.3 0.1 0.2
API LOCATION OWNER	BEELEY NO. 1. 1503321040 SEC. 10, T33S, R18W AMERICAN WARRIOR, INC.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.6 0.3 0.1 0.2
API	BEELEY NO. 1. 1503321040 SEC. 10, T33S, R18W AMERICAN WARRIOR, INC.	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE	0.6 0.3 0.1 0.2
API LOCATION OWNER COMPLETED	BEFLEY NO. 1. 1503321040 SEC. 10, T33S, R18W AMERICAN WARRIOR, INC. 991208 030521	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUS	0.6 0.3 0.1 0.2 0.9 3.8
API LOCATION OWNER COMPLETED	BEFLEY NO. 1. 1503321040 SEC. 10, T33S, R18W AMERICAN WARRIOR, INC. 991208 030521	N-BUTANE	0.6 0.3 0.1 0.2 0.9 3.8 0.0
API LOCATION OWNER COMPLETED	BEFLEY NO. 1. 1503321040 SEC. 10, T33S, R18W AMERICAN WARRIOR, INC. 991208 030521	N-BUTANE	0.6 0.3 0.1 0.2 0.9 3.8 0.0
API	BEFLEY NO. 1. 1503321040 SEC. 10, T33S, R18W AMERICAN WARRIOR, INC. 991208 030521 PENN-PAWNEE 360	N-BUTANE	0.6 0.3 0.1 0.2 0.9 3.8 0.0 0.2 TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	BEFLEY NO. 1. 1503321040 SEC. 10, T33S, R18W AMERICAN WARRIOR, INC. 991208 030521 PENN-PAWNEE 360	N-BUTANE	0.6 0.3 0.1 0.2 0.9 3.8 0.0 0.2 TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	BEELEY NO. 1. 1503321040. SEC. 10, T33S, R18W. AMERICAN WARRIOR, INC. 991208. 030521. PENN-PAWNEE. 360.	N-BUTANE	0.6 0.3 0.1 0.2 0.9 3.8 0.0 0.2 TRACE 0.0
API	BEFLEY NO. 1. 1503321040 SEC. 10, T33S, R18W AMERICAN WARRIOR, INC. 991208 030521 PENN-PAWNEE 360	N-BUTANE	0.6 0.3 0.1 0.2 0.9 3.8 0.0 0.2 TRACE 0.0

^{*} 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

SAMPLE	21153	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	83.4
COUNTY		ETHANE	4.4
		PROPANE	1.8
FIELD		N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.1
LOCATION	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ISOPENTANE	0.2
OWNER	AMERICAN WARRIOR, INC.	CYCLOPENTANE	
COMPLETED	010427	HEXANES PLUS	0.3
SAMPLED	030520	NITROGEN	8.4
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	5293	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.27
OI LIVI LOVV, WIOI D		HEATING VALUE*	1,027
		SPECIFIC GRAVITY	0.656
SAMPLE	50590	COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	75.7
STATE		ETHANE	6.8
COUNTY		PROPANE	2.9
FIELD		N-BUTANE	0.9
WELL NAME	LEMON-TRUST NO. 1-16.	ISOBUTANE	0.3
API	1500722708	N-PENTANE	0.3
LOCATION	SEC 16 T30S R13W	ISOPENTANE	0.2
		ISOPENTANE	<u> </u>
OWNER	,,	CYCLOPENTANE	
	HOLL, F.G., CO. LLC.		
COMPLETED	HOLL, F.G., CO. LLC 020717	CYCLOPENTANE	0.5
COMPLETED	HOLL, F.G., CO. LLC. 020717 020812	CYCLOPENTANE	 0.5 11.2
COMPLETEDSAMPLEDFORMATION	HOLL, F.G., CO. LLC 020717 020812 ORDO-VIOLA	CYCLOPENTANEHEXANES PLUSNITROGEN	0.5 11.2 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	HOLL, F.G., CO. LLC. 020717 020812 ORDO-VIOLA 375	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.5 11.2 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	HOLL, F.G., CO. LLC. 020717 020812 ORDO-VIOLA 375. 4496.	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.5 11.2 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	HOLL, F.G., CO. LLC. 020717 020812 ORDO-VIOLA 375 4496	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.5 11.2 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	HOLL, F.G., CO. I.L.C. 020717 020812 ORDO-VIOLA	CYCLOPENTANE	0.5 11.2 0.1 0.0 0.5
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	HOLL, F.G., CO. I.L.C. 020717 020812 ORDO-VIOLA	CYCLOPENTANE	0.5 11.2 0.1 0.0 0.5 0.89

^{*} 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

	COMPONENT, MOLE PCT	
STATEKANSAS	METHANE	91.3
COUNTY COMANCHE.	ETHANE	3.0
	PROPANE	1.6
FIELD LEMON RANCH SE	N-BUTANE	0.6
WELL NAMEHACKNEY NO. 1	ISOBUTANE	0.2
API1503320585	N-PENTANE	
LOCATION SEC. 17, T34S, R19W	ISOPENTANE	0.2
OWNER GARY SAMUEL, JR. & ASSOCIATES	CYCLOPENTANE	
COMPLETED830328_	HEXANES PLUS	0.6
SAMPLED030520.	NITROGEN	2.0
FORMATION MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE360_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.2
OPEN FLOW, MCFD	HELIUM	
01 ETT E011, MOI D	HEATING VALUE*	
	SPECIFIC GRAVITY	0.627
SAMPLE 21158	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT METHANE	84.1
STATE KANSAS.	, -	
STATE KANSAS. COUNTY COMANCHE	METHANE	4.9
STATE KANSAS COUNTY COMANCHE FIELD LEMON RANCH SE	METHANE	4.9 4.2
STATE KANSAS COUNTY COMANCHE FIELD LEMON RANCH SE	METHANE ETHANE PROPANE	4.9 4.2 1.5
STATE KANSAS COUNTY COMANCHE FIELD LEMON RANCH SE WELL NAME RANSOM NO. 18-1	METHANE ETHANE PROPANE N-BUTANE	4.9 4.2 1.5 0.5
STATE KANSAS. COUNTY COMANCHE FIELD LEMON RANCH SE. WELL NAME RANSOM NO. 18-1. API 1503321268	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.9 4.2 1.5 0.5
STATE KANSAS COUNTY COMANCHE FIELD LEMON RANCH SE WELL NAME RANSOM NO. 18-1 API 1503321268 LOCATION SEC. 18, T34S, R19W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.9 4.2 1.5 0.5 0.5
STATE KANSAS. COUNTY COMANCHE FIELD LEMON RANCH SE. WELL NAME RANSOM NO. 18-1. API 1503321268. LOCATION SEC. 18, T34S, R19W. OWNER DAYSTAR PETROLEUM, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.9 4.2 1.5 0.5 0.5 0.4
SAMPLE 21158 STATE KANSAS COUNTY COMANCHE FIELD LEMON RANCH SE WELL NAME RANSOM NO. 18-1 API 1503321268 LOCATION SEC. 18, T34S, R19W OWNER DAYSTAR PETROLEUM, INC. COMPLETED 020102 SAMPLED 030520	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	4.9 4.2 1.5 0.5 0.5 0.4
STATE KANSAS COUNTY COMANCHE FIELD LEMON RANCH SE WELL NAME RANSOM NO. 18-1 API 1503321268 LOCATION SEC. 18, T34S, R19W OWNER DAYSTAR PETROLEUM, INC. COMPLETED 020102 SAMPLED 030520	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.9 4.2 1.5 0.5 0.5 0.4 1.3
STATE KANSAS COUNTY COMANCHE FIELD LEMON RANCH SE WELL NAME RANSOM NO. 18-1 API 1503321268 LOCATION SEC. 18, T34S, R19W OWNER DAYSTAR PETROLEUM, INC. COMPLETED 020102 SAMPLED 030520. FORMATION PENN-PAWNEE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.9 4.2 1.5 0.5 0.4 1.3 2.4 0.0
STATE KANSAS COUNTY COMANCHE FIELD LEMON RANCH SE WELL NAME RANSOM NO. 18-1 API 1503321268 LOCATION SEC. 18, T34S, R19W OWNER DAYSTAR PETROLEUM, INC. COMPLETED 020102 SAMPLED 030520 FORMATION PENN-PAWNEE GEOLOGIC PROVINCE CODE 360	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.9 4.2 1.5 0.5 0.5 0.4 1.3 2.4 0.0
STATE KANSAS COUNTY COMANCHE FIELD LEMON RANCH SE WELL NAME RANSOM NO. 18-1 API 1503321268 LOCATION SEC. 18, T34S, R19W OWNER DAYSTAR PETROLEUM, INC. COMPLETED 020102 SAMPLED 030520 FORMATION PENN-PAWNEE GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 5088	METHANE	4.9 4.2 1.5 0.5 0.4 1.3 2.4 0.0 0.1 TRACE
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGENARGON HYDROGEN	4.9 4.2 1.5 0.5 0.4 1.3 2.4 0.0 0.1 TRACE
STATE	METHANE	4.9 4.2 1.5 0.5 0.4 1.3 2.4 0.0 0.1 TRACE 0.0
STATE KANSAS COUNTY COMANCHE FIELD LEMON RANCH SE WELL NAME RANSOM NO. 18-1 API 1503321268 LOCATION SEC. 18, T34S, R19W OWNER DAYSTAR PETROLEUM, INC. COMPLETED 020102 SAMPLED 030520 FORMATION PENN-PAWNEE GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 5088	METHANE	4.9 4.2 1.5 0.5 0.5 0.4 1.3 2.4 0.0 0.1 TRACE 0.0 0.1 0.12

^{*} 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

SAMPLE 21191	COMPONENT, MOLE PCT	
STATE KANSAS	METHANE	80.7
	ETHANE	6.8
COUNTY BARBER	PROPANE	3.0
FIELD MACADOO S	N-BUTANE	1.0
WELL NAME MCKENZIE 2	ISOBUTANE	0.3
API1500721492	N-PENTANE	0.3
LOCATION SEC. 14, T30S, R14W	ISOPENTANE	0.2
OWNER WOOLSEY PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED950718.	HEXANES PLUS	0.5
SAMPLED030610_	NITROGEN	6.2
FORMATION MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE375_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)4674	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG1542.	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD 400	HELIUM	0.82
OF ENT LOW, WOLD	HEATING VALUE*	1,099
	SPECIFIC GRAVITY	0.68
SAMPLE 21262	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT METHANE	84.2
STATE KANSAS		
STATE KANSAS COUNTY STAFFORD	METHANE	2.2
STATE KANSAS COUNTY STAFFORD FIELD MACKSVILLE	METHANE	2.2 0.7
STATE KANSAS COUNTY STAFFORD FIELD MACKSVILLE WELL NAME WALKER 1	METHANE ETHANE PROPANE	2.2 0.7 0.2
STATE KANSAS COUNTY STAFFORD FIELD MACKSVILLE WELL NAME WALKER 1	METHANE ETHANE PROPANE N-BUTANE	2.2 0.7 0.2 0.1
STATE KANSAS COUNTY STAFFORD FIELD MACKSVILLE WELL NAME WALKER 1 API 1518520274	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	2.2 0.7 0.2 0.1
STATE KANSAS COUNTY STAFFORD FIELD MACKSVILLE WELL NAME WALKER 1 API 1518520274 LOCATION SEC. 10, T24S, R15W.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	2.2 0.7 0.2 0.1 0.1 0.1
STATE KANSAS COUNTY STAFFORD FIELD MACKSVILLE WELL NAME WALKER 1 API 1518520274 LOCATION SEC. 10, T24S, R15W. OWNER HOLL, F.G., CO. LLC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	2.2 0.7 0.2 0.1 0.1
STATE KANSAS COUNTY STAFFORD FIELD MACKSVILLE WELL NAME WALKER 1 API 1518520274 LOCATION SEC. 10, T24S, R15W. OWNER HOLL, F.G., CO. LLC. COMPLETED 940520	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	2.2 0.7 0.2 0.1 0.1 0.1
STATE KANSAS COUNTY STAFFORD FIELD MACKSVILLE WELL NAME WALKER 1 API 1518520274 LOCATION SEC. 10, T24S, R15W OWNER HOLL, F.G., CO, LLC COMPLETED 940520 SAMPLED 030821	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.2 0.7 0.2 0.1 0.1 0.1 0.1 11.9
STATE KANSAS COUNTY STAFFORD FIELD MACKSVILLE WELL NAME WALKER 1 API 1518520274 LOCATION SEC. 10, T24S, R15W OWNER HOLL, F.G., CO. LLC COMPLETED 940520 SAMPLED 030821 FORMATION PERM-HERINGTON, KRIDER, WINFIELD	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	2.2 0.7 0.2 0.1 0.1 0.1 0.1 11.9
STATE KANSAS COUNTY STAFFORD FIELD MACKSVILLE WELL NAME WALKER 1 API 1518520274 LOCATION SEC. 10, T24S, R15W OWNER HOLL F.G. CO. LLC COMPLETED 940520 SAMPLED 030821 FORMATION PERM-HERINGTON, KRIDER, WINFIELD GEOLOGIC PROVINCE CODE 385	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	2.2 0.7 0.2 0.1 0.1 0.1 0.1 11.9 0.0
STATE KANSAS COUNTY STAFFORD FIELD MACKSVILLE WELL NAME WALKER 1 API 1518520274 LOCATION SEC. 10, T24S, R15W OWNER HOLL, F.G., CO. LLC. COMPLETED 940520 SAMPLED 030821 FORMATION PERM-HERINGTON, KRIDER, WINFIELD GEOLOGIC PROVINCE CODE 385 TRUE VERTICAL DEPTH (FT) 2046	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	2.2 0.7 0.2 0.1 0.1 0.1 11.9 0.0 0.0
STATE KANSAS COUNTY STAFFORD FIELD MACKSVILLE WELL NAME WALKER 1 API 1518520274 LOCATION SEC. 10, T24S, R15W OWNER HOLL F.G. CO. LLC COMPLETED 940520 SAMPLED 030821 FORMATION PERM-HERINGTON, KRIDER, WINFIELD GEOLOGIC PROVINCE CODE 385 TRUE VERTICAL DEPTH (FT) 2046	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	2.2 0.7 0.2 0.1 0.1 0.1 11.9 0.0 0.0 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	2.2 0.7 0.2 0.1 0.1 0.1 11.9 0.0 0.0 0.0
STATE KANSAS COUNTY STAFFORD FIELD MACKSVILLE WELL NAME WALKER 1 API 1518520274 LOCATION SEC. 10, T24S, R15W OWNER HOLL F.G. CO. LLC COMPLETED 940520 SAMPLED 030821 FORMATION PERM-HERINGTON, KRIDER, WINFIELD GEOLOGIC PROVINCE CODE 385 TRUE VERTICAL DEPTH (FT) 2046	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	2.2 0.7 0.2 0.1 0.1 0.1 11.9 0.0 0.0 0.0 0.0 0.53

^{*} 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

SAMPLE	21251	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	85.6
	PAWNEE	ETHANE	3.8
	MACKSVILLE	PROPANE	1.8
		N-BUTANE	0.6
	EICKMEYER 1	ISOBUTANE	
	1514500470	N-PENTANE	0.2
	SEC. 34, T23S, R15W	ISOPENTANE	0.2
OWNER	PINTAIL PETROLEUM LIMITED	CYCLOPENTANE	
COMPLETED	880714	HEXANES PLUS	0.6
SAMPLED	030820	NITROGEN	5.7
FORMATION	ORDO-VIOLA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	385	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	4110	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	0.3
OPEN FLOW, MCFD		HELIUM	0.89
OI LIVI LOW, MOI D	<u> </u>	HEATING VALUE*	1,051
		SPECIFIC GRAVITY	0.648
SAMPLE	21223	COMPONENT, MOLE PCT	
STATE	KANSAS.	METHANE	64.5
	EDWARDS	ETHANE	4.9
		PROPANE	2.3
	MARTIN N	N-BUTANE	0.7
	SPEIRS A1-30	ISOBUTANE	0.4
API	1504721441	N-PENTANE	
LOCATION	SEC. 30, T26S, R20W	ISOPENTANE	0.2
OWNER	MCCOY PETROLEUM CORP.	CYCLOPENTANE	 _
COMPLETED	020419	HEXANES PLUS	0.3
SAMPLED	030818	NITROGEN	24.1
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	4785	HYDROGEN	TRACE
` ,		HYDROGEN SULFIDE**	0.0
	1521	CARBON DIOXIDE	0.2
VVLLLI ILAD I INLOGUINL, FOIG	1.126.1	HELIUM	2.24
ODENLEI OW MOCE			
OPEN FLOW, MCFD		HEATING VALUE*	859

 $^{^{\}star}$ 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

SAMPLE	21269	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	84.4
COUNTY		ETHANE	2.1
		PROPANE	0.7
FIELD		N-BUTANE	0.1
WELL NAME		ISOBUTANE	0.1
API	1504721418	N-PENTANE	TRACE
LOCATION	SEC. 12, T24S, R17W	ISOPENTANE	TRACE
OWNER	HOLL, F.G., CO. LLC	CYCLOPENTANE	
COMPLETED	020428	HEXANES PLUS	0.1
SAMPLED	030821	NITROGEN	11.8
FORMATION	PERM-FORT RILEY	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360_	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	2384	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.59
OPEN FLOW, MOPD	440	HEATING VALUE*	923
		SPECIFIC GRAVITY	0.624
SAMPLE	21271	COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	86.5
		METHANE	
COUNTY	EDWARDS		3.6
STATE COUNTY FIELD	EDWARDS	ETHANE	3.6 1.6
COUNTY	EDWARDS MCCARTHY NE	ETHANE	3.6 1.6 0.6
COUNTY	EDWARDS MCCARTHY NE NEWSOM 1-21	PROPANEN-BUTANE	3.6 1.6 0.6 0.3
COUNTY FIELD WELL NAME	EDWARDS MCCARTHY NE NEWSOM 1-21 1504720161	ETHANE PROPANE N-BUTANE ISOBUTANE	3.6 1.6 0.6 0.3 0.2
COUNTY FIELD WELL NAME	EDWARDS MCCARTHY NE. NEWSOM 1-21. 1504720161. SEC. 21, T24S, R17W.	ETHANEPROPANEN-BUTANEISOBUTANEN-PENTANE	3.6 1.6 0.6 0.3 0.2
COUNTY FIELD WELL NAME API LOCATION	EDWARDS MCCARTHY NE. NEWSOM 1-21. 1504720161. SEC. 21, T24S, R17W. HOLL, F.G., CO. LLC.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.6 1.6 0.6 0.3 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER	EDWARDS MCCARTHY NE. NEWSOM 1-21. 1504720161. SEC. 21, T24S, R17W. HOLL, F.G., CO. LLC. 750225	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.6 1.6 0.6 0.3 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	EDWARDS MCCARTHY NE NEWSOM 1-21 1504720161 SEC. 21, T24S, R17W HOLL, F.G., CO. LLC 750225 030821	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.6 1.6 0.6 0.3 0.2 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	EDWARDS MCCARTHY NE NEWSOM 1-21 1504720161 SEC. 21, T24S, R17W HOLL, F.G., CO. LLC 750225 030821 MISS-MISSISSIPPIAN	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.6 1.6 0.6 0.3 0.2 0.2 0.7 5.5
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	EDWARDS MCCARTHY NE NEWSOM 1-21 1504720161 SEC. 21, T24S, R17W HOLL, F.G., CO. LLC 750225 030821 MISS-MISSISSIPPIAN 360	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.6 1.6 0.6 0.3 0.2 0.2 0.7 5.5 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	EDWARDS MCCARTHY NE NEWSOM 1-21 1504720161 SEC. 21, T24S, R17W HOLL, F.G., CO. LLC 750225 030821 MISS-MISSISSIPPIAN 360 4369	ETHANE	3.6 1.6 0.6 0.3 0.2 0.2 0.7 5.5 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	EDWARDS MCCARTHY NE NEWSOM 1-21 1504720161 SEC. 21, T24S, R17W HOLL, F.G., CO. LLC 750225 030821 MISS-MISSISSIPPIAN 360 4369	ETHANE	3.6 1.6 0.6 0.3 0.2 0.2 0.7 5.5 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	EDWARDS MCCARTHY NE NEWSOM 1-21 1504720161 SEC. 21, T24S, R17W HOLL, F.G., CO. LLC. 750225 030821 MISS-MISSISSIPPIAN 360 4369	ETHANE	3.6 1.6 0.6 0.3 0.2 0.2 0.7 5.5 0.0 0.1 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	EDWARDS MCCARTHY NE NEWSOM 1-21 1504720161 SEC. 21, T24S, R17W HOLL, F.G., CO. LLC. 750225 030821 MISS-MISSISSIPPIAN 360 4369	ETHANE	3.6 1.6 0.6 0.3 0.2 0.2 0.7 5.5 0.0 0.1 0.0 0.0 0.2

^{*} 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

SAMPLE	21198	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	74.4
	BARBER	ETHANE	7.6
		PROPANE	4.5
	MEDICINE RIVER	N-BUTANE	1.3
-	ADAMS NO. 1	ISOBUTANE	0.6
	1500720468	N-PENTANE	
	SEC. 33, T31S, R12W.	ISOPENTANE	0.3
OWNER	ABERCROMBIE ENERGY, LLC	CYCLOPENTANE	
COMPLETED	770419	HEXANES PLUS	0.5
SAMPLED	030610	NITROGEN	10.0
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	375	ARGON	0.1
	4230	HYDROGEN	TRACE
, ,		HYDROGEN SULFIDE**	0.0
	1400	CARBON DIOXIDE	0.1
•		HELIUM	0.30
OPEN FLOW, MICFD	5000	HEATING VALUE*	1,111
		SPECIFIC GRAVITY	0.727
SAMPLE	21244	COMPONENT, MOLE PCT	
OTATE	KANDAO	METHANE	89.7
	KANSAS	ETHANE	
	EDWARDS	PROPANE	1.1
FIELD	MULL W	N-BUTANE	0.4
WELL NAME	VOEGELL 1A.	ISOBUTANE	0.2
API	1504720356	N-PENTANE	0.1
LOCATION	SEC. 29, T26S, R17W	ISOPENTANE	0.1
	,,	.00. = 12	
	PINTAIL PETROLEUM LIMITED.	CYCLOPENTANE	
OWNER			
OWNER	PINTAIL PETROLEUM LIMITED.	CYCLOPENTANE	0.4
OWNER COMPLETED SAMPLED	PINTAIL PETROLEUM LIMITED. 780505	CYCLOPENTANE	0.4 4.3
OWNERCOMPLETEDSAMPLEDFORMATION	PINTAIL PETROLEUM LIMITED. 780505 030820 MISS-MISSISSIPPIAN	CYCLOPENTANE HEXANES PLUS NITROGEN	0.4 4.3 0.0
OWNER	PINTAIL PETROLEUM LIMITED. 780505 030820 MISS-MISSISSIPPIAN 360	CYCLOPENTANE	0.4 4.3 0.0 0.1
OWNER	PINTAIL PETROLEUM LIMITED. 780505 030820 MISS-MISSISSIPPIAN 360 4550	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.4 4.3 0.0 0.1
OWNER	PINTAIL PETROLEUM LIMITED. 780505 030820 MISS-MISSISSIPPIAN. 360 4550	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.4 4.3 0.0 0.1 0.0
OWNER	PINTAIL PETROLEUM LIMITED. 780505 030820 MISS-MISSISSIPPIAN 360 4550.	CYCLOPENTANE	0.4 4.3 0.0 0.1 0.0 0.0
OWNER	PINTAIL PETROLEUM LIMITED. 780505 030820 MISS-MISSISSIPPIAN. 360 4550	CYCLOPENTANE	0.4 4.3 0.0 0.1 0.0 0.0 0.1 0.36

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

SAMPLE	50600	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	80.8
COUNTY		ETHANE	2.0
FIELD		PROPANE	0.8
		N-BUTANE	0.2
WELL NAME		ISOBUTANE	0.1
API		N-PENTANE	TRACE
LOCATION		ISOPENTANE	TRACE
OWNER		CYCLOPENTANE	
COMPLETED	021210	HEXANES PLUS	0.1
SAMPLED	030410	NITROGEN	15.4
FORMATION	PERM-COTTONWOOD	OXYGEN	
GEOLOGIC PROVINCE CODE	360.	ARGON	
TRUE VERTICAL DEPTH (FT)	2790	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	770	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	2210	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.642
SAMPLE	21272	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	86.5
COUNTY		ETHANE	3.1
		PROPANE	1.2
FIELD		N-BUTANE	
WELL NAME			0.4
		ISOBUTANE	
	1504720299	ISOBUTANE	0.2
	1504720299		0.2 0.1
LOCATION	1504720299 SEC. 30, T24S, R17W	N-PENTANE	0.2 0.1 0.1
LOCATION	1504720299 SEC. 30, T24S, R17W HOLL, F.G., CO. LLC.	N-PENTANE	0.2 0.1 0.1
LOCATIONOWNERCOMPLETEDSAMPLED	1504720299 SEC. 30, T24S, R17W HOLL, F.G., CO. LLC 920207	N-PENTANE ISOPENTANE CYCLOPENTANE	0.2 0.1 0.1
LOCATION OWNER COMPLETED SAMPLED	1504720299 SEC. 30, T24S, R17W HOLL, F.G., CO. LLC. 920207 030821	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2 0.1 0.1 0.3 7.0
LOCATION OWNER COMPLETED SAMPLED FORMATION	1504720299 SEC. 30, T24S, R17W HOLL, F.G., CO. LLC. 920207 030821 MISS-MISSISSIPPIAN	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.2 0.1 0.1 0.3 7.0 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	1504720299 SEC. 30, T24S, R17W HOLL, F.G., CO. LLC. 920207 030821 MISS-MISSISSIPPIAN 360	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.2 0.1 0.1 0.3 7.0 0.0 TRACE
LOCATION OWNER COMPLETED	1504720299 SEC. 30, T24S, R17W HOLL, F.G., CO. LLC. 920207 030821 MISS-MISSISSIPPIAN 360. 4477.	N-PENTANE	0.2 0.1 0.1 0.3 7.0 0.0 TRACE 0.0
LOCATION	1504720299 SEC. 30, T24S, R17W HOLL, F.G., CO. LLC 920207 030821 MISS-MISSISSIPPIAN 360. 4477.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.2 0.1 0.1 0.3 7.0 0.0 TRACE 0.0
LOCATION	1504720299 SEC. 30, T24S, R17W. HOLL, F.G., CO. LLC. 920207 030821 MISS-MISSISSIPPIAN 360. 4477.	N-PENTANE	0.2 0.1 0.1 0.3 7.0 0.0 TRACE 0.0 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	1504720299 SEC. 30, T24S, R17W. HOLL, F.G., CO. LLC. 920207 030821 MISS-MISSISSIPPIAN 360. 4477.	N-PENTANE	0.2 0.1 0.1 0.3 7.0 0.0 TRACE 0.0 0.1 0.77

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

SAMPLE 50595		COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	72.8
COUNTY		ETHANE	6.2
		PROPANE	7.2
FIELDNI		N-BUTANE	3.2
WELL NAMEBERGNER/ACRE		ISOBUTANE	1.2
API	1503321079	N-PENTANE	0.9
LOCATION SEC. 16,	•	ISOPENTANE	0.8
OWNER IMPERIAL OIL PROF	ERTIES, INC.	CYCLOPENTANE	
COMPLETED	000412	HEXANES PLUS	2.3
SAMPLED	000409	NITROGEN	5.1
FORMATION PENN	I-ALTAMONT	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	0.2
OPEN FLOW, MCFD		HELIUM	0.12
OFEN FLOW, MOFD		HEATING VALUE*	1,354
		SPECIFIC GRAVITY	0.833
SAMPLE 50596		COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	84.7
		ETHANE	4.3
COUNTY		PROPANE	2.8
FIELD Ni		N-BUTANE	1.1
WELL NAMEBERGNER/ACRE		ISOBUTANE	0.4
API	1503321079	N-PENTANE	0.4
LOCATION SEC. 16,	T32S, R18W	ISOPENTANE	0.3
OWNERIMPERIAL OIL PROF		CYCLOPENTANE	
	ERTIES, INC.	CICLOF LIVIANL	
COMPLETED		HEXANES PLUS	
COMPLETEDSAMPLED	000412		1.4
SAMPLED	000412	HEXANES PLUS	1.4 4.4
SAMPLEDFORMATIONPE	000412 000410 NN-PAWNEE	HEXANES PLUS	1.4 4.4 0.0
SAMPLEDPE FORMATIONPE GEOLOGIC PROVINCE CODE	000412 000410 NN-PAWNEE 360	HEXANES PLUS NITROGEN OXYGEN	1.4 4.4 0.0
SAMPLED	000412 000410 NN-PAWNEE 360	HEXANES PLUS NITROGEN OXYGEN ARGON	1.4 4.4 0.0
SAMPLED	000412 000410 NN-PAWNEE 360	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	1.4 4.4 0.0 0.0
SAMPLED	000412 000410 NN-PAWNEE 360	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	1.4 4.4 0.0 0.0
	000412 000410 NN-PAWNEE 360	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	1.4 4.4 0.0 0.0 0.1 0.15

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

SAMPLE	50594	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	79.7
		ETHANE	4.7
	COMANCHE	PROPANE	3.1
	NESCATUNGA	N-BUTANE	1.0
	BERGNER/ACRES UNIT NO. 1	ISOBUTANE	0.4
API	1503321079	N-PENTANE	0.3
LOCATION	SEC. 16, T32S, R18W.	ISOPENTANE	0.3
OWNER	IMPERIAL OIL PROPERTIES, INC.	CYCLOPENTANE	
COMPLETED	000412	HEXANES PLUS	1.0
SAMPLED	000408	NITROGEN	8.8
FORMATION	PENN-SWOPE	OXYGEN	0.0
	DE360_	ARGON	
TRUE VERTICAL DEPTH (F	T)	HYDROGEN	0.0
•	- /	HYDROGEN SULFIDE**	
		CARBON DIOXIDE	0.6
,	SIG	HELIUM	0.21
OPEN FLOW, MCFD		HEATING VALUE*	1,083
		SPECIFIC GRAVITY	0.704
SAMPLE	21184	SPECIFIC GRAVITY	0.704
2			
STATE	KANSAS	COMPONENT, MOLE PCT	85.0
STATE	KANSAS. COMANCHE	COMPONENT, MOLE PCT METHANE	85.0 4.2
STATE	KANSAS	COMPONENT, MOLE PCT METHANE ETHANE	85.0 4.2 2.9
STATE COUNTY FIELD	KANSAS. COMANCHE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	85.0 4.2 2.9 1.1
STATE COUNTY FIELD WELL NAME	KANSAS. COMANCHE NESCATUNGA SW	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	85.0 4.2 2.9 1.1 0.4
STATE COUNTY FIELD WELL NAME	KANSAS. COMANCHE NESCATUNGA SW. DALE NO. 1.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	85.0 4.2 2.9 1.1 0.4 0.3
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS. COMANCHE NESCATUNGA SW. DALE NO. 1. 1503320628	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	85.0 4.2 2.9 1.1 0.4 0.3 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	KANSAS. COMANCHE NESCATUNGA SW DALE NO. 1. 1503320628. SEC. 34, T32S, R18W.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	85.0 4.2 2.9 1.1 0.4 0.3 0.3
STATE	KANSAS. COMANCHE NESCATUNGA SW. DALE NO. 1. 1503320628 SEC. 34, T32S, R18W. MIDCO EXPLORATION, INC.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	85.0 4.2 2.9 1.1 0.4 0.3 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	KANSAS. COMANCHE NESCATUNGA SW DALE NO. 1. 1503320628 SEC. 34, T32S, R18W. MIDCO EXPLORATION, INC. 011108	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	85.0 4.2 2.9 1.1 0.4 0.3 0.3 0.8 4.7
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	KANSAS. COMANCHE NESCATUNGA SW DALE NO. 1. 1503320628 SEC. 34, T32S, R18W. MIDCO EXPLORATION, INC. 011108 030522. PENN-SWOPE, PWNE, MISS-CSTR	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE INTROGEN	85.0 4.2 2.9 1.1 0.4 0.3 0.3 0.8 4.7
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COE	KANSAS. COMANCHE NESCATUNGA SW. DALE NO. 1. 1503320628 SEC. 34, T32S, R18W. MIDCO EXPLORATION, INC. 011108 030522 PENN-SWOPE, PWNE, MISS-CSTR	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	85.0 4.2 2.9 1.1 0.4 0.3 0.3 0.8 4.7 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COL TRUE VERTICAL DEPTH (F	KANSAS. COMANCHE NESCATUNGA SW. DALE NO. 1. 1503320628 SEC. 34, T32S, R18W. MIDCO EXPLORATION, INC. 011108 030522 PENN-SWOPE, PWNE, MISS-CSTR DE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	85.0 4.2 2.9 1.1 0.4 0.3 0.3 0.8 4.7 0.0 0.1
STATE	KANSAS. COMANCHE NESCATUNGA SW DALE NO. 1. 1503320628 SEC. 34, T32S, R18W. MIDCO EXPLORATION, INC. 011108 030522. PENN-SWOPE, PWNE, MISS-CSTR DE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGENARGON HYDROGEN	85.0 4.2 2.9 1.1 0.4 0.3 0.3 0.8 4.7 0.0 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COL TRUE VERTICAL DEPTH (F MEASURED DEPTH WELLHEAD PRESSURE, PS	KANSAS. COMANCHE NESCATUNGA SW. DALE NO. 1. 1503320628 SEC. 34, T32S, R18W. MIDCO EXPLORATION, INC. 011108 030522 PENN-SWOPE, PWNE, MISS-CSTR DE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	85.0 4.2 2.9 1.1 0.4 0.3 0.3 0.8 4.7 0.0 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COL TRUE VERTICAL DEPTH (F MEASURED DEPTH WELLHEAD PRESSURE, PS	KANSAS. COMANCHE NESCATUNGA SW DALE NO. 1. 1503320628 SEC. 34, T32S, R18W. MIDCO EXPLORATION, INC. 011108 030522. PENN-SWOPE, PWNE, MISS-CSTR DE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	85.0 4.2 2.9 1.1 0.4 0.3 0.3 0.8 4.7 0.0 0.1 TRACE 0.0

^{*} 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

	METHANIE	
KANSAS	METHANE	69.2
	ETHANE	4.9
	PROPANE	5.9
	N-BUTANE	4.7
	ISOBUTANE	1.6
,,,,,,	ISOPENTANE	1.9
ROBERTS RESOURCES, INC.	CYCLOPENTANE	
020425	HEXANES PLUS	3.7
020227		
PENN-ALTAMONT	OXYGEN	0.0
360	ARGON	
4792		
1612		
4000		
	SPECIFIC GRAVITY	0.932
21176	COMPONENT, MOLE PCT	
KVNSVS	METHANE	93.7
	ETHANE	2.7
	PROPANE	1.0
	N-BUTANE	0.3
	ISOBUTANE	0.1
	N-PENTANE	0.1
SEC. 14, T32S, R19W	ISOPENTANE	0.1
AMERICAN WARRIOR, INC	CYCLOPENTANE	- -
010213	HEXANES PLUS	0.4
030521	NITROGEN	1.1
MISS-MISSISSIPPIAN	OXYGEN	0.0
360	ARGON	0.1
5260		
	CARBON DIOXIDE	0.2
	HELIUM HEATING VALUE*	
	020227. PENN-ALTAMONT 360. 4792 1612. 4000 21176 KANSAS. COMANCHE NOT GIVEN LAKE NO. 2. 1503321173. SEC. 14, T32S, R19W. AMERICAN WARRIOR, INC. 010213. 030521. MISS-MISSISSIPPIAN 360. 5260.	NICHOLS N-BUTANE N-BUTANE SEC. 9, T29S, R18W SOPENTANE SOPENTANE SEC. 9, T29S, R18W SOPENTANE SO

^{*} 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

SAMPLE	21177	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	93.1
COUNTY		ETHANE	2.8
		PROPANE	1.0
FIELD		N-BUTANE	0.3
WELL NAME		ISOBUTANE	0.2
API		N-PENTANE	0.1
LOCATION	SEC. 14, T32S, R19W	ISOPENTANE	0.1
OWNER	AMERICAN WARRIOR, INC.	CYCLOPENTANE	
COMPLETED	010219	HEXANES PLUS	0.7
SAMPLED	030521	NITROGEN	1.2
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.2
WELLHEAD PRESSURE, PSIG		HELIUM	0.09
OPEN FLOW, MCFD		HEATING VALUE*	1,076
		SPECIFIC GRAVITY	0.614
SAMPLE	21231	COMPONENT, MOLE PCT	
		*	
07475	WANIO A O	METHANE	68.8
-		METHANE	
-		METHANE	2.3
COUNTY	BARTON	METHANE	2.3 0.9
COUNTY	BARTON OTIS-ALBERT	METHANE ETHANE PROPANE	2.3 0.9 0.3
COUNTY FIELD WELL NAME	BARTON OTIS-ALBERT BAHR 1	METHANE ETHANE PROPANE N-BUTANE	2.3 0.9 0.3 0.2
COUNTY FIELD WELL NAME	BARTON OTIS-ALBERT BAHR 1 1500914165	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	2.3 0.9 0.3 0.2 0.1
COUNTY FIELD WELL NAME API LOCATION	BARTON OTIS-ALBERT BAHR 1. 1500914165 SEC. 27, T18S, R15W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	2.3 0.9 0.3 0.2 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER	BARTON OTIS-ALBERT BAHR 1. 1500914165 SEC. 27, T18S, R15W. BEREN CORP.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	2.3 0.9 0.3 0.2 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	BARTON OTIS-ALBERT BAHR 1. 1500914165 SEC. 27, T18S, R15W BEREN CORP. 400730	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	2.3 0.9 0.3 0.2 0.1 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	BARTON OTIS-ALBERT BAHR 1 1500914165 SEC. 27, T18S, R15W BEREN CORP 400730 030819	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.3 0.9 0.3 0.2 0.1 0.1 25.7
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	BARTON. OTIS-ALBERT. BAHR 1. 1500914165 SEC. 27, T18S, R15W. BEREN CORP. 400730 030819 PERM-CHASE GROUP	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	2.3 0.9 0.3 0.2 0.1 0.1 0.1 25.7
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	BARTON OTIS-ALBERT BAHR 1. 1500914165 SEC. 27, T18S, R15W BEREN CORP. 400730 030819 PERM-CHASE GROUP 385	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	2.3 0.9 0.3 0.2 0.1 0.1 25.7 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	BARTON OTIS-ALBERT BAHR 1 1500914165 SEC. 27, T18S, R15W BEREN CORP 400730 030819 PERM-CHASE GROUP 385.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	2.3 0.9 0.3 0.2 0.1 0.1 0.1 25.7 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	BARTON. OTIS-ALBERT. BAHR 1. 1500914165. SEC. 27, T18S, R15W. BEREN CORP. 400730. 030819. PERM-CHASE GROUP. 385. 1783.	METHANE	2.3 0.9 0.3 0.1 0.1 25.7 0.0 0.1 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	BARTON OTIS-ALBERT BAHR 1 1500914165 SEC. 27, T18S, R15W BEREN CORP 400730 030819 PERM-CHASE GROUP 385. 1783	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	2.3 0.9 0.3 0.2 0.1 0.1 25.7 0.0 0.1 0.0
STATE	BARTON OTIS-ALBERT BAHR 1 1500914165 SEC. 27, T18S, R15W BEREN CORP 400730 030819 PERM-CHASE GROUP 385. 1783	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	2.3 0.9 0.3 0.1 0.1 25.7 0.0 0.1 0.0 0.1 1.58

^{*} 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

SAMPLE	21232	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	66.7
	BARTON	ETHANE	2.0
		PROPANE	0.8
	OTIS-ALBERT	N-BUTANE	0.3
	VERNON 1	ISOBUTANE	0.2
	1500930882	N-PENTANE	0.1
LOCATION	SEC. 19, T18S, R15W	ISOPENTANE	0.1
OWNER	BEREN CORP.	CYCLOPENTANE	
COMPLETED	990603	HEXANES PLUS	0.1
SAMPLED	030819	NITROGEN	28.1
FORMATION	PERM-CHASE, PENN-KANSAS CITY	OXYGEN	
GEOLOGIC PROVINCE COD	DE385_	ARGON	0.1
TRUE VERTICAL DEPTH (FT	3453	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	IG	CARBON DIOXIDE	0.0
, -		HELIUM	1.56
OI EIVI EOVV, MOI D		HEATING VALUE*	755
		SPECIFIC GRAVITY	0.693
SAMPLE	21189	COMPONENT, MOLE PCT	
CTATE	KANSAS	METHANE	88.0
		ETHANE	5.0
	BARBER BARBER	PROPANE	2.4
	PERRY RANCH	N-BUTANE	0.9
	RUSK A1.	ISOBUTANE	0.4
API	1500720359	N-PENTANE	0.3
LOCATION	SEC. 6, T32S, R15W	ISOPENTANE	0.3
OWNER	WOOLSEY PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	760519	HEXANES PLUS	0.8
SAMPLED	030609	NITROGEN	1.5
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE COD	DE375_	ARGON	0.1
TRUE VERTICAL DEPTH (FT	T)4900_	HYDROGEN	TRACE
		HYDROGEN SULFIDE**	0.0
	IG1137_	CARBON DIOXIDE	0.2
•		HELIUM	0.15
OPEN FLOW, MICFU	775	HEATING VALUE*	1 140
		11L/111110 V/1LOL	

^{*} 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

SAMPLE	21152	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	85.7
		ETHANE	4.0
COUNTY		PROPANE	1.5
FIELD		N-BUTANE	0.5
WELL NAME		ISOBUTANE	0.5
API	1503321187	N-PENTANE	0.1
LOCATION	SEC. 26, T31S, R20W	ISOPENTANE	0.2
OWNER	AMERICAN WARRIOR, INC.	CYCLOPENTANE	
COMPLETED	010423	HEXANES PLUS	0.3
SAMPLED	030520	NITROGEN	6.8
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	5070	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	0.1
,		HELIUM	0.31
OPEN FLOW, MCFD		HEATING VALUE*	1,034
		SPECIFIC GRAVITY	0.643
SAMPLE	21155	COMPONENT, MOLE PCT	0.643
STATE	KANSAS	COMPONENT, MOLE PCT	89.5
STATE	KANSAS. COMANCHE	COMPONENT, MOLE PCT METHANE	89.5 3.8
STATE COUNTY FIELD	KANSAS COMANCHE PIPELINE SW	COMPONENT, MOLE PCT METHANE ETHANE	89.5 3.8 1.6
STATE	KANSAS COMANCHE PIPELINE SW	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	89.5 3.8 1.6 0.5
STATE COUNTY FIELD	KANSAS COMANCHE PIPELINE SW THIES NO. 1.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	89.5 3.8 1.6 0.5
STATE COUNTY FIELD WELL NAME	KANSAS. COMANCHE PIPELINE SW. THIES NO. 1. 1503321202	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	89.5 3.8 1.6 0.5 0.2
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS COMANCHE PIPELINE SW THIES NO. 1. 1503321202 SEC. 1, T32S, R20W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	89.5 3.8 1.6 0.5 0.2 0.1
STATE	KANSAS. COMANCHE PIPELINE SW. THIES NO. 1. 1503321202. SEC. 1, T32S, R20W. AMERICAN WARRIOR, INC.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	89.5 3.8 1.6 0.5 0.2 0.1
STATE COUNTY FIELD WELL NAMEAPI	KANSAS. COMANCHE PIPELINE SW THIES NO. 1. 1503321202 SEC. 1, T32S, R20W. AMERICAN WARRIOR, INC. 010323	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	89.5 3.8 1.6 0.5 0.2 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	KANSAS COMANCHE PIPELINE SW THIES NO. 1. 1503321202 SEC. 1, T32S, R20W AMERICAN WARRIOR, INC. 010323	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	89.5 3.8 1.6 0.5 0.2 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	KANSAS COMANCHE PIPELINE SW. THIES NO. 1. 1503321202 SEC. 1, T32S, R20W. AMERICAN WARRIOR, INC. 010323 030520. MISS-MISSISSIPPIAN	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	89.5 3.8 1.6 0.5 0.2 0.1 0.1 0.4 3.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	KANSAS COMANCHE PIPELINE SW THIES NO. 1. 1503321202 SEC. 1, T32S, R20W AMERICAN WARRIOR, INC. 010323 030520 MISS-MISSISSIPPIAN 360	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	89.5 3.8 1.6 0.5 0.2 0.1 0.1 3.4 0.0
STATE	KANSAS COMANCHE PIPELINE SW. THIES NO. 1. 1503321202 SEC. 1, T32S, R20W AMERICAN WARRIOR, INC. 010323 030520 MISS-MISSISSIPPIAN 360. 5212	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	89.5 3.8 1.6 0.5 0.2 0.1 0.1 0.4 3.4 0.0 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KANSAS COMANCHE PIPELINE SW THIES NO. 1. 1503321202 SEC. 1, T32S, R20W AMERICAN WARRIOR, INC. 010323 030520 MISS-MISSISSIPPIAN 360. 5212	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	89.5 3.8 1.6 0.5 0.2 0.1 0.1 0.4 3.4 0.0 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	KANSAS COMANCHE PIPELINE SW. THIES NO. 1. 1503321202 SEC. 1, T32S, R20W. AMERICAN WARRIOR, INC. 010323 030520. MISS-MISSISSIPPIAN 360. 5212.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	89.5 3.8 1.6 0.5 0.2 0.1 0.1 0.4 3.4 0.0 0.1 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KANSAS COMANCHE PIPELINE SW. THIES NO. 1. 1503321202 SEC. 1, T32S, R20W. AMERICAN WARRIOR, INC. 010323 030520. MISS-MISSISSIPPIAN 360. 5212.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	89.5 3.8 1.6 0.5 0.2 0.1 0.1 0.4 3.4 0.0 0.1 TRACE 0.0 0.1 0.17

^{*} 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

SAMPLE	50589	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	67.0
	FORD	ETHANE	3.5
		PROPANE	2.1
	PLEASANT VALLEY	N-BUTANE	0.7
	VICE NO. 1-14X	ISOBUTANE	0.4
	1505720563	N-PENTANE	0.2
LOCATION	SEC. 14, T28S, R21W	ISOPENTANE	0.2
OWNER	ROBERTS RESOURCES, INC.	CYCLOPENTANE	
COMPLETED	021004	HEXANES PLUS	0.3
SAMPLED	021021	NITROGEN	24.6
FORMATION	PENN-LANSING	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
		HELIUM	
/		HEATING VALUE*	
		SPECIFIC GRAVITY	0.727
SAMPLE	50588	COMPONENT, MOLE PCT	
STATE	KANSAS.	METHANE	83.4
		ETHANE	5.1
	FORD	PROPANE	2.0
	PLEASANT VALLEY	NUDUTANE	
WHI NAME	141014014014110141101411	N-BUTANE	
	KIRKPATRICK NO. 1-11	ISOBUTANE	0.7
API	1505720562		0.7 0.4
API		ISOBUTANE	0.7 0.4 0.2
API	1505720562	ISOBUTANE	0.7 0.4 0.2 0.2
API LOCATION OWNER	1505720562 SFC. 11, T28S, R21W	ISOBUTANE N-PENTANE ISOPENTANE	0.7 0.4 0.2 0.2
API	1505720562 SEC. 11, T28S, R21W ROBERTS RESOURCES, INC.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.7 0.4 0.2 0.2
API LOCATION OWNER COMPLETED SAMPLED	1505720562 SEC. 11, T28S, R21W ROBERTS RESOURCES, INC. 020605	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.7 0.4 0.2 0.2 0.3 7.2
API LOCATION OWNER COMPLETED SAMPLED FORMATION	1505720562 SEC. 11, T28S, R21W ROBERTS RESOURCES, INC. 020605 021021	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.7 0.4 0.2 0.2 0.3 7.2 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION	1505720562 SEC. 11, T28S, R21W. ROBERTS RESOURCES, INC. 020605 021021 MISS-MISSISSIPPIAN 360.	ISOBUTANE	0.7 0.4 0.2 0.2 0.3 7.2 0.0
API	1505720562 SEC. 11, T28S, R21W. ROBERTS RESOURCES, INC. 020605 021021 MISS-MISSISSIPPIAN 360.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.7 0.4 0.2 0.2 0.3 7.2 0.0
API	1505720562 SEC. 11, T28S, R21W. ROBERTS RESOURCES, INC. 020605 021021 MISS-MISSISSIPPIAN 360 4996	ISOBUTANE	0.7 0.4 0.2 0.2 0.3 7.2 0.0 0.1
API	1505720562 SEC. 11, T28S, R21W. ROBERTS RESOURCES, INC. 020605 021021 MISS-MISSISSIPPIAN 360. 4996.	ISOBUTANE	0.7 0.4 0.2 0.2 0.3 7.2 0.0 0.1
API LOCATION	1505720562 SEC. 11, T28S, R21W. ROBERTS RESOURCES, INC. 020605 021021 MISS-MISSISSIPPIAN 360. 4996.	ISOBUTANE	0.7 0.4 0.2 0.2 0.3 7.2 0.0 0.1 0.0 0.2 0.40 1,051

 $^{^{\}star}$ 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

SAMPLE	21172	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	80.8
		ETHANE	5.1
COUNTY		PROPANE	2.2
FIELD		N-BUTANE	0.8
WELL NAME	KERSTETTER 1-29	ISOBUTANE	0.3
API	1503320976	N-PENTANE	0.2
LOCATION	SEC. 29, T32S, R19W	ISOPENTANE	0.2
OWNER	AMERICAN WARRIOR, INC.	CYCLOPENTANE	
COMPLETED	990105	HEXANES PLUS	0.4
SAMPLED	030521	NITROGEN	9.6
FORMATION	ORDO-VIOLA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	5804	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	0.1
,		HELIUM	0.39
OPEN FLOW, MCFD		HEATING VALUE*	1,031
		SPECIFIC GRAVITY	0.671
SAMPLE	21154	COMPONENT, MOLE PCT	
OTATE	KANDAO	METHANE	91.3
STATE		ETHANE	3.3
COUNTY		PROPANE	1.3
FIELD		N-BUTANE	0.4
WELL NAME	HOLLER NO. 14-1	ISOBUTANE	0.2
API		N-PENTANE	0.1
LOCATION			
LOCATION	SEC. 14, T32S, R20W	ISOPENTANE	0.1
		ISOPENTANE	
OWNER	AMERICAN WARRIOR, INC		
OWNER	AMERICAN WARRIOR, INC	CYCLOPENTANE	0.3
OWNER COMPLETED	AMERICAN WARRIOR, INC	CYCLOPENTANEHEXANES PLUS	0.3
OWNER COMPLETED SAMPLED FORMATION	AMERICAN WARRIOR, INC	CYCLOPENTANE HEXANES PLUS NITROGEN	0.3 2.7 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	AMERICAN WARRIOR, INC	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.3 2.7 0.0 0.1
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	AMERICAN WARRIOR, INC. 001116 030520 MISS-MISSISSIPPIAN 360. 5149	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.3 2.7 0.0 0.1 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	AMERICAN WARRIOR, INC	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.3 2.7 0.0 0.1 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	AMERICAN WARRIOR, INC. 001116 030520 MISS-MISSISSIPPIAN 360 5149	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	AMERICAN WARRIOR, INC. 001116 030520 MISS-MISSISSIPPIAN 360 5149	CYCLOPENTANE	0.3 2.7 0.0 0.1 TRACE 0.0 0.1

^{*} 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

	21229	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	72.0
COUNTY		ETHANE	2.2
		PROPANE	8.0
FIELD		N-BUTANE	0.2
WELL NAME		ISOBUTANE	0.1
API		N-PENTANE	
LOCATION	SEC. 13, T18S, R13W	ISOPENTANE	0.1
OWNER	KODIAK PETROLEUM, INC.	CYCLOPENTANE	
COMPLETED	760203	HEXANES PLUS	TRACE
SAMPLED	030818	NITROGEN	23.1
FORMATION	PERM-TOWANDA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	385	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	1654	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.2
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.674
SAMPLE	21230	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	72.3
STATE	KANSAS	•	
STATE	KANSAS BARTON	METHANE	2.3
STATE COUNTY FIELD	KANSAS BARTON REDWING SW	METHANE	2.3 0.9
STATE	KANSAS BARTON REDWING.SW TINDALL 2B	METHANE ETHANE PROPANE	2.3 0.9 0.3
STATE COUNTY FIELD	KANSAS BARTON REDWING.SW TINDALL 2B	METHANE ETHANE PROPANE N-BUTANE	2.3 0.9 0.3 0.1
STATE	KANSAS BARTON REDWING SW TINDALL 2B 1500924657	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	2.3 0.9 0.3 0.1
STATE COUNTY FIELD WELL NAME API	KANSAS BARTON REDWING SW TINDALL 2B. 1500924657 SEC. 13, T18S, R13W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	2.3 0.9 0.3 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS. BARTON REDWING SW. TINDALL 2B. 1500924657 SEC. 13, T18S, R13W. KODIAK PETROLEUM, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	2.3 0.9 0.3 0.1 0.1
STATE	KANSAS BARTON REDWING.SW TINDALL.2B 1500924657 SEC. 13, T18S, R13W KODIAK PETROLEUM, INC. 991208	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	2.3 0.9 0.3 0.1 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	KANSAS BARTON REDWING SW TINDALL 2B 1500924657 SEC. 13, T18S, R13W KODIAK PETROLEUM, INC. 991208 030818	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.3 0.9 0.3 0.1 0.1 0.1 TRACE
STATE	KANSAS BARTON REDWING SW. TINDALL 2B. 1500924657 SEC. 13, T18S, R13W KODIAK PETROLEUM, INC. 991208 030818 PERM-WINFIELD	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN	2.3 0.9 0.3 0.1 0.1 0.1 TRACE 23.0
STATE	KANSAS BARTON REDWING SW TINDALL 2B. 1500924657 SEC. 13, T18S, R13W KODIAK PETROLEUM, INC. 991208 030818 PERM-WINFIELD 385	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	2.3 0.9 0.3 0.1 0.1 0.1 TRACE 23.0 0.0
STATE	KANSAS BARTON REDWING SW. TINDALL 2B. 1500924657 SEC. 13, T18S, R13W. KODIAK PETROLEUM, INC. 991208 030818 PERM-WINFIELD 385. 1658.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	2.3 0.9 0.3 0.1 0.1 0.1 TRACE 23.0 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KANSAS BARTON REDWING SW TINDALL 2B 1500924657 SEC. 13, T18S, R13W KODIAK PETROLEUM, INC. 991208 030818 PERM-WINFIELD 385.	METHANE	2.3 0.9 0.3 0.1 0.1 0.1 TRACE 23.0 0.0 TRACE 0.0
STATE	KANSAS BARTON REDWING SW TINDALL 2B 1500924657 SEC. 13, T18S, R13W KODIAK PETROLEUM, INC. 991208 030818 PERM-WINFIELD 385. 1658.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	2.3 0.9 0.3 0.1 0.1 0.1 TRACE 23.0 0.0 TRACE 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KANSAS BARTON REDWING SW TINDALL 2B 1500924657 SEC. 13, T18S, R13W KODIAK PETROLEUM, INC. 991208 030818 PERM-WINFIELD 385. 1658.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE*** CARBON DIOXIDE	2.3

^{*} 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

SAMPLE	21246	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	65.9
		ETHANE	4.9
	EDWARDS	PROPANE	6.8
	SALSER.	N-BUTANE	3.8
	GRIZZELL-WOOD 2	ISOBUTANE	1.7.
	1504720851	N-PENTANE	1.1
LOCATION	SEC. 14, T26S, R16W	ISOPENTANE	0.9
OWNER	BEREN CORP.	CYCLOPENTANE	
COMPLETED	811119	HEXANES PLUS	0.9
SAMPLED	030820	NITROGEN	13.4
FORMATION	PENN-LANSING-KANSAS CITY	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)	4060	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.2
WELLHEAD PRESSURE, PSIG		HELIUM	0.33
OPEN FLOW, MCFD		HEATING VALUE*	1,228
		SPECIFIC GRAVITY	0.84
SAMPLE	21205	COMPONENT, MOLE PCT	
07475	KANGAG	METHANE	89.9
	KANSAS	ETHANE	3.4
	BARBER	PROPANE	1.3
	SALT FORK		
		N-BUTANE	0.4
	Z-BAR RANCH 1-16	N-BUTANEISOBUTANE	
	Z-BAR RANCH 1-16 1500722554	•	0.2
API		ISOBUTANE	0.2 0.1
API	1500722554	ISOBUTANE	0.2 0.1 0.1
API LOCATION OWNER	1500722554 SEC. 16, T35S, R15W	ISOBUTANE N-PENTANE ISOPENTANE	0.2 0.1 0.1
API	1500722554 SEC. 16, T35S, R15W. CLEARY PETROLEUM CORP.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.2 0.1 0.1
API LOCATION OWNER COMPLETED SAMPLED	1500722554 SEC. 16, T35S, R15W CLEARY PETROLEUM CORP. 980403	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2 0.1 0.1 0.3 3.7
API LOCATION OWNER COMPLETED SAMPLED FORMATION	1500722554 SEC. 16, T35S, R15W CLEARY PETROLEUM CORP. 980403 030611	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.2 0.1 0.1 0.3 3.7 0.4
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	1500722554 SEC. 16, T35S, R15W CLEARY PETROLEUM CORP. 980403 030611 MISS-MISSISSIPPIAN 375	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.2 0.1 0.1 0.3 3.7 0.4 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	1500722554 SEC. 16, T35S, R15W. CLEARY PETROLEUM CORP. 980403 030611. MISS-MISSISSIPPIAN 375. 5074.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.1 0.1 0.3 3.7 0.4 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	1500722554 SEC. 16, T35S, R15W. CLEARY PETROLEUM CORP. 980403 030611. MISS-MISSISSIPPIAN 375. 5074.	ISOBUTANE	0.2 0.1 0.1 0.3 3.7 0.4 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	1500722554 SEC. 16, T35S, R15W. CLEARY PETROLEUM CORP. 980403 030611 MISS-MISSISSIPPIAN 375. 5074.	ISOBUTANE	0.2 0.1 0.1 0.3 3.7 0.4 0.0 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	1500722554 SEC. 16, T35S, R15W. CLEARY PETROLEUM CORP. 980403 030611. MISS-MISSISSIPPIAN 375. 5074.	ISOBUTANE	0.2 0.1 0.1 0.3 3.7 0.4 0.0 0.0 0.0 0.1

^{*} 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

SAMPLE 212	206	COMPONENT, MOLE PCT	
STATE	KVVICVC	METHANE	91.4
		ETHANE	4.0
COUNTY		PROPANE	1.8
FIELD		N-BUTANE	0.7
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.2
LOCATION	SEC. 10, T35S, R15W	ISOPENTANE	0.2
OWNER REDLA	AND RESOURCES, INC.	CYCLOPENTANE	
COMPLETED	000110	HEXANES PLUS	0.5
SAMPLED	030611	NITROGEN	0.7
FORMATION PENN-OS	WG, CHRK, MISS-MSSP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	375	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	5004	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.06
Of EIVT EOVV, MOLD	10	HEATING VALUE*	1,113
		SPECIFIC GRAVITY	0.629
SAMPLE 211	90	OOMPONENT MOLE DOT	
	30	COMPONENT, MOLE PCT	
STATE		METHANE	90.5
STATE	KANSAS		
COUNTY	KANSAS BARBER	METHANE	3.9
COUNTY	KANSAS BARBER SCHUETTE	METHANE	3.9 1.7
COUNTY FIELD WELL NAME	KANSAS BARBER SCHUETTE RUSK 1E	METHANE ETHANE PROPANE	3.9 1.7 0.6
COUNTY	KANSAS BARBER SCHUETTE RUSK 1E	METHANE ETHANE PROPANE N-BUTANE	3.9 1.7 0.6 0.3
COUNTY FIELD WELL NAME	KANSAS. BARBER SCHUETTE RUSK 1E. 1500721002	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.9 1.7 0.6 0.3 0.2
COUNTY	KANSAS BARBER SCHUETTE RUSK 1E 1500721002 SEC. 31, T31S, R15W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.9 1.7 0.6 0.3 0.2
COUNTY FIELD WELL NAME API LOCATION	KANSAS BARBER SCHUETTE RUSK 1F 1500721002 SEC. 31, T31S, R15W EY PETROLEUM CORP.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.9 1.7 0.6 0.3 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER WOOLSE	KANSAS BARBER SCHUETTE RUSK 1E 1500721002 SEC. 31, T31S, R15W EY PETROLEUM CORP. 810102	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.9 1.7 0.6 0.3 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER WOOLSE COMPLETED	KANSAS BARBER SCHUETTE RUSK 1E 1500721002 SEC. 31, T31S, R15W EY PETROLEUM CORP. 810102 030609	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.9 1.7 0.6 0.3 0.2 0.2 0.6 1.7
COUNTY FIELD WELL NAME API LOCATION OWNER WOOLSE COMPLETED SAMPLED	KANSAS BARBER SCHUETTE RUSK 1F 1500721002 SEC. 31, T31S, R15W EY PETROLEUM CORP. 810102 030609 MISS-MISSISSIPPIAN	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN	3.9 1.7 0.6 0.3 0.2 0.2 0.6 1.7 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER WOOLSE COMPLETED SAMPLED FORMATION	KANSAS BARBER SCHUETTE RUSK 1E 1500721002 SEC. 31, T31S, R15W EY PETROLEUM CORP. 810102 030609 MISS-MISSISSIPPIAN 375	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.9 1.7 0.6 0.3 0.2 0.2 0.6 1.7 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER WOOLSE COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	KANSAS BARBER SCHUETTE RUSK 1E 1500721002 SEC. 31, T31S, R15W EY PETROLEUM CORP. 810102 030609 MISS-MISSISSIPPIAN 375.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.9 1.7 0.6 0.3 0.2 0.2 0.6 1.7 0.0 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER WOOLSE COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KANSAS BARBER SCHUETTE RUSK 1E 1500721002 SEC. 31, T31S, R15W EY PETROLEUM CORP. 810102 030609 MISS-MISSISSIPPIAN 375 4968	METHANE	3.9 1.7 0.6 0.3 0.2 0.2 0.6 1.7 0.0 0.1 TRACE
COUNTY	KANSAS BARBER SCHUETTE RUSK 1E 1500721002 SEC. 31, T31S, R15W EY PETROLEUM CORP. 810102 030609 MISS-MISSISSIPPIAN 375. 4968	METHANE	3.9 1.7 0.6 0.3 0.2 0.2 0.6 1.7 0.0 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER WOOLSE COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KANSAS BARBER SCHUETTE RUSK 1E 1500721002 SEC. 31, T31S, R15W EY PETROLEUM CORP. 810102 030609 MISS-MISSISSIPPIAN 375. 4968	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	3.9 1.7 0.6 0.3 0.2 0.2 0.6 1.7 0.0 0.1 TRACE 0.0 0.1 0.16

 $^{^{\}star}$ 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

SAMPLE	21203	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	89.0
		ETHANE	5.2
COUNTY		PROPANE	2.5
FIELD		N-BUTANE	0.9
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.3
LOCATION	SEC. 26, T34S, R12W	ISOPENTANE	0.2
OWNER	MOLZ OIL CO., INC.	CYCLOPENTANE	
COMPLETED	830523	HEXANES PLUS	0.4
SAMPLED	030611	NITROGEN	1.1
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	375	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	4762	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	1151	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.08
		HEATING VALUE*	,
		SPECIFIC GRAVITY	0.645
SAMPLE	21201	COMPONENT, MOLE PCT	
CTATE	KAN040	METHANE	97.6
			07.0
	KANSAS	ETHANE	
COUNTY	BARBER		5.5
COUNTY	BARBER STRANATHAN	ETHANE	5.5 2.8
COUNTY FIELD WELL NAME	BARBER STRANATHAN HICKLE 1.	PROPANE	5.5 2.8 1.1
COUNTY FIELD WELL NAME	BARBER STRANATHAN HICKLE 1.	ETHANE PROPANE N-BUTANE	5.5 2.8 1.1 0.4
COUNTY	BARBER STRANATHAN HICKLE 1 1500720148	ETHANE PROPANE N-BUTANE ISOBUTANE	5.5 2.8 1.1 0.4 0.4
COUNTY FIELD WELL NAME API LOCATION	BARBER STRANATHAN HICKLE 1. 1500720148 SEC. 25, T34S, R12W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	5.5 2.8 1.1 0.4 0.4 0.3
COUNTY FIELD WELL NAME API LOCATION OWNER	BARBER STRANATHAN HICKLE 1. 1500720148 SEC. 25, T34S, R12W. MOLZ OIL CO., INC.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	5.5 2.8 1.1 0.4 0.4 0.3
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	BARBER. STRANATHAN HICKLE 1. 1500720148. SEC. 25, T34S, R12W. MOLZ OIL CO., INC. 000711	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	5.5 2.8 1.1 0.4 0.4 0.3
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	BARBER STRANATHAN HICKLE 1. 1500720148 SEC. 25, T34S, R12W MOLZ OIL CO., INC. 000711 030611	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	5.5 2.8 1.1 0.4 0.4 0.3 0.5
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	BARBER. STRANATHAN HICKLE 1. 1500720148 SEC. 25, T34S, R12W. MOLZ OIL CO., INC. 000711. 030611. PENN-PAWNEE.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	5.5 2.8 1.1 0.4 0.4 0.3 0.5 1.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	BARBER STRANATHAN HICKLE 1. 1500720148 SEC. 25, T34S, R12W MOLZ OIL CO., INC. 000711 030611. PENN-PAWNEE 375.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	5.5 2.8 1.1 0.4 0.3 0.5 1.1 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	BARBER STRANATHAN HICKLE 1. 1500720148 SEC. 25, T34S, R12W MOLZ OIL CO., INC. 000711 030611. PENN-PAWNEE 375. 4629.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	5.5 2.8 1.1 0.4 0.3 0.5 1.1 0.0 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	BARBER STRANATHAN HICKLE 1. 1500720148 SEC. 25, T34S, R12W. MOLZ OIL CO., INC. 000711. 030611. PENN-PAWNEE. 375. 4629.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	5.5 2.8 1.1 0.4 0.3 0.5 1.1 0.0 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	BARBER STRANATHAN HICKLE 1. 1500720148 SEC. 25, T34S, R12W MOLZ OIL CO., INC. 000711 030611 PENN-PAWNEE 375. 4629	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	5.5. 2.8 1.1 0.4 0.4 0.3 0.5 1.1 0.0 0.1 TRACE 0.0 0.1
COUNTY	BARBER STRANATHAN HICKLE 1. 1500720148 SEC. 25, T34S, R12W MOLZ OIL CO., INC. 000711 030611 PENN-PAWNEE 375. 4629	ETHANE	5.5 2.8 1.1 0.4 0.3 0.5 1.1 0.0 0.1 TRACE 0.0 0.1

^{*} 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

SAMPLE	21199	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	85.7
	BARBER	ETHANE	3.9
	TONI-MIKE NE	PROPANE	2.2
		N-BUTANE	0.7
	ASH 2-35	ISOBUTANE	
	1500721955	N-PENTANE	
	SEC. 35, T32S, R12W	ISOPENTANE	
OWNER	TRANS PACIFIC OIL CORP.	CYCLOPENTANE	
COMPLETED	870809	HEXANES PLUS	0.3
SAMPLED	030611	NITROGEN	5.9
FORMATION	PENN-ELGIN	OXYGEN	
GEOLOGIC PROVINCE CODE	375.	ARGON	
TRUE VERTICAL DEPTH (FT)	3467	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	1069	CARBON DIOXIDE	
	150	HELIUM	
ENT LOVY, MOI D		HEATING VALUE*	,
		SPECIFIC GRAVITY	0.651
SAMPLE	21200	COMPONENT, MOLE PCT	
STATE	KANSAS.	METHANE	85.9
-	BARBER	ETHANE	3.9
	TONI-MIKE NE	PROPANE	2.2
		N-BUTANE	0.7
	RANDEL A1		
	4-00-0400	ISOBUTANE	0.3
	1500721606	ISOBUTANEN-PENTANE	
LOCATION	SEC. 26, T32S, R12W		0.2
LOCATION		N-PENTANE	0.2
LOCATION	SEC. 26, T32S, R12W	N-PENTANE	0.2
LOCATIONOWNERCOMPLETED	SEC. 26, T32S, R12W WOOLSEY PETROLEUM CORP	N-PENTANEISOPENTANECYCLOPENTANE	0.2 0.2 0.3
LOCATION	SEC. 26, T32S, R12W WOOLSEY PETROLEUM CORP 840312	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2 0.2 0.3 5.8
LOCATION	SEC. 26, T32S, R12W WOOLSEY PETROLEUM CORP. 840312 030611 PENN-SNYDERVILLE	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.2 0.3 5.8 0.0
LOCATION	SEC. 26, T32S, R12W WOOLSEY PETROLEUM CORP. 840312 030611 PENN-SNYDERVILLE	N-PENTANEISOPENTANE	0.2 0.2 0.3 5.8 0.0 0.1
LOCATION	SEC. 26, T32S, R12W WOOLSEY PETROLEUM CORP. 840312 030611 PENN-SNYDERVILLE 375	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.2 0.3 5.8 0.0 0.1
LOCATION	SEC. 26, T32S, R12W. WOOLSEY PETROLEUM CORP. 840312 030611 PENN-SNYDERVILLE 375. 3552	N-PENTANE	0.2 0.2 0.3 5.8 0.0 0.1 TRACE 0.0
LOCATION	SEC. 26, T32S, R12W WOOLSEY PETROLEUM CORP. 840312 030611 PENN-SNYDERVILLE 375. 3552.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.2 0.2 0.3 5.8 0.0 0.1 TRACE 0.0

^{*} 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

SAMPLE	21173	COMPONENT, MOLE PCT	
STATE	KVVICVC	METHANE	61.0
		ETHANE	6.0
COUNTY		PROPANE	3.6
FIELD		N-BUTANE	1.3
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.4
LOCATION	, ,	ISOPENTANE	0.3
OWNER	AMERICAN WARRIOR, INC.	CYCLOPENTANE	
COMPLETED	000821	HEXANES PLUS	0.6
SAMPLED	030521	NITROGEN	24.9
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
DPEN FLOW, MCFD		HELIUM	0.99
		HEATING VALUE*	932
		SPECIFIC GRAVITY	0.774
SAMPLE	21242	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	67.1
COUNTY		ETHANE	10.1
	<u></u>	DDODANE	
FIFI D	VOGEL NE	PROPANE	6.0
	VOGEL NE	N-BUTANE	2.0
WELL NAME	PAULSEN 1-35	N-BUTANE	2.0 0.7
WELL NAME	PAULSEN 1-35 1518521957	N-BUTANE	2.0 0.7
WELL NAMEAPI	PAULSEN 1-35. 1518521957 SEC. 35, T24S, R11W	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	2.0 0.7 0.6 0.4
WELL NAMEAPILOCATION	PAULSEN 1-35 1518521957 SEC. 35, T24S, R11W HESSE PETROLEUM CO.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	2.0 0.7 0.6 0.4
WELL NAME API LOCATION OWNER COMPLETED	PAULSEN 1-35. 1518521957 SEC. 35, T24S, R11W HESSE PETROLEUM CO. 840319	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.0 0.7 0.6 0.4
WELL NAMEAPILOCATION	PAULSEN 1-35. 1518521957 SEC. 35, T24S, R11W HESSE PETROLEUM CO. 840319	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUS	2.0 0.7 0.6 0.4 0.8 11.6
WELL NAME API LOCATION OWNER COMPLETED	PAULSEN 1-35. 1518521957 SEC. 35, T24S, R11W HESSE PETROLEUM CO. 840319 030819	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUS NITROGENOXYGEN	2.0 0.7 0.6 0.4 0.8 11.6
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	PAULSEN 1-35. 1518521957 SEC. 35, T24S, R11W HESSE PETROLEUM CO. 840319 030819	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	2.0 0.7 0.6 0.4 0.8 11.6 0.0
WELL NAME	PAUL SEN 1-35. 1518521957 SEC. 35, T24S, R11W HESSE PETROLEUM CO. 840319 030819 MISS-MISSISSIPPIAN 385.	N-BUTANE	2.0 0.7 0.6 0.4 0.8 11.6 0.0 0.1 TRACE
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	PAULSEN 1-35. 1518521957 SEC. 35, T24S, R11W HESSE PETROLEUM CO. 840319 030819 MISS-MISSISSIPPIAN 385.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	2.0 0.7 0.6 0.4 0.8 11.6 0.0 0.1 TRACE
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	PAULSEN 1-35. 1518521957 SEC. 35, T24S, R11W HESSE PETROLEUM CO. 840319 030819 MISS-MISSISSIPPIAN 385.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	2.0 0.7 0.6 0.4 0.8 11.6 0.0 0.1 TRACE 0.0
WELL NAME	PAULSEN 1-35. 1518521957 SEC. 35, T24S, R11W HESSE PETROLEUM CO. 840319 030819 MISS-MISSISSIPPIAN 385.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	2.0 0.7 0.6 0.4 0.8 11.6 0.0 0.1 TRACE 0.0 0.1

 $^{^{\}star}$ 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

SAMPLE	21252	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	83.5
		ETHANE	3.4
COUNTY		PROPANE	1.3
FIELD		N-BUTANE	0.5
WELL NAME		ISOBUTANE	0.2
API	1504720336.	N-PENTANE	0.1
LOCATION	SEC. 12, T24S, R18W	ISOPENTANE	0.1
OWNER	HOLL, F.G., CO. LLC	CYCLOPENTANE	
COMPLETED	780512	HEXANES PLUS	0.4
SAMPLED	030821	NITROGEN	9.2
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	4350	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.2
WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD		HELIUM	0.92
	6430	HEATING VALUE*	991
		SPECIFIC GRAVITY	0.645
SAMPLE	21263	COMPONENT, MOLE PCT	
07475		METHANE	88.9
STATE		ETHANE	3.7
COUNTY	EDWARDS		
		PROPANE	1.6
FIELD	WAC NW.	PROPANE	
			0.6
WELL NAME	LUNZ 3-21	N-BUTANE	0.6
WELL NAMEAPI	LUNZ 3-21 1504720648	N-BUTANE	0.6 0.3 0.2
WELL NAMEAPI API LOCATION	LUNZ 3-21 1504720648 SEC. 21, T24S, R16W	N-BUTANEISOBUTANEN-PENTANE	0.6 0.3 0.2 0.2
WELL NAMEAPILOCATION	LUNZ 3-21 1504720648 SEC. 21, T24S, R16W HOLL, F.G., CO. LLC	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	0.6 0.3 0.2 0.2
WELL NAME	LUNZ 3-21 1504720648 SEC. 21, T24S, R16W HOLL, F.G., CO. LLC. 800627	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.6 0.3 0.2 0.2 0.7
WELL NAME	LUNZ 3-21 1504720648 SEC. 21, T24S, R16W HOLL, F.G., CO. LLC 800627 030821	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.6 0.3 0.2 0.2 0.7 3.3
WELL NAME	LUNZ 3-21 1504720648 SEC. 21, T24S, R16W HOLL, F.G., CO. LLC. 800627 030821 MISS-KINDERHOOK	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUSNITROGEN	0.6 0.3 0.2 0.2 0.7 3.3 0.0
WELL NAME	LUNZ 3-21 1504720648 SEC. 21, T24S, R16W HOLL, F.G., CO. LLC 800627 030821 MISS-KINDERHOOK	N-BUTANE	0.6 0.3 0.2 0.2 0.7 3.3 0.0
WELL NAME	LUNZ 3-21 1504720648 SEC. 21, T24S, R16W HOLL, F.G., CO. LLC. 800627 030821 MISS-KINDERHOOK 360.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.6 0.3 0.2 0.2 0.7 3.3 0.0 0.1
WELL NAME	LUNZ 3-21 1504720648 SEC. 21, T24S, R16W HOLL, F.G., CO. LLC 800627 030821 MISS-KINDERHOOK 360 4349	N-BUTANE	0.6 0.3 0.2 0.2 0.7 3.3 0.0 0.1 0.0
WELL NAME	LUNZ 3-21 1504720648 SEC. 21, T24S, R16W HOLL, F.G., CO. LLC 800627 030821 MISS-KINDERHOOK 360 4349	N-BUTANE	0.6 0.3 0.2 0.2 0.7 0.7 3.3 0.0 0.1 0.0 0.1
WELL NAME	LUNZ 3-21 1504720648 SEC. 21, T24S, R16W HOLL, F.G., CO. LLC 800627 030821 MISS-KINDERHOOK 360 4349	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.6 0.3 0.2 0.2 0.7 3.3 0.0 0.1 0.0 0.1 0.39

^{*} 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

SAMPLE	21268	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	82.2
	EDWARDS.	ETHANE	1.9
		PROPANE	0.6
	WAYNE	N-BUTANE	0.1
	FROHLING A1-23	ISOBUTANE	0.1
	1504721434	N-PENTANE	TRACE
	SEC. 23, T24S, R17W	ISOPENTANE	TRACE
OWNER	HOLL, F.G., CO. LLC	CYCLOPENTANE	
COMPLETED	990621	HEXANES PLUS	0.1
SAMPLED	030821	NITROGEN	14.1
FORMATION	PERM-FORT RILEY, FLORENCE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2427	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE PSIG	80.	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	0.67
		HEATING VALUE*	895
		SPECIFIC GRAVITY	0.631
SAMPLE	21270	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	86.2
		FTLIANE	
COONTT	EDWADDS	ETHANE	3.6
EIEL D	EDWARDS	PROPANE	
	WAYNE		1.5
WELL NAME	WAYNE BRITTON 3-15	PROPANE	1.5 0.6
WELL NAME	WAYNE	PROPANE N-BUTANE	1.5 0.6 0.3
WELL NAMEAPI	WAYNE BRITTON 3-15	PROPANEN-BUTANEISOBUTANE	1.5 0.6 0.3 0.2
WELL NAMEAPI	WAYNE BRITTON 3-15. 1504721131	PROPANE N-BUTANE ISOBUTANE N-PENTANE	1.5 0.6 0.3 0.2
WELL NAMEAPI	WAYNE BRITTON 3-15 1504721131 SEC. 15, T24S, R17W	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.5 0.6 0.3 0.2 0.2
WELL NAME	WAYNE BRITTON 3-15. 1504721131 SEC. 15, T24S, R17W. HOLL, F.G., CO. LLC.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.5 0.6 0.3 0.2 0.2
WELL NAME	WAYNE BRITTON 3-15 1504721131 SEC. 15, T24S, R17W HOLL, F.G., CO. LLC. 840130	PROPANE	1.5 0.6 0.3 0.2 0.2 0.8 5.8
WELL NAME	WAYNE BRITTON 3-15 1504721131 SEC. 15, T24S, R17W HOLL, F.G., CO. LLC. 840130 030821	PROPANE	1.5 0.6 0.3 0.2 0.2 0.8 5.8
WELL NAME	WAYNE BRITTON 3-15 1504721131 SEC. 15, T24S, R17W HOLL, F.G., CO. LLC 840130 030821 MISS-KINDERHOOK	PROPANE	1.5 0.6 0.3 0.2 0.2 0.8 5.8 0.0
WELL NAME	WAYNE BRITTON 3-15. 1504721131 SEC. 15, T24S, R17W HOLL, F.G., CO. LLC 840130 030821 MISS-KINDERHOOK 360. 4390.	PROPANE	1.5 0.6 0.3 0.2 0.2 0.8 5.8 0.0 0.1 TRACE
WELL NAME	WAYNE. BRITTON 3-15. 1504721131. SEC. 15, T24S, R17W. HOLL, F.G., CO. LLC. 840130. 030821. MISS-KINDERHOOK. 360. 4390.	PROPANE	1.5 0.6 0.3 0.2 0.2 0.8 5.8 0.0 0.1 TRACE
WELL NAME	WAYNE BRITTON 3-15. 1504721131 SEC. 15, T24S, R17W HOLL, F.G., CO. LLC 840130 030821 MISS-KINDERHOOK 360. 4390.	PROPANE	1.5 0.6 0.3 0.2 0.2 0.8 5.8 0.0 0.1 TRACE 0.0
WELL NAME	WAYNE. BRITTON 3-15. 1504721131. SEC. 15, T24S, R17W. HOLL, F.G., CO. LLC. 840130. 030821. MISS-KINDERHOOK. 360. 4390.	PROPANE	1.5 0.6 0.3 0.2 0.2 0.8 5.8 0.0 0.1 TRACE 0.0

^{*} 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

SAMPLE	50602	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	81.6
		ETHANE	1.6
COUNTY		PROPANE	0.4
FIELD		N-BUTANE	TRACE
WELL NAME		ISOBUTANE	TRACE
API	1504721440	N-PENTANE	TRACE
OCATION	SEC. 22, T24S, R17W	ISOPENTANE	TRACE
OWNER	HOLL, F.G., CO. LLC	CYCLOPENTANE	
COMPLETED	030227	HEXANES PLUS	TRACE
SAMPLED	030409	NITROGEN	15.5
FORMATION	PERM-WINFIELD	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	
	2266	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	TRACE
VELLHEAD PRESSURE, PSIG		HELIUM	0.78
PEN FLOW, MCFD	100	HEATING VALUE*	866
		SPECIFIC GRAVITY	0.63
SAMPLE	21267	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	88.8
	EDWARDS	ETHANE	3.2
		PROPANE	1.2
	WAYNE S.	N-BUTANE	0.4
	MEIER 1-2	ISOBUTANE	0.2
\PI	1504721066	N-PENTANE	0.1
LOCATION	SEC. 2, T25S, R17W	ISOPENTANE	0.1
OWNER	HOLL, F.G., CO. LLC.	CYCLOPENTANE	- -
COMPLETED	821030	HEXANES PLUS	0.5
SAMPLED	030821	NITROGEN	4.7
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
	4424	HYDROGEN	0.0
` '		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
•		HELIUM	0.50
JEIN FLOVV, IVIOPD	520	HEATING VALUE*	1,041
		SPECIFIC GRAVITY	0.627

^{*} 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

SAMPLE	21195	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	84.3
		ETHANE	3.7
	BARBER.	PROPANE	2.1
	WHELAN	N-BUTANE	0.7
	SWARTZ 1	ISOBUTANE	0.3
	1500721148	N-PENTANE	0.2
LOCATION	SEC. 31, T31S, R11W	ISOPENTANE	0.2
OWNER	MICA ENERGY CORP.	CYCLOPENTANE	
COMPLETED	990630	HEXANES PLUS	0.3
SAMPLED	030610	NITROGEN	
FORMATION	PENN-ELGIN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	375	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3337	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE. PSIG	607	CARBON DIOXIDE	0.1
•	150	HELIUM	0.26
OI 2111 2011, MOI D		HEATING VALUE*	1,032
		SPECIFIC GRAVITY	0.654
SAMPLE	21194	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	84.3
	BARBER	ETHANE	3.6
	WHELAN	PROPANE	2.0
		N-BUTANE	0.7
	SWAYDEN 1B	ISOBUTANE	0.3
	1500721938	N-PENTANE	0.2
LOCATION	SEC. 1, T32S, R12W	ISOPENTANE	
OWNER	WOOLSEY PETROLEUM CORP.	CYCLOPENTANE	- -
	WOOLSEY PETROLEUM CORP	CYCLOPENTANE	
COMPLETED			0.4
COMPLETED	940624	HEXANES PLUS	0.4 7.9
COMPLETEDSAMPLEDPENN	940624 030610	HEXANES PLUS NITROGEN OXYGEN ARGON	0.4 7.9 0.0 0.1
COMPLETEDSAMPLEDPENN FORMATIONPENN GEOLOGIC PROVINCE CODE	940624 030610 I-ELGN, SDVL, MISS-MISSISSIPPIAN	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.4 7.9 0.0 0.1 TRACE
COMPLETEDSAMPLEDPENN FORMATIONPENN GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	940624 	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.4 7.9 0.0 0.1 TRACE
COMPLETED	940624 030610 I-ELGN, SDVL, MISS-MISSISSIPPIAN 375 4298	HEXANES PLUS	0.4 7.9 0.0 0.1 TRACE 0.0
COMPLETED	940624 030610 I-ELGN, SDVL, MISS-MISSISSIPPIAN 375 4298	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.4 7.9 0.0 0.1 TRACE 0.0 0.1

^{*} 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

SAMPLE	21197	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	74.9
COUNTY		ETHANE	7.8
		PROPANE	5.2
FIELD		N-BUTANE	1.6
WELL NAME		ISOBUTANE	0.7
API		N-PENTANE	0.4
LOCATION	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ISOPENTANE	0.4
OWNER	MULL DRILLING CO., INC.	CYCLOPENTANE	
COMPLETED	010614	HEXANES PLUS	0.7
SAMPLED	030610	NITROGEN	7.8
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	375	ARGON	0.1
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.29
		HEATING VALUE*	1,168
		SPECIFIC GRAVITY	0.741
SAMPLE	21247	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	87.5
STATE		METHANE	
COUNTY	EDWARDS	ETHANE	4.1 1.9
COUNTY	EDWARDS WIL	ETHANEPROPANEN-BUTANE	4.1 1.9 0.7
COUNTY FIELD WELL NAME	EDWARDS WIL SMITH-WOOD 1	ETHANE PROPANE N-BUTANE ISOBUTANE	4.1 1.9 0.7 0.3
COUNTY FIELD WELL NAME API	EDWARDS WIL SMITH-WOOD 1 1504720182	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.1 1.9 0.7 0.3 0.2
COUNTY FIELD WELL NAME API LOCATION	EDWARDS WIL SMITH-WOOD 1 1504720182 SEC. 12, T26S, R16W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.1 1.9 0.7 0.3 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER	EDWARDS WIL SMITH-WOOD 1 1504720182 SEC. 12, T26S, R16W BEREN CORP.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.1 1.9 0.7 0.3 0.2
COUNTY FIELD WELL NAME API LOCATION	EDWARDS WIL SMITH-WOOD 1 1504720182 SEC. 12, T26S, R16W BEREN CORP.	ETHANEPROPANEISOBUTANEISOPENTANEISOPENTANECYCLOPENTANE	4.1 1.9 0.7 0.3 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	EDWARDS WIL SMITH-WOOD 1 1504720182 SEC. 12, T26S, R16W BEREN CORP. 760115 030820	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.1 1.9 0.7 0.3 0.2 0.2 1.3
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	EDWARDS WIL SMITH-WOOD 1 1504720182 SEC. 12, T26S, R16W BEREN CORP. 760115 030820	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.1 1.9 0.7 0.3 0.2 0.2 1.3 3.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	EDWARDS WIL SMITH-WOOD 1 1504720182 SEC. 12, T26S, R16W BEREN CORP. 760115 030820 PENN-CHEROKEE	ETHANEPROPANEN-BUTANE	4.1 1.9 0.7 0.3 0.2 0.2 1.3 3.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	EDWARDS WIL SMITH-WOOD 1 1504720182 SEC. 12, T26S, R16W BEREN CORP. 760115 030820 PENN-CHEROKEE 360	ETHANE	4.1 1.9 0.7 0.3 0.2 0.2 1.3 3.0 0.0 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	EDWARDS WIL SMITH-WOOD 1 1504720182 SEC. 12, T26S, R16W BEREN CORP. 760115 030820 PENN-CHEROKEE 360. 4369	ETHANE	4.1 1.9 0.7 0.3 0.2 0.2 1.3 3.0 0.0 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	EDWARDS WIL SMITH-WOOD 1 1504720182 SEC. 12, T26S, R16W BEREN CORP. 760115 030820. PENN-CHEROKEE 360. 4369	ETHANE	4.1 1.9 0.7 0.3 0.2 0.2 1.3 3.0 0.0 0.2 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	EDWARDS WIL SMITH-WOOD 1 1504720182 SEC. 12, T26S, R16W BEREN CORP 760115 030820 PENN-CHEROKEE 360 4369	ETHANE	4.1 1.9 0.7 0.3 0.2 0.2 1.3 3.0 0.0 0.2 0.0 0.2 0.0 0.0 0.0 0

^{*} 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

SAMPLE 21248	COMPONENT, MOLE PCT	
STATE KANSAS	METHANE	88.9
	ETHANE	3.8
COUNTYEDWARDS	PROPANE	17
FIELD WIL.	N-BUTANE	0.6
WELL NAME MILLER 1	ISOBUTANE	0.3
API1504721324	N-PENTANE	0.2
LOCATION SEC. 35, T24S, R16W	ISOPENTANE	0.2
OWNER KENWORTHY OPERATING CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.6
SAMPLED030820_	NITROGEN	3.2
FORMATION MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE360_	ARGON	0.1
TRUE VERTICAL DEPTH (FT) 4290	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG1125.	CARBON DIOXIDE	0.2
OPEN FLOW, MCFD	HELIUM	0.38
OF EIGHT COVV, INICIT D	HEATING VALUE*	1,080
	SPECIFIC GRAVITY	0.636
SAMPLE 21266	COMPONENT, MOLE PCT	
STATE KANSAS	METHANE	88.6
	ETHANE	3.3
COUNTY EDWARDS	PROPANE	1.2
FIELD WIL W.	N-BUTANE	0.5
WELL NAMEBREITENBACH.C-1-14.	ISOBUTANE	0.2
API1504720621_	N-PENTANE	0.2
LOCATIONSEC. 14, T25S, R17W	ISOPENTANE	0.2
OWNER HOLL, F.G., CO. LLC.	CYCLOPENTANE	
COMPLETED 800228	HEXANES PLUS	0.5
SAMPLED030821_	NITROGEN	4.6
FORMATION PENN-CHEROKEE, CONGLOMERATE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE360_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)4460.	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.2
OPEN FLOW, MCFD	HELIUM	0.49
OPEN FLOVY, IVICED	HEATING VALUE*	1.046

 $^{^{\}star}$ 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

SAMPLE	21261	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	86.4
		ETHANE	3.4
	EDWARDS	PROPANE	1.5
	WILMORE	N-BUTANE	0.5
	ENLOW 5-36	ISOBUTANE	0.3
API	1504721439	N-PENTANE	0.2
LOCATION	SEC. 36, T24S, R16W	ISOPENTANE	0.2
OWNER	HOLL, F.G., CO. LLC	CYCLOPENTANE	
COMPLETED	010126	HEXANES PLUS	0.5
SAMPLED	030821	NITROGEN	6.5
FORMATION PENN-LA	ANSING-KC, MISS-KINDERHOOK	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	4200	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
	190	CARBON DIOXIDE	0.2
		HELIUM	0.32
OF LINT LOW, INICI D	······································	HEATING VALUE*	1,034
		SPECIFIC GRAVITY	0.642
SAMPLE	21150	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	92.6
	COMANCHE	ETHANE	3.4
		PROPANE	1.3
	YELLOWSTONE	N-BUTANE	0.4
	MICHAEL NO. 12-16	ISOBUTANE	0.2
API			
	1503321292	N-PENTANE	0.1
	1503321292 SEC. 12, T35S, R16W	N-PENTANE	
LOCATION			0.1
LOCATION	SEC. 12, T35S, R16W.	ISOPENTANE	0.1
LOCATION OWNER COMPLETED	SEC. 12, T35S, R16W. REDLAND RESOURCES, INC.	ISOPENTANE	0.1 0.4
LOCATION OWNER COMPLETED SAMPLED	SEC. 12, T35S, R16W. REDLAND RESOURCES, INC. 020226	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.4 1.1
LOCATION OWNER COMPLETED SAMPLED FORMATION	SEC. 12, T35S, R16W. REDLAND RESOURCES, INC. 020226 030519	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	SEC. 12, T35S, R16W. REDLAND RESOURCES, INC. 020226 030519 MISS-MISSISSIPPIAN	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1
LOCATION	SEC. 12, T35S, R16W. REDLAND RESOURCES, INC. 020226 030519 MISS-MISSISSIPPIAN 360. 5326.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.4 1.1 0.0 0.1
LOCATION	SEC. 12, T35S, R16W. REDLAND RESOURCES, INC. 020226 030519 MISS-MISSISSIPPIAN 360. 5326.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.1 0.4 1.1 0.0 0.1 0.0
LOCATION	SEC. 12. T35S, R16W. REDLAND RESOURCES, INC. 020226 030519 MISS-MISSISSIPPIAN 360 5326	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.1
LOCATION	SEC. 12, T35S, R16W. REDLAND RESOURCES, INC. 020226 030519 MISS-MISSISSIPPIAN 360. 5326.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1

^{*} 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

SAMPLE	21130	COMPONENT, MOLE PCT	
STATE	LOUISIANA	METHANE	91.3
	VERMILION	ETHANE	3.8
		PROPANE	1.4
	LELEUX	N-BUTANE	0.4
	Y.C.ARCENEAUX NO.1	ISOBUTANE	0.4
API	1711322194	N-PENTANE	0.1
	SEC. 6, T11S, R2E.	ISOPENTANE	0.2
OWNER	RANGE RESOURCES CORP.	CYCLOPENTANE	
COMPLETED	020814	HEXANES PLUS	0.7
SAMPLED	030226	NITROGEN	0.9
FORMATION	OLIG-MARGINULINA HOWEI	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	220	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	11815	HYDROGEN	0.0
, ,		HYDROGEN SULFIDE**	0.0
	9000	CARBON DIOXIDE	0.5
,		HELIUM	0.03
OPEN FLOW, MICFU	8785	HEATING VALUE*	1,102
		SPECIFIC GRAVITY	0.632
SAMPLE	21133	COMPONENT, MOLE PCT	
07475	LOUIGIANA	METHANE	91.3
	LOUISIANA	ETHANE	3.9
	JEFFERSON DAVIS	PROPANE	1.5
FIELD	THORNWELL S.	N-BUTANE	0.5
WELL NAMETUPPER,	V.L., ETAL BOL P.RA SUC NO. 2	ISOBUTANE	0.5
API	1705321317	N-PENTANE	
LOCATION	SEC. 20, T11S, R4W	ISOPENTANE	
OWNER	DENBURY RESOURCES, INC	CYCLOPENTANE	
COMPLETED	020721	HEXANES PLUS	0.3
SAMPLED	030224	NITROGEN	1.0
FORMATION	OLIG-BOLIVINA PERCA	OXYGEN	0.0
	220	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
* *	LIMM.	HYDROGEN SULFIDE**	0.0
WIL WOLLD DEI 111		CARBON DIOXIDE	0.6
WELL HEAD DDESCRIPE DOLO			0.04
WELLHEAD PRESSURE, PSIG		HELIUM	0.04
WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD		HELIUM HEATING VALUE*	

^{*} 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

SAMPLE	21395	COMPONENT, MOLE PCT	
CTATE	MICCICCIDDI	METHANE	95.4
	MISSISSIPPI	ETHANE	0.4
	MARION.	PROPANE	0.2
	BAXTERVILLE	N-BUTANE	0.1
WELL NAME	ALLAR 36-16 NO.4	ISOBUTANE	0.1
API	2309120315	N-PENTANE	0.1
LOCATION	SEC 17, T2N, R17W	ISOPENTANE	0.1
OWNER	PENN VIRGINIA OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	030321	HEXANES PLUS	0.1
SAMPLED	041104	NITROGEN	3.1
FORMATION	CRET-SELMA CHALK	OXYGEN	0.0
	210	ARGON	TRACE
	6591	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.4
,	400	HELIUM	0.03
OPEN FLOW, MCFD	30	HEATING VALUE*	996
		SPECIFIC GRAVITY	0.583
SAMPLE	21147	COMPONENT. MOLE PCT	
CTATE	MICCICCIPPI	METHANE	93.7
	MISSISSIPPL	, -	
COUNTY	MARION	METHANE	0.6
COUNTY		METHANE	0.6
COUNTY	MARION	METHANE ETHANE PROPANE	0.6 0.2 0.2
COUNTY FIELD WELL NAME	MARION HUB	METHANE ETHANE PROPANE N-BUTANE	0.6 0.2 0.2 0.1
COUNTY	MARION HUB. HUB GAS UNIT 20-11 NO. 2	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	0.6 0.2 0.2 0.1 0.1
COUNTY FIELD WELL NAME API LOCATION	MARION HUB HUB GAS UNIT 20-11 NO. 2 2309120277	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.6 0.2 0.2 0.1 0.1 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER	MARION. HUB. HUB GAS UNIT 20-11 NO. 2. 2309120277. SEC. 20, T2N, R14E.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.6 0.2 0.2 0.1 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	MARION. HUB. HUB GAS UNIT 20-11 NO. 2 2309120277. SEC. 20, T2N, R14E. SKRIVANOS ENGINEERING, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.6 0.2 0.2 0.1 0.1 0.1 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	MARION HUB. HUB GAS UNIT 20-11 NO. 2 2309120277 SEC. 20, T2N, R14E SKRIVANOS ENGINEERING, INC. 020126	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.6 0.2 0.2 0.1 0.1 0.1 0.2 0.2 0.2 0.2 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	MARION HUB HUB GAS UNIT 20-11 NO. 2 2309120277 SEC. 20, T2N, R14E SKRIVANOS ENGINEERING, INC. 020126 030422	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.6 0.2 0.2 0.1 0.1 0.1 0.1 0.2 2.6
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	MARION HUB HUB GAS UNIT 20-11 NO. 2 2309120277 SEC. 20, T2N, R14E SKRIVANOS ENGINEERING, INC. 020126 030422 CRET-DANTZLER. 210	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.6 0.2 0.2 0.1 0.1 0.1 0.1 2.2 0.2 7.2 0.2 7.3 0.0 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	MARION. HUB. HUB GAS UNIT 20-11 NO. 2 2309120277. SEC. 20, T2N, R14E. SKRIVANOS ENGINEERING, INC. 020126. 030422. CRET-DANTZLER 210. 10020.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.6 0.2 0.1 0.1 0.1 0.2 0.2 7.2 0.2 0.3 0.1 0.1 0.1 0.2 0.2 0.0 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	MARION HUB HUB GAS UNIT 20-11 NO. 2 2309120277 SEC. 20, T2N, R14E SKRIVANOS ENGINEERING, INC. 020126 030422 CRET-DANTZLER 210 10020	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.6 0.2 0.1 0.1 0.1 0.2 2.6 0.0 TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG	MARION HUB HUB GAS UNIT 20-11 NO. 2 2309120277 SEC. 20, T2N, R14E SKRIVANOS ENGINEERING, INC. 020126 030422 CRET-DANTZLER 210 10020	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.6 0.2 0.2 0.1 0.1 0.1 0.1 0.2 2.6 0.0 TRACE 0.0 0.0 2.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	MARION HUB HUB GAS UNIT 20-11 NO. 2 2309120277 SEC. 20, T2N, R14E SKRIVANOS ENGINEERING, INC. 020126 030422 CRET-DANTZLER 210 10020	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	0.6 0.2 0.2 0.1 0.1 0.1 0.2 2.6 0.0 TRACE 0.0 0.0 2.1 0.03

 $^{^{\}star}$ 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

SAMPI	LE	21135		COMPONENT, MOLE PCT	
STATE		MISSIS	SIPPI	METHANE	97.2
		OKTIBB		ETHANE	0.6
				PROPANE	TRACE
				N-BUTANE	0.0
		HAWKINS 20-3 1		ISOBUTANE	
		2310520		N-PENTANE	0.0
		SEC. 20, T19N, I		ISOPENTANE	0.0
OWNER	TOTALFINAE	ELF EXPL & PROD USA,	INC.	CYCLOPENTANE	
COMPLETED		020	0421	HEXANES PLUS	0.0
SAMPLED		030	0320	NITROGEN	1.0
FORMATION		CAMO-K	NOX	OXYGEN	0.0
GEOLOGIC PROVINC	E CODE		200	ARGON	0.0
TRUE VERTICAL DEP	PTH (FT)			HYDROGEN	0.0
MEASURED DEPTH		1	4400	HYDROGEN SULFIDE**	0.0
				CARBON DIOXIDE	1.3
	,			HELIUM	0.02
OI LIVI LOVV, IVIOI D		······································	2000.	HEATING VALUE*	994
SAMPI	LE	20801		COMPONENT, MOLE PCT	
		20801 NEW ME	XICO.	METHANE	
STATE				METHANE	0.1
STATE		NEW ME	IUAN	METHANE ETHANE PROPANE	0.1 0.1
STATE COUNTY		NEW ME SAN J BEAUTIFUL MOUN	IUAN TAIN	METHANE ETHANE PROPANE N-BUTANE	0.1 0.1 0.1
STATE COUNTY FIELD		NEW ME SAN J BEAUTIFUL MOUN NAVAJO 32 N	IUAN TAIN IO. 2.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	0.1 0.1 0.1 0.1
STATE COUNTY FIELD WELL NAME		NEW ME SAN J BEAUTIFUL MOUN NAVAJO 32 N 300452	IUAN TAIN IO. 2 4945	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	0.1 0.1 0.1 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION		NEW ME SAN J BEAUTIFUL MOUN NAVAJO 32 N 300452- SEC. 32, T27N, R	TAIN IO. 2 4945 19W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.1 0.1 0.1 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	MOUNTAIN S	NEW ME SAN J BEAUTIFUL MOUN NAVAJO 32 N 300452: SEC. 32, T27N, R	IUAN TAIN. IO. 2. 4945 119W.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.1 0.1 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	MOUNTAIN S	NEW ME SAN J BEAUTIFUL MOUN NAVAJO 32 N 300452 SEC. 32, T27N, R STATES PETROLEUM CO 83	IUAN TAIN IO. 2 4945 119W DRP	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.1 0.1 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	MOUNTAIN S	NEW ME SAN J BEAUTIFUL MOUN NAVAJO 32 N 300452- SEC. 32, T27N, R STATES PETROLEUM C6 83	IUAN TAIN IO 2 4945 119W ORP 1003	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.1 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	MOUNTAIN S	NEW ME SAN J BEAUTIFUL MOUN NAVAJO 32 N 300452: SEC. 32, T27N, R STATES PETROLEUM CO 83: 010	IUAN TAIN IO. 2 4945 19W ORP 1003 0830	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.1 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	MOUNTAIN S	NEW ME SAN J BEAUTIFUL MOUN NAVAJO 32 N 300452- SEC. 32, T27N, R STATES PETROLEUM C6 83	IUAN TAIN IO. 2 4945 19W ORP 1003 0830	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 0.1 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	MOUNTAIN S	NEW ME SAN J BEAUTIFUL MOUN NAVAJO 32 N 3004524 SEC. 32, T27N, R STATES PETROLEUM CO 83: 010 PENN-BARKER CF	IUAN TAIN IO. 2 4945 19W ORP 1003 0830	METHANE	0.1 0.1 0.1 0.1 TRACE 0.1 90.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCITRUE VERTICAL DEP	MOUNTAIN S E CODE	NEW ME SAN J BEAUTIFUL MOUN NAVAJO 32 N 3004524 SEC. 32, T27N, R STATES PETROLEUM CO 83 011 PENN-BARKER CF	IUAN TAIN IO 2 4945 419W ORP 1003 0830 REEK	METHANE	0.1 0.1 0.1 0.1 TRACE 0.1 90.0 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCITRUE VERTICAL DEP MEASURED DEPTH	MOUNTAIN S E CODE	NEW ME SAN J BEAUTIFUL MOUN NAVAJO 32 N 300452 SEC. 32, T27N, R STATES PETROLEUM C6 83: 011 PENN-BARKER CF	IUAN ITAIN IO 2 4945 19W ORP 1003 0830 REEK 580	METHANE	0.1 0.1 0.1 0.1 TRACE 0.0 0.0 TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINC TRUE VERTICAL DEP MEASURED DEPTH WELLHEAD PRESSUR	MOUNTAIN S E CODE	NEW ME SAN J BEAUTIFUL MOUN NAVAJO 32 N 3004524 SEC. 32, T27N, R STATES PETROLEUM CO 83 010 PENN-BARKER CF	IUAN TAIN IO. 2. 4945 119W DRP 1003 0830 REEK580 5941	METHANE	0.1 0.1 0.1 0.1 TRACE 0.1 90.0 0.0 TRACE 0.0 0.6 5.93

^{*} 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

SAMPLE	20838	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	1.8
COUNTY		ETHANE	0.1
		PROPANE	0.1
FIELD		N-BUTANE	0.2
WELL NAME		ISOBUTANE	TRACE
API		N-PENTANE	0.0
LOCATION	,	ISOPENTANE	0.1
OWNER <u>MOUNTAIN</u>	STATES PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	750603	HEXANES PLUS	0.1
SAMPLED	010830	NITROGEN	90.1
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	580.	ARGON	1.0
TRUE VERTICAL DEPTH (FT)	6040	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.4
OPEN FLOW, MCFD		HELIUM	5.96
Of LIVI LOVY, MOI D		HEATING VALUE*	38
		SPECIFIC GRAVITY	0.922
SAMPLE	20837	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	2.3
COUNTY		ETHANE	0.2
FIELD		PROPANE	0.2
		N-BUTANE	0.2
WELL NAME		ISOBUTANE	0.1
API		N-PENTANE	0.2
LOCATION	SEC. 5, T26N, R19W	ISOPENTANE	0.1
OWNER MOUNTAIN	STATES PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	850502	HEXANES PLUS	0.9
SAMPLED	010830	NITROGEN	88.3
		010/0511	0.0
FORMATION PERM-OR	GAN ROCK, MISS-LEADVILLE	OXYGEN	
FORMATION PERM-OR GEOLOGIC PROVINCE CODE		ARGON	
	580		1.0
GEOLOGIC PROVINCE CODE	580_ 6090_	ARGON	1.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	580. 6090.	ARGON	1.0 0.1 0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	580. 6090. 790.	ARGONHYDROGENHYDROGEN SULFIDE**	1.0 0.1 0.0 0.7
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	580. 6090. 790.	ARGON	1.0 0.1 0.0 0.7 5.65

^{*} 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

SAMPLE 20791		COMPONENT, MOLE PCT	
STATENE	W MEXICO	METHANE	3.4
COUNTY		ETHANE	0.3
		PROPANE	0.2
FIELD		N-BUTANE	0.1
WELL NAME NAVAJO		ISOBUTANE	0.1
API30		N-PENTANE	0.1
LOCATIONSEC. 29, T2	27N, R19W	ISOPENTANE	0.1
OWNERMOUNTAIN STATES PETROLE	UM CORP.	CYCLOPENTANE	
COMPLETED	860710	HEXANES PLUS	0.1
SAMPLED	010830	NITROGEN	90.5
FORMATION PERM-ORG	SAN ROCK	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	580	ARGON	0.8
TRUE VERTICAL DEPTH (FT)	3736	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	0.0
, 		HELIUM	4.17
OPEN FLOW, MCFD	1300	HEATING VALUE*	65
		SPECIFIC GRAVITY	0.93
SAMPLE 20839		COMPONENT, MOLE PCT	
		METHANE	5.3
STATENE			J.J
	SAN JUAN	ETHANE	0.6
	SAN JUAN	PROPANE	0.6 0.3
FIELD	SAN JUAN BIG GAP	ETHANE	0.6 0.3 0.2
COUNTYS FIELD WELL NAMENAVAJIC API30-0	SAN JUAN BIG GAP 0.32 NO. 1	ETHANE PROPANE N-BUTANE ISOBUTANE	0.6 0.3 0.2 0.1
FIELD	SAN JUAN BIG GAP 0 32 NO. 1 045-22272	ETHANE	0.6 0.3 0.2 0.1
FIELD	SAN JUAN BIG GAP 0.32 NO. 1. 045-22272 27N, R19W	ETHANE PROPANE N-BUTANE ISOBUTANE	0.6 0.3 0.2 0.1 0.1
FIELDNAVAJC	SAN JUAN BIG GAP 0.32 NO. 1. 045-22272 07N, R19W. UM CORP.	ETHANEPROPANEISOBUTANEN-PENTANEISOPENTANEISOPENTANE	0.6 0.3 0.2 0.1 0.1
FIELD	BAN JUAN BIG GAP 32 NO. 1. 045-22272 27N, R19W. UM CORP. 860918	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.6 0.3 0.2 0.1 0.1 0.1
FIELD	EAN JUAN BIG GAP 0.32 NO. 1. 045-22272 07N, R19W. UM CORP. 860918 010830	ETHANE	0.6 0.3 0.2 0.1 0.1 0.1 0.1 86.9
FIELD	SAN JUAN BIG GAP 0.32 NO. 1 045-22272 07N, R19W UM CORP 860918 010830	ETHANE	0.6 0.3 0.2 0.1 0.1 0.1 0.1 86.9
FIELD	EAN JUAN BIG GAP 0.32 NO. 1. 045-22272 07N, R19W UM CORP. 860918 010830 GAN ROCK 580	ETHANE	0.6 0.3 0.2 0.1 0.1 0.1 0.1 86.9 0.0 1.0
WELL NAME NAVAJO API 30-0 LOCATION SEC. 32, T2 OWNER MOUNTAIN STATES PETROLE COMPLETED SAMPLED FORMATION PERM-ORG GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SAN JUAN BIG GAP 0.32 NO. 1 045-22272 07N, R19W UM CORP 860918 010830 SAN ROCK 580 3800	ETHANE	0.6 0.3 0.2 0.1 0.1 0.1 0.1 86.9 0.0 0.0
WELL NAME NAVAJO API 30-0 LOCATION SEC. 32, T2 OWNER MOUNTAIN STATES PETROLE COMPLETED SAMPLED FORMATION PERM-ORG GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	EAN JUAN BIG GAP D 32 NO. 1. D45-22272 E7N, R19W. UM CORP. 860918 010830 GAN ROCK. 580. 3800.	ETHANE	0.6 0.3 0.2 0.1 0.1 0.1 0.1 86.9 0.0 1.0 0.0
FIELD	SAN JUAN BIG GAP 0.32 NO. 1 045-22272 07N, R19W. UM CORP. 860918 010830 GAN ROCK 580. 3800.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.6 0.3 0.2 0.1 0.1 0.1 0.1 86.9 0.0 0.0 0.0
WELL NAME NAVAJO API 30-0 LOCATION SEC. 32, T2 OWNER MOUNTAIN STATES PETROLE COMPLETED SAMPLED FORMATION PERM-ORG GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SAN JUAN BIG GAP 0.32 NO. 1 045-22272 07N, R19W. UM CORP. 860918 010830 GAN ROCK 580. 3800.	ETHANE	0.6 0.3 0.2 0.1 0.1 0.1 0.1 86.9 0.0 0.0 0.0 5.38

^{*} 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

SAMPLE	21301	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	83.4
-	CHAVES	ETHANE	4.2
		PROPANE	2.0
	CROCKETT DRAW	N-BUTANE	0.7
	BUDER ACN FEDERAL NO. 2	ISOBUTANE	0.4
	3000563513	N-PENTANE	0.2
	SEC 22, T6S, R26E	ISOPENTANE	0.2
OWNER	YATES PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	031112	HEXANES PLUS	0.5
SAMPLED		NITROGEN	7.7
FORMATION	PERM-WOLFCAMP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	5160	HYDROGEN	0.0
, ,		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.3
		HELIUM	0.33
OPEN FLOW, MICFD	816	HEATING VALUE*	1,046
		SPECIFIC GRAVITY	0.665
SAMPLE	21310	COMPONENT, MOLE PCT	
CTATE	NEW MEXICO.	METHANE	0.0
		ETHANE	0.0
	HARDING	PROPANE	0.0
	NORTHEAST COUNTIES	N-BUTANE	0.0
WELL NAME	MITCHELL NO. 16.	ISOBUTANE	0.0
API	3002120033	N-PENTANE	0.0
LOCATION	SEC 5, T18N, R30E	ISOPENTANE	0.0
OWNER	AMERADA HESS CORP.	CYCLOPENTANE	
COMPLETED	750825	HEXANES PLUS	0.0
SAMPLED	040524	NITROGEN	0.1
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	445	ARGON	0.0.
	445	ARGON HYDROGEN	
TRUE VERTICAL DEPTH (FT)	<u>445</u> 2060		0.0
TRUE VERTICAL DEPTH (FT)	2060.	HYDROGEN	0.0
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	2060 417	HYDROGEN HYDROGEN SULFIDE**	0.0 0.0 99.8
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	2060.	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 99.8 TRACE

^{*} 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

SAMPLE	20551	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	86.3
		ETHANE	4.8
COUNTY		PROPANE	1.8
FIELD		N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.3
API	3000561348	N-PENTANE	0.3
LOCATION	SEC. 27, T7S, R26E	ISOPENTANE	0.2
OWNER	MCKAY OIL CORP.	CYCLOPENTANE	
COMPLETED	820427	HEXANES PLUS	0.6
SAMPLED	001220	NITROGEN	4.7
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	4550	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.34
OPEN FLOW, MOPD	1447	HEATING VALUE*	1,079
		SPECIFIC GRAVITY	0.652
SAMPLE	20565	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	86.4
STATE	NEW MEXICO.	•	
STATE	NEW MEXICO CHAVES	METHANE	4.7
STATE	NEW MEXICO CHAVES	METHANE	4.7 1.7
STATE COUNTY FIELD WELL NAME	NEW MEXICO CHAVES PECOS SLOPE MICHAEL ERIC NO. 2	METHANE ETHANE PROPANE	4.7 1.7 0.6
STATE COUNTY FIELD	NEW MEXICO CHAVES PECOS SLOPE MICHAEL ERIC NO. 2	METHANE ETHANE PROPANE N-BUTANE	4.7 1.7 0.6 0.3
STATE COUNTY FIELD WELL NAME	NEW MEXICO CHAVES PECOS SLOPE MICHAEL ERIC NO. 2 3000561245	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.7 1.7 0.6 0.3 0.2
STATE COUNTY FIELD WELL NAME API	NEW MEXICO CHAVES PECOS SI OPE MICHAEL ERIC NO. 2 3000561245 SEC. 22, T7S, R26E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.7 1.7 0.6 0.3 0.2
STATE COUNTY FIELD WELL NAME API LOCATION	NEW MEXICO CHAVES PECOS SLOPE MICHAEL ERIC NO. 2 3000561245 SEC. 22, T7S, R26E MCKAY OIL CORP	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.7 1.7 0.6 0.3 0.2
STATE	NEW MEXICO CHAVES PECOS SLOPE MICHAEL ERIC NO. 2 3000561245 SEC. 22, T7S, R26E MCKAY OIL CORP. 820310	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	4.7 1.7 0.6 0.3 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	NEW MEXICO CHAVES PECOS SLOPE MICHAEL ERIC NO. 2 3000561245 SEC. 22, T7S, R26E MCKAY OIL CORP. 820310 001220	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.7 1.7 0.6 0.3 0.2 0.2 0.5 5.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	NEW MEXICO CHAVES PECOS SLOPE MICHAEL ERIC NO. 2 3000561245 SEC. 22, T7S, R26E MCKAY OIL CORP. 820310 001220. PERM-ABO	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.7 1.7 0.6 0.3 0.2 0.2 0.5 5.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	NEW MEXICO CHAVES PECOS SI OPE MICHAEL ERIC NO. 2 3000561245 SEG. 22, T7S, R26E MCKAY OIL CORP. 820310 001220. PERM-ABO 430	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.7 1.7 0.6 0.3 0.2 0.2 0.5 5.0 0.0
STATE	NEW MEXICO CHAVES PECOS SI OPE MICHAEL ERIC NO. 2 3000561245 SEC. 22, T7S, R26E MCKAY OIL CORP 820310 001220 PERM-ABO 430	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.7 1.7 0.6 0.3 0.2 0.2 0.5 5.0 0.0 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	NEW MEXICO CHAVES PECOS SLOPE MICHAEL ERIC NO. 2 3000561245 SEC. 22, T7S, R26E MCKAY OIL CORP 820310 001220 PERM-ABO 430 4391	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.7 1.7 0.6 0.3 0.2 0.2 0.5 5.0 0.0 0.0 TRACE
STATE	NEW MEXICO CHAVES PECOS SI OPE MICHAEL ERIC NO. 2 3000561245 SEC. 22, T7S, R26E MCKAY OIL CORP. 820310 001220 PERM-ABO 430 4391	METHANE	4.7 1.7 0.6 0.3 0.2 0.2 0.5 5.0 0.0 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	NEW MEXICO CHAVES PECOS SI OPE MICHAEL ERIC NO. 2 3000561245 SEC. 22, T7S, R26E MCKAY OIL CORP. 820310 001220 PERM-ABO 430 4391	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	4.7 1.7 0.6 0.3 0.2 0.2 0.5 5.0 0.0 TRACE 0.0

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

SAMPLE	20554	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	86.5
COUNTY		ETHANE	4.8
		PROPANE	1.7
FIELD		N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.3
API	3000562467	N-PENTANE	0.2
LOCATION	, ,	ISOPENTANE	0.2
OWNER	MCKAY OIL CORP.	CYCLOPENTANE	
COMPLETED	870903	HEXANES PLUS	0.3
SAMPLED	001220	NITROGEN	5.0
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	4659	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.39
OPEN FLOW, MOPD	1200	HEATING VALUE*	1,060
		SPECIFIC GRAVITY	0.642
SAMPLE	20535	COMPONENT, MOLE PCT	
STATE	NEW MEVICO	METHANE	82.2
		ETHANE	4.3
COUNTY		PROPANE	1.6
FIELD		N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.3
API	3000561616	N-PENTANE	0.3
LOCATION	SEC. 18, T8S, R26E	ISOPENTANE	0.2
OWNER	MCKAY OIL CORP	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	0.7
	820823		
SAMPLED		NITROGEN	9.1
	001219		
FORMATION	001219 PERM-ABO	NITROGEN	0.0
FORMATION	001219 PERM-ABO 430	NITROGEN	0.0 TRACE
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	001219. PERM-ABO 430. 4036.	NITROGEN OXYGEN ARGON	0.0 TRACE 0.1
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	001219 PERM-ABO 430 4036	NITROGEN OXYGEN ARGON HYDROGEN	0.0 TRACE 0.1
FORMATION	001219. PERM-ABO 430. 4036.	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.0 TRACE 0.1 0.0 TRACE
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	001219. PERM-ABO 430. 4036.	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 TRACE 0.1 0.0 TRACE 0.59

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

SAMPLE	20592	COMPONENT, MOLE PCT	
STATE	VIEW WEXICO	METHANE	89.1
		ETHANE	3.1
COUNTY		PROPANE	1.3
FIELD		N-BUTANE	0.5
WELL NAME		ISOBUTANE	0.2
API	3000562422	N-PENTANE	0.2
LOCATION	SEC. 4, T6S, R22E	ISOPENTANE	0.1
OWNER	MCKAY OIL CORP.	CYCLOPENTANE	
COMPLETED	870623	HEXANES PLUS	0.2
SAMPLED	010227	NITROGEN	5.0
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430.	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2901	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.0
OPEN FLOW, MCFD		HELIUM	0.29
OPEN PLOVV, IVICED	4400	HEATING VALUE*	1,032
		SPECIFIC GRAVITY	0.622
SAMPLE	20594	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	88.9
		ETHANE	3.1
COUNTY		PROPANE	1.3
FIELD		N-BUTANE	0.5
WELL NAME	LOOKOUT FEDERAL NO. 5	ISOBUTANE	0.2
API	3000562357	N-PENTANE	0.2
LOCATION	SEC. 9, T6S, R22E	ISOPENTANE	0.1
OWNER	MCKAY OIL CORP.	CYCLOPENTANE	
COMPLETED	870317	HEXANES PLUS	0.3
SAMPLED	010227	NITROGEN	5.1
FORMATION	PERM-ABO	OXYGEN	0.0
		ARGON	00
GEOLOGIC PROVINCE CODE	430		
		HYDROGEN	TRACE
TRUE VERTICAL DEPTH (FT)	3111	HYDROGEN HYDROGEN SULFIDE**	
TRUE VERTICAL DEPTH (FT)	3111		0.0
TRUE VERTICAL DEPTH (FT)	3111 705	HYDROGEN SULFIDE**	0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	3111 705	HYDROGEN SULFIDE** CARBON DIOXIDE	0.0

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

SAMPLE	20600	COMPONENT, MOLE PCT	
STATE	NEW MEVICO	METHANE	89.9
-		ETHANE	2.4
COUNTY		PROPANE	0.9
FIELD		N-BUTANE	0.4
WELL NAME		ISOBUTANE	0.1
API	3000562378	N-PENTANE	0.1
LOCATION	SEC. 1, T6S, R22E	ISOPENTANE	0.1
OWNER	MCKAY OIL CORP.	CYCLOPENTANE	
COMPLETED	870712	HEXANES PLUS	0.2
SAMPLED	010227	NITROGEN	5.5
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430.	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	4208	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.0
,		HELIUM	0.31
OPEN FLOW, MCFD	4306	HEATING VALUE*	1,009
		SPECIFIC GRAVITY	0.613
SAMPLE	20593	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	89.1
STATE	NEW MEXICO.	,	
STATE	NEW.MEXICO. CHAVES	METHANE	3.0
STATE COUNTY FIELD	NEW MEXICO. CHAVES PECOS SLOPE W.	METHANE	3.0 1.2
STATE COUNTY FIELD WELL NAME	NEW MEXICO. CHAVES PECOS SLOPE W. LOOKOUT FEDERAL NO. 8.	METHANE ETHANE PROPANE	3.0 1.2 0.5
STATE COUNTY FIELD WELL NAME	NEW MEXICO. CHAVES PECOS SLOPE W. LOOKOUT FEDERAL NO. 8.	METHANE ETHANE PROPANE N-BUTANE	3.0 1.2 0.5 0.2
STATE COUNTY FIELD	NEW MEXICO. CHAVES PECOS SLOPE W. LOOKOUT FEDERAL NO. 8. 3000562411	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.0 1.2 0.5 0.2 0.2
STATE COUNTY FIELD WELL NAME API	NEW MEXICO. CHAVES PECOS SLOPE W LOOKOUT FEDERAL NO. 8. 3000562411 SEC. 9, T6S, R22E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.0 1.2 0.5 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION	NEW MEXICO. CHAVES PECOS SLOPE W. LOOKOUT FEDERAL NO. 8. 3000562411 SEC. 9, T6S, R22E MCKAY OIL CORP.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.0 1.2 0.5 0.2 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	NEW MEXICO. CHAVES PECOS SLOPE W LOOKOUT FEDERAL NO. 8. 3000562411 SEC. 9, T6S, R22E MCKAY OIL CORP. 870306	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.0 1.2 0.5 0.2 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	NEW MEXICO. CHAVES PECOS SLOPE W. LOOKOUT FEDERAL NO. 8. 3000562411 SEC. 9. T6S, R22E MCKAY OIL CORP. 870306 010227	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.0 1.2 0.5 0.2 0.2 0.1 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	NEW MEXICO. CHAVES PECOS SLOPE W. LOOKOUT FEDERAL NO. 8. 3000562411 SEC. 9. T6S, R22E MCKAY OIL CORP. 870306 010227	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.0 1.2 0.5 0.2 0.1 0.2 5.2
STATE	NEW MEXICO. CHAVES PECOS SLOPE W. LOOKOUT FEDERAL NO. 8. 3000562411 SEC. 9, T6S, R22E MCKAY OIL CORP. 870306 010227 PERM-ABO. 430	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.0 1.2 0.5 0.2 0.1 0.2 5.2 0.0
STATE	NEW MEXICO. CHAVES PECOS SLOPE W. LOOKOUT FEDERAL NO. 8. 3000562411 SEC. 9, T6S, R22E MCKAY OIL CORP. 870306 010227 PERM-ABO 430. 3151.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.0 1.2 0.5 0.2 0.1 0.2 5.2 0.0 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	NEW MEXICO. CHAVES PECOS SLOPE W LOOKOUT FEDERAL NO. 8. 3000562411 SEC. 9, T6S, R22E MCKAY OIL CORP. 870306 010227. PERM-ABO. 430. 3151.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	3.0 1.2 0.5 0.2 0.1 0.2 5.2 0.0 0.0 TRACE
STATE	NEW MEXICO. CHAVES PECOS SLOPE W. LOOKOUT FEDERAL NO. 8. 3000562411 SEC. 9. T6S, R22E MCKAY OIL CORP. 870306 010227 PERM-ABO 430. 3151.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	3.0 1.2 0.5 0.2 0.1 0.2 5.2 0.0 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	NEW MEXICO. CHAVES PECOS SLOPE W. LOOKOUT FEDERAL NO. 8. 3000562411 SEC. 9. T6S, R22E MCKAY OIL CORP. 870306 010227 PERM-ABO 430. 3151.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	3.0 1.2 0.5 0.2 0.1 0.2 5.2 0.0 0.0 TRACE 0.0

^{*} 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

SAMPLE 20589		COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	89.7
		ETHANE	2.8
COUNTY		PROPANE	1.1
FIELD		N-BUTANE	0.5
WELL NAMESNAKEWE		ISOBUTANE	0.2
API	3000562432	N-PENTANE	0.2
OCATION	SEC. 18, T6S, R23E	ISOPENTANE	0.1
OWNER	MCKAY OIL CORP.	CYCLOPENTANE	
COMPLETED	870512	HEXANES PLUS	0.2
SAMPLED	010226	NITROGEN	4.9
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	3381	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	0.0
OPEN FLOW, MCFD		HELIUM	0.33
OF LINT LOW, IVICE D	5020	HEATING VALUE*	1,029
		SPECIFIC GRAVITY	0.618
SAMPLE 20595		COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	88.8
COUNTY		ETHANE	3.0
		PROPANE	1.3
FIELD		N-BUTANE	0.6
WELL NAMESOUTH FOUR MILE DR		ISOBUTANE	0.2
API		N-PENTANE	0.2
LOCATION	SEC. 22, T6S, R22E	ISOPENTANE	0.1
OWNER	MCKAY OIL CORP	CYCLOPENTANE	
COMPLETED	IRIXXIA XXII XXII XXII XXII XXII XXII XX		
		HEXANES PLUS	0.3
SAMPLED	870710	HEXANES PLUS	
	870710 010227		5.2
FORMATION	870710 010227	NITROGEN	5.2
FORMATION	870710 .010227 PERM-ABO 	NITROGEN	5.2 0.0 0.0
FORMATION	870710 010227 PERM-ABO 430 3254	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	5.2 0.0 0.0 TRACE 0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	870710 010227 PERM-ABO 430 3254	NITROGEN OXYGEN ARGON HYDROGEN	5.2 0.0 0.0 TRACE
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	870710 010227 PERM-ABO 430 3254	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	5.2 0.0 0.0 TRACE 0.0
SAMPLED	870710 010227 PERM-ABO 430 3254	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	5.2 0.0 0.0 TRACE 0.0 0.0

^{*} 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

SAMPLE	20591	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	89.0
	CHAVES	ETHANE	2.8
		PROPANE	1.2
	PECOS SLOPE W	N-BUTANE	0.5
	OUR MILE DRAW FEDERAL NO. 2	ISOBUTANE	0.2
API	3000562302	N-PENTANE	0.2
LOCATION	SEC_15, T6S, R22E	ISOPENTANE	0.1
OWNER	MCKAY OIL CORP.	CYCLOPENTANE	
COMPLETED	870212	HEXANES PLUS	0.2
SAMPLED	010226	NITROGEN	5.4
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	3126	HYDROGEN	
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE PSIG	926	CARBON DIOXIDE	0.0
,	3296	HELIUM	0.34
OI LIVI LOW, MOI D	0230	HEATING VALUE*	1,025
		SPECIFIC GRAVITY	0.622
SAMPLE	20599	COMPONENT, MOLE PCT	
STATE	NEW MEXICO.	METHANE	
	CHAVES	ETHANE	
	PECOS SLOPE W	PROPANE	1.4
	REMMELE FEDERAL COM. 13.	N-BUTANE	0.6
		ISOBUTANE	
	3000562420	N-PENTANE	
	SEC. 27, T6S, R22E	ISOPENTANE	
	MCKAY OIL CORP.	CYCLOPENTANE	
COMPLETED	870529	HEXANES PLUS	
SAMPLED	010227	NITROGEN	
FORMATION	PERM-ABO	OXYGEN	
GEOLOGIC PROVINCE CODE	430.	ARGON	
TRUE VERTICAL DEPTH (FT)	3027	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	976.	CARBON DIOXIDE	
OPEN FLOW, MCFD	1740	HELIUM	
	_	HEATING VALUE*	•
		SPECIFIC GRAVITY	0.628

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

SAMPLE	20596	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	88.6
	CHAVES	ETHANE	3.0
	PECOS SLOPE W	PROPANE	1.3
	REMMELE FEDERAL COM. 11	N-BUTANE	0.6
		ISOBUTANE	0.2
	3000562418	N-PENTANE	
	SEC. 27, T6S, R22E	ISOPENTANE	
	MCKAY OIL CORP.	CYCLOPENTANE	
COMPLETED	870527	HEXANES PLUS	0.2
SAMPLED	010227	NITROGEN	
FORMATION	PERM-ABO	OXYGEN	
GEOLOGIC PROVINCE CODE	430.	ARGON	
TRUE VERTICAL DEPTH (FT)	3121	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
	968	CARBON DIOXIDE	0.0
,	4734	HELIUM	
OI EIVI EOVV, MOI D		HEATING VALUE*	
		SPECIFIC GRAVITY	0.625
SAMPLE	20601	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	90.3
		ETHANE	2.0
	CHAVES	PROPANE	0.8
	PECOS SLOPE W	N-BUTANE	
\Λ/ELL NIΔME			0.4
**************************************	EPPERS FEDERAL NO. 4	ISOBUTANE	
	3000562405		0.1
API		ISOBUTANE	0.1 0.1
API	3000562405	ISOBUTANE	0.1 0.1 0.1
API LOCATION OWNER	3000562405 SEC. 35, T5S, R21E	ISOBUTANE N-PENTANE ISOPENTANE	0.1 0.1 0.1
API	3000562405 SEC. 35, T5S, R21E MCKAY OIL CORP	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.1 0.1 0.1
API LOCATION OWNER COMPLETED SAMPLED	3000562405 SEC. 35, T5S, R21E MCKAY OIL CORP 870222	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.1 0.1 0.2 5.6
API	3000562405 SEC. 35, T5S, R21E MCKAY OIL CORP 870222 010227	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.1 0.1 0.2 5.6
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	3000562405 SEC. 35, T5S, R21E MCKAY OIL CORP. 870222 010227. PERM-ABO. 430.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.1 0.1 0.2 5.6 0.0
API	3000562405 SEC. 35, T5S, R21E MCKAY OIL CORP. 870222 010227 PERM-ABO. 430. 3168.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 0.1 0.1 0.2 0.2 5.6 0.0 0.0
API	3000562405 SEC. 35, T5S, R21E MCKAY OIL CORP. 870222 010227 PERM-ABO 430 3168	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.1 0.1 0.1 0.2 5.6 0.0 0.0 0.0
API	3000562405 SEC. 35, T5S, R21E MCKAY OIL CORP. 870222 010227 PERM-ABO 430 3168	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.1 0.1 0.1 0.2 5.6 0.0 0.0 0.0 0.0
API	3000562405 SEC. 35, T5S, R21E MCKAY OIL CORP. 870222 010227 PERM-ABO 430 3168	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.1 0.1 0.2 5.6 0.0 0.0 0.0 0.0

^{*} 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

SAMPLE 20587	COMPONENT, MOLE PCT	
STATE NEW MEVICO	METHANE	89.7
STATE NEW MEXICO	ETHANE	2.6
COUNTY CHAVES	PROPANE	1.1
FIELD PECOS SLOPE W	N-BUTANE	0.5
WELL NAME FIVE MILE TANK B FEDERAL NO. 3	ISOBUTANE	0.2
API 3000563293	N-PENTANE	0.2
LOCATION SEC. 17, T6S, R23E	ISOPENTANE	
OWNER MCKAY OIL CORP.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.3
SAMPLED010226_	NITROGEN	5.0
FORMATION PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE430_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.0
OPEN FLOW, MCFD	HELIUM	0.41
OPEN FLOW, MOFD	HEATING VALUE*	1,026
	SPECIFIC GRAVITY	0.618
SAMPLE 20583	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	90.3
	ETHANE	2.3
COUNTY CHAVES	PROPANE	3.0
FIELDPECOS SLOPE W.	N-BUTANE	0.3
WELL NAMEWEST_MCKAY_HARVEY_FEDERAL_NO_1_	ISOBUTANE	0.1
API 3000562196	N-PENTANE	0.1
LOCATION SEC. 17, T8S, R23E	ISOPENTANE	TRACE
OWNER MCKAY OIL CORP.	CYCLOPENTANE	
COMPLETED 860310	HEXANES PLUS	0.1
SAMPLED010226_	NITROGEN	5.3
FORMATION PERM-ABO	OXYGEN	0.0
	ARGON	TRACE
	71110011	
GEOLOGIC PROVINCE CODE430_	HYDROGEN	TRACE
GEOLOGIC PROVINCE CODE		
GEOLOGIC PROVINCE CODE	HYDROGEN	0.0
GEOLOGIC PROVINCE CODE	HYDROGEN SULFIDE**	0.0
	HYDROGENHYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.58

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

20588	COMPONENT, MOLE PCT	
NEW MEXICO	METHANE	82.4
	ETHANE	2.1
	PROPANE	0.9
	N-BUTANE	0.4
	ISOBUTANE	0.1
3000562606	N-PENTANE	0.1
SEC. 19, T6S, R23E	ISOPENTANE	0.1
MCKAY OIL CORP.	CYCLOPENTANE	
880511	HEXANES PLUS	0.2
010226	NITROGEN	10.8
PERM-ABO	OXYGEN	
430	ARGON	0.0
3098	HYDROGEN	
	HYDROGEN SULFIDE**	0.0
	CARBON DIOXIDE	0.1
	HELIUM	1.02
100.	HEATING VALUE*	927
	SPECIFIC GRAVITY	0.639
21140	COMPONENT, MOLE PCT	
NEW MEXICO	METHANE	0.0
	ETHANE	0.0
	PROPANE	0.0
	N-BUTANE	0.0
	ISOBUTANE	0.0
3005920046	N-PENTANE	0.0
SEC. 1, T31N, R32E	ISOPENTANE	0.0
HNG FOSSIL FUELS CO.	CYCLOPENTANE	- -
800613	HEXANES PLUS	0.0
030403	NITROGEN	0.1
PERM-GLORIETA	OXYGEN	0.0
445.	ARGON	0.0
770	HYDROGEN	TRACE
	HYDROGEN SULFIDE**	0.0
	HYDROGEN SULFIDE** CARBON DIOXIDE	
		99.9
	NEW MEXICO CHAVES. PECOS SLOPE W M & M FEDERAL NO. 5 3000562606 SEC. 19, T6S, R23E MCKAY OIL CORP. 880511 010226 PERM-ABO 430 3098 800 763 21140 NEW MEXICO. UNION UINNAMED. EXCEL NO. 1 3005920046 SEC. 1, T31N, R32E HNG FOSSIL FUELS CO. 800613 030403 PERM-GLORIETA	NEW MEXICO

^{*} 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

SAMPLE	20924	COMPONENT, MOLE PCT	
CTATE	NEW MEXICO	METHANE	0.2
		ETHANE	TRACE
	SOCORRO	PROPANE	0.0
	WILDCAT	N-BUTANE	0.0
WELL NAME	CATHEAD MESA UNIT NO. 1	ISOBUTANE	0.0
API	3005320012	N-PENTANE	0.0
	SEC 8, T4S, R9E	ISOPENTANE	0.0
OWNER	PRIMERO OPERATING, INC.	CYCLOPENTANE	
COMPLETED	031030.	HEXANES PLUS	0.0
SAMPLED	020506.	NITROGEN	95.2
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	465	ARGON	0.3
TRUE VERTICAL DEPTH (FT)	3820	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	2.0
,		HELIUM	2.26
OI LIVI LOVV, INIOI D		HEATING VALUE*	3
		SPECIFIC GRAVITY	0.959
SAMPLE	20926	COMPONENT, MOLE PCT	
STATE	NEW MEXICO.	METHANE	0.3
		ETHANE	TRACE
	SOCORRO	PROPANE	0.0
	WILDCAT	N-BUTANE	0.0
	CATHEAD MESA UNIT NO. 1.	ISOBUTANE	0.0
API	3005320012	N-PENTANE	0.0
LOCATION	SEC 8, T4S, R9E	ISOPENTANE	0.0
OWNER	PRIMERO OPERATING, INC.	CYCLOPENTANE	
COMPLETED	031030	HEXANES PLUS	0.0
SAMPLED	020509	NITROGEN	95.3
FORMATION	PERM-ABO	OXYGEN	0.0
		ARGON	0.3
GEOLOGIC PROVINCE CODE	465.		
		HYDROGEN	TRACE
TRUE VERTICAL DEPTH (FT)	3820.	HYDROGEN HYDROGEN SULFIDE**	
TRUE VERTICAL DEPTH (FT)	3820.		0.0
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE**	0.0
MEASURED DEPTH WELLHEAD PRESSURE, PSIG	3820.	HYDROGEN SULFIDE**	0.0 1.8 2.28

^{*} 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

SAMPLE	21338	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	1.9
	SOCORRO	ETHANE	TRACE
		PROPANE	0.0
	WILDCAT	N-BUTANE	0.0
***************************************	DULCE DRAW STATE NO. 1	ISOBUTANE	0.0
	3005320014	N-PENTANE	
	SEC.2, T4S, R9E.	ISOPENTANE	0.0
OWNER	PRIMERO OPERATING, INC.	CYCLOPENTANE	
COMPLETED	010808	HEXANES PLUS	0.0
SAMPLED	040807	NITROGEN	68.2
FORMATION	PERM-ABO	OXYGEN	
GEOLOGIC PROVINCE CODE	465	ARGON	0.3
TRUE VERTICAL DEPTH (FT)	3074	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	100.	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
,		HEATING VALUE*SPECIFIC GRAVITY	
SAMPLE	21289	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	
	NEW MEXICO SOCORRO	ETHANE	TRACE
COUNTY	SOCORRO	ETHANE	TRACE
COUNTY	SOCORRO WILDCAT	ETHANEPROPANEN-BUTANE	TRACE 0.0 0.0
COUNTY FIELD WELL NAME	SOCORRO WILDCAT CATHEAD MESA UNIT NO. 1.	ETHANE PROPANE N-BUTANE ISOBUTANE	TRACE 0.0 0.0
COUNTY FIELD WELL NAMEAPI	SOCORRO WILDCAT CATHEAD MESA UNIT NO. 1 3005320012	ETHANEPROPANEN-BUTANEISOBUTANEN-PENTANE	TRACE 0.0 0.0 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION	SOCORRO WILDCAT CATHEAD MESA UNIT NO. 1 3005320012 SEC. 8, T4S, R9E	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.0 0.0 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER	SOCORRO WILDCAT CATHEAD MESA UNIT NO. 1 3005320012 SEC. 8, T4S, R9E PRIMERO OPERATING, INC.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	TRACE 0.0 0.0 0.0 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	SOCORRO WILDCAT CATHEAD MESA UNIT NO. 1 3005320012 SEC. 8, T4S, R9E PRIMERO OPERATING, INC. 031030	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	SOCORRO WILDCAT CATHEAD MESA UNIT NO. 1. 3005320012 SEC. 8, T4S, R9E PRIMERO OPERATING, INC. 031030 031023	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	SOCORRO WILDCAT CATHEAD MESA UNIT NO. 1 3005320012 SEC. 8, T4S, R9E PRIMERO OPERATING, INC. 031030 031023 PERM-ABO, PENN-ATOKA	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	SOCORRO WILDCAT CATHEAD MESA UNIT NO. 1 3005320012 SEC. 8, T4S, R9E PRIMERO OPERATING, INC. 031030 031023 PERM-ABO, PENN-ATOKA 465	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SOCORRO WILDCAT CATHEAD MESA UNIT NO. 1 3005320012 SEC. 8, T4S, R9E PRIMERO OPERATING, INC. 031030 031023 PERM-ABO, PENN-ATOKA 465. 4238	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1 0.0 1 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SOCORRO WILDCAT CATHEAD MESA UNIT NO. 1 3005320012 SEC. 8, T4S, R9E PRIMERO OPERATING, INC. 031030 031023 PERM-ABO, PENN-ATOKA 465. 4238.	ETHANE	TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SOCORRO WILDCAT CATHEAD MESA UNIT NO. 1 3005320012 SEC. 8, T4S, R9E PRIMERO OPERATING, INC. 031030 031023 PERM-ABO, PENN-ATOKA 465 4238	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGENARGON HYDROGEN	TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1 TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SOCORRO WILDCAT CATHEAD MESA UNIT NO. 1 3005320012 SEC. 8, T4S, R9E PRIMERO OPERATING, INC. 031030 031023 PERM-ABO, PENN-ATOKA 465. 4238.	ETHANE	TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 1 TRACE 0.0 0.1 2.56

^{*} 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

SAMPLE	20922	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	0.7
	SOCORRO	ETHANE	0.0
		PROPANE	0.0
	WILDCAT	N-BUTANE	TRACE
WELL NAME	CATHEAD MESA UNIT NO. 1	ISOBUTANE	TRACE
API	3005320012	N-PENTANE	TRACE
LOCATION	SEC 8, T4S, R9E	ISOPENTANE	0.0
OWNER	PRIMERO OPERATING, INC.	CYCLOPENTANE	
COMPLETED	031030	HEXANES PLUS	TRACE
SAMPLED	020430	NITROGEN	5.8
FORMATION	PENN-ATOKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE.	465.	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	4238	HYDROGEN	0.6
		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	92.6
*		HELIUM	0.23
OPEN FLOW, MICFD		HEATING VALUE*	11_
		SPECIFIC GRAVITY	1.469
SAMPLE	21277	COMPONENT, MOLE PCT	
	N=NN=N00	METHANE	48.0
-	NEW MEXICO.	METHANE	
-	NEW MEXICO. QUAY		7.6
COUNTY		ETHANE	7.6 4.5
COUNTY	QUAY	ETHANE	7.6 4.5 1.5
COUNTY FIELD WELL NAMEW	QUAY WILDCAT	ETHANEPROPANEN-BUTANE	7.6 4.5 1.5 0.8
COUNTY	QUAY WILDCAT ILSON NO. 1 (BLACK LABEL CYL)	ETHANEPROPANEN-BUTANEISOBUTANE	7.6 4.5 1.5 0.8 0.4
COUNTY FIELD WELL NAME W. API LOCATION	QUAY WILDCAT ILSON NO. 1 (BLACK LABEL CYL) 3003720076	ETHANEPROPANEN-BUTANEISOBUTANEN-PENTANE	7.6 4.5 1.5 0.8 0.4 0.5
COUNTY FIELD WELL NAMEW API LOCATION OWNERCOULTHURST M	QUAY WILDCAT ILSON NO. 1 (BLACK LABEL CYL) 3003720076 SEC. 8, T10N, R28E ANAGEMENT & INVESTMENT, INC.	ETHANEPROPANEN-BUTANEISOBUTANEISOPENTANEISOPENTANE	7.6 4.5 1.5 0.8 0.4 0.5
COUNTY FIELD WELL NAME W. API LOCATION OWNERCOULTHURST M. COMPLETED	QUAY WILDCAT ILSON NO. 1 (BLACK LABEL CYL). 3003720076 SEC. 8, T10N, R28E	ETHANEPROPANE N-BUTANEISOBUTANE ISOPENTANE ISOPENTANE	7.6 4.5 1.5 0.8 0.4 0.5
COUNTY FIELD WELL NAME W. API LOCATION OWNER COULTHURST M. COMPLETED SAMPLED	QUAY WILDCAT ILSON NO. 1 (BLACK LABEL CYL). 3003720076 SEC. 8, T10N, R28E ANAGEMENT & INVESTMENT, INC.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	7.6 4.5 1.5 0.8 0.4 0.5 0.7 8.1
COUNTY FIELD WELL NAMEW API LOCATION OWNER COULTHURST M COMPLETED SAMPLED FORMATION	QUAY WILDCAT ILSON NO. 1 (BLACK LABEL CYL) 3003720076 SEC. 8, T10N, R28E ANAGEMENT & INVESTMENT, INC. 030909 PENN-STRAWN	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	7.6 4.5 1.5 0.8 0.4 0.5 0.7 8.1
COUNTY FIELD WELL NAME W. API LOCATION OWNERCOULTHURST M. COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE .	QUAY WILDCAT ILSON NO. 1 (BLACK LABEL CYL) 3003720076 SEC. 8, T10N, R28E ANAGEMENT & INVESTMENT, INC. 030909 PENN-STRAWN 435	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	7.6 4.5 1.5 0.8 0.4 0.5 0.7 8.1 0.0
COUNTY FIELD WELL NAMEW API LOCATION OWNER COULTHURST M COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	QUAY WILDCAT ILSON NO. 1 (BLACK LABEL CYL) 3003720076 SEC. 8, T10N, R28E ANAGEMENT & INVESTMENT, INC. 030909 PENN-STRAWN 435 7210	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	7.6 4.5 1.5 0.8 0.4 0.5 0.7 8.1 0.0 0.4 TRACE
COUNTY FIELD WELL NAME W. API LOCATION OWNER COULTHURST M. COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) . MEASURED DEPTH	QUAY WILDCAT ILSON NO. 1 (BLACK LABEL CYL). 3003720076 SEC. 8, T10N, R28E ANAGEMENT & INVESTMENT, INC. 030909 PENN-STRAWN 435. 7210.	ETHANE	7.6 4.5 1.5 0.8 0.4 0.5 0.7 8.1 0.0 0.4 TRACE
COUNTY FIELD WELL NAMEW API LOCATION OWNERCOULTHURST_M COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	QUAY WILDCAT ILSON NO. 1 (BLACK LABEL CYL) 3003720076 SEC. 8, T10N, R28E ANAGEMENT & INVESTMENT, INC. 030909 PENN-STRAWN 435 7210	ETHANEPROPANE	7.6 4.5 1.5 0.8 0.4 0.5 0.7 8.1 0.0 0.4 TRACE 0.0
COUNTY FIELD WELL NAMEW API LOCATION OWNERCOULTHURST_M COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	QUAY WILDCAT ILSON NO. 1 (BLACK LABEL CYL). 3003720076 SEC. 8, T10N, R28E ANAGEMENT & INVESTMENT, INC. 030909 PENN-STRAWN 435. 7210.	ETHANE	7.6 4.5 1.5 0.8 0.4 0.5 0.7 8.1 0.0 0.4 TRACE 0.0 27.4

^{*} 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

SAMPLE	21276	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	48.2
	QUAY	ETHANE	7.6
		PROPANE	4.5
	WILDCAT	N-BUTANE	1.5
	WILSON NO. 1 (RED LABEL CYL)	ISOBUTANE	0.8
	3003720076	N-PENTANE	0.4
	SEC. 8, T10N, R28E	ISOPENTANE	0.5
OWNER <u>COULTHURST M</u>	IANAGEMENT & INVESTMENT, INC.	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	0.7
SAMPLED	030909	NITROGEN	8.1
FORMATION	PENN-STRAWN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	435	ARGON	0.2
TRUE VERTICAL DEPTH (FT)	7210	HYDROGEN	TRACE
		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	27.3
		HELIUM	0.18
JPEN FLOW, MICFD		HEATING VALUE*	878
		SPECIFIC GRAVITY	0.999
SAMPLE	21216	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	24.8
STATE	NORTH DAKOTA		
STATE	NORTH DAKOTA. WILLIAMS	METHANE	0.9
STATE	NORTH DAKOTA	METHANE ETHANE PROPANE	0.9 0.1
STATE COUNTY FIELD	NORTH DAKOTA. WILLIAMS	METHANE	0.9 0.1 TRACE
STATE COUNTY FIELD WELL NAME	NORTH DAKOTA WILLIAMS TIOGA	METHANE ETHANE PROPANE N-BUTANE	0.9 0.1 TRACE 0.1
STATE COUNTY FIELD WELL NAME	NORTH DAKOTA WILLIAMS TIOGA ASTRID ONGSTAD 14-22	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.9 0.1 TRACE 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION	NORTH DAKOTA. WILLIAMS TIOGA. ASTRID ONGSTAD 14-22 3310501340	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	0.9 0.1 TRACE 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	NORTH DAKOTA. WILLIAMS TIOGA. ASTRID ONGSTAD 14-22. 3310501340. SEC. 14, T157N, R95W.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.9 0.1 TRACE 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	NORTH DAKOTA. WILLIAMS TIOGA. ASTRID ONGSTAD 14-22 3310501340 SEC. 14, T157N, R95W. AMERADA HESS CORP.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.9 0.1 TRACE 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	NORTH DAKOTA. WILLIAMS TIOGA. ASTRID ONGSTAD 14-22 3310501340 SEC. 14, T157N, R95W AMERADA HESS CORP. 010326 030707	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.9 0.1 TRACE 0.1 TRACE TRACE 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	NORTH DAKOTA. WILLIAMS TIOGA ASTRID ONGSTAD 14-22 3310501340 SEC. 14, T157N, R95W. AMERADA HESS CORP. 010326 030707. CAMB-DEADWOOD	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN	0.9 0.1 TRACE 0.1 TRACE TRACE 0.1 70.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	NORTH DAKOTA. WILLIAMS TIOGA. ASTRID ONGSTAD 14-22 3310501340 SEC. 14, T157N, R95W. AMERADA HESS CORP. 010326 030707. CAMB-DEADWOOD. 395	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.9 0.1 TRACE 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	NORTH DAKOTA. WILLIAMS TIOGA. ASTRID ONGSTAD 14-22 3310501340 SEC. 14, T157N, R95W AMERADA HESS CORP. 010326 030707 CAMB-DEADWOOD 395. 13720.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.9 0.1 TRACE 0.1 TRACE TRACE 0.1 70.3 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) . MEASURED DEPTH	NORTH DAKOTA. WILLIAMS TIOGA. ASTRID ONGSTAD 14-22. 3310501340 SEC. 14, T157N, R95W. AMERADA HESS CORP. 010326 030707. CAMB-DEADWOOD. 395. 13720.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.9 0.1 TRACE 0.1 TRACE TRACE 0.1 70.3 0.0 0.3
STATE	NORTH DAKOTA. WILLIAMS TIOGA. ASTRID ONGSTAD 14-22 3310501340 SEC. 14, T157N, R95W AMERADA HESS CORP. 010326 030707 CAMB-DEADWOOD 395 13720.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.9 0.1 TRACE 0.1 TRACE TRACE 0.1 0.1 0.0 0.0 0.0 0.0 0.0
STATE	NORTH DAKOTA. WILLIAMS TIOGA. ASTRID ONGSTAD 14-22 3310501340 SEC. 14, T157N, R95W AMERADA HESS CORP. 010326 030707 CAMB-DEADWOOD 395 13720.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	0.9 0.1 TRACE 0.1 TRACE TRACE 0.1 70.3 0.0 0.3 0.0 0.0 2.9

^{*} 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

SAMPLE	21083	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	90.1
	WOODS	ETHANE	4.4
		PROPANE	2.1
	CHEYENNE VALLEY	N-BUTANE	0.7
	MORRIS HULL NO. 1	ISOBUTANE	0.3
	3515121289	N-PENTANE	0.2
	SEC. 34, T24N, R15W.	ISOPENTANE	0.2
OWNER	CHESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	950425	HEXANES PLUS	
SAMPLED	021031	NITROGEN	1.0
FORMATION	MISS-CHESTER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE .	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	6366	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	1650	CARBON DIOXIDE	0.5
	203	HELIUM	
OF LIVE LOVY, INOF D	200	HEATING VALUE*	1,11
		SPECIFIC GRAVITY	0.638
		or Lonio orvari i	
SAMPLE	21061	COMPONENT, MOLE PCT	
STATE	OKLAHOMA.	COMPONENT, MOLE PCT	97.:
STATE	OKLAHOMA ROGER MILLS	COMPONENT, MOLE PCT METHANE	97.i
STATE COUNTY	OKLAHOMA ROGER MILLS DEMPSEY	COMPONENT, MOLE PCT METHANE ETHANE	97.: 0.0 TRACI
STATE COUNTY	OKLAHOMA ROGER MILLS	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	97 0.4 TRACI
STATE COUNTY FIELD WELL NAME	OKLAHOMA ROGER MILLS DEMPSEY	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	97.: 0.0 TRACI TRACI
STATE COUNTY FIELD WELL NAME	OKLAHOMA ROGER MILLS DEMPSEY C. BERRY NO. 1-24	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	97.; 0.0 TRACI TRACI 0.0
STATE COUNTY FIELD WELL NAME API LOCATION	OKLAHOMA ROGER MILLS DEMPSEY C. BERRY NO. 1-24 3512922109	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	97 0.0 TRACI TRACI 0.0
STATE COUNTY FIELD WELL NAME APIOCATION DWNER	OKLAHOMA ROGER MILLS DEMPSEY C. BERRY NO. 1-24 3512922109 SEC. 24, T13N, R25W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	97.; 0.0 TRACI TRACI 0.0
STATE COUNTY FIELD WELL NAME API LOCATION DWNER COMPLETED	OKLAHOMA ROGER MILLS DEMPSEY C. BERRY NO. 1-24 3512922109 SEC. 24, T13N, R25W SUNDOWN ENERGY, INC.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	97.3 0.0 TRACI TRACI 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	OKLAHOMA ROGER MILLS DEMPSEY C. BERRY NO. 1-24 3512922109 SEC. 24, T13N, R25W SUNDOWN ENERGY, INC. 990131	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	97 0.0 TRACI 0.0 0.0 0.0 TRACI
STATE COUNTY FIELD WELL NAME API LOCATION DWNER COMPLETED SAMPLED FORMATION	OKLAHOMA ROGER MILLS DEMPSEY C. BERRY NO. 1-24 3512922109 SEC. 24, T13N, R25W SUNDOWN ENERGY, INC. 990131 021029 PENN-MORROW U	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE ISOPENTANE INTROGEN	97 0.9 TRACI TRACI 0.9 0.0 TRACI 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION DWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE .	OKLAHOMA ROGER MILLS DEMPSEY C. BERRY NO. 1-24 3512922109 SEC. 24, T13N, R25W SUNDOWN ENERGY, INC. 990131 021029 PENN-MORROW U 360	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	97.; 0.0 TRACI TRACI 0.0 0.0 TRACI
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT)	OKLAHOMA ROGER MILLS DEMPSEY C. BERRY NO. 1-24 3512922109 SEC. 24, T13N, R25W SUNDOWN ENERGY, INC. 990131 021029 PENN-MORROW U 360. 15707.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	97 0.9 TRACI 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	OKLAHOMA ROGER MILLS DEMPSEY C. BERRY NO. 1-24 3512922109 SEC. 24, T13N, R25W SUNDOWN ENERGY, INC. 990131 021029 PENN-MORROW U 360. 15707	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	97 0.9 TRACI TRACI 0.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	OKLAHOMA ROGER MILLS DEMPSEY C. BERRY NO. 1-24 3512922109 SEC. 24, T13N, R25W SUNDOWN ENERGY, INC. 990131 021029 PENN-MORROW U 360. 15707.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	97.3 0.6 TRACE TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	OKLAHOMA ROGER MILLS DEMPSEY C. BERRY NO. 1-24 3512922109 SEC. 24, T13N, R25W SUNDOWN ENERGY, INC. 990131 021029 PENN-MORROW U 360. 15707	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	97.2 0.6 TRACE TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

^{*} 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

	COMPONENT, MOLE PCT	
STATEOKLAHOMA	METHANE	40.1
	ETHANE	2.1
COUNTY GARFIELD	PROPANE	1.6
FIELD GREEN VALLEY	N-BUTANE	0.6
WELL NAME LIBERTY 1-34	ISOBUTANE	0.3
API3504724354_	N-PENTANE	0.2
LOCATION SEC 34, T22N, R3W	ISOPENTANE	0.1
OWNER PANHANDLE OIL & GAS CONSULTANTS	CYCLOPENTANE	
COMPLETED040103_	HEXANES PLUS	0.2
SAMPLED040818.	NITROGEN	54.4
FORMATION PENN-CREWS	OXYGEN	0.0
GEOLOGIC PROVINCE CODE360_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.
OPEN FLOW, MCFD	HELIUM	0.40
51 ETT E577, INOLD	HEATING VALUE*	530
	SPECIFIC GRAVITY	0.825
SAMPLE 20876	SPECIFIC GRAVITY	0.825
STATEOKLAHOMA_	COMPONENT, MOLE PCT	77.5
STATEOKLAHOMA_ COUNTYCIMARRON_	COMPONENT, MOLE PCT METHANE	77. <u>!</u> 7.!
STATEOKLAHOMA_ COUNTYCIMARRON_ FIELDGRIGGS SE	COMPONENT, MOLE PCT METHANE ETHANE	77.5 7.5 5.3
COUNTY CIMARRON FIELD GRIGGS.SE WELL NAME DAISY NIELD GAS UNIT NO. 1.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	77.5 7.5 5.3
COUNTY CIMARRON FIELD GRIGGS.SE WELL NAME DAISY NIELD GAS UNIT NO. 1.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	77.5 7.5 5.3 1.8
STATEOKLAHOMA_ COUNTYCIMARRON FIELDGRIGGS SE WELL NAMEDAISY NIELD GAS UNIT NO. 1 API3502500009	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	77.5 7.5 5.3 1.8 0.8
STATEOKLAHOMA_ COUNTYCIMARRON_ FIELDGRIGGS.SE_ WELL NAMEDAISY NIFLD GAS UNIT NO. 1_ API3502500009_ LOCATIONSEC. 36, T1N, R9E_	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	77.5 7.5 5.3 1.8 0.8 0.5
SAMPLE 20876 STATE OKLAHOMA COUNTY CIMARRON FIELD GRIGGS.SE WELL NAME DAISY NIFLD GAS UNIT NO. 1 API 3502500009 LOCATION SEC. 36, T1N, R9E OWNER TEXACO, INC. COMPLETED 890424	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	77.5 7.5 5.3 1.8 0.8 0.5
STATEOKLAHOMA_ COUNTYCIMARRON FIELDGRIGGS_SE WELL NAMEDAISY_NIELD_GAS_LINIT_NO_1_ API3502500009 LOCATIONSEC_ 36, T1N, R9E OWNERTEXACO_INC_	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	77.5 7.5 5.3 1.8 0.8 0.5
STATEOKLAHOMA_ COUNTYCIMARRON_ FIELDGRIGGS_SE_ WELL NAMEDAISY NIFLD_GAS_UNIT_NO_1_ API3502500009 LOCATIONSEC_ 36, T1N_R9E_ DWNERTEXACO_INC_ COMPLETED890424_	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	77.5 7.5 5.3 1.8 0.8 0.5 0.3
STATE OKLAHOMA COUNTY CIMARRON FIELD GRIGGS.SE WELL NAME DAISY NIFLD GAS UNIT NO. 1 API 3502500009 LOCATION SEC. 36, T1N, R9E DWNER TEXACO, INC. COMPLETED 890424 SAMPLED 011030.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE HEXANES PLUS NITROGEN	77.5 7.5 5.3 1.8 0.8 0.5 0.3
STATEOKLAHOMA_ COUNTYCIMARRON FIELDGRIGGS_SE_ WELL NAMEDAISY NIELD GAS LINIT NO. 1. API3502500009 LOCATIONSEC. 36, T1N, R9E_ DWNERTEXACO_INC_ COMPLETED890424 SAMPLED011030_ FORMATIONPENN-TOPEKA, GRANITE WASH_ GEOLOGIC PROVINCE CODE435_	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	77.5 7.5 5.3 1.8 0.8 0.5 0.5 5.5
STATEOKLAHOMA_ COUNTYCIMARRON_ FIELDGRIGGS_SE_ WELL NAMEDAISY_NIFLD_GAS_LINIT_NO_1_ API3502500009 LOCATIONSEC36, T1N, R9E_ DWNERTEXACO_INC_ COMPLETED890424 SAMPLED011030_ FORMATIONPENN-TOPEKA_GRANITE_WASH_ GEOLOGIC PROVINCE CODE435_ TRUE VERTICAL DEPTH (FT)4274_	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	77.5 7.5 3.0.8 0.6 0.5 0.5 0.0 0.0 0.0
STATEOKLAHOMA_ COUNTYCIMARRON FIELDGRIGGS.SE WELL NAMEDAISY NIFLD GAS UNIT NO. 1. API3502500009 LOCATIONSEC. 36, T1N, R9E DWNERTEXACO_INC. COMPLETED890424 SAMPLED011030 FORMATIONPENN-TOPEKA, GRANITE WASH. GEOLOGIC PROVINCE CODE435. TRUE VERTICAL DEPTH (FT)4274. WEASURED DEPTH	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	77.5 7.5 5.6 0.8 0.5 0.5 0.0 0.0 0.0
STATEOKLAHOMA_ COUNTYCIMARRON_ FIELDGRIGGS_SE_ WELL NAMEDAISY_NIFLD_GAS_LINIT_NO_1_ API	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE***	77.5 7.5 5.3 1.8 0.8 0.5 0.5 0.0 0.0 0.0 0.0
STATEOKLAHOMA_ COUNTYCIMARRON FIELDGRIGGS.SE WELL NAMEDAISY NIFLD GAS UNIT NO. 1. API3502500009 LOCATIONSEC. 36, T1N, R9E DWNERTEXACO_INC. COMPLETED890424 SAMPLED011030 FORMATIONPENN-TOPEKA, GRANITE WASH. GEOLOGIC PROVINCE CODE435. TRUE VERTICAL DEPTH (FT)4274. WEASURED DEPTH	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	77.5 7.5 5.3 0.8 0.5 0.5 0.0 0.0 0.0 0.0

^{*} 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

SAMPLE	20750	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	74.1
COUNTY		ETHANE	5.6
		PROPANE	2.9
FIELD		N-BUTANE	0.8
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION	,	ISOPENTANE	0.1
OWNER	KAISER-FRANCIS OIL CO.	CYCLOPENTANE	
COMPLETED	521204	HEXANES PLUS	0.1
SAMPLED	010730	NITROGEN	15.1
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	2673	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.51
OPEN FLOVV, IVIOPD	19120	HEATING VALUE*	978
		SPECIFIC GRAVITY	0.696
SAMPLE	20674	COMPONENT, MOLE PCT	
OTATE		METHANE	62.1
STATE		ETHANE	5.8
COUNTY	I EXAS		
		PROPANE	3.8
FIELD	GUYMON-HUGOTON.	PROPANE N-BUTANE	
			1.1
WELL NAME	CSC NO. 1-6.	N-BUTANE	1.1 0.5
WELL NAME	CSC NO. 1-6 3513921098	N-BUTANE	1.1 0.5 0.3
WELL NAMEAPI	CSC NO. 1-6. 3513921098 SEC. 6, T2N, R12E	N-BUTANEISOBUTANEN-PENTANE	1.1 0.5 0.3 0.2
WELL NAMEAPILOCATION	CSC NO. 1-6. 3513921098 SEC. 6, T2N, R12E KAISER-FRANCIS OIL CO.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	1.1 0.5 0.3 0.2
WELL NAME	CSC NO. 1-6. 3513921098 SEC. 6, T2N, R12E KAISER-FRANCIS OIL CO. 780825	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	1.1 0.5 0.3 0.2
WELL NAME	CSC NO. 1-6. 3513921098 SEC. 6, T2N, R12E KAISER-FRANCIS OIL CO. 780825	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.1 0.5 0.3 0.2 0.2 24.7
WELL NAME	CSC NO. 1-6. 3513921098 SEC. 6, T2N, R12E KAISER-FRANCIS OIL CO. 780825 010511 PERM-CHASE GROUP	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUSNITROGEN	1.1 0.5 0.3 0.2 0.2 24.7 0.0
WELL NAME	CSC NO. 1-6. 3513921098 SEC. 6, T2N, R12E KAISER-FRANCIS OIL CO. 780825 010511 PERM-CHASE GROUP 360	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.1 0.5 0.3 0.2 0.2 24.7 0.0
WELL NAME	CSC NO. 1-6. 3513921098 SEC. 6, T2N, R12E KAISER-FRANCIS OIL CO. 780825 010511 PERM-CHASE GROUP 360. 2648.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.1 0.5 0.3 0.2 0.2 24.7 0.0
WELL NAME	CSC NO. 1-6. 3513921098 SEC. 6, T2N, R12E KAISER-FRANCIS OIL CO. 780825 010511 PERM-CHASE GROUP 360. 2648.	N-BUTANE	1.1 0.5 0.3 0.2 0.2 24.7 0.0 0.1
WELL NAME	CSC NO. 1-6. 3513921098 SEC. 6, T2N, R12E KAISER-FRANCIS OII. CO. 780825 010511 PERM-CHASE GROUP 360. 2648	N-BUTANE	1.1 0.5 0.3 0.2 0.2 24.7 0.0 0.1
FIELD	CSC NO. 1-6. 3513921098 SEC. 6, T2N, R12E KAISER-FRANCIS OII. CO. 780825 010511 PERM-CHASE GROUP 360. 2648	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	1.1 0.5 0.3 0.2 0.2 24.7 0.0 0.1 0.0 0.0 0.1 1.09

^{*} 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

SAMPLE	20878	COMPONENT, MOLE PCT	
STATE		METHANE	62.7
		ETHANE	5.7
COUNTY		PROPANE	3.9
FIELD		N-BUTANE	1.2
WELL NAME		ISOBUTANE	0.5
API	3513900528	N-PENTANE	
LOCATION	SEC. 31, T1N, R11E.	ISOPENTANE	0.2
OWNER	KAISER-FRANCIS OIL CO.	CYCLOPENTANE	
COMPLETED	530624	HEXANES PLUS	0.3
SAMPLED	011030	NITROGEN	23.7
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	2620	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
,		HELIUM	1.22
OPEN FLOW, MCFD	10220	HEATING VALUE*	924
		SPECIFIC GRAVITY	0.756
SAMPLE	20879	COMPONENT, MOLE PCT	
CTATE	OKI ALIOMA	METHANE	62.4
STATE		ETHANE	5.7
COUNTY			<u>V.</u> 1.
		PROPANE	
	GUYMON-HUGOTON.	PROPANE N-BUTANE	3.9
WELL NAME	GUYMON-HUGOTON. A.E. SHARP NO. 1		3.9 1.2
WELL NAME	GUYMON-HUGOTON. A.E. SHARP NO. 1	N-BUTANE	3.9 1.2 0.5
WELL NAMEAPI	GUYMON-HUGOTON. A.E. SHARP NO. 1. 3513900115	N-BUTANEISOBUTANE	3.9 1.2 0.5 0.3
WELL NAMEAPILOCATION	GUYMON-HUGOTON. A.E. SHARP NO. 1. 3513900115 SEC. 30, T1N, R11E	N-BUTANEISOBUTANEN-PENTANE	3.9 1.2 0.5 0.3 0.2
WELL NAME	GUYMON-HUGOTON. A.E. SHARP NO. 1. 3513900115 SEC. 30, T1N, R11E KAISER-FRANCIS OIL CO.	N-BUTANEISOBUTANEN-PENTANEISOPENTANE	3.9 1.2 0.5 0.3 0.2
WELL NAME API LOCATION OWNER COMPLETED	GUYMON-HUGOTON. A.E. SHARP NO. 1. 3513900115 SEC. 30, T1N, R11E. KAISER-FRANCIS OIL CO. 530623	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	3.9 1.2 0.5 0.3 0.2
WELL NAME	GUYMON-HUGOTON. A.E. SHARP NO. 1. 3513900115 SEC. 30, T1N, R11E. KAISER-FRANCIS OIL CO. 530623. 011030.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUS	3.9 1.2 0.5 0.3 0.2 0.3 24.1
WELL NAME	GUYMON-HUGOTON. A.E. SHARP NO. 1. 3513900115 SEC. 30, T1N, R11E KAISER-FRANCIS OIL CO. 530623 011030 PERM-CHASE GROUP	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	3.9 1.2 0.5 0.3 0.2 0.3 24.1
WELL NAME	GUYMON-HUGOTON. A.E. SHARP NO. 1. 3513900115 SEC. 30, T1N, R11E KAISER-FRANCIS OIL CO. 530623 011030 PERM-CHASE GROUP 360.	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.9 1.2 0.5 0.3 0.2 0.3 24.1 0.0
WELL NAME	GUYMON-HUGOTON. A.E. SHARP NO. 1. 3513900115 SEC. 30, T1N, R11E KAISER-FRANCIS OIL CO. 530623 011030 PERM-CHASE GROUP 360. 2715	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.9 1.2 0.5 0.3 0.2 0.3 24.1 0.0
WELL NAME	GUYMON-HUGOTON. A.E. SHARP NO. 1. 3513900115 SEC. 30, T1N, R11E KAISER-FRANCIS OIL CO. 530623 011030 PERM-CHASE GROUP 360. 2715. 2855	N-BUTANE	3.9 1.2 0.5 0.3 0.2 0.3 24.1 0.0 0.1
WELL NAME	GUYMON-HUGOTON. A.E. SHARP NO. 1. 3513900115 SEC. 30, T1N, R11E KAISER-FRANCIS OIL CO. 530623 011030 PERM-CHASE GROUP 360. 2715. 2855	N-BUTANE	3.9 1.2 0.5 0.3 0.2 0.3 24.1 0.0 0.1
WELL NAME	GUYMON-HUGOTON. A.E. SHARP NO. 1. 3513900115 SEC. 30, T1N, R11E KAISER-FRANCIS OIL CO. 530623 011030 PERM-CHASE GROUP 360. 2715. 2855	N-BUTANE	3.9 1.2 0.5 0.3 0.2 0.3 24.1 0.0 0.1 0.0 0.1 1.27

^{*} 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

SAMPLE	20714	COMPONENT, MOLE PCT	
CTATE	OKI AHOMA	METHANE	93.8
STATE		ETHANE	3.4
COUNTY		PROPANE	0.9
FIELD		N-BUTANE	0.2
WELL NAME	FRANS TRUST NO. 1-21	ISOBUTANE	0.1
API	3504321621	N-PENTANE	0.1
LOCATION	SEC. 21, T16N, R15W	ISOPENTANE	0.1
OWNER	KAISER-FRANCIS OIL CO.	CYCLOPENTANE	
COMPLETED	821209	HEXANES PLUS	0.1
SAMPLED	010710	NITROGEN	0.2
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	10720	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	1.0
		HELIUM	0.04
PEN FLOW, MCFD	2850	HEATING VALUE*	1,055
		SPECIFIC GRAVITY	0.601
SAMPLE	21084	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	87.9
		ETHANE	5.3
COUNTY		PROPANE	2.6
FIELD		N-BUTANE	1.0
WELL NAME	HEPNER NO. 1-25	ISOBUTANE	0.4
API		N-PENTANE	0.4
LOCATION	SEC. 25, T23N, R14W	ISOPENTANE	0.3
OWNED			
OVVINLIX	KIRKPATRICK OIL CO.	CYCLOPENTANE	
		CYCLOPENTANEHEXANES PLUS	
COMPLETED	710818		1.0
COMPLETED	710818 021031	HEXANES PLUS	1.0
COMPLETEDSAMPLEDFORMATION	710818 021031 MISS-MISSISSIPPIAN	HEXANES PLUS	1.0 0.9 0.0
COMPLETEDSAMPLED FORMATION GEOLOGIC PROVINCE CODE	710818 021031 MISS-MISSISSIPPIAN 360	HEXANES PLUS NITROGEN OXYGEN	1.0 0.9 0.0 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	710818 021031 MISS-MISSISSIPPIAN 360. 7004.	HEXANES PLUS NITROGEN OXYGEN ARGON	1.0 0.9 0.0 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	710818 021031 MISS-MISSISSIPPIAN 360 7004	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	1.0 0.9 0.0 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	710818 021031 MISS-MISSISSIPPIAN 360. 7004.	HEXANES PLUS	1.0 0.9 0.0 0.1 0.0 0.0
COMPLETED	710818 021031 MISS-MISSISSIPPIAN 360. 7004.	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	1.0 0.9 0.0 0.1 0.0 0.0 0.3

^{*} 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

SAMPLE 21085	COMPONENT, MOLE PCT	
STATE OKLAHOMA	METHANE	87.3
	ETHANE	5.6
COUNTY WOODS	PROPANE	2.7
FIELDOAKDALE	N-BUTANE	1.0
WELL NAMEFAYE NO. 35-A	ISOBUTANE	0.4
API3515121307	N-PENTANE	0.4
LOCATION SEC. 35, T23N, R14W	ISOPENTANE	0.3
OWNERCHESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED820421_	HEXANES PLUS	1.1
SAMPLED021031_	NITROGEN	8.0
FORMATION PENN-OSWEGO, MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE360_	ARGON	0.1
TRUE VERTICAL DEPTH (FT) 7675	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.2
	HELIUM	0.07
OPEN FLOW, MCFD1150	HEATING VALUE*	1,177
	ODEOIEIO ODAVITA	0.070
	SPECIFIC GRAVITY	U.b/.:
SAMPLE 21075	COMPONENT, MOLE PCT	U.67.3
	COMPONENT, MOLE PCT	
STATEOKLAHOMA_		81.7
STATEOKLAHOMA_ COUNTYELLIS	COMPONENT, MOLE PCT METHANE	81.7 8.0
STATEOKLAHOMA_ COUNTYELLIS	COMPONENT, MOLE PCT METHANE ETHANE	81.7 8.0 4.6
STATEOKLAHOMA_ COUNTYELLIS FIELDPEEK.S.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	81.7 8.0 4.6
STATEOKLAHOMA_ COUNTYELLIS_ FIELDPEEK.S. WELL NAMEMITCHELL UNIT NO. 1.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	81.7 8.0 4.6 1.4
STATEOKLAHOMA_ COUNTYELLIS FIELDPEEK.S. WELL NAMEMITCHELL UNIT NO. 1. API3504520002	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	81.7 8.0 4.6 1.4 0.7
STATE OKLAHOMA COUNTY ELLIS FIELD PEEK S. WELL NAME MITCHELL UNIT NO. 1. API 3504520002. LOCATION SEC. 25, T17N, R23W.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	81.7 8.0 4.6 1.4 0.7 0.4
STATE OKLAHOMA. COUNTY ELLIS. FIELD PEEK S. WELL NAME MITCHELL UNIT NO. 1. API 3504520002. LOCATION SEC. 25, T17N, R23W. OWNER CHESAPEAKE OPERATING, INC.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	81.7 8.0 4.6 1.4 0.7 0.4
STATEOKLAHOMA_ COUNTYELLIS FIELDPEEK.S. WELL NAMEMITCHELL UNIT NO. 1. API3504520002 LOCATIONSEC. 25, T17N, R23W. OWNERCHESAPEAKE OPERATING, INC. COMPLETED660319	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	81.7 8.0 4.6 1.4 0.7 0.4 0.4
STATE OKLAHOMA COUNTY ELLIS FIELD PEEK S. WELL NAME MITCHELL UNIT NO. 1. API 3504520002. LOCATION SEC. 25, T17N, R23W. OWNER CHESAPEAKE OPERATING, INC. COMPLETED 660319. SAMPLED 021030.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	81.7 8.0 4.6 1.4 0.7 0.4 0.4
STATE OKLAHOMA COUNTY ELLIS FIELD PEEK S. WELL NAME MITCHELL LINIT NO. 1. API 3504520002 LOCATION SEC. 25, T17N, R23W. OWNER CHESAPEAKE OPERATING, INC. COMPLETED 660319 SAMPLED 021030 FORMATION PENN-TONKAWA	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	81.7 8.0 4.6 1.4 0.7 0.4 0.4
STATE OKLAHOMA COUNTY ELLIS FIELD PEEK S. WELL NAME MITCHELL UNIT NO. 1. API 3504520002 LOCATION SEC. 25, T17N, R23W. OWNER CHESAPEAKE OPERATING, INC. COMPLETED 660319 SAMPLED 021030. FORMATION PENN-TONKAWA. GEOLOGIC PROVINCE CODE 360.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	81.7 8.0 4.6 1.4 0.7 0.4 0.4 0.5 0.6 0.0
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	81.7 8.0 4.6 1.4 0.7 0.4 0.4 0.5 0.0 0.1 TRACE
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	81.7 8.0 4.6 1.4 0.7 0.4 0.4 0.5 0.0 0.1 TRACE
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	81.7 8.0 4.6 1.4 0.7 0.4 0.4 0.5 0.0 0.1 TRACE 0.0
STATE OKLAHOMA COUNTY ELLIS FIELD PEEK S. WELL NAME MITCHELL UNIT NO. 1. API 3504520002. LOCATION SEC. 25, T17N, R23W. OWNER CHESAPEAKE OPERATING, INC. COMPLETED 660319. SAMPLED 021030. FORMATION PENN-TONKAWA. GEOLOGIC PROVINCE CODE 360.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	81.7 8.0 4.6 1.4 0.7 0.4 0.4 0.8 1.2 0.0 0.1 TRACE 0.0 0.6

^{*} 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

SAMPLE	21073	COMPONENT, MOLE PCT	
STATE	UKI AHUMA	METHANE	79.5
-		ETHANE	6.5
COUNTY		PROPANE	5.4
FIELD		N-BUTANE	1.8
WELL NAME		ISOBUTANE	0.9
API	3504522079	N-PENTANE	0.6
LOCATION	SEC. 24, T17N, R24W	ISOPENTANE	0.6
OWNER	KAISER-FRANCIS OIL CO.	CYCLOPENTANE	
COMPLETED	000425	HEXANES PLUS	1.2
SAMPLED	021030	NITROGEN	2.6
FORMATION	PENN-TONKAWA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	8138	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.6
OPEN FLOW, MCFD		HELIUM	0.14
OF LIVE LOVY, MICE D	09.	HEATING VALUE*	1,247
		SPECIFIC GRAVITY	0.746
SAMPLE	21074	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	80.9
		ETHANE	7.7
COUNTY		PROPANE	5.3
FIELD		N-BUTANE	1.6
WELL NAME		ISOBUTANE	8.0
API	3504520035	N-PENTANE	0.4
LOCATION	SEC. 19, T17N, R23W	ISOPENTANE	0.5
OWNER	KAISER-FRANCIS OIL CO.	CYCLOPENTANE	_
COMPLETED	660812	HEXANES PLUS	0.5
		NUTDOOFN	17
SAMPLED	021030	NITROGEN	
		OXYGEN	
FORMATION			0.0
FORMATION	PENN-TONKAWA 360	OXYGEN	0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	PENN-TONKAWA 	OXYGEN	0.0 0.1 TRACE
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PENN-TONKAWA 	OXYGEN ARGON HYDROGEN	0.0 0.1 TRACE 0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	PENN-TONKAWA 360. 8212.	OXYGENARGONHYDROGENHYDROGEN SULFIDE**	0.0 0.1 TRACE 0.0 0.5
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	PENN-TONKAWA 360. 8212.	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.1 TRACE 0.0 0.5

^{*} 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

SAMPLE	21080	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	91.6
		ETHANE	0.5
	DEWEY	PROPANE	0.1
	PUTNAM	N-BUTANE	TRACE
	KOUNS A NO. 1	ISOBUTANE	TRACE
API	3504320630	N-PENTANE	TRACE
	SEC. 17, T17N, R17W	ISOPENTANE	TRACE
OWNER	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	760217	HEXANES PLUS	TRACE
SAMPLED	021030	NITROGEN	1.1
FORMATION	DEVO-HUNTON	OXYGEN	0.0
GEOLOGIC PROVINCE CO	DDE360_	ARGON	0.0
TRUE VERTICAL DEPTH ((FT)13392_	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	PSIG	CARBON DIOXIDE	6.6
	6080	HELIUM	0.03
Of LIVE LOVY, MOI D	0000	HEATING VALUE*	940
		SPECIFIC GRAVITY	0.626
SAMPLE	20723	COMPONENT, MOLE PCT	
STATE	OKLAHOMA.	METHANE	75.6
	DEWEY	ETHANE	11.9
	PUTNAM	PROPANE	6.2
		N-BUTANE	1.9
	GOVERNMENT TWYMAN UNIT NO. 1.	ISOBUTANE	0.9
API	3504350099	N-PENTANE	0.6
	SEC 6 T17N D10\N/	ICODENITANIE	0.5
LOCATION	SEC. 0, 11/11, IS19W	ISOPENTANE	0.5
	KAISER-FRANCIS OIL CO.	CYCLOPENTANE	
OWNER	, ,		
OWNER	KAISER-FRANCIS OIL CO	CYCLOPENTANE	1_1
OWNER	KAISER-FRANCIS OIL CO	CYCLOPENTANE	1_1 0.6
OWNER	KAISER-FRANCIS OIL CO. 641018 010710 PENN-OSWEGO	CYCLOPENTANE HEXANES PLUS NITROGEN	1.1 0.6
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO	KAISER-FRANCIS OIL CO. 641018 010710 PENN-OSWEGO	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.1 0.6 0.0
OWNER	KAISER-FRANCIS OIL CO	CYCLOPENTANE	1.1 0.6 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO TRUE VERTICAL DEPTH (MEASURED DEPTH	KAISER-FRANCIS OIL CO	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	1.1 0.6 0.0 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO TRUE VERTICAL DEPTH (MEASURED DEPTH WELLHEAD PRESSURE, F	KAISER-FRANCIS OIL CO 641018 010710 PENN-OSWEGO DDE 360 (FT) 9358 PSIG PS	CYCLOPENTANE	 11 0.6 0.0 0.0 0.0 0.0 0.0 0.8
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO TRUE VERTICAL DEPTH (MEASURED DEPTH WELLHEAD PRESSURE, F	KAISER-FRANCIS OIL CO	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	 11 0.6 0.0 0.0 0.0 0.0 0.0 0.8 0.07

^{*} 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

SAMPLE	21081	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	80.0
	DEWEY	ETHANE	9.3
	PUTNAM	PROPANE	5.1
		N-BUTANE	1.4
	GOSDA NO. 3-17	ISOBUTANE	3.0
	3504322703	N-PENTANE	
	SEC. 17, T17N, R17W.	ISOPENTANE	0.4
OWNER	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	000329	HEXANES PLUS	
SAMPLED	021031	NITROGEN	1.1
FORMATION	PENN-TONKAWA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	7366	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	1953	CARBON DIOXIDE	0.4
,	2000	HELIUM	0.1
OF LINT LOVY, WICH D	2000	HEATING VALUE*	1,24
		SPECIFIC GRAVITY	0.72
SAMPLE	21079	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	80.:
STATE	OKLAHOMA		
STATE	OKLAHOMA.	METHANE	9.
STATE COUNTY	OKLAHOMA DEWEY PUTNAM	METHANE	9. 5.
STATE COUNTY FIELD WELL NAME	OKLAHOMA DEWEY PUTNAM SARKEY NO. 1-32	METHANE ETHANE PROPANE	9. 5. 1.
STATE COUNTY FIELD WELL NAME	OKLAHOMA DEWEY PUTNAM	METHANE ETHANE PROPANE N-BUTANE	9. 5. 1. 0.
STATE COUNTY FIELD WELL NAME	OKLAHOMA DEWEY PUTNAM SARKEY NO. 1-32	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	9. 5. 1. 0.
STATE COUNTY FIELD WELL NAME API LOCATION	OKLAHOMA DEWEY PUTNAM SARKEY NO. 1-32 3504335125	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	9. 5. 1. 0. 0.
STATE COUNTY FIELD WELL NAME API LOCATION DWNER	OKLAHOMA DEWEY PUTNAM SARKEY NO. 1-32 3504335125 SEC. 32, T17N, R17W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	9. 5. 1. 0. 0. 0. 0
COMPLETED	OKLAHOMA DEWEY PUTNAM SARKEY NO. 1-32 3504335125 SEC. 32, T17N, R17W EAGLE OIL & GAS CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	9. 5. 1. 0. 0. 0. 0. 0. 0.
STATE COUNTY FIELD WELL NAME API OCATION DWNER COMPLETED SAMPLED	OKLAHOMA. DEWEY PUTNAM SARKEY NO. 1-32 3504335125 SEC. 32, T17N, R17W EAGLE OIL & GAS CO. 970724 021030.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	9. 5. 1. 0. 0. 0. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.
STATE COUNTY FIELD WELL NAME API LOCATION DWNER COMPLETED SAMPLED FORMATION	OKLAHOMA. DEWEY PUTNAM SARKEY.NO. 1-32. 3504335125 SEC. 32, T17N, R17W. EAGLE OIL & GAS CO. 970724 021030. PENN-TONKAWA.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN	9. 5. 1. 0. 0. 0. 1. 0. 1. 0.
STATE	OKLAHOMA. DEWEY PUTNAM SARKEY NO. 1-32 3504335125 SEC. 32, T17N, R17W EAGLE OIL & GAS CO. 970724 021030 PENN-TONKAWA. 360	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	9. 5. 1. 0. 0. 0. 1. 0. TRAC
COUNTY FIELD WELL NAME OCATION DWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE ITRUE VERTICAL DEPTH (FT)	OKLAHOMA. DEWEY PUTNAM SARKEY NO. 1-32 3504335125 SEC. 32, T17N, R17W EAGLE OIL & GAS CO. 970724 021030 PENN-TONKAWA. 360 7620	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	9. 5. 1. 0. 0. 0. 1. 1. 0. TRAC
STATE COUNTY FIELD WELL NAME API LOCATION DWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE ITRUE VERTICAL DEPTH (FT) WEASURED DEPTH	OKLAHOMA DEWEY PUTNAM SARKEY NO. 1-32 3504335125 SEC. 32, T17N, R17W FAGLE OIL & GAS CO. 970724 021030 PENN-TONKAWA 360 7620	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	9. 5. 1. 0. 0. 0. 1. 0. TRAC
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	OKLAHOMA DEWEY PUTNAM SARKEY NO. 1-32 3504335125 SEC. 32, T17N, R17W EAGLE OIL & GAS CO. 970724 021030 PENN-TONKAWA 360 7620	METHANE	9. 5. 1. 0. 0. 0. 1. TRACI TRACI 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	OKLAHOMA DEWEY PUTNAM SARKEY NO. 1-32 3504335125 SEC. 32, T17N, R17W FAGLE OIL & GAS CO. 970724 021030 PENN-TONKAWA 360 7620	METHANE	9. 9. 5. 1. 1. 0. 0. 0. 1. 1. 1. TRACI TRACI 0. 0. 0. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.

^{*} 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

SAMPLE	21060	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	86.5
	ROGER MILLS	ETHANE	8.0
		PROPANE	2.4
	REYDON.	N-BUTANE	0.7
	WRIGHT NO. 1-32	ISOBUTANE	0.4
	3512921918	N-PENTANE	0.2
LOCATION	SEC. 32, T14N, R25W	ISOPENTANE	0.3
OWNER	CHAPARRAL ENERGY, INC.	CYCLOPENTANE	
COMPLETED	950826	HEXANES PLUS	0.3
SAMPLED	021029	NITROGEN	0.3
FORMATION	PENN-CHEROKEE	OXYGEN	0.0
	360	ARGON	0.0
	12079	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	9.0
,	6400	HELIUM	0.05
OPEN FLOW, MCFD	198	HEATING VALUE*	1,150
		SPECIFIC GRAVITY	0.658
SAMPLE	21059	COMPONENT, MOLE PCT	
	014 1110111	METHANE	96.8
	OKLAHOMA	ETHANE	0.7
COUNTY	500551010		<u> </u>
	ROGER MILLS		
	ROGER MILLS REYDON.W.	PROPANEN-BUTANE	0.1
FIELD		PROPANE	0.1 TRACE
FIELD	REYDON W.	PROPANE	0.1 TRACE TRACE
FIELD WELL NAMEAPI	REYDON.W. WRIGHT NO. 2-32	PROPANEN-BUTANEISOBUTANE	0.1 TRACE TRACE TRACE
FIELD	REYDON W. WRIGHT NO. 2-32 3512920700	PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.1 TRACE TRACE TRACE
FIELD WELL NAME API LOCATION OWNER	REYDON W. WRIGHT NO. 2-32. 3512920700 SEC. 32, T14N, R26W.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.1 TRACE TRACE TRACE TRACE
FIELD WELL NAME API LOCATION OWNER COMPLETED	REYDON W. WRIGHT NO. 2-32 3512920700 SEC. 32, T14N, R26W. SAMSON RESOURCES CO.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.1 TRACE TRACE TRACE TRACE TRACE
FIELD	REYDON W. WRIGHT NO. 2-32. 3512920700. SEC. 32, T14N, R26W. SAMSON RESOURCES CO. 820301. 021029.	PROPANE	0.1 TRACE TRACE TRACE TRACE TRACE TRACE
FIELD	REYDON W. WRIGHT NO. 2-32. 3512920700 SEC. 32, T14N, R26W. SAMSON RESOURCES CO. 820301 021029. PENN-MORROW.	PROPANE	0.1 TRACE TRACE TRACE TRACE TRACE TRACE TRACE 0.2
FIELD	REYDON W. WRIGHT NO. 2-32. 3512920700. SEC. 32, T14N, R26W. SAMSON RESOURCES CO. 820301. 021029. PENN-MORROW. 360.	PROPANE	0.1 TRACE TRACE TRACE TRACE TRACE TRACE 0.2 0.0
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	REYDON W. WRIGHT NO. 2-32. 3512920700 SEC. 32, T14N, R26W. SAMSON RESOURCES CO. 820301 021029 PENN-MORROW. 360. 14890.	PROPANE	0.1 TRACE TRACE TRACE TRACE TRACE TRACE O.2 0.0 TRACE
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	REYDON W. WRIGHT NO. 2-32. 3512920700 SEC. 32, T14N, R26W. SAMSON RESOURCES CO. 820301 021029. PENN-MORROW. 360. 14890.	PROPANE	0.1 TRACE TRACE TRACE TRACE TRACE TRACE TRACE 0.2 0.0 TRACE
FIELD	REYDON W. WRIGHT NO. 2-32. 3512920700 SEC. 32, T14N, R26W. SAMSON RESOURCES CO. 820301 021029 PENN-MORROW. 360. 14890	PROPANE	0.1 TRACE TRACE TRACE TRACE TRACE TRACE TRACE 0.2 0.0 TRACE 0.0 2.1
FIELD	REYDON W. WRIGHT NO. 2-32. 3512920700 SEC. 32, T14N, R26W. SAMSON RESOURCES CO. 820301 021029. PENN-MORROW. 360. 14890.	PROPANE	0.1 TRACE TRACE TRACE TRACE TRACE 0.2 0.0 TRACE 0.0 TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

^{*} 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

SAMPLE	21069	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	81.0
		ETHANE	9.5
COUNTY		PROPANE	4.6
FIELD		N-BUTANE	1.3
WELL NAME		ISOBUTANE	0.7
API		N-PENTANE	0.3
LOCATION	SEC. 10, T15N, R23W.	ISOPENTANE	0.4
OWNER	MARATHON OIL CO.	CYCLOPENTANE	
COMPLETED	961022	HEXANES PLUS	
SAMPLED	021029	NITROGEN	0.3
FORMATION	PENN-PRUE, RED FORK	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	11272	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	0.07
		HEATING VALUE*	1,231
SAMPLE	21062	COMPONENT, MOLE PCT	
O/ WIII EE	21002	METHANE	01.7
STATE	OKLAHOMA		91.1
COUNTY		ETHANE	11
	ROGER MILLS	ETHANE	
FIELD		PROPANE	0.9
FIELD	STRONG CITY	PROPANEN-BUTANE	0.9 0.1
	STRONG CITY MARIO NO. 3-16.	PROPANEN-BUTANEISOBUTANE	0.9 0.1 0.2
WELL NAME	STRONG CITY MARIO NO. 3-16. 3512922346	PROPANEN-BUTANE	0.9 0.1 0.2 TRACE
WELL NAMEAPI	STRONG CITY MARIO NO. 3-16 3512922346 SEC. 16, T13N, R22W	PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.9 0.1 0.2 TRACE 0.1
WELL NAMEAPI	STRONG CITY. MARIO NO. 3-16. 3512922346 SEC. 16, T13N, R22W. ESTAR EXPLORATION & PROD.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.9 0.1 0.2 TRACE 0.1
WELL NAME	STRONG CITY. MARIO NO. 3-16. 3512922346 SEC. 16, T13N, R22W. ESTAR EXPLORATION & PROD. 021007	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.9 0.1 0.2 TRACE 0.1
WELL NAME	STRONG CITY. MARIO NO. 3-16. 3512922346 SEC. 16, T13N, R22W. ESTAR EXPLORATION & PROD. 021007. 021029.	PROPANE	0.9 0.1 0.2 TRACE 0.1 0.1
WELL NAME	STRONG CITY. MARIO NO. 3-16. 3512922346 SEC. 16, T13N, R22W ESTAR EXPLORATION & PROD. 021007. 021029 PENN-RED FORK	PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.9 0.1 0.2 TRACE 0.1 0.1 0.2
WELL NAME	STRONG CITY MARIO NO. 3-16. 3512922346 SEC. 16, T13N, R22W. ESTAR EXPLORATION & PROD. 021007 021029 PENN-RED FORK 360.	PROPANE	0.9 0.1 0.2 TRACE 0.1 0.1 0.2 0.0
WELL NAME	STRONG CITY MARIO NO. 3-16. 3512922346 SEC. 16, T13N, R22W ESTAR EXPLORATION & PROD. 021007 021029 PENN-RED FORK 360.	PROPANE	0.9 0.1 0.2 TRACE 0.1 0.1 0.2 0.0
WELL NAME	STRONG CITY. MARIO NO. 3-16. 3512922346 SEC. 16, T13N, R22W. ESTAR EXPLORATION & PROD. 021007 021029 PENN-RED FORK 360.	PROPANE	0.9 0.1 0.2 TRACE 0.1 0.1 0.2 0.0 0.0 TRACE
WELL NAME	STRONG CITY. MARIO NO. 3-16. 3512922346 SEC. 16, T13N, R22W. ESTAR EXPLORATION & PROD. 021007 021029 PENN-RED FORK 360.	PROPANE	0.9 0.1 0.2 TRACE 0.1 0.1 0.2 0.0 0.0 TRACE 0.0
WELL NAME	STRONG CITY. MARIO NO. 3-16. 3512922346 SEC. 16, T13N, R22W. ESTAR EXPLORATION & PROD. 021007 021029 PENN-RED FORK 360.	PROPANE	0.9 0.1 0.2 TRACE 0.1 0.1 0.2 0.0 TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.

^{*} 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

SAMPLE	21076	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	73.4
		ETHANE	10.9
	ROGER MILLS	PROPANE	6.3
	STRONG CITY DISTRICT	N-BUTANE	2.6
-	SARA NO. 1	ISOBUTANE	1.1
	3512920647	N-PENTANE	1.6
	SEC. 13, T15N, R23W	ISOPENTANE	1.4
OWNER	CONTINENTAL OPERATING CO.	CYCLOPENTANE	
COMPLETED	810922	HEXANES PLUS	1.4
SAMPLED	021030	NITROGEN	0.4
FORMATION	PENN-RED FORK	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360.	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	11270	HYDROGEN	TRACE
		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.8
		HELIUM	0.10
OPEN FLOW, MICFD	250	HEATING VALUE*	1,402
		SPECIFIC GRAVITY	0.823
SAMPLE	21082	COMPONENT, MOLE PCT	
07475	01/1 41/0444	METHANE	87.4
	OKLAHOMA	METHANE	
COUNTY	WOODS		3.0
COUNTY		ETHANE	3.0 1.8
COUNTY	WOODS	ETHANE	3.0 1.8 0.6
COUNTYFIELD	WOODS WAYNOKA NE	ETHANE PROPANE N-BUTANE ISOBUTANE	3.0 1.8 0.6 0.4
COUNTY	WOODS WAYNOKA NE CHARLENE NO. 14-13.	ETHANE PROPANE N-BUTANE	3.0 1.8 0.6 0.4 0.2
COUNTY FIELD WELL NAME API LOCATION	WOODS WAYNOKA.NE CHARLENE NO. 14-13 3515122041	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.0 1.8 0.6 0.4 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER	WOODS. WAYNOKA NE. CHARLENE NO. 14-13. 3515122041 SEC. 14, T24N, R16W.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.0 1.8 0.6 0.4 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	WOODS WAYNOKA NE CHARLENE NO. 14-13 3515122041 SEC. 14, T24N, R16W. CHESAPEAKE OPERATING, INC.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.0 1.8 0.6 0.4 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	WOODS WAYNOKA NE CHARLENE NO. 14-13. 3515122041 SEC. 14, T24N, R16W CHESAPEAKE OPERATING, INC. 950124	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.0 1.8 0.6 0.4 0.2 0.2 0.5 5.4
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	WOODS WAYNOKA NE CHARLENE NO. 14-13 3515122041 SEC. 14, T24N, R16W CHESAPEAKE OPERATING, INC. 950124 021031. PENN-TONKAWA	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.0 1.8 0.6 0.4 0.2 0.2 0.5 5.4
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	WOODS WAYNOKA NE CHARLENE NO. 14-13 3515122041 SEC. 14, T24N, R16W CHESAPEAKE OPERATING, INC. 950124 021031 PENN-TONKAWA. 360	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.0 1.8 0.6 0.4 0.2 0.2 0.5 5.4 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT)	WOODS WAYNOKA NE CHARLENE NO. 14-13 3515122041 SEC. 14, T24N, R16W CHESAPEAKE OPERATING, INC. 950124 021031 PENN-TONKAWA 360 5193	ETHANE	3.0 1.8 0.6 0.4 0.2 0.2 0.5 5.4 0.0 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	WOODS WAYNOKA NE CHARLENE NO. 14-13 3515122041 SEC. 14, T24N, R16W CHESAPEAKE OPERATING, INC. 950124 021031 PENN-TONKAWA 360 5193	ETHANE	3.0 1.8 0.6 0.4 0.2 0.2 0.5 5.4 0.0 TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	WOODS WAYNOKA NE CHARLENE NO. 14-13 3515122041 SEC. 14, T24N, R16W CHESAPEAKE OPERATING, INC. 950124 021031 PENN-TONKAWA 360 5193	ETHANE	3.0 1.8 0.6 0.4 0.2 0.2 0.5 5.4 0.0 TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	WOODS WAYNOKA NE CHARLENE NO. 14-13 3515122041 SEC. 14, T24N, R16W CHESAPEAKE OPERATING, INC. 950124 021031 PENN-TONKAWA 360 5193	ETHANE	3.0 1.8 0.6 0.4 0.2 0.2 0.5 5.4 0.0 TRACE 0.0 0.2

^{*} 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

SAMPLE	21026	COMPONENT, MOLE PCT	
STATE	PENNSYLVANIA	METHANE	89.0
	WARREN	ETHANE	3.0
		PROPANE	0.5
	COLUMBUS.	N-BUTANE	0.1
	GRADLER G NO. 1	ISOBUTANE	0.1
	3712342980	N-PENTANE	
LOCATION <u>SEC. D. LOTTS</u>	VILLE 7.5 QUAD, FREEHOLD TWP.	ISOPENTANE	TRACE
OWNER	NORNEW, INC.	CYCLOPENTANE	
COMPLETED	010607	HEXANES PLUS	TRACE
SAMPLED	020816	NITROGEN	
FORMATION	SILU-WHIRLPOOL	OXYGEN	
GEOLOGIC PROVINCE CODE	160	ARGON	
TRUE VERTICAL DEPTH (FT)	4953	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	1350.	CARBON DIOXIDE	
OPEN FLOW, MCFD	1100	HELIUM	
		HEATING VALUE*SPECIFIC GRAVITY	
SAMPLE	20923	COMPONENT, MOLE PCT	
SAMIFEE	20923		00.7
STATE	PENNSYLVANIA	METHANE	
COUNTY	CRAWFORD	ETHANEPROPANE	
FIELD	GENEVA.	N-BUTANE	
WELL NAME	OLIVER NO. 1	ISOBUTANE	
API	3703923785	N-PENTANE	
LOCATION SEC. A, HADL	EY 7.5 QUAD, GREENWOOD TWP	ISOPENTANE	
OWNER	ATLAS AMEDICA INC	CYCLOPENTANE	
COMPLETED	010828	HEXANES PLUS	0.1
SAMPLED	010828 020501	HEXANES PLUS	3.5
SAMPLEDFORMATION	010828 020501 SILU-WHIRLPOOL, MEDINA	HEXANES PLUS	3.5
SAMPLEDFORMATION GEOLOGIC PROVINCE CODE _	010828 020501 SILU-WHIRLPOOL, MEDINA 160	HEXANES PLUS NITROGEN OXYGEN	3.5 0.0 0.1
SAMPLED	010828 020501 SILU-WHIRLPOOL, MEDINA 160 4966	HEXANES PLUS NITROGEN OXYGEN ARGON	3.5 0.0 0.1 0.1
SAMPLED	010828 020501 SILU-WHIRLPOOL MEDINA 160 4966	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	3.5 0.0 0.1 0.1
SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG	010828 020501 SILU-WHIRLPOOL, MEDINA 160 4966	HEXANES PLUS	3.5 0.0 0.1 0.1 0.0 TRACE
SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG	010828 020501 SILU-WHIRLPOOL MEDINA 160 4966	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	3.5 0.0 0.1 0.1 0.0 TRACE

^{*} 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

	COMPONENT, MOLE PCT	
STATEPENNSYLVANIA	METHANE	94.3
COUNTY	ETHANE	2.8
	PROPANE	0.4
FIELDMARKTON.	N-BUTANE	0.1
WELL NAME DAVID MOTTERN NO. 2	ISOBUTANE	TRACE
API3706524657	N-PENTANE	TRACE
LOCATIONSEC. I, SUMMERVILLE 7.5 QUAD, RINGGOLD TWP	ISOPENTANE	TRACE
OWNER D.E. LIMITED FAMILY PARTNERSHIP	CYCLOPENTANE	
COMPLETED010830_	HEXANES PLUS	0.0
SAMPLED020724_	NITROGEN	1.7
FORMATION DEVO-DEVONIAN U	OXYGEN	0.3
GEOLOGIC PROVINCE CODE160_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.2
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD 1342	HELIUM	0.09
OPEN FLOW, WICFD	HEATING VALUE*	1,019
	SPECIFIC GRAVITY	0.581
SAMPLE 21024	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT METHANE	96.2
STATE PENNSYLVANIA	•	
STATE PENNSYLVANIA COUNTY FAYETTE	METHANE	2.0
STATEPENNSYLVANIA_ COUNTYFAYETTE FIELDPERRYOPOLIS_	METHANE	2.0
STATEPENNSYLVANIA_ COUNTYFAYETTE FIELDPERRYOPOLIS_	METHANE ETHANE PROPANE	2.0 0.3 0.1
STATE PENNSYLVANIA COUNTY FAYETTE FIELD PERRYOPOLIS WELL NAME BROWN NO. 2	METHANE ETHANE PROPANE N-BUTANE	2.0 0.3 0.1 0.1
STATE PENNSYLVANIA COUNTY FAYETTE FIELD PERRYOPOLIS WELL NAME BROWN NO. 2 API 3705121108	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	2.0 0.3 0.1 0.1 TRACE
STATE PENNSYLVANIA COUNTY FAYETTE FIELD PERRYOPOLIS WELL NAME BROWN NO. 2 API 3705121108 LOCATION SEC. A, DAWSON 7.5 QUAD, PERRY TWP	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	2.0 0.3 0.1 0.1 TRACE
STATE PENNSYLVANIA COUNTY FAYETTE FIELD PERRYOPOLIS WELL NAME BROWN NO. 2 API 3705121108 LOCATION SEC. A, DAWSON 7.5 QUAD, PERRY TWP OWNER PENNECO OIL CO., INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE	2.0 0.3 0.1 0.1 TRACE TRACE
SAMPLE 21024 STATE PENNSYLVANIA COUNTY FAYETTE FIELD PERRYOPOLIS WELL NAME BROWN NO. 2 API 3705121108 LOCATION SEC. A. DAWSON 7.5 QUAD. PERRY TWP. OWNER PENNECO OIL CO., INC. COMPLETED 991206 SAMPLED 020725.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	2.0 0.3 0.1 0.1 TRACE TRACE
STATE PENNSYLVANIA COUNTY FAYETTE FIELD PERRYOPOLIS WELL NAME BROWN NO. 2 API 3705121108 LOCATION SEC. A, DAWSON 7.5 QUAD, PERRY TWP OWNER PENNECO OIL CO., INC. COMPLETED 991206 SAMPLED 020725	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.0 0.3 0.1 0.1 TRACE TRACE TRACE
STATE PENNSYLVANIA COUNTY FAYETTE FIELD PERRYOPOLIS WELL NAME BROWN NO. 2 API 3705121108 LOCATION SEC. A, DAWSON 7.5 QUAD, PERRY TWP OWNER PENNECO OIL CO, INC. COMPLETED 991206 SAMPLED 020725 FORMATION DEVO-DEVONIAN U	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	2.0 0.3 0.1 0.1 TRACE TRACE TRACE 1.1
STATE PENNSYLVANIA COUNTY FAYETTE FIELD PERRYOPOLIS WELL NAME BROWN NO. 2 API 3705121108 LOCATION SEC. A. DAWSON 7.5 QUAD. PERRY TWP. OWNER PENNECO OIL CO., INC. COMPLETED 991206 SAMPLED 020725 FORMATION DEVO-DEVONIAN U GEOLOGIC PROVINCE CODE 160.	METHANE	2.0 0.3 0.1 0.1 TRACE TRACE TRACE 1.1 0.0
STATE PENNSYLVANIA COUNTY FAYETTE FIELD PERRYOPOLIS WELL NAME BROWN NO. 2 API 3705121108 LOCATION SEC. A. DAWSON 7.5 QUAD, PERRY TWP. OWNER PENNECO OIL CO., INC. COMPLETED 991206 SAMPLED 020725 FORMATION DEVO-DEVONIAN U GEOLOGIC PROVINCE CODE 160 TRUE VERTICAL DEPTH (FT) 2926	METHANE	2.0 0.3 0.1 0.1 TRACE TRACE 1.1 0.0 0.0
STATE PENNSYLVANIA COUNTY FAYETTE FIELD PERRYOPOLIS WELL NAME BROWN NO. 2 API 3705121108 LOCATION SEC. A. DAWSON 7.5 QUAD, PERRY TWP OWNER PENNECO OIL CO., INC. COMPLETED 991206 SAMPLED 020725 FORMATION DEVO-DEVONIAN U GEOLOGIC PROVINCE CODE 160 TRUE VERTICAL DEPTH (FT) 2926 MEASURED DEPTH	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	2.0 0.3 0.1 0.1 TRACE TRACE 1.1 0.0 0.0
STATE PENNSYLVANIA COUNTY FAYETTE FIELD PERRYOPOLIS WELL NAME BROWN NO. 2 API 3705121108 LOCATION SEC. A. DAWSON 7.5 QUAD. PERRY TWP OWNER PENNECO OIL CO., INC. COMPLETED 991206 SAMPLED 020725 FORMATION DEVO-DEVONIAN U GEOLOGIC PROVINCE CODE 160. TRUE VERTICAL DEPTH (FT) 2926 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 637.	METHANE	2.0 0.3 0.1 0.1 TRACE TRACE 1.1 0.0 0.0 0.1
STATE PENNSYLVANIA COUNTY FAYETTE FIELD PERRYOPOLIS WELL NAME BROWN NO. 2 API 3705121108 LOCATION SEC. A, DAWSON 7.5 QUAD, PERRY TWP OWNER PENNECO OIL CO., INC. COMPLETED 991206 SAMPLED 020725 FORMATION DEVO-DEVONIAN U GEOLOGIC PROVINCE CODE 160.	METHANE	2.0 0.3 0.1 0.1 TRACE TRACE TRACE 1.1 0.0 0.0 0.1 0.0

^{*} 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

`	SAMPLE	21138		COMPONENT, MOLE PCT	
STATE		PENNSYL\	/ANIA	METHANE	92.6
		INI		ETHANE	2.8
				PROPANE	0.5
		PLUM C		N-BUTANE	0.1
		DICK NO		ISOBUTANE	0.1
		37063		N-PENTANE	
LOCATION	SEC. F, WASHING	GTON TWP, ELDERTON O	QUAD	ISOPENTANE	TRACE
OWNER	GREAT LA	KES ENERGY PARTNER:	S. LLC	CYCLOPENTANE	
COMPLETED		0	10615.	HEXANES PLUS	TRACE
SAMPLED		0;	30320	NITROGEN	
FORMATION		DEVO-DEVON	IIAN U	OXYGEN	
GEOLOGIC PRO	OVINCE CODE		160	ARGON	TRACE
TRUE VERTICA	L DEPTH (FT)		3680	HYDROGEN	
MEASURED DE	PTH			HYDROGEN SULFIDE**	
WELLHEAD PRI	ESSURE. PSIG		920	CARBON DIOXIDE	
	,			HELIUM	
,				HEATING VALUE*	1,010
				SPECIFIC GRAVITY	0.592
	SAMPLE	20928		COMPONENT, MOLE PCT	
			/ΔΝΙΔ	COMPONENT, MOLE PCT METHANE	86.1
STATE		PENNSYL\			
STATE		PENNSYL\ WA	RREN	METHANE	3.4
STATE COUNTY FIELD		PENNSYL\ WA STILLW	RREN (ATER.	METHANE	3.4 0.8
STATE COUNTY FIELD WELL NAME		PENNSYL\ WA STILLW BENEDICT	RREN ATER NO. 1.	METHANE ETHANE PROPANE	3.4 0.8 0.3
STATE COUNTY FIELD WELL NAME API		PENNSYL\ WA STILLW BENEDICT 37123	RREN /ATER NO. 1. 42947	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.4 0.8 0.3 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	SEC. E, LOTTSVIL	PENNSYL\ WA STILLW BENEDICT 37123- LE 7.5 QUAD, FREEHOLE	RREN ATER NO. 1 42947 D.TWP	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.4 0.8 0.3 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	SEC. E, LOTTSVIL	PENNSYL\ WA STILLW BENEDICT 37123	RREN ATER NO. 1 42947 D.TWP	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.4 0.8 0.3 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	SEC. E, LOTTSVIL	PENNSYL\ WA STILLW BENEDICT 37123- LE 7.5 QUAD, FREEHOLE	RREN. VATER. LNO. 1. 42947. D.TWP. V, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.4 0.8 0.3 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	SEC. E, LOTTSVIL	PENNSYLV WA STILLW BENEDICT 37123: LE 7.5 QUAD, FREEHOLI	RREN. (ATER. 1.NO. 1. 42947. D. TWP. V.INC. 10608.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.4 0.8 0.3 0.2 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	SEC. E, LOTTSVIL	PENNSYLV WA STILLW BENEDICT 37123- LE 7.5 QUAD, FREEHOLI NORNEW	RREN. VATER. 1.NO. 1. 42947. D.TWP. V.INC. 10608. 20508.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.4 0.8 0.3 0.2 0.1 0.1 0.1 8.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	SEC. E, LOTTSVIL	PENNSYLV WA STILLW BENEDICT 37123: LE 7.5 QUAD, FREEHOLL NORNEV 0: CILU-WHIRL	RREN. VATER. 1.NO. 1. 42947. D.TWP. V.INC. 10608. 20508.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.4 0.8 0.3 0.2 0.1 0.1 8.6 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PRO	SEC. E, LOTTSVIL	PENNSYLV WA STILLW BENEDICT 37123: LE 7.5 QUAD, FREEHOLL NORNEV 0: CILU-WHIRL	RREN. VATER. 1.NO. 1. 42947. D.TWP. V.INC. 10608. 20508. POOL 160.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.4 0.8 0.3 0.2 0.1 0.1 8.6 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PRO	SEC. E. LOTTSVIL	PENNSYL\ WA STILLW BENEDICT 37123- LE 7.5 QUAD, FREEHOLL NORNEV 0 SILU-WHIRL	RREN. (ATER. 1.NO. 1. 42947. D.TWP. V.INC. 10608. 20508. POOL. 160. 4476.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.4 0.8 0.3 0.2 0.1 0.1 0.1 8.6 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PRO TRUE VERTICA MEASURED DE	SEC. E, LOTTSVIL DVINCE CODE	PENNSYL\ WA STILLW BENEDICT 37123: LE 7.5 QUAD, FREEHOLE NORNEV 0: SILU-WHIRL	RREN. VATER. LNO. 1. 42947. D. TWP. V. INC. 10608. 20508. POOL. 160. 4476.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE*** CARBON DIOXIDE	3.4 0.8 0.3 0.2 0.1 0.1 8.6 0.0 0.0 0.1 0.0
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PRO TRUE VERTICA MEASURED DEI WELLHEAD PRI	SEC. E. LOTTSVIL DVINCE CODE L DEPTH (FT) PTH ESSURE, PSIG	PENNSYL\ WA STILLW BENEDICT 37123- LE 7.5 QUAD, FREEHOLL NORNEV 0 SILU-WHIRL	RREN. VATER. LNO. 1. 42947. D.TWP. V.INC. 10608. 20508. POOL. 160. 4476.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	3.4 0.8 0.3 0.2 0.1 0.1 8.6 0.0 0.0 0.1 0.1 0.1 0.1 0.1

^{*} 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

SAMPLE	20986	COMPONENT, MOLE PCT	
STATE	TEXAS	METHANE	61.4
COUNTY	DENTON	ETHANE	3.2
	BIG BUCK	PROPANE	1.5
	A & H SHERTZ NO. 1	N-BUTANE	
		ISOBUTANE	0.2
	4212130299	N-PENTANE	
	J. AYERS SUR., A-2	ISOPENTANE	0.1
	WAYNE HARPER	CYCLOPENTANE	
COMPLETED	780621	HEXANES PLUS	
SAMPLED	020628	NITROGEN	
FORMATION	PENN-JOHNSON SAND	OXYGEN	
GEOLOGIC PROVINCE CODE	420	ARGON	
TRUE VERTICAL DEPTH (FT)	1739	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	360	CARBON DIOXIDE	
OPEN FLOW, MCFD	2000	HELIUM	0.50
		HEATING VALUE*	736
		SPECIFIC GRAVITY	0.727
SAMPLE	20930	COMPONENT, MOLE PCT	
CTATE	TEXAS.	METHANE	62.7
-		ETHANE	3.2
	POTTER	PROPANE	1.5
	BIVINS RANCH	N-BUTANE	0.4
WELL NAME	BIVINS RANCH 207-H.	ISOBUTANE	0.2
API	4237531633	N-PENTANE	0.1
LOCATION	SEC 207, BLK 2, AB&M SUR	ISOPENTANE	0.1
OWNER	SAND RIVER O & F, LLC.	CYCLOPENTANE	- -
COMPLETED	011102	HEXANES PLUS	0.2
SAMPLED	020603	NITROGEN	24.5
FORMATION	PERM-BROWN DOLOMITE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	440	ARGON	0.1
		HYDROGEN	0.0
	4818	HYDROGEN SULFIDE**	0.0
	418	CARBON DIOXIDE	5.5
		HELIUM	1.41
UPEN FLOW MCED	42	LIE A TINIO \ /ALL IE*	700
OI EIVI EOVV, WOI D		HEATING VALUE*	7.09

^{*} 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

SAMPLE	21306	COMPONENT, MOLE PCT	
STATE	TEXAS.	METHANE	64.1
		ETHANE	3.3
	POTTER.	PROPANE	1.5
	BIVINS RANCH	N-BUTANE	0.4
	BIVINS RANCH 1-212	ISOBUTANE	0.2
	4237531359	N-PENTANE	0.1
LOCATION	SEC. 212, BLK 2, AB&M SUR	ISOPENTANE	0.1
OWNER	SAND RIVER O & E, LLC	CYCLOPENTANE	
COMPLETED	900615	HEXANES PLUS	0.1
SAMPLED	040504	NITROGEN	24.7
FORMATION	PERM-BROWN DOLOMITE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	440	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3467	HYDROGEN	0.1
, ,		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	3.7
		HELIUM	1.45
OF LINT LOVY, INICI D		HEATING VALUE*	785
		SPECIFIC GRAVITY	0.735
SAMPLE	21295	COMPONENT, MOLE PCT	
		COM CITETT, WOLL I OT	
CTATE	TEVAC	METHANE	64.1
	TEXAS		
COUNTY	POTTER	METHANE	3.4
COUNTY	POTTER BIVINS RANCH	METHANE	3.4 1.6
COUNTY	POTTER	METHANE ETHANE PROPANE	3.4 1.6 0.4
COUNTY FIELD WELL NAME	POTTER BIVINS RANCH	METHANE ETHANE PROPANE N-BUTANE	3.4 1.6 0.4 0.2
COUNTY FIELD WELL NAME API	POTTER BIVINS RANCH BIVINS RANCH 1-212	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.4 1.6 0.4 0.2 0.1
COUNTY FIELD WELL NAME API LOCATION	POTTER BIVINS RANCH BIVINS RANCH 1-212 4237531359	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.4 1.6 0.4 0.2 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER	POTTER BIVINS RANCH BIVINS RANCH 1-212 4237531359 SEC. 212, BLK 2, AB&M SUR	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.4 1.6 0.4 0.2 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	POTTER BIVINS RANCH BIVINS RANCH 1-212 4237531359 SEC. 212, BLK 2, AB&M SUR SAND RIVER O & E, LLC	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.4 1.6 0.4 0.2 0.1 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	POTTER BIVINS RANCH BIVINS RANCH 1-212 4237531359 SEC. 212, BLK 2, AB&M SUR SAND RIVER O & F, LLC 900615 040129	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.4 1.6 0.4 0.2 0.1 0.1 0.4 24.3
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	POTTER BIVINS RANCH BIVINS RANCH 1-212 4237531359 SEC. 212, BLK 2, AB&M SUR SAND RIVER O & E, LLC. 900615	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN	3.4 1.6 0.4 0.2 0.1 0.1 0.4 24.3 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	POTTER BIVINS RANCH BIVINS RANCH 1-212 4237531359 SEC. 212, BLK 2, AB&M SUR SAND RIVER O & E, LLC 900615 040129 PERM-BROWN DOLOMITE 440	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.4 1.6 0.4 0.2 0.1 0.1 0.4 24 3 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	POTTER BIVINS RANCH BIVINS RANCH 1-212 4237531359 SEC. 212, BLK 2, AB&M SUR SAND RIVER O. & E, LLC. 900615 040129 PERM-BROWN DOLOMITE 440 3467	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.4 1.6 0.4 0.2 0.1 0.1 24.3 0.0 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	POTTER BIVINS RANCH BIVINS RANCH 1-212 4237531359 SEC. 212, BLK 2, AB&M SUR SAND RIVER 0 & F, LLC 900615 040129 PERM-BROWN DOLOMITE 440 3467	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	3.4 1.6 0.4 0.2 0.1 0.1 24.3 0.0 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	POTTER BIVINS RANCH BIVINS RANCH 1-212 4237531359 SEC. 212, BLK 2, AB&M SUR SAND RIVER O. & F, LLC 900615 040129 PERM-BROWN DOLOMITE 440 3467	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	3.4 1.6 0.4 0.2 0.1 0.1 0.4 24.3 0.0 0.1 TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	POTTER BIVINS RANCH BIVINS RANCH 1-212 4237531359 SEC. 212, BLK 2, AB&M SUR SAND RIVER 0 & F, LLC 900615 040129 PERM-BROWN DOLOMITE 440 3467	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	3.4 1.6 0.4 0.2 0.1 0.1 0.4 24.3 0.0 0.1 TRACE 0.0 3.8

^{*} 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

SAMPLE	21387	COMPONENT, MOLE PCT	
STATE	TEXAS	METHANE	64.4
		ETHANE	3.4
	POTTER	PROPANE	1.6
	BIVINS RANCH	N-BUTANE	0.4
	BIVINS RANCH 1-212	ISOBUTANE	0.2
	4237531359	N-PENTANE	0.1
LOCATION	SEC. 212, BLK 2, AB&M SUR	ISOPENTANE	0.1
OWNER	SAND RIVER O & E, LLC	CYCLOPENTANE	
COMPLETED	900615	HEXANES PLUS	0.1
SAMPLED	040909	NITROGEN	24.3
FORMATION	PERM-BROWN DOLOMITE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	440	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3467	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	733.	CARBON DIOXIDE	3.8
	139	HELIUM	1.50
OPEN FLOW, MICFD	109.	HEATING VALUE*	787
		SPECIFIC GRAVITY	0.734
SAMPLE	21307	COMPONENT, MOLE PCT	
07475	TEVAO	METHANE	63.2
	TEXAS	ETHANE	3.6
	POTTER	PROPANE	1.8
	BIVINS RANCH	N-BUTANE	0.5
WELL NAME	BIVINS RANCH 1A-212	ISOBUTANE	
		ISOBUTANE	0.3
API	4237531628	N-PENTANE	
	4237531628 SEC. 212, BLK 2, AB&M SUR.		0.1
LOCATION		N-PENTANE	0.1 0.1
LOCATION	SEC. 212, BLK 2, AB&M SUR.	N-PENTANE	0.1 0.1
LOCATION OWNER COMPLETED	SEC. 212, BLK 2, AB&M SUR. SAND RIVER O & E, LLC.	N-PENTANE ISOPENTANE	0.1 0.1 0.2
LOCATION OWNER COMPLETED SAMPLED	SEC. 212, BLK 2, AB&M SUR. SAND RIVER O & E, LLC. 010103	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.1 0.2 27.6
LOCATION OWNER COMPLETED SAMPLED FORMATION	SEC. 212, BLK 2, AB&M SUR. SAND RIVER O & E, LLC. 010103 040504	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.1 0.2 27.6 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	SEC. 212, BLK 2, AB&M SUR. SAND RIVER O & E, LLC. 010103 040504 PERM-BROWN DOLOMITE 440	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.1 0.2 27.6 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SEC. 212, BLK 2, AB&M SUR. SAND RIVER O & E, LLC. 010103 040504 PERM-BROWN DOLOMITE 440.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 0.1 0.2 27.6 0.0 0.1 TRACE
LOCATION	SEC. 212, BLK 2, AB&M SUR. SAND RIVER O & E, LLC. 010103 040504 PERM-BROWN DOLOMITE 440. 5170.	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.1 0.1 0.2 27.6 0.0 0.1 TRACE
LOCATION	SEC. 212, BLK 2, AB&M SUR. SAND RIVER O & E, LLC. 010103 040504 PERM-BROWN DOLOMITE 440. 5170.	N-PENTANE	0.1 0.1 0.2 27.6 0.0 0.1 TRACE 0.0
LOCATION	SEC. 212, BLK 2, AB&M SUR. SAND RIVER O & E, LLC. 010103 040504 PERM-BROWN DOLOMITE 440. 5170.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.1 0.2 27.6 0.0 0.1 TRACE 0.0 0.5

^{*} 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

SAMPLE	20929	COMPONENT, MOLE PCT	
STATE	TEXAS	METHANE	61.3
	POTTER	ETHANE	3.5
		PROPANE	1.9
	BIVINS RANCH	N-BUTANE	0.5
	BIVINS RANCH 1A-212	ISOBUTANE	0.3
	4237531628	N-PENTANE	0.1
	SEC. 212, BLK 2, AB&M SUR.	ISOPENTANE	0.1
OWNER	SAND RIVER O & E. LLC	CYCLOPENTANE	
COMPLETED	010103	HEXANES PLUS	0.2
SAMPLED	020603.	NITROGEN	29.6
FORMATION	PERM-BROWN DOLOMITE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	440.	ARGON	0.2
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
	5170.	HYDROGEN SULFIDE**	0.0
	18.	CARBON DIOXIDE	0.5
OPEN FLOW, MCFD		HELIUM	1.79
OI LIVI LOVV, WIOI D	70.	HEATING VALUE*	777
		SPECIFIC GRAVITY	0.732
SAMPLE	21296	COMPONENT, MOLE PCT	
OTATE	TEVAO	METHANE	63.1
	TEXAS	ETHANE	3.6
COUNTY	<u>POTTER</u>		
		PROPANE	1.9
	BIVINS RANCH.	PROPANEN-BUTANE	
	BIVINS RANCH BIVINS RANCH 1A-212		0.5
WELL NAME		N-BUTANE	0.5 0.3
WELL NAMEAPI	BIVINS RANCH 1A-212	N-BUTANE	0.5 0.3 0.1
WELL NAMEAPI	BIVINS RANCH 1A-212 4237531628	N-BUTANEISOBUTANEN-PENTANE	0.5 0.3 0.1 0.1
WELL NAMEAPI	BIVINS RANCH 1A-212 4237531628 SEC. 212, BLK 2, AB&M SUR.	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	0.5 0.3 0.1 0.1
WELL NAME	BIVINS RANCH 1A-212 4237531628 SEC. 212, BLK 2, AB&M SUR SAND RIVER O & F, LLC	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.5 0.3 0.1 0.1
WELL NAME	BIVINS RANCH 1A-212 4237531628 SEC. 212, BLK 2, AB&M SUR SAND RIVER O & E, LLC. 010103	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE	0.5 0.3 0.1 0.1 0.2 27.7
WELL NAME	BIVINS RANCH 1A-212 4237531628 SEC. 212, BLK 2, AB&M SUR SAND RIVER O & F, LLC 010103 040129	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUS	0.5 0.3 0.1 0.1 0.2 27.7 0.0
WELL NAME	BIVINS RANCH 1A-212. 4237531628 SEC. 212, BLK 2, AB&M SUR. SAND RIVER O & E, LLC. 010103. 040129. PERM-BROWN DOLOMITE.	N-BUTANE	0.5 0.3 0.1 0.1 0.2 27.7 0.0
WELL NAME	BIVINS RANCH 1A-212 4237531628 SEC. 212, BLK 2, AB&M SUR. SAND RIVER O & E, LLC. 010103 040129 PERM-BROWN DOLOMITE 440	N-BUTANE	0.5 0.3 0.1 0.1 0.2 27.7 0.0 0.1 TRACE
WELL NAME	BIVINS RANCH 1A-212 4237531628 SEC 212, BLK 2, AB&M SUR SAND RIVER O & F, LLC 010103 040129 PERM-BROWN DOLOMITE 440	N-BUTANE	0.5 0.3 0.1 0.1 0.2 27.7 0.0 0.1 TRACE
WELL NAME	BIVINS RANCH 1A-212 4237531628 SEC. 212, BLK 2, AB&M SUR SAND RIVER O & E, LLC 010103 040129 PERM-BROWN DOLOMITE 440. 5170.	N-BUTANE	0.5 0.3 0.1 0.1 0.2 27.7 0.0 0.1 TRACE 0.0
WELL NAME	BIVINS RANCH 1A-212 4237531628 SEC 212, BLK 2, AB&M SUR SAND RIVER O & F, LLC 010103 040129 PERM-BROWN DOLOMITE 440	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.5 0.3 0.1 0.1 0.2 27.7 0.0 0.1 IRACE 0.0 0.5

^{*} 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

SAMPLE	21388	COMPONENT, MOLE PCT	
CTATE	TEXAS.	METHANE	63.2
		ETHANE	3.6
	POTTER	PROPANE	1.8
	BIVINS RANCH	N-BUTANE	0.5
WELL NAME	BIVINS RANCH 1A-212	ISOBUTANE	0.3
API	4237531628	N-PENTANE	0.1
LOCATION	SEC. 212, BLK 2, AB&M SUR	ISOPENTANE	0.1
OWNER	SAND RIVER O & E, LLC	CYCLOPENTANE	
COMPLETED	010103	HEXANES PLUS	0.2
SAMPLED	040909	NITROGEN	27.7
FORMATION	PERM-BROWN DOLOMITE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	440	ARGON	0.1
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
	5170.	HYDROGEN SULFIDE**	0.0
	583	CARBON DIOXIDE	0.5
,		HELIUM	0.0 0.5
OPEN FLOW, MICFD	43	HEATING VALUE*	795
		SPECIFIC GRAVITY	0.723
SAMPLE	21278	COMPONENT, MOLE PCT	
07475	TEVAO	METHANE	45.9
STATE	TEXAS		
001111771	D014#5	ETHANE	3.8
	BOWIE	ETHANEPROPANE	
	BOWIE MAUD		2.3
FIELD		PROPANE	2.3 1.3
FIELD	MAUD.	PROPANEN-BUTANE	2.3 1.3 0.7
FIELD WELL NAMEAPI	J.D. OWEN NO. 2	PROPANEN-BUTANEISOBUTANE	2.3 1.3 0.7 0.5
FIELD	.J.D. OWEN NO. 2. 4203730202	PROPANE N-BUTANE ISOBUTANE N-PENTANE	2.3 1.3 0.7 0.5
FIELD	MAUD. J.D. OWEN NO. 2 4203730202 J.S. HERRING SURVEY, A. 263	PROPANE	2.3 1.3 0.7 0.5 0.5
FIELD	MAUD. J.D. OWEN NO. 2. 4203730202 J.S. HERRING SURVEY, A. 263. ENERGYTEC, INC.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	2.3 1.3 0.7 0.5 0.5
WELL NAME	MAUD. J.D. OWEN NO. 2 4203730202 J.S. HERRING SURVEY, A. 263 ENERGYTEC, INC. 791215	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.3 1.3 0.7 0.5 0.5 0.7 30.6
FIELD	MAUD. "LD. OWEN NO. 2. 4203730202 "J.S. HERRING SURVEY, A. 263. ENERGYTEC, INC. 791215 030911	PROPANE	2.3 1.3 0.7 0.5 0.5 0.7 30.6
FIELD	MAUD. J.D. OWEN NO. 2 4203730202 J.S. HERRING SURVEY, A. 263 ENERGYTEC, INC. 791215 030911 JURA-SMACKOVER 260	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	2.3 1.3 0.7 0.5 0.5 0.7 30.6 0.3
WELL NAME	MAUD. J.D. OWEN NO. 2 4203730202 J.S. HERRING SURVEY, A. 263 ENERGYTEC, INC. 791215 030911 JURA-SMACKOVER 260. 8710.	PROPANE	2.3 1.3 0.7 0.5 0.5 0.7 30.6 0.3 0.0
FIELD	MAUD. J.D. OWEN NO. 2 4203730202 J.S. HERRING SURVEY, A. 263 ENERGYTEC, INC. 791215 030911 JURA-SMACKOVER 260 8710	PROPANE	2.3 1.3 0.7 0.5 0.5 0.7 30.6 0.3 0.0 0.0
WELL NAME	MAUD. J.D. OWEN NO. 2. 4203730202 J.S. HERRING SURVEY, A. 263. ENERGYTEC, INC. 791215 030911. JURA-SMACKOVER 260. 8710.	PROPANE	2.3 1.3 0.7 0.5 0.5 0.7 30.6 0.3 0.0 0.0 6.2 7.1
WELL NAME	MAUD. J.D. OWEN NO. 2 4203730202 J.S. HERRING SURVEY, A. 263 ENERGYTEC, INC. 791215 030911 JURA-SMACKOVER 260 8710	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	2.3 1.3 0.7 0.5 0.5 0.7 30.6 0.3 0.0 0.0 6.2 7.1

^{*} 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

SAMPLE 21023	COMPONENT, MOLE PCT	
STATE TEXAS	METHANE	88.6
COUNTY DENTON	ETHANE	6.5
FIELD NEWARK E.	PROPANE	1.7
WELL NAMECLYDE NICHOLSON NO. 4	N-BUTANE	0.4
	ISOBUTANE	
API 4212131310	N-PENTANE	0.1
LOCATIONCARMEL_MANCHACA.SURVEY_	ISOPENTANE	
OWNER WAYNE HARPER	CYCLOPENTANE	
COMPLETED020507_	HEXANES PLUS	
SAMPLED020723_	NITROGEN	
FORMATION MISS-BARNETT SHALE	OXYGEN	
GEOLOGIC PROVINCE CODE420_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)8552	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG2100	CARBON DIOXIDE	1.4
OPEN FLOW, MCFD2100	HELIUM	0.02
51 E11 E511, 1151 D	HEATING VALUE*	1,095
SAMPLE 21027	COMPONENT, MOLE PCT	
STATETEXAS	METHANE	
COUNTY	ETHANE	10.2
FIELD NEWARK E	PROPANE	4.3
WELL NAME	N-BUTANE	
	ISOBUTANE	0.5
API 4212130867	N-PENTANE	
LOCATIONBBB&C RAILROAD SURVEY, A-169	ISOPENTANE	0.2
OWNERDALLAS PRODUCTION, INC.	CYCLOPENTANE	
COMPLETED 010216	HEXANES PLUS	0.3
SAMPLED020909_	NITROGEN	1_4
FORMATION MISS-BARNETT SHALE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE420	ARGON	0.0
	HYDROGEN	
TRUE VERTICAL DEPTH (FT)8490		0.0
TRUE VERTICAL DEPTH (FT)8490. MEASURED DEPTH	HYDROGEN SULFIDE**	
(CARBON DIOXIDE	0.3
MEASURED DEPTH	CARBON DIOXIDEHELIUM	0.3 0.04
MEASURED DEPTH	CARBON DIOXIDE	0.3 0.04 1,190

^{*} 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

SAMPLE 2	21028	COMPONENT, MOLE PCT	
STATE	TFYAS	METHANE	82.7
COUNTY		ETHANE	8.5
		PROPANE	3.4
FIELD		N-BUTANE	1.1
WELL NAME		ISOBUTANE	0.7
API		N-PENTANE	0.4
LOCATIONELIZANO	***************************************	ISOPENTANE	0.5
OWNERDA	LLAS PRODUCTION, INC.	CYCLOPENTANE	
COMPLETED	020404	HEXANES PLUS	0.6
SAMPLED	020909	NITROGEN	1.4
FORMATION	MISS-BARNETT SHALE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	420	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	8628	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	0.6
OPEN FLOW, MCFD		HELIUM	0.05
OF ENT LOW, INC. D	000	HEATING VALUE*	1,196
		SPECIFIC GRAVITY	0.696
SAMPLE 2	21284	COMPONENT, MOLE PCT	
STATE	TEVAC	METHANE	63.3
COUNTY		ETHANE	7.5
		PROPANE	5.7
FIELD		N-BUTANE	1.6
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.4
LOCATION	A. MIZELL SUR., A-488	ISOPENTANE	0.4
OWNER	HEP OIL COMPANY, LTD	CYCLOPENTANE	
COMPLETED	030301	HEXANES PLUS	0.5
SAMPLED	031007	NITROGEN	9.5
FORMATION	MISS-BARNETT SHALE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	420	ARGON	0.2
TRUE VERTICAL DEPTH (FT)	8500	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	10.5
OPEN FLOW, MCFD		HELIUM	
OI LIVI LOVV, IVIOI D	ΔΩΩ_	HEATING VALUE*	1.036
		112 (1110 17 1202	,

^{*} 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

SAMPLE	20944	COMPONENT, MOLE PCT	
STATE	UTAH	METHANE	88.2
	GRAND	ETHANE	5.2
		PROPANE	2.0
	BAR X	N-BUTANE	0.6
	FEDERAL NO. 6-14	ISOBUTANE	0.4
	4301930462	N-PENTANE	0.2
	SEC. 11, T17S, R25E.	ISOPENTANE	0.3
OWNER	LONE MOUNTAIN PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	790515	HEXANES PLUS	0.4
SAMPLED	020618	NITROGEN	1.7
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	E585.	ARGON	0.0
)4353_	HYDROGEN	TRACE
	,	HYDROGEN SULFIDE**	0.0
	G	CARBON DIOXIDE	0.8
		HELIUM	0.16
OPEN FLOW, MICFD	944	HEATING VALUE*	1,108
		SPECIFIC GRAVITY	0.646
SAMPLE	20935	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	78.1
STATE	UTAH.		
STATE	UTAH GRAND	METHANE	8.4
STATE COUNTY	UTAH GRAND BRYSON CANYON	METHANE	8.4 6.4
STATE COUNTY	UTAH GRAND	METHANE ETHANEPROPANE	8.4 6.4 2.1
STATE COUNTY FIELD WELL NAME	UTAH GRAND BRYSON CANYON	METHANE ETHANE PROPANE N-BUTANE	8.4 6.4 2.1 1.2
STATE COUNTY FIELD WELL NAME	UTAH GRAND BRYSON CANYON BRYSON CANYON NO 7-A.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	8.4 6.4 2.1 1.2 0.5
STATE	UTAH GRAND BRYSON CANYON BRYSON CANYON NO. 7-A. 4301911310	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	8.4 6.4 2.1 1.2 0.5 0.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	UTAH GRAND BRYSON CANYON BRYSON CANYON NO. 7-A 4301911310 SEC. 9, T17S, R24E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	8.4 6.4 2.1 1.2 0.5 0.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	UTAH. GRAND BRYSON CANYON. BRYSON CANYON NO. 7-A. 4301911310 SEC. 9, T17S, R24E. TREND OIL CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	8.4 6.4 2.1 1.2 0.5 0.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	UTAH GRAND BRYSON CANYON BRYSON CANYON NO. 7-A. 4301911310 SEC. 9, T17S, R24E TREND OIL CO. 631222	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	8.4 6.4 2.1 1.2 0.5 0.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	UTAH GRAND BRYSON CANYON BRYSON CANYON NO. 7-A 4301911310 SEC. 9, T17S, R24E TREND OIL CO. 631222 020617. CRET-CASTLEGATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	8.4 6.4 2.1 1.2 0.5 0.6 0.8 0.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODI	UTAH GRAND BRYSON CANYON BRYSON CANYON NO. 7-A 4301911310 SEC. 9, T17S, R24E TREND OIL CO. 631222 020617. CRET-CASTLEGATE E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	8.4 6.4 2.1 1.2 0.5 0.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT	UTAH GRAND BRYSON CANYON BRYSON CANYON NO. 7-A 4301911310 SEC. 9, T17S, R24E TREND OIL CO. 631222 020617. CRET-CASTLEGATE E 585.) 1775.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	8.4 6.4 2.1 1.2 0.5 0.6 0.8 0.9 0.0 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODITRUE VERTICAL DEPTH (FT	UTAH GRAND BRYSON CANYON BRYSON CANYON NO. 7-A. 4301911310 SEC. 9, T17S, R24E TREND OIL CO. 631222 020617. CRET-CASTLEGATE E 585.) 17775.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	8.4 6.4 2.1 1.2 0.5 0.6 0.8 0.9 0.0 0.1 TRACE
STATE	UTAH GRAND BRYSON CANYON BRYSON CANYON NO. 7-A. 4301911310 SEC. 9, T17S, R24E TREND OIL CO. 631222 020617. CRET-CASTLEGATE E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	8.4 6.4 2.1 1.2 0.5 0.6 0.8 0.0 0.1 TRACE 0.0
STATE	UTAH GRAND BRYSON CANYON BRYSON CANYON NO. 7-A. 4301911310 SEC. 9, T17S, R24E TREND OIL CO. 631222 020617. CRET-CASTLEGATE E 585.) 17775.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	8.4 6.4 2.1 1.2 0.5 0.6 0.8 0.1 TRACE 0.0 0.8

 $^{^{\}star}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

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

SAMPLE	21004	COMPONENT, MOLE PCT	
STATE	ΙΙΤΔΗ	METHANE	93.8
COUNTY		ETHANE	0.4
		PROPANE	0.1
	CASTLEGATE	N-BUTANE	TRACE
WELL NAME		ISOBUTANE	TRACE
	4300730137	N-PENTANE	0.0
LOCATION	SEC. 9, T12S, R10E	ISOPENTANE	
OWNER	J.M. HUBER CORP.	CYCLOPENTANE	
COMPLETED	001006	HEXANES PLUS	0.0
SAMPLED	020730	NITROGEN	0.1
FORMATION	CRET-BLACKHAWK	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	575	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	4768	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	5.6
,	72	HELIUM	TRACE
OI EIVI EOVV, INIOI D		HEATING VALUE*	958
		SPECIFIC GRAVITY	0.611
SAMPLE	21003	COMPONENT, MOLE PCT	
CTATE		METHANE	90.8
	UTAH	ETHANE	0.4
COUNTY		PROPANE	0.1
FIELD		N-BUTANE	TRACE
WELL NAME		ISOBUTANE	TRACE
API	4000=00400		
	4300/30162	N-PENTANE	
LOCATION		N-PENTANE	0.0
	SEC. 10, T12S, R10E.		0.0
OWNER	SEC. 10, T12S, R10E.	ISOPENTANE	0.0
OWNER	SEC. 10, T12S, R10E JM. HUBER CORP.	ISOPENTANE	0.0 0.0
OWNER	SEC. 10, T12S, R10E. J.M. HUBER CORP. 000622	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.0 0.0 0.0 0.1
OWNER COMPLETED SAMPLED FORMATION	SEC. 10, T12S, R10E. J.M. HUBER CORP. 000622 020730. CRET-BLACKHAWK	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.0 0.0 0.0 0.1 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	SEC. 10, T12S, R10E JM. HUBER CORP. 000622 020730. CRET-BLACKHAWK. 575.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.0 0.0 0.0 0.0 0.1 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SEC. 10, T12S, R10E. J.M. HUBER CORP. 000622 020730. CRET-BLACKHAWK 575. 4758.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.0 0.0 0.0 0.0 0.1 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SEC. 10, T12S, R10E J.M. HUBER CORP. 000622 020730 CRET-BLACKHAWK 575. 4758.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.0 0.0 0.0 0.1 0.0 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SEC. 10, T12S, R10E J.M. HUBER CORP. 000622 020730. CRET-BLACKHAWK 575 4758	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	SEC. 10, T12S, R10E J.M. HUBER CORP. 000622 020730. CRET-BLACKHAWK 575 4758	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.0

^{*} 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

SAMPLE	21345	COMPONENT, MOLE PCT	
STATE	IIT∧⊔	METHANE	78.8
		ETHANE	6.8
COUNTY		PROPANE	3.4
FIELD		N-BUTANE	1.7
WELL NAMECROOKED	CANYON NO. 13-17-14-23	ISOBUTANE	8.0
API	4304730619	N-PENTANE	0.5
LOCATION	SEC 17, T14S, R23E	ISOPENTANE	0.7
OWNEREVERO	GREEN OPERATING CORP.	CYCLOPENTANE	
COMPLETED	800805	HEXANES PLUS	1.0
SAMPLED	040817	NITROGEN	5.7
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	575	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.7
OPEN FLOW, MCFD		HELIUM	0.07
OFEN FLOW, MCFD	134	HEATING VALUE*	1,177
		SPECIFIC GRAVITY	0.732
SAMPLE :	21010	COMPONENT, MOLE PCT	
CTATE	LITALI	METHANE	99.7
STATE		ETHANE	0.2
COUNTY		PROPANE	0.0
FIELD		N-BUTANE	0.0
WELL NAME		ISOBUTANE	0.0
API	4300730296	N-PENTANE	0.0
LOCATION	SEC. 17, T15S, R10E	ISOPENTANE	0.0
OWNER			
	PHILLIPS PETROLEUM CO.	CYCLOPENTANE	- -
COMPLETED		CYCLOPENTANEHEXANES PLUS	
COMPLETEDSAMPLED	990518		TRACE
	990518 020731	HEXANES PLUS	TRACE
SAMPLED	990518 020731 CRET-FERRON	HEXANES PLUS	TRACE
SAMPLEDFORMATIONGEOLOGIC PROVINCE CODE	990518 020731 CRET-FERRON 575	HEXANES PLUS NITROGEN OXYGEN	TRACE TRACE 0.0
SAMPLEDFORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	990518 020731 CRET-FERRON 575 1315	HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE TRACE 0.0 TRACE
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	990518 020731 CRET-FERRON 575 1315	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	TRACE TRACE 0.0 TRACE
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	990518 020731 CRET-FERRON 575 1315	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	TRACE TRACE 0.0 TRACE 0.0 TRACE 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	990518 020731 CRET-FERRON 575 1315	HEXANES PLUS	TRACE TRACE 0.0 0.0 TRACE 0.0 0.1 0.0

^{*} 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

SAMPLE	21009	COMPONENT, MOLE PCT	
STATE	ΙΙΤΔΗ	METHANE	95.4
COUNTY		ETHANE	0.1
		PROPANE	0.0
FIELD		N-BUTANE	0.0
WELL NAME		ISOBUTANE	0.0
API		N-PENTANE	0.0
LOCATION		ISOPENTANE	0.0
OWNER	PHILLIPS PETROLEUM CO.	CYCLOPENTANE	
COMPLETED	991109	HEXANES PLUS	0.0
SAMPLED	020731	NITROGEN	0.2
FORMATION	CRET-FERRON	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	575	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	3174	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	4.3
OPEN FLOW, MCFD		HELIUM	TRACE
OPEN FLOW, MICFD	2404	HEATING VALUE*	967
		SPECIFIC GRAVITY	0.597
SAMPLE	21012	COMPONENT, MOLE PCT	
CTATE		METHANE	96.1
STATE	UIAH		
OOLINTY/		ETHANE	
	CARBON	ETHANEPROPANE	0.1
FIELD	CARBON DRUNKARDS WASH		0.1 TRACE
FIELD	CARBON DRUNKARDS WASH RGC NO. 25-460.	PROPANE	0.1 TRACE 0.0
FIELD	CARBON DRUNKARDS WASH RGC NO. 25-460.	PROPANE N-BUTANE	0.1 TRACE 0.0 0.0
FIELD WELL NAME API	CARBON DRUNKARDS WASH RGC NO. 25-460 4300730747	PROPANEN-BUTANEISOBUTANE	0.1 TRACE 0.0 0.0
FIELD	CARBON DRUNKARDS WASH RGC NO. 25-460. 4300730747 SEC. 25, T15S, R8E	PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.1 TRACE 0.0 0.0 0.0 0.0
FIELD WELL NAME API LOCATION OWNER	CARBON DRUNKARDS WASH RGC NO. 25-460 4300730747 SEC. 25, T15S, R8E PHILLIPS PETROLEUM CO.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.1 TRACE 0.0 0.0 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	CARBON DRUNKARDS WASH RGC NO. 25-460 4300730747 SEC. 25, T15S, R8E PHILLIPS PETROLEUM CO. 010914	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.1 TRACE 0.0 0.0 0.0 0.0
FIELD	CARBON DRUNKARDS WASH RGC NO. 25-460 4300730747 SEC. 25, T15S, R8E PHILLIPS PETROLEUM CO. 010914 020731	PROPANE	0.1 TRACE 0.0 0.0 0.0 0.0 0.0
FIELD	CARBON DRUNKARDS WASH RGC NO. 25-460 4300730747 SEC. 25, T15S, R8E PHILLIPS PETROLEUM CO. 010914 020731. CRET-FERRON	PROPANE	0.1 TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
WELL NAME	CARBON DRUNKARDS WASH RGC NO. 25-460. 4300730747 SEC. 25, T15S, R8E PHILLIPS PETROLEUM CO. 010914 020731 CRET-FERRON. 575	PROPANE	0.1 TRACE 0.0 0.0 0.0 0.0 0.0 0.4 0.0
FIELD	CARBON DRUNKARDS WASH RGC NO. 25-460 4300730747 SEC. 25, T15S, R8E PHILLIPS PETROLEUM CO. 010914 020731 CRET-FERRON 575. 3526	PROPANE	0.1 TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 TRACE
FIELD	CARBON DRUNKARDS WASH RGC NO. 25-460. 4300730747 SEC. 25, T15S, R8E PHILLIPS PETROLEUM CO. 010914 020731. CRET-FERRON 575. 3526.	PROPANE	0.1 TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 TRACE
WELL NAME	CARBON DRUNKARDS WASH RGC NO. 25-460. 4300730747 SEC. 25, T15S, R8E PHILLIPS PETROLEUM CO. 010914 020731 CRET-FERRON 575. 3526.	PROPANE	0.1 TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 TRACE 0.0
FIELD	CARBON DRUNKARDS WASH RGC NO. 25-460. 4300730747 SEC. 25, T15S, R8E PHILLIPS PETROLEUM CO. 010914 020731 CRET-FERRON 575. 3526.	PROPANE	0.1 TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 TRACE 0.0 3.3 TRACE

^{*} 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

SAMPLE 21011		COMPONENT, MOLE PCT	
STATEUT	ГДН	METHANE	95.6
COUNTY CARB		ETHANE	0.1
		PROPANE	0.0
FIELD DRUNKARDS.WA		N-BUTANE	0.0
WELL NAME USA NO. 11-2		ISOBUTANE	0.0
API43007304		N-PENTANE	0.0
LOCATION SEC. 11, T15S, F		ISOPENTANE	0.0
OWNER PHILLIPS PETROLEUM (<u>CO.</u>	CYCLOPENTANE	
COMPLETED0009	<u> 313</u>	HEXANES PLUS	TRACE
SAMPLED0207	731	NITROGEN	0.5
FORMATIONCRET-FERR	<u>kon</u>	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	575.	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	319	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	3.8
OPEN FLOW, MCFD 93		HELIUM	0.01
Of EIVI EOW, MOI D	233	HEATING VALUE*	970
		SPECIFIC GRAVITY	0.593
SAMPLE 21389		COMPONENT, MOLE PCT	
CTATE	FALL	METHANE	87.5
STATE UI		ETHANE	5.1
COUNTY GRA		PROPANE	1.4
FIELDFAST CANY			
	.CIN.	N-BUTANE	0.3
WELL NAMEANDERSON FEDERAL 2		N-BUTANE	
	2-12		0.3
API4301930 ⁻	2-12 136	ISOBUTANE	0.3 0.1
API 43019301 LOCATION SEC 12, T16S, R3	2-12 136 24E	ISOBUTANE	0.3 0.1 0.1
API	2-12 136 24E RP	ISOBUTANEISOPENTANE	0.3 0.1 0.1
API 43019302 LOCATION SEC 12, T16S, R2 OWNER EVERGREEN OPERATING COL COMPLETED 7307	2-12. 136. 24E. RP 725.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.3 0.1 0.1 0.1
API	2-12 136 24E RP 725	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.3 0.1 0.1 0.1 3.5
API 4301930 LOCATION SEC 12, T16S, R; OWNER EVERGREEN OPERATING COI COMPLETED 7300 SAMPLED 0408 FORMATION CRET-DAKOTA, CEDAR MOUNT,	2-12. 136. 24E. RP 725. 800.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.3 0.1 0.1 0.1 3.5 0.0
WELL NAME ANDERSON FEDERAL 2 API 4301930* LOCATION SEC 12, T16S, R3 OWNER EVERGREEN OPERATING COI COMPLETED 7307 SAMPLED 0408 FORMATION CRET-DAKOTA, CEDAR MOUNT, GEOLOGIC PROVINCE CODE 5 TRUE VERTICAL DEPTH (FT) 667	2-12. 136. 24E. RP. 725. 800. AIN.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.3 0.1 0.1 0.1 3.5 0.0
API	2-12. 136. 24E. RP 725. 800. AIN. 585.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.3 0.1 0.1 0.1 3.5 0.0 0.1 TRACE
API 4301930: LOCATION SEC 12, T16S, R: OWNER EVERGREEN OPERATING COI COMPLETED 7307: SAMPLED 0408 FORMATION CRET-DAKOTA, CEDAR MOUNT, GEOLOGIC PROVINCE CODE 5 TRUE VERTICAL DEPTH (FT) 62 MEASURED DEPTH	2-12. 136. 24E. RP. 725. 800. AIN. 585.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.3 0.1 0.1 0.1 3.5 0.0 0.1 TRACE
API	2-12. 136. 24E. RP. 725. 800. AIN. 585.	ISOBUTANE N-PENTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.3 0.1 0.1 0.1 3.5 0.0 0.1 TRACE 0.0
API 4301930: LOCATION SEC 12, T16S, R: OWNER EVERGREEN OPERATING COI COMPLETED 7307: SAMPLED 0408 FORMATION CRET-DAKOTA, CEDAR MOUNT, GEOLOGIC PROVINCE CODE 5 TRUE VERTICAL DEPTH (FT) 62 MEASURED DEPTH	2-12. 136. 24E. RP. 725. 800. AIN. 585.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.3 0.1 0.1 0.1 3.5 0.0 0.1 TRACE 0.0 1.5

^{*} 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

SAMPLE 21384	COMPONENT, MOLE PCT	
STATE UTAH	METHANE	83.3
COUNTY GRAND	ETHANE	5.4
	PROPANE	1.6
FIELD EAST CANYON.	N-BUTANE	0.4
WELL NAMEEAST CANYON B 22-17 NO. 22	ISOBUTANE	0.3
API 4301916202	N-PENTANE	0.1
LOCATION SEC 17, T16S, R25E	ISOPENTANE	0.2
OWNER BEARTOOTH OIL & GAS CO.	CYCLOPENTANE	
COMPLETED630805_	HEXANES PLUS	0.4
SAMPLED040826_	NITROGEN	6.7
FORMATIONCRET-DAKOTA, CEDAR MOUNTAIN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE585_	ARGON	
TRUE VERTICAL DEPTH (FT)6830	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	1.4
OPEN FLOW, MCFD	HELIUM	0.12
01 E111 E011, 1101 D	HEATING VALUE*	1,033
	SPECIFIC GRAVITY	0.662
SAMPLE 21380	COMPONENT, MOLE PCT	
STATE UTAH	METHANE	93.1
COUNTY UINTAH	ETHANE	3.4
	PROPANE	0.8
FIELD EIGHT MILE FLAT.N.	N-BUTANE	0.2
WELL NAMEFEDERAL_NO. 16-26A	ISOBUTANE	0.2
API 4304733601	N-PENTANE	0.1
LOCATION SEC 26, T9S, R18E	ISOPENTANE	0.1
OWNERDOMINION EXPLORATION & PRODUCTION, INC.	CYCLOPENTANE	==
		0.1
COMPLETED011108	HEXANES PLUS	
COMPLETED 011108 SAMPLED 040819	NITROGEN	1.4
SAMPLED040819_		
SAMPLED040819_ FORMATIONEOCE-CHAPITA WELLS, CRET-MESAVERDE	NITROGENOXYGENARGON	0.0 TRACE
	NITROGEN	0.0 TRACE
SAMPLED040819_ FORMATIONEOCE-CHAPITA WELLS, CRET-MESAVERDE GEOLOGIC PROVINCE CODE575_ TRUE VERTICAL DEPTH (FT)9363.	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.0 TRACE 0.0 0.0
SAMPLED040819. FORMATIONEOCE-CHAPITA WELLS, CRET-MESAVERDE GEOLOGIC PROVINCE CODE575. TRUE VERTICAL DEPTH (FT)9363. MEASURED DEPTH	NITROGEN OXYGEN ARGON HYDROGEN	0.0 TRACE 0.0 0.0
SAMPLED	NITROGEN	0.0 TRACE 0.0 0.0 0.7 0.02
SAMPLED040819_ FORMATIONEOCE-CHAPITA WELLS, CRET-MESAVERDE GEOLOGIC PROVINCE CODE575_	NITROGEN	0.0 TRACE 0.0 0.0 0.7 0.02

^{*} 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

	COMPONENT, MOLE PCT
STATE UTAH	METHANE96.
COUNTY UINTAH	ETHANE1.
	PROPANE0_
FIELD FLAT ROCK	N-BUTANETRAC
WELL NAME	ISOBUTANETRAC
API4304733617_	N-PENTANE0.
LOCATION SEC. 29, T14S, R20E	ISOPENTANE TRAC
OWNER AQUARIUS ENERGY RESOURCES	CYCLOPENTANE
COMPLETED011018_	HEXANES PLUSTRAC
SAMPLED020730_	NITROGEN0.
FORMATIONCRET-CEDAR MOUNTAIN	OXYGEN0.
GEOLOGIC PROVINCE CODE575_	ARGON0.
TRUE VERTICAL DEPTH (FT)	HYDROGENTRAC
MEASURED DEPTH	HYDROGEN SULFIDE**0.
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE1.
OPEN FLOW, MCFD 916	HELIUM0.0
Of ENT LOW, MOI D	HEATING VALUE*1,00
	SPECIFIC GRAVITY0.57
SAMPLE 21000	COMPONENT, MOLE PCT
OTATE UTALL	METHANE92.
STATEUTAH	WETT VAL
	ETHANE 2.
	ETHANE2.
FIELD FLAT ROCK	ETHANE 2. PROPANE 0. N-BUTANE 0.
FIELDFLAT_ROCK. WELL NAME DEL-RIO/ORION NO. 29-6A.	ETHANE 2. PROPANE 0. N-BUTANE 0.
FIELD	ETHANE 2. PROPANE 0. N-BUTANE 0. ISOBUTANE 0. N-PENTANE 0.
FIELD FLAT ROCK WELL NAME DEL-RIO/ORION NO. 29-6A API 4304734102 LOCATION SEC. 29, T14S, R20E	ETHANE 2. PROPANE 0. N-BUTANE 0. ISOBUTANE 0. N-PENTANE 0. ISOPENTANE 0.
FIELD FLAT ROCK WELL NAME DEL-RIO/ORION NO. 29-6A API 4304734102 LOCATION SEC. 29, T14S, R20E OWNER AQUARIUS ENERGY RESOURCES	ETHANE
FIELD FLAT ROCK WELL NAME DEL-RIO/ORION NO. 29-6A API 4304734102 LOCATION SEC. 29, T14S, R20E OWNER AQUARIUS ENERGY RESOURCES COMPLETED 020109	ETHANE
FIELD FLAT ROCK WELL NAME DEL-RIO/ORION NO. 29-6A API 4304734102 LOCATION SEC. 29, T14S, R20E OWNER AQUARIUS ENERGY RESOURCES COMPLETED 020109 SAMPLED 020730	ETHANE
FIELD FLAT ROCK WELL NAME DEL-RIO/ORION NO. 29-6A API 4304734102 LOCATION SEC. 29, T14S, R20E OWNER AQUARIUS ENERGY RESOURCES. COMPLETED 020109 SAMPLED 020730 FORMATION JURA-CURTIS, ENTRADA	ETHANE
FIELD FLAT ROCK WELL NAME DEL-RIO/ORION NO. 29-6A API 4304734102 LOCATION SEC. 29, T14S, R20E OWNER AQUARIUS ENERGY RESOURCES COMPLETED 020109 SAMPLED 020730 FORMATION JURA-CURTIS, ENTRADA GEOLOGIC PROVINCE CODE 575	ETHANE
FIELD FLAT ROCK WELL NAME DEL-RIO/ORION NO. 29-6A API 4304734102 LOCATION SEC. 29, T14S, R20E OWNER AQUARIUS ENERGY RESOURCES COMPLETED 020109 SAMPLED 020730 FORMATION JURA-CURTIS, ENTRADA GEOLOGIC PROVINCE CODE 575 TRUE VERTICAL DEPTH (FT) 11640	ETHANE
FIELD FLAT ROCK WELL NAME DEL-RIO/ORION NO. 29-6A API 4304734102 LOCATION SEC. 29, T14S, R20E OWNER AQUARIUS ENERGY RESOURCES COMPLETED 020109 SAMPLED 020730 FORMATION JURA-CURTIS, ENTRADA GEOLOGIC PROVINCE CODE 575 TRUE VERTICAL DEPTH (FT) 11640 MEASURED DEPTH	ETHANE
FIELD FLAT ROCK WELL NAME DEL-RIO/ORION NO. 29-6A API 4304734102 LOCATION SEC. 29, T14S, R20E OWNER AQUARIUS ENERGY RESOURCES COMPLETED 020109 SAMPLED 020730 FORMATION JURA-CURTIS, ENTRADA GEOLOGIC PROVINCE CODE 575 TRUE VERTICAL DEPTH (FT) 11640 MEASURED DEPTH WELLHEAD PRESSURE, PSIG	ETHANE
COUNTY	ETHANE

^{*} 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

	COMPONENT, MOLE PCT	
STATE UTAH	METHANE	95.8
COUNTY UINTAH	ETHANE	1.5
	PROPANE	0.3
FIELD FLAT ROCK	N-BUTANE	0.1
WELL NAME	ISOBUTANE	0.1
API 4304733596	N-PENTANE	TRACE
LOCATION SEC. 30, T14S, R20E	ISOPENTANE	0.1
OWNERAQUARIUS ENERGY RESOURCES	CYCLOPENTANE	
COMPLETED011107_	HEXANES PLUS	0.2
SAMPLED020730.	NITROGEN	0.3
FORMATIONCRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE575_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)10846	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	1.5
,	HELIUM	0.01
OPEN FLOW, MCFD 93	HEATING VALUE*	1,026
	SPECIFIC GRAVITY	0.591
SAMPLE 21001	COMPONENT, MOLE PCT METHANE	85.5
STATE UTAH	METHANE	
STATEUTAH COUNTYUINTAH	, -	7.0
STATEUTAH COUNTYUINTAH	METHANE	7.0 3.5
STATEUTAH COUNTYUINTAH FIELDFLAT ROCK.	METHANE ETHANE PROPANE	7.0 3.5 1.0
STATEUTAH. COUNTYUINTAH FIELDFLAT.ROCK. WELL NAMEDEL-RIO/ORION.NO. 30-3A.	METHANE ETHANE PROPANE N-BUTANE	7.0 3.5 1.0 0.7
SAMPLE 21001 STATE UTAH COUNTY UINTAH FIELD FLAT ROCK WELL NAME DEL-RIO/ORION NO. 30-3A. API 4304710913 LOCATION SEC. 30, T14S, R20E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	7.0 3.5 1.0 0.7 0.3
STATE UTAH COUNTY UINTAH FIELD FLAT ROCK WELL NAME DEL-RIO/ORION NO. 30-3A API 4304710913 LOCATION SEC. 30, T14S, R20E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	7.0 3.5 1.0 0.7 0.3
STATEUTAH COUNTYUINTAH FIELDFLAT ROCK. WELL NAMEDFL-RIO/ORION NO. 30-3A. API4304710913 LOCATIONSEC. 30, T14S, R20E OWNERPEGASUS ENERGY RESOURCES.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	7.0 3.5 1.0 0.7 0.3 0.4
STATE UTAH COUNTY UINTAH FIELD FLAT ROCK WELL NAME DFL-RIO/ORION NO. 30-3A API 4304710913	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	7.0 3.5 1.0 0.7 0.3 0.4
STATE UTAH COUNTY UINTAH FIELD FLAT ROCK WELL NAME DEL-RIO/ORION NO. 30-3A API 4304710913 LOCATION SEC. 30, T14S, R20E OWNER PEGASUS ENERGY RESOURCES COMPLETED 981119 SAMPLED 020730.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	7.0 3.5 1.0 0.7 0.3 0.4 0.9
STATE UTAH COUNTY UINTAH FIELD FLAT ROCK WELL NAME DEL-RIO/ORION NO. 30-3A API 4304710913 LOCATION SEC. 30, T14S, R20E OWNER PEGASUS ENERGY RESOURCES COMPLETED 981119 SAMPLED 020730 FORMATION EOCE-WASATCH	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	7.0 3.5 1.0 0.7 0.3 0.4 0.9 0.4
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	7.0 3.5 1.0 0.7 0.3 0.4 0.9 0.4 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	7.0 3.5 1.0 0.7 0.3 0.4 0.9 0.4 0.0 0.0
STATE	METHANE	7.0 3.5 1.0 0.7 0.3 0.4 0.9 0.4 0.0 0.0
STATE	METHANE	7.0 3.5 1.0 0.7 0.3 0.4 0.9 0.4 0.0 0.0 0.0 0.0
STATE	METHANE	7.0 3.5 1.0 0.7 0.3 0.4 0.9 0.4 0.0 0.0 0.0

^{*} 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

SAMPLE 21002	COMPONENT, MOLE PCT	
STATE UTAH	METHANE	88.0
	ETHANE	6.4
COUNTY UINTAH	PROPANE	3.0
FILAT ROCK	N-BUTANE	0.7
WELL NAMEFLATROCK NO. 30-2A	ISOBUTANE	0.5
API4304730641	N-PENTANE	0.2
LOCATION SEC. 30, T14S, R20E	ISOPENTANE	0.2
OWNERORION ENERGY RESOURCES	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.4
SAMPLED020730_	NITROGEN	0.4
FORMATION <u>EOCE-WASATCH</u>	OXYGEN	0.0
GEOLOGIC PROVINCE CODE575.	ARGON	0.0
TRUE VERTICAL DEPTH (FT)4018	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.1
,	HELIUM	0.03
OPEN FLOW, MCFD	HEATING VALUE*	1,154
	SPECIFIC GRAVITY	0.651
SAMPLE 21218	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT METHANE	91.0
STATE UTAH	METHANE	
STATE UTAH. COUNTY UINTAH	, , ,	3.1
STATE UTAH. COUNTY UINTAH	METHANE	3.1 0.7
STATE UTAH COUNTY UINTAH FIELD GYPSUM HILLS	METHANE ETHANE PROPANE	3.1 0.7 0.3
STATE UTAH COUNTY UINTAH FIELD GYPSUM HILLS WELL NAME GYPSUM HILLS NO. 16W-17-8-21	METHANE ETHANE PROPANE N-BUTANE	3.1 0.7 0.3 0.2
STATE UTAH COUNTY UINTAH FIELD GYPSUM HILLS WELL NAME GYPSUM HILLS NO. 16W-17-8-21 API 43047341560	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.1 0.7 0.3 0.2 0.1
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.1 0.7 0.3 0.2 0.1
STATE UTAH COUNTY UINTAH FIELD GYPSUM HILLS WELL NAME GYPSUM HILLS NO. 16W-17-8-21 API 43047341560 LOCATION SEC. 17, T8S, R21E OWNER SHENANDOAH ENERGY, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.1 0.7 0.3 0.2 0.1
STATE UTAH COUNTY UINTAH FIELD GYPSUM.HILLS. WELL NAME GYPSUM.HILLS.NO. 16W-17-8-21 API 43047341560 LOCATION SEC. 17, T8S, R21E OWNER SHENANDOAH ENERGY, INC. COMPLETED 011219	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	3.1 0.7 0.3 0.2 0.1 0.1
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.1 0.7 0.3 0.2 0.1 0.1 0.4 3.6
STATE UTAH COUNTY UINTAH FIELD GYPSUM HILLS WELL NAME GYPSUM HILLS NO. 16W-17-8-21 API 43047341560 LOCATION SEC. 17, T8S, R21E OWNER SHENANDOAH ENERGY, INC. COMPLETED 011219 SAMPLED 030710 FORMATION EOCE-WASATCH	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.1 0.7 0.3 0.2 0.1 0.1 0.4 3.6 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.1 0.7 0.3 0.2 0.1 0.1 0.4 3.6 0.0
STATE UTAH COUNTY UINTAH FIELD GYPSUM HILLS WELL NAME GYPSUM HILLS NO. 16W-17-8-21 API 43047341560 LOCATION SEC. 17, T8S, R21E OWNER SHENANDOAH ENERGY, INC. COMPLETED 011219 SAMPLED 030710 FORMATION EOCE-WASATCH GEOLOGIC PROVINCE CODE 575. TRUE VERTICAL DEPTH (FT) 7358.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.1 0.7 0.3 0.2 0.1 0.1 0.4 3.6 0.0 0.2
STATE	METHANE	3.1 0.7 0.3 0.2 0.1 0.1 0.4 3.6 0.0 0.2
STATE	METHANE	3.1 0.7 0.3 0.2 0.1 0.1 0.4 3.6 0.0 0.2 0.0 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	3.1 0.7 0.3 0.2 0.1 0.1 0.4 3.6 0.0 0.2 0.0 0.3

^{*} 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

SAMPLE	21007	COMPONENT, MOLE PCT	
STATE	UTAH.	METHANE	94.0
	CARBON	ETHANE	0.1
		PROPANE	0.0
	HELPER	N-BUTANE	0.0
	HELPER FEDERAL NO. H-2	ISOBUTANE	0.0
	4300730550	N-PENTANE	0.0
	SEC. 1, T14S, R10E	ISOPENTANE	0.0
OWNER	ANADARKO PETROLEUM CORP.	CYCLOPENTANE	<u>==</u>
COMPLETED	000113	HEXANES PLUS	0.0
SAMPLED	020730	NITROGEN	0.1
FORMATION	CRET-FERRON	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	575.	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2039	HYDROGEN	0.0
, ,		HYDROGEN SULFIDE**	0.0
	<u> </u>	CARBON DIOXIDE	5.8
•	55	HELIUM	0.00
OPEN FLOW, WICFD	3	HEATING VALUE*	953
		SPECIFIC GRAVITY	0.61
SAMPLE	21008	COMPONENT, MOLE PCT	
CTATE	UTAH	METHANE	93.9
		ETHANE	0.1
	CARBON	PROPANE	0.0
	HELPER.	N-BUTANE	0.0
WELL NAME	HELPER FEDERAL NO. H-1.	ISOBUTANE	0.0
API	4300730549	N-PENTANE	0.0
LOCATION	SEC. 1, T14S, R10E	ISOPENTANE	0.0
OWNER	ANADARKO PETROLEUM CORP	CYCLOPENTANE	
COMPLETED	991231	HEXANES PLUS	0.0
SAMPLED	020730	NITROGEN	0.1
		OXYGEN	0.0
FORMATION	CRET-FERRON	OXTOLIV	
	CRET-FERRON 575	ARGON	
GEOLOGIC PROVINCE CODE	575		0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	575. 2217.	ARGON	0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	575. 2217.	ARGON	0.0 0.0 0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	575. 2217.	ARGON HYDROGEN HYDROGEN SULFIDE**	0.0 0.0 0.0 5.9
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	575. 2217.	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.0 5.9

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

SAMPLE 21	005	COMPONENT, MOLE PCT	
STATE	IITAU	METHANE	95.5
		ETHANE	0.7
COUNTY		PROPANE	0.1
FIELD		N-BUTANE	TRACE
WELL NAMEHE		ISOBUTANE	TRACE
API		N-PENTANE	TRACE
LOCATION		ISOPENTANE	TRACE
OWNERANADAR	KO PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	010925	HEXANES PLUS	TRACE
SAMPLED	020730	NITROGEN	0.2
FORMATION	CRET-FERRON	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	575	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	3300	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	3.5
OPEN FLOW, MCFD		HELIUM	TRACE
OFEN FLOW, MICFO	17.7	HEATING VALUE*	984
		SPECIFIC GRAVITY	0.594
SAMPLE 21	006	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	96.3
STATE	UTAH	METHANE	
STATE	UTAH CARBON		1.0
STATECOUNTY	UTAH. CARBON HELPER.	METHANE	1.0 0.3
STATE	UTAH. CARBON HELPER.	METHANE ETHANE PROPANE	1.0 0.3 TRACE
STATECOUNTY	UTAH CARBON HELPER ELPER FEDERAL NO. C-7.	METHANE ETHANE PROPANE N-BUTANE	1.0 0.3 TRACE 0.1
STATE	UTAH. CARBON HELPER ELPER FEDERAL NO. C-7. 4300730684	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	1.0 0.3 TRACE 0.1 TRACE
STATE	UTAH CARBON HELPER ELPER FEDERAL NO. C-7 4300730684 SEC. 21, T13S, R10E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	1.0 0.3 TRACE 0.1 TRACE
STATE COUNTY FIELD WELL NAME HE API LOCATION	LUTAH CARBON HELPER ELPER FEDERAL NO. C-7 4300730684 SEC. 21, T13S, R10E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.0 0.3 TRACE 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME HE API LOCATION OWNER ANADAR	LITAH CARBON HELPER ELPER FEDERAL NO. C-7 4300730684 SEC. 21, T13S, R10E EKO PETROLEUM CORP. 011126	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.0 0.3 TRACE 0.1 TRACE TRACE TRACE
STATE COUNTY FIELD WELL NAME HE API LOCATION OWNER ANADAR COMPLETED	LUTAH CARBON HELPER ELPER FEDERAL NO. C-7 4300730684 SEC. 21, T13S, R10E EKO PETROLEUM CORP. 011126 020730	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.0 0.3 TRACE 0.1 TRACE TRACE TRACE 0.2
STATE COUNTY FIELD WELL NAME HE API LOCATION OWNER ANADAR COMPLETED SAMPLED	LUTAH CARBON HELPER ELPER FEDERAL NO. C-7 4300730684 SEC. 21, T13S, R10E EKO PETROL EUM CORP 011126 020730. CRET-FERRON	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.0 0.3 TRACE 0.1 TRACE TRACE TRACE 0.2
STATE	LUTAH CARBON HELPER ELPER FEDERAL NO. C-7 4300730684 SEC. 21, T13S, R10E EKO PETROLEUM CORP 011126 020730 CRET-FERRON 575	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.0 0.3 TRACE 0.1 TRACE TRACE TRACE 0.2 0.0
STATE	LUTAH CARBON HELPER ELPER FEDERAL NO. C-7 4300730684 SEC. 21, T13S, R10E EKO PETROLEUM CORP. 011126 020730 CRET-FERRON 575. 3676	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.0 0.3 TRACE 0.1 TRACE TRACE TRACE 0.2 0.0 0.0
STATE	UTAH CARBON HELPER ELPER FEDERAL NO. C-7 4300730684 SEC. 21, T13S, R10E EKO PETROL FUM CORP 011126 020730. CRET-FERRON 575. 3676.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	1.0 0.3 TRACE 0.1 TRACE TRACE TRACE 0.2 0.0 0.0
STATE	UTAH CARBON HELPER ELPER FEDERAL NO. C-7 4300730684 SEC. 21, T13S, R10E EKO PETROLEUM CORP. 011126 020730 CRET-FERRON 575. 3676	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	1.0 0.3 TRACE 0.1 TRACE TRACE TRACE 0.2 0.0 0.0
STATE	UTAH CARBON HELPER ELPER FEDERAL NO. C-7 4300730684 SEC. 21, T13S, R10E EKO PETROLEUM CORP. 011126 020730 CRET-FERRON 575. 3676	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	1.0 0.3 TRACE 0.1 TRACE TRACE

^{*} 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

SAMPLE 21383	COMPONENT, MOLE PCT	
CTATE	METHANE	87.4
STATE UTAH	ETHANE	1.5
COUNTY GRAND	PROPANE	0.2
FIELDICE CANYON.	N-BUTANE	TRACE
WELL NAME STATE 16-9 NO. 9	ISOBUTANE	TRACE
API 4301930669	N-PENTANE	TRACE
LOCATIONSEC 16, T16S, R21E	ISOPENTANE	TRACE
OWNERBEARTOOTH OIL & GAS CO.	CYCLOPENTANE	
COMPLETED820510_	HEXANES PLUS	TRACE
SAMPLED040826_	NITROGEN	9.5
FORMATIONCRET-DAKOTA, JURA-MORRISON_	OXYGEN	0.0
GEOLOGIC PROVINCE CODE585	ARGON	TRACE
TRUE VERTICAL DEPTH (FT) 9806	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE PSIG 350	CARBON DIOXIDE	1.2
··	HELIUM	0.03
OPEN FLOW, MCFD100_	HEATING VALUE*	923
	SPECIFIC GRAVITY	0.616
SAMPLE 21405	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT METHANE	96.6
STATE UTAH	,	
STATEUTAH. COUNTYUINTAH	METHANE	8.0
STATEUTAH. COUNTYUINTAH FIELDKENNEDY WASH.	METHANE	0.8 0.1
STATEUTAH. COUNTYUINTAH FIELDKENNEDY WASH.	METHANE ETHANE PROPANE	0.8 0.1 TRACE
STATEUTAH. COUNTYUINTAH FIELDKENNEDY WASH. WELL NAMESAGE GROUSE FEDERAL 6-14-8-22.	METHANE ETHANE PROPANE N-BUTANE	0.8 0.1 TRACE TRACE
STATEUTAH. COUNTYUINTAH FIELDKENNEDY WASH. WELL NAMESAGE GROUSE FEDERAL 6-14-8-22 API4304732746	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	0.8 0.1 TRACE TRACE 0.0
STATEUTAH COUNTYUINTAH FIELDKENNEDY WASH WELL NAMESAGE GROUSE FEDERAL 6-14-8-22 API4304732746 LOCATIONSEC 14, T8S, R22E OWNERQUESTAR EXPLORATION & PRODUCTION LIINTA	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.8 0.1 TRACE TRACE 0.0
STATEUTAH. COUNTYUINTAH FIELDKENNEDY WASH. WELL NAMESAGE GROUSE FEDERAL 6-14-8-22. API4304732746 LOCATIONSEC. 14, T8S, R22E. OWNERQUESTAR EXPLORATION & PRODUCTION LIINTA.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.8 0.1 TRACE TRACE 0.0
STATEUTAH COUNTYUINTAH FIELDKENNEDY WASH WELL NAMESAGE GROUSE FEDERAL 6-14-8-22 API4304732746 LOCATIONSEC 14, T8S, R22E OWNERQUESTAR EXPLORATION & PRODUCTION LIINTA.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.8 0.1 TRACE TRACE 0.0 0.0
STATEUTAH COUNTYUINTAH FIELDKENNEDY WASH WELL NAMESAGE GROUSE FEDERAL 6-14-8-22 API4304732746 LOCATIONSEC 14, T8S, R22E OWNERQUESTAR EXPLORATION & PRODUCTION UINTA COMPLETEDBASIN INC BASIN IN	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.8 0.1 TRACE TRACE 0.0 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.8 0.1 TRACE TRACE 0.0 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.8 0.1 TRACE TRACE 0.0 0.0
STATEUTAH COUNTYUINTAH FIELDKENNEDY WASH WELL NAMESAGE GROUSE FEDERAL 6-14-8-22 API4304732746 LOCATIONSEC_14, T8S, R22E OWNEROUESTAR EXPLORATION & PRODUCTION LIINTAL COMPLETEDBASIN INC. SAMPLED041209 FORMATIONEOCE-GREEN RIVER GEOLOGIC PROVINCE CODE575. TRUE VERTICAL DEPTH (FT)3932.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.8 0.1 TRACE TRACE 0.0 0.0 2.1 0.0 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.8 0.1 TRACE TRACE 0.0 0.0 2.1 0.0 0.0 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.8 0.1 TRACE TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	0.8 0.1 TRACE TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.

^{*} 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

	COMPONENT, MOLE PCT	
STATE UTAH	METHANE	83.9
	ETHANE	3.2
COUNTY UINTAH	PROPANE	1.0
FIELD KENNEDY WASH	N-BUTANE	0.3
WELL NAME OVER & UNDER SAGE GROUSE 9W-15-8-22	ISOBUTANE	0.2
API4304734718.	N-PENTANE	0.1
LOCATION SEC 15, T8S, R22E	ISOPENTANE	0.1
OWNERQUESTAR EXPLORATION & PRODUCTION UINTA	CYCLOPENTANE	
COMPLETED BASIN INC	HEXANES PLUS	1.1
SAMPLED041209_	NITROGEN	8.6
FORMATIONEOCE-WASATCH_	OXYGEN	1.1
GEOLOGIC PROVINCE CODE575_	ARGON	0.1
TRUE VERTICAL DEPTH (FT) 7238	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.3
OPEN FLOW, MCFD144	HELIUM	0.03
OPEN FLOW, INICFD	HEATING VALUE*	1,007
	SPECIFIC GRAVITY	0.661
SAMPLE 21411	SPECIFIC GRAVITY	0.661
	COMPONENT, MOLE PCT	
STATEUTAH		87.6
STATEUTAH. COUNTYUINTAH	COMPONENT, MOLE PCT METHANE	87.6 5.2
STATEUTAH. COUNTYUINTAH	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	87.6 5.2 1.9
STATEUTAH. COUNTYUINTAH FIELDKENNEDY WASH.	COMPONENT, MOLE PCT METHANE ETHANE	87.6 5.2 1.9 0.5
STATEUTAH COUNTYUINTAH FIELDKENNEDY WASH WELL NAMEOVER & UNDER SAGE GROUSE 10W-15-8-22	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	87.6 5.2 1.9 0.5
STATEUTAH. COUNTYUINTAH FIELDKENNEDY WASH. WELL NAMEOVER & UNDER SAGE GROUSE 10W-15-8-22. API4304734719	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	87.6 5.2 1.9 0.5 0.4 0.1
STATEUTAH. COUNTYUINTAH FIELDKENNEDY WASH. WELL NAMEOVER & UNDER SAGE GROUSE 10W-15-8-22. API4304734719 LOCATIONSEC 15, T8S, R22E.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	87.6 5.2 1.9 0.5 0.4 0.1
STATEUTAH COUNTYUINTAH FIELDKENNEDY WASH. WELL NAMEOVER & UNDER SAGE GROUSE 10W-15-8-22. API4304734719 LOCATIONSEC.15, T8S, R22E. OWNEROUESTAR EXPLORATION & PRODUCTION UINTA.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	87.6 5.2 1.9 0.5 0.4 0.1 0.2
STATEUTAH COUNTYUINTAH FIELDKENNEDY WASH WELL NAMEOVER & UNDER SAGE GROUSE 10W-15-8-22 API4304734719 LOCATIONSEC 15, T8S, R22E OWNERQUESTAR EXPLORATION & PRODUCTION UINTAL COMPLETEDBASIN JNC	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	87.6 5.2 1.9 0.5 0.4 0.1 0.2
STATEUTAH COUNTYUINTAH FIELDKENNEDY WASH WELL NAMEOVER & UNDER SAGE GROUSE 10W-15-8-22 API4304734719 LOCATIONSEC 15, T8S, R22E OWNEROUESTAR EXPLORATION & PRODUCTION UINTA COMPLETEDBASIN UNC BASIN UNC BASIN UNC BASIN UNC BASIN UNC SAMPLED041209	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	87.6 5.2 1.9 0.5 0.4 0.1 0.2 0.9
STATEUTAH. COUNTYUINTAH FIELDKENNEDY WASH. WELL NAMEOVER & UNDER SAGE GROUSE 10W-15-8-22. API4304734719 LOCATIONSEC 15, T8S, R22E. OWNERQUESTAR EXPLORATION & PRODUCTION LIINTA.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE INTROGEN	87.6 5.2 1.9 0.5 0.4 0.1 0.2 0.9 2.3 0.0
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	87.6 5.2 1.9 0.5 0.4 0.1 0.2 0.9 2.3 0.0
STATEUTAH COUNTYUINTAH FIELDKENNEDY WASH. WELL NAMEOVER & UNDER SAGE GROUSE 10W-15-8-22 API4304734719 LOCATIONSEC 15, T8S, R22E OWNEROUESTAR EXPLORATION & PRODUCTION LIINTA COMPLETEDBASIN 18C SAMPLED041209 FORMATIONEOCE-WASATCH.CRET-MESAVERDE MANCOS B GEOLOGIC PROVINCE CODE575 TRUE VERTICAL DEPTH (FT)12496.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	87.6 5.2 1.9 0.5 0.4 0.1 0.2 0.9 2.3 0.0 0.1
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGENARGON HYDROGEN	87.6 5.2 1.9 0.5 0.4 0.1 0.2 0.9 2.3 0.0 0.1 0.0
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	87.6 5.2 1.9 0.5 0.4 0.1 0.2 0.9 2.3 0.0 0.1 0.0 0.0
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	87.6 5.2 1.9 0.5 0.4 0.1 0.2 0.9 2.3 0.0 0.1 0.0 0.0 0.0

^{*} 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

UTAH UINTAH KICKER	METHANEETHANEPROPANE	3.8
UINTAH		
	PROPANE	
NICKER.		1.3
OUEOT 40.04	N-BUTANE	0.4
QUEST 16-21	ISOBUTANE	0.3
4304733805	N-PENTANE	0.1
SEC 21, T11S, R25E	ISOPENTANE	0.2
TCC ROYALTY CORP.	CYCLOPENTANE	
010307	HEXANES PLUS	0.4
040909	NITROGEN	1.9
EOCE-WASATCH	OXYGEN	0.0
575	ARGON	0.1
2159	HYDROGEN	0.0
	HYDROGEN SULFIDE**	0.0
40	CARBON DIOXIDE	0.1
	HELIUM	
		,
21393	COMPONENT, MOLE PCT	
	METHANE	57.3
	ETHANE	
	PROPANE	12.9
LONG CANYON	N-BUTANE	3.5
LONG CANYON 1	ISOBUTANE	1.5
4301915925	N-PENTANE	0.8
SEC 9, T26S, R20E	ISOPENTANE	0.7
INTREPID OIL & GAS, LLC	CYCLOPENTANE	
620830	HEXANES PLUS	0.6
040825	NITROGEN	2.1
PENN-CANE CREEK	OXYGEN	0.0
585	ARGON	0.1
7075	HYDROGEN	
	HYDROGEN SULFIDE**	0.0
	CARBON DIOXIDE	0.2
	HELIUM	0.12
	HEATING VALUE*	
	TCC ROYALTY CORP. 010307. 040909. EOCE-WASATCH 575. 2159. 40. 21393. UTAH GRAND. LONG CANYON. LONG CANYON 1. 4301915925. SEC 9, T26S, R20E. INTREPID OIL & GAS, LLC. 620830. 040825. PENN-CANE CREEK. 585. 7075.	TCC ROYALTY CORP. 010307. HEXANES PLUS 040909. NITROGEN OXYGEN EOCE-WASATCH. OXYGEN 575. ARGON HYDROGEN SULFIDE** 40. HELIUM HEATING VALUE* SPECIFIC GRAVITY 21393 COMPONENT, MOLE PCT METHANE GRAND LONG CANYON. LONG CANYON. LONG CANYON.1 ISOBUTANE 4301915925. N-PENTANE INTREPID OIL & GAS, LLC. 620830. HEXANES PLUS NITROGEN O40825. NITROGEN DAME 1009 ARGON HYDROGEN HYDROGEN O40825. NITROGEN O40825. NITROGEN O40825. HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE CARBON DIOXIDE CARBON DIOXIDE CARBON DIOXIDE CARBON DIOXIDE

^{*} 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

SAMPLE	21379	COMPONENT, MOLE PCT	
STATE	UTAH	METHANE	90.9
		ETHANE	4.2
	UINTAH	PROPANE	1.6
	LOVE	N-BUTANE	0.4
WELL NAME	FEDERAL K NO. 12-22	ISOBUTANE	0.3
API	4304733299	N-PENTANE	0.1
LOCATION	SEC 22, T11S, R21E	ISOPENTANE	0.1
OWNER <u>DOMINION EX</u>	KPLORATION & PRODUCTION, INC.	CYCLOPENTANE	
COMPLETED	010821	HEXANES PLUS	0.3
SAMPLED	040817	NITROGEN	1.4
FORMATION	CRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	575.	ARGON	0.1
	7998	HYDROGEN	0.0
	7000	HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.5
•		HELIUM	0.03
OPEN FLOW, MCFD	50	HEATING VALUE*	1,085
		SPECIFIC GRAVITY	0.624
SAMPLE	21343	COMPONENT, MOLE PCT	
07475		METHANE	76.6
STATE	UTAH	ETHANE	
		ETHANE	8.8
	UINTAH	ETHANE	
	UINTAH MAIN CANYON		5.4
FIELD		PROPANE	5.4 1.7
FIELD	MAIN CANYON	PROPANE	5.4 1.7 1.0
FIELD WELL NAMEAPI	MAIN CANYON NO. 11-10-15-23.	PROPANEN-BUTANEISOBUTANE	5.4 1.7 1.0 0.6
FIELD	MAIN CANYON MAIN CANYON NO. 11-10-15-23. 4304730639	PROPANEN-BUTANEISOBUTANEN-PENTANE	5.4 1.7 1.0 0.6 0.7
FIELD WELL NAME API LOCATION OWNER	MAIN CANYON MAIN CANYON NO. 11-10-15-23. 4304730639 SEC 10, T15S, R23E.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	5.4 1.7 1.0 0.6 0.7
FIELD WELL NAME API LOCATION OWNER COMPLETED	MAIN CANYON. MAIN CANYON NO. 11-10-15-23. 4304730639 SEC 10, T15S, R23E. EVERGREEN OPERATING CORP. 881209	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	5.4 1.7 1.0 0.6 0.7
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	MAIN CANYON. MAIN CANYON NO. 11-10-15-23. 4304730639 SEC 10, T15S, R23E. EVERGREEN OPERATING CORP. 881209 040817.	PROPANE	5.4 1.7 1.0 0.6 0.7 1.3 3.0
FIELD	MAIN CANYON. MAIN CANYON NO. 11-10-15-23. 4304730639 SEC 10. T15S, R23E EVERGREEN OPERATING CORP. 881209 040817. CRET-CASTLEGATE	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	5.4 1.7 1.0 0.6 0.7 1.3 3.0
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	MAIN CANYON. MAIN CANYON NO. 11-10-15-23. 4304730639 SEC 10, T15S, R23E. EVERGREEN OPERATING CORP. 881209 040817. CRET-CASTLEGATE. 575.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	5.4 1.7 1.0 0.6 0.7 1.3 3.0 0.0
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	MAIN CANYON MAIN CANYON NO. 11-10-15-23. 4304730639 SEC 10, T15S, R23E EVERGREEN OPERATING CORP. 881209 040817 CRET-CASTLEGATE 575. 4384	PROPANE	5.4 1.7 1.0 0.6 0.7 1.3 3.0 0.0 0.1
FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	MAIN CANYON. MAIN CANYON NO. 11-10-15-23. 4304730639 SEC 10, T15S, R23E EVERGREEN OPERATING CORP. 881209 040817. CRET-CASTLEGATE 575. 4384	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	5.4 1.7 1.0 0.6 0.7 1.3 3.0 0.0 0.1 0.0
FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	MAIN CANYON MAIN CANYON NO. 11-10-15-23. 4304730639 SEC 10, T15S, R23E EVERGREEN OPERATING CORP. 881209 040817 CRET-CASTLEGATE 575. 4384	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	5.4 1.7 1.0 0.6 0.7 1.3 3.0 0.0 0.1 0.0 0.0
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	MAIN CANYON. MAIN CANYON NO. 11-10-15-23. 4304730639 SEC 10, T15S, R23E EVERGREEN OPERATING CORP. 881209 040817. CRET-CASTLEGATE 575. 4384	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	5.4 1.7 1.0 0.6 0.7 1.3 3.0 0.0 0.1 0.0 0.0 0.7 0.08

^{*} 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

SAMPLE 21	1344	COMPONENT, MOLE PCT	
STATE	ΙΙΤΔΗ	METHANE	88.0
		ETHANE	4.8
COUNTY		PROPANE	1.3
FIELD		N-BUTANE	0.3
WELL NAME MAIN		ISOBUTANE	0.3
API	4304730735	N-PENTANE	0.1
LOCATION	SEC 8, T15S, R23E	ISOPENTANE	0.1
OWNEREVERGE	REEN OPERATING CORP.	CYCLOPENTANE	
COMPLETED	981108	HEXANES PLUS	0.3
SAMPLED	040817	NITROGEN	3.5
FORMATION CRET-MANCOS E	B. DAKOTA, CEDAR MTN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	575	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	8612	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	1.3
OPEN FLOW, MCFD		HELIUM	0.08
		HEATING VALUE*	1.048
OF EINT EOW, WICH D			
SI ENTESW, W.O. D		SPECIFIC GRAVITY	
SAMPLE 20		SPECIFIC GRAVITY	0.635
SAMPLE 20	UTAH.	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE	0.635 94.6
SAMPLE 20	UTAH.	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE	94.6 2.8
SAMPLE 20 STATE COUNTY	UTAH GRAND MIDDLE CANYON	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE	94.6 2.8 0.5
SAMPLE 20 STATE	UTAH GRAND MIDDLE CANYON	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE	94.6 2.8 0.5
SAMPLE 20 STATE COUNTY	UTAH GRAND MIDDLE CANYON FEDERAL NO. 42-24	SPECIFIC GRAVITY	94.6 2.8 0.5 0.1
SAMPLE 20 STATE COUNTY FIELD WELL NAME	UTAH GRAND MIDDLE CANYON FEDERAL NO. 42-24 4301931378	SPECIFIC GRAVITY	94.6 2.8 0.5 0.1 0.1 TRACE
SAMPLE 20 STATE COUNTY FIELD WELL NAME API	LITAH GRAND MIDDLE CANYON FEDERAL NO. 42-24 4301931378 SEC. 24, T16S, R23E	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	94.6 2.8 0.5 0.1 0.1 TRACE
SAMPLE 20 STATE COUNTY FIELD WELL NAME API LOCATION	UTAH GRAND MIDDLE CANYON FEDERAL NO. 42-24 4301931378 SEC. 24, T16S, R23E NATIONAL FUEL CORP	SPECIFIC GRAVITY	94.6 2.8 0.5 0.1 0.1 TRACE
SAMPLE 20 STATE COUNTY FIELD WELL NAME API LOCATION OWNER	UTAH GRAND MIDDLE CANYON FEDERAL NO. 42-24 4301931378 SEC. 24, T16S, R23E NATIONAL FUEL CORP. 011018	SPECIFIC GRAVITY	94.6 2.8 0.5 0.1 0.1 TRACE 0.1
SAMPLE 20 STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	LUTAH GRAND MIDDLE CANYON FEDERAL NO. 42-24 4301931378 SEC. 24, T16S, R23E NATIONAL FUEL CORP 011018 020617	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	94.6 2.8 0.5 0.1 TRACE 0.1 0.1 0.4
SAMPLE 20 STATE	UTAH GRAND MIDDLE CANYON FEDERAL NO. 42-24 4301931378 SEC. 24, T16S, R23E NATIONAL FUEL CORP. 011018 020617. CRET-CEDAR MOUNTAIN	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE ISOPENTANE ISOPENTANE ISOPENTANE ISOPENTANE ISOPENTANE ISOPENTANE INTROGEN	94.6 2.8 0.5 0.1 TRACE 0.1 0.1 0.4 0.0
SAMPLE 20 STATE	LUTAH GRAND MIDDLE CANYON FEDERAL NO. 42-24 4301931378 SEC. 24, T16S, R23E NATIONAL FUEL CORP 011018 020617 CRET-CEDAR MOUNTAIN 585	SPECIFIC GRAVITY	0.635 94.6 2.8 0.5 0.1 TRACE 0.1 0.1 0.1 TRACE 1.0 0.1 0.1 0.1 0.1
SAMPLE 20 STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	LUTAH GRAND MIDDLE CANYON FEDERAL NO. 42-24 4301931378 SEC. 24, T16S, R23E NATIONAL FUEL CORP 011018 020617 CRET-CEDAR MOUNTAIN 585 6180	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	94.6 2.8 0.5 0.1 1TRACE 0.1 0.1 0.4 0.0 TRACE TRACE
SAMPLE 20 STATE	UTAH GRAND MIDDLE CANYON FEDERAL NO. 42-24 4301931378 SEC. 24, T16S, R23E NATIONAL FUEL CORP 011018 020617 CRET-CEDAR MOUNTAIN 585 6180	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.635 94.6 2.8 0.5 0.1 0.1 TRACE 0.1 0.4 0.0 TRACE TRACE 0.0
SAMPLE 20 STATE	LUTAH GRAND MIDDLE CANYON FEDERAL NO. 42-24 4301931378 SEC. 24, T16S, R23E NATIONAL FUEL CORP 011018 020617 CRET-CEDAR MOUNTAIN 585 6180	SPECIFIC GRAVITY	94.6 2.8 0.5 0.1 TRACE 0.1 0.4 0.0 TRACE TRACE 0.0 1.3
SAMPLE 20 STATE	LUTAH GRAND MIDDLE CANYON FEDERAL NO. 42-24 4301931378 SEC. 24, T16S, R23E NATIONAL FUEL CORP 011018 020617 CRET-CEDAR MOUNTAIN 585 6180	SPECIFIC GRAVITY	94.6 2.8 0.5 0.1 TRACE 0.1 0.4 0.0 TRACE TRACE 0.0 1.3

^{*} 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

SAMPLE	20941	COMPONENT, MOLE PCT	
STATE	UTAH	METHANE	94.3
		ETHANE	2.8
	GRAND.	PROPANE	0.5
	MIDDLE CANYON	N-BUTANE	0.1
	FEDERAL NO. 4-30	ISOBUTANE	0.1
	4301930641	N-PENTANE	TRACE
LOCATION	SEC. 30, T16S, R24E	ISOPENTANE	0.1
OWNER	J.C. THOMPSON	CYCLOPENTANE	
COMPLETED	800731	HEXANES PLUS	0.1
SAMPLED	020617	NITROGEN	0.5
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	5501	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	450	CARBON DIOXIDE	1.4
	100	HELIUM	0.06
OI LIVI LOVV, INOI D	100	HEATING VALUE*	1,034
		SPECIFIC GRAVITY	0.595
SAMPLE	21304	COMPONENT, MOLE PCT	
CTATE		METHANE	80.3
	UTAH	ETHANE	Я 1
	DUCHESNE		<u>V. 1</u>
		PROPANE	
	MONUMENT BUTTE	PROPANE N-BUTANE	4.0
	MONUMENT BUTTE WEST POINT NO. 13-8-9-16		4.0 1.1
WELL NAME		N-BUTANE	4.0 1.1 0.6
WELL NAMEAPI	WEST POINT NO. 13-8-9-16.	N-BUTANEISOBUTANE	4.0 1.1 0.6 0.4
WELL NAMEAPI	WEST POINT NO. 13-8-9-16. 4301332287	N-BUTANE ISOBUTANE N-PENTANE	4.0 1.1 0.6 0.4 0.3
WELL NAMEAPILOCATION	WEST POINT NO. 13-8-9-16. 4301332287 SEC. 8, T9S, R16E	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	4.0 1.1 0.6 0.4 0.3
WELL NAME	WEST POINT NO. 13-8-9-16. 4301332287 SEC. 8, T9S, R16E INLAND PRODUCTION CO.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	4.0 1.1 0.6 0.4 0.3
WELL NAME	WEST POINT NO. 13-8-9-16. 4301332287 SEC. 8, T9S, R16E INLAND PRODUCTION CO. 020104	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE	4.0 1.1 0.6 0.4 0.3 0.8 3.9
WELL NAME	WEST POINT NO. 13-8-9-16. 4301332287 SEC. 8, T9S, R16E INLAND PRODUCTION CO. 020104 040414	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUS	4.0 1.1 0.6 0.4 0.3 0.8 3.9
WELL NAME	WEST POINT NO. 13-8-9-16. 4301332287 SEC. 8, T9S, R16E INLAND PRODUCTION CO. 020104 040414 EOCE-GREEN RIVER 575	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	4.0 1.1 0.6 0.4 0.3 0.8 3.9 0.0
WELL NAME	WEST POINT NO. 13-8-9-16. 4301332287 SEC. 8, T9S, R16E INLAND PRODUCTION CO. 020104 040414 EOCE-GREEN RIVER 575. 5747.	N-BUTANE	4.0 1.1 0.6 0.4 0.3 0.8 3.9 0.0 0.1
WELL NAME	WEST POINT NO. 13-8-9-16. 4301332287 SEC. 8, T9S, R16E INLAND PRODUCTION CO. 020104 040414 EOCE-GREEN RIVER 575. 5747.	N-BUTANE	4.0 1.1 0.6 0.4 0.3 0.8 3.9 0.0 0.1
WELL NAME	WEST POINT NO. 13-8-9-16. 4301332287 SEC. 8, T9S, R16E INLAND PRODUCTION CO. 020104 040414 EOCE-GREEN RIVER 575. 5747.	N-BUTANE	4.0 1.1 0.6 0.4 0.3 0.8 3.9 0.0 0.1 0.0 0.0
WELL NAME	WEST POINT NO. 13-8-9-16. 4301332287 SEC. 8, T9S, R16E INLAND PRODUCTION CO. 020104 040414 EOCE-GREEN RIVER 575. 5747.	N-BUTANE	4.0 1.1 0.6 0.4 0.3 0.8 3.9 0.0 0.1 0.0 0.0 0.3

^{*} 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

SAMPLE	21394	COMPONENT, MOLE PCT	
STATE	UTAH	METHANE	79.3
		ETHANE	10.6
	SAN JUAN	PROPANE	4.5
	PINE RIDGE S.	N-BUTANE	1.2
	SOUTH PINE RIDGE 7-6	ISOBUTANE	0.6
	4303730714	N-PENTANE	0.2
	SEC 6, T30S, R25E	ISOPENTANE	0.3
OWNER	PIONEER OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	811212	HEXANES PLUS	0.2
SAMPLED	040927	NITROGEN	3.0
FORMATION	PENN-ISMAY	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	5802	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE PSIG	900	CARBON DIOXIDE	0.1
,	100	HELIUM	0.07
OI LIVI LOW, MOI D	100	HEATING VALUE*	1,188
		SPECIFIC GRAVITY	0.701
SAMPLE	21342	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	83.6
STATE	UTAH	•	
STATE	UTAH UINTAH	METHANE	6.9
STATE COUNTY FIELD	UTAH UINTAH PINE SPRINGS.	METHANE	6.9 3.4
STATE COUNTY FIELD	UTAH UINTAH	METHANE ETHANE PROPANE	6.9 3.4 0.9
STATE	UTAH UINTAH PINE SPRINGS.	METHANE ETHANE PROPANE N-BUTANE	6.9 3.4 0.9 0.6
STATE COUNTY FIELD WELL NAME	UTAH UINTAH PINE SPRINGS. PINE SPRINGS NO. 13-26-14-22	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	6.9 3.4 0.9 0.6 0.2
STATE COUNTY FIELD WELL NAME API LOCATION	UTAH UINTAH PINE SPRINGS PINE SPRINGS NO. 13-26-14-22 4304731074	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	6.9 3.4 0.9 0.6 0.2 0.3
STATE	UTAH UINTAH PINE SPRINGS. PINE SPRINGS NO. 13-26-14-22 4304731074 SEC 26, T14S, R22E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	6.9 3.4 0.9 0.6 0.2 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	UTAH UINTAH PINE SPRINGS. PINE SPRINGS NO. 13-26-14-22 4304731074 SEC 26, T14S, R22E EVERGREEN OPERATING CORP.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	6.9 3.4 0.9 0.6 0.2 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	UTAH UINTAH PINE SPRINGS. PINE SPRINGS NO. 13-26-14-22 4304731074 SEC 26, T14S, R22E EVERGREEN OPERATING CORP. 011022	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	6.9 3.4 0.9 0.6 0.2 0.3 0.3 3.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	UTAH UINTAH PINE SPRINGS. PINE SPRINGS NO. 13-26-14-22 4304731074 SEC 26, T14S, R22E EVERGREEN OPERATING CORP. 011022 040817	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	6.9 3.4 0.9 0.6 0.2 0.3 0.3 3.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	UITAH UINTAH PINE SPRINGS. PINE SPRINGS NO. 13-26-14-22 4304731074 SEC 26, T14S, R22E EVERGREEN OPERATING CORP. 011022 040817 CRET-CASTLEGATE 575	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	6.9 3.4 0.9 0.6 0.2 0.3 0.3 3.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) .	UITAH UINTAH PINE SPRINGS. PINE SPRINGS NO. 13-26-14-22 4304731074 SEC 26, T14S, R22E EVERGREEN OPERATING CORP. 011022 040817 CRET-CASTLEGATE 575. 4928.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	6.9 3.4 0.9 0.6 0.2 0.3 0.3 3.0 0.0 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) . MEASURED DEPTH	UITAH UINTAH PINE SPRINGS. PINE SPRINGS NO. 13-26-14-22 4304731074 SEC 26, T14S, R22E EVERGREEN OPERATING CORP. 011022 040817. CRET-CASTLEGATE 575. 4928.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	6.9 3.4 0.9 0.6 0.2 0.3 3.0 0.0 0.1 0.0
STATE	UITAH UINTAH PINE SPRINGS. PINE SPRINGS NO. 13-26-14-22 4304731074 SEC 26, T14S, R22E EVERGREEN OPERATING CORP. 011022 040817 CRET-CASTLEGATE 575 4928	METHANE	6.9 3.4 0.9 0.6 0.2 0.3 3.0 0.0 0.1 0.0 0.0
STATE	UITAH UINTAH PINE SPRINGS. PINE SPRINGS NO. 13-26-14-22 4304731074 SEC 26, T14S, R22E EVERGREEN OPERATING CORP. 011022 040817. CRET-CASTLEGATE 575. 4928.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	6.9 3.4 0.9 0.6 0.2 0.3 0.3 3.0 0.0 0.1 0.0 0.7 0.05

 $^{^{\}star}$ 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

SAMPLE	21340	COMPONENT, MOLE PCT	
STATE	ΙΙΤΔΗ	METHANE	92.3
COUNTY		ETHANE	2.3
		PROPANE	0.4
FIELD		N-BUTANE	0.1
WELL NAME		ISOBUTANE	0.1
API		N-PENTANE	TRACE
LOCATION		ISOPENTANE	TRACE
OWNERE	VERGREEN OPERATING CORP.	CYCLOPENTANE	
COMPLETED	820304	HEXANES PLUS	0.1
SAMPLED	040817	NITROGEN	3.2
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	575	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	8337	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	1.4
OPEN FLOW, MCFD		HELIUM	0.04
OPEN FLOW, MOFD	310	HEATING VALUE*	997
		SPECIFIC GRAVITY	0.601
SAMPLE	21341	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	87.5
STATE	UTAH		
STATE	UTAH UINTAH	METHANE	5.7
STATE COUNTY FIELD	UTAH UINTAH PINE SPRINGS	METHANE	5.7 2.1
STATE	UTAH UINTAH PINE SPRINGS	METHANE ETHANE PROPANE	5.7 2.1 0.5
STATE COUNTY FIELD	UTAH UINTAH PINE SPRINGS PINE SPRINGS NO. 3-23-14-22	METHANE ETHANE PROPANE N-BUTANE	5.7 2.1 0.5 0.4
STATE COUNTY FIELD WELL NAME	UTAH UINTAH PINE SPRINGS. PINE SPRINGS NO. 3-23-14-22. 4304734675	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	5.7 2.1 0.5 0.4 0.1
STATE COUNTY FIELD WELL NAME	UTAH UINTAH PINE SPRINGS PINE SPRINGS NO. 3-23-14-22 4304734675 SEC 23, T14S, R22E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	5.7 2.1 0.5 0.4 0.1 0.2
STATE COUNTY FIELD WELL NAME API LOCATION	UTAH UINTAH PINE SPRINGS PINE SPRINGS NO. 3-23-14-22 4304734675 SEC 23, T14S, R22E VERGREEN OPERATING CORP	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	5.7 2.1 0.5 0.4 0.1 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNERE	UTAH UINTAH PINE SPRINGS. PINE SPRINGS NO. 3-23-14-22 4304734675 SEC 23, T14S, R22E VERGREEN OPERATING CORP. 021101	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	5.7 2.1 0.5 0.4 0.1 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNERE COMPLETED SAMPLED	UTAH UINTAH PINE SPRINGS PINE SPRINGS NO. 3-23-14-22 4304734675 SEC 23, T14S, R22E EVERGREEN OPERATING CORP. 021101 040817	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	5.7 2.1 0.5 0.4 0.1 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNERE COMPLETED SAMPLED FORMATION	UTAH UINTAH PINE SPRINGS PINE SPRINGS NO. 3-23-14-22 4304734675 SEC 23, T14S, R22E VERGREEN OPERATING CORP 021101 040817 CRET-MANCOS B	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	5.7 2.1 0.5 0.4 0.1 0.2 0.2 2.8 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNERE COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	UTAH UINTAH PINE SPRINGS PINE SPRINGS NO. 3-23-14-22 4304734675 SEC 23, T14S, R22E EVERGREEN OPERATING CORP. 021101 040817 CRET-MANCOS B 575	METHANE	5.7 2.1 0.5 0.4 0.1 0.2 0.2 2.8 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	UITAH UINTAH PINE SPRINGS PINE SPRINGS NO. 3-23-14-22 4304734675 SEC 23, T14S, R22E EVERGREEN OPERATING CORP. 021101 040817 CRET-MANCOS B 575 6106	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	5.7 2.1 0.5 0.4 0.1 0.2 0.2 2.8 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	UTAH UINTAH PINE SPRINGS. PINE SPRINGS NO. 3-23-14-22 4304734675 SEC 23, T14S, R22E VERGREEN OPERATING CORP 021101 040817 CRET-MANCOS B 575 6106	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	5.7 2.1 0.5 0.4 0.1 0.2 2.8 0.0 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	UITAH UINTAH PINE SPRINGS PINE SPRINGS NO. 3-23-14-22 4304734675 SEC 23, T14S, R22E EVERGREEN OPERATING CORP. 021101 040817 CRET-MANCOS B 575 6106	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	5.7 2.1 0.5 0.4 0.1 0.2 0.2 2.8 0.0 TRACE 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	UITAH UINTAH PINE SPRINGS PINE SPRINGS NO. 3-23-14-22 4304734675 SEC 23, T14S, R22E EVERGREEN OPERATING CORP. 021101 040817 CRET-MANCOS B 575 6106	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	5.7 2.1 0.5 0.4 0.1 0.2 0.2 2.8 0.0 TRACE 0.0 0.0 0.6 0.03

^{*} 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

SAMPLE 21407	COMPONENT, MOLE PCT	
STATE UTAH	METHANE	94.0
COUNTY UINTAH	ETHANE	1.1
	PROPANE	0.6
FIELDPOWDER SPRINGS.	N-BUTANE	0.2
WELL NAMEUTAH STATE NO. 1	ISOBUTANE	0.2
API4304715128	N-PENTANE	0.1
LOCATIONSEC.36, T7S, R24E	ISOPENTANE	0.1
OWNER QUESTAR EXPLORATION & PRODUCTION UINTA	CYCLOPENTANE	
COMPLETED BASIN INC.	HEXANES PLUS	0.4
SAMPLED041207_	NITROGEN	3.0
FORMATION <u>EOCE-GREEN RIVER</u>	OXYGEN	
GEOLOGIC PROVINCE CODE575.	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)4971	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.3
OPEN FLOW, MCFD 9850	HELIUM	0.03
o	HEATING VALUE*	1,021
	SPECIFIC GRAVITY	0.598
	SPECIFIC GRAVITY	0.598
SAMPLE 21017	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT METHANE	88.0
STATE UTAH	COMPONENT, MOLE PCT METHANE ETHANE	88.0 4.5
STATE UTAH COUNTY GRAND	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	88.0 4.5 1.4
STATE UTAH COUNTY GRAND FIELD STATFLINE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	88.0 4.5 1.4
STATE UTAH COUNTY GRAND FIELD STATELINE WELL NAME LANSDALE GOVERNMENT NO. 13-13.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	88.0 4.5 1.4 0.4
STATE UTAH COUNTY GRAND FIELD STATELINE WELL NAME LANSDALE GOVERNMENT NO. 13-13. API 4301930412	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	88.0 4.5 1.4 0.4 0.3
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	88.0 4.5 1.4 0.2 0.3 0.1
STATE UTAH COUNTY GRAND FIELD STATELINE WELL NAME LANSDALE GOVERNMENT NO. 13-13. API 4301930412 LOCATION SEC. 13, T17S, R25E OWNER BURTON W. HANCOCK	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	88.0 4.5 1.4 0.4 0.3 0.1
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	88.0 4.5 1.4 0.4 0.3 0.1 0.2
STATE UTAH COUNTY GRAND FIELD STATELINE WELL NAME LANSDALE GOVERNMENT NO. 13-13. API 4301930412 LOCATION SEC. 13, T17S, R25E OWNER BURTON W. HANCOCK COMPLETED 781223 SAMPLED 020801	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN	88.0 4.5 1.4 0.2 0.3 0.1 0.2
STATE UTAH COUNTY GRAND FIELD STATELINE. WELL NAME LANSDALE GOVERNMENT NO. 13-13. API 4301930412 LOCATION SEC. 13, T17S, R25E. OWNER BURTON W. HANCOCK. COMPLETED 781223 SAMPLED 020801 FORMATION JURA-BRUSHY BASIN	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	88.0 4.5 1.4 0.4 0.3 0.1 0.2
STATE UTAH COUNTY GRAND FIELD STATELINE WELL NAME LANSDALE GOVERNMENT NO. 13-13. API 4301930412 LOCATION SEC. 13, T17S, R25E OWNER BURTON W. HANCOCK COMPLETED 781223 SAMPLED 020801 FORMATION JURA-BRUSHY BASIN GEOLOGIC PROVINCE CODE 585	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	88.0 4.5 1.4 0.4 0.3 0.1 0.2 0.1 4.3 0.0
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	88.0 4.5 0.2 0.3 0.1 0.2 0.1 TRACE
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	88.0 4.5 1.4 0.4 0.3 0.1 0.2
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	88.0 4.5 1.4 0.4 0.3 0.1 0.2
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	88.0 4.5 0.4 0.3 0.1 0.2 0.1 TRACE TRACE TRACE 0.0 0.4

^{*} 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

SAMPLE 210	16	COMPONENT, MOLE PCT	
STATE	UTAH	METHANE	86.0
COUNTY		ETHANE	4.7
FIELD		PROPANE	1.7
		N-BUTANE	0.7
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.3
LOCATION	,	ISOPENTANE	0.3
OWNER BEAR	TOOTH OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	770108	HEXANES PLUS	
SAMPLED	020801	NITROGEN	
FORMATION	JURA-BRUSHY BASIN	OXYGEN	
GEOLOGIC PROVINCE CODE	585	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	2252	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	9500	HELIUM	
		HEATING VALUE*	1,067
		SPECIFIC GRAVITY	U.048
SAMPLE 210	19	COMPONENT, MOLE PCT	
STATE	UTAH	METHANE	91.0
COUNTY		ETHANE	4.8
FIELD	-	PROPANE	1.6
		N-BUTANE	
WELL NAMEHANCOCK	GOVERNMENT NO. 35.	ISOBUTANE	0.4 0.3
API	GOVERNMENT NO. 35 4301930224	ISOBUTANE	0.4 0.3 0.1
API	GOVERNMENT NO. 35. 4301930224 SEC. 17, T17S, R25E	ISOBUTANE	0.4 0.3 0.1
API	GOVERNMENT NO. 35. 4301930224 SEC. 17, T17S, R25E	ISOBUTANE	0.4 0.3 0.1 0.2
API	GOVERNMENT NO. 35. 4301930224 SEC. 17, T17S, R25E BURTON W. HANCOCK	ISOBUTANE N-PENTANE ISOPENTANE	0.4 0.3 0.1 0.2
API	GOVERNMENT NO. 35. 4301930224 SEC. 17, T17S, R25E. BURTON W. HANCOCK. 750525	ISOBUTANEISOPENTANE CYCLOPENTANE	0.4 0.3 0.1 0.2
API	GOVERNMENT NO. 35. 4301930224 SEC. 17, T17S, R25E BURTON W. HANCOCK. 750525 020801.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.4 0.3 0.1 0.2 0.1
API	GOVERNMENT NO. 35. 4301930224 SEC. 17, T17S, R25E BURTON W. HANCOCK. 750525 020801. CRET-DAKOTA.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.4 0.3 0.1 0.2
API	GOVERNMENT NO. 35. 4301930224 SEC. 17, T17S, R25E BURTON W. HANCOCK 750525 020801 CRET-DAKOTA 585	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.4 0.3 0.1 0.2
API	GOVERNMENT NO. 35. 4301930224 SEC. 17, T17S, R25E BURTON W. HANCOCK. 750525 020801. CRET-DAKOTA 585. 3656	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.4 0.3 0.1 0.2
API	GOVERNMENT NO. 35. 4301930224 SEC. 17, T17S, R25E BURTON W. HANCOCK. 750525 020801. CRET-DAKOTA. 585. 3656.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.4 0.3 0.1 0.2
API	GOVERNMENT NO. 35. 4301930224 SEC. 17, T17S, R25E BURTON W. HANCOCK. 750525 020801. CRET-DAKOTA 585. 3656.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.4 0.3 0.1 0.2 0.1 0.0 0.0 TRACE 0.0
API	GOVERNMENT NO. 35. 4301930224 SEC. 17, T17S, R25E BURTON W. HANCOCK. 750525 020801. CRET-DAKOTA 585. 3656.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.4 0.3 0.1 0.2

^{*} 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

SAMPLE 21020	COMPONENT, MOLE PCT	
CTATE LITAL	METHANE	90.5
STATE UTAH	ETHANE	4.7
COUNTYGRAND	PROPANE	1.6
FIELD STATELINE	N-BUTANE	0.5
WELL NAME FEDERAL NO. 17-12	ISOBUTANE	0.4
API 4301931382	N-PENTANE	0.1
LOCATION SEC. 17, T17S, R25E	ISOPENTANE	0.2
OWNERBURTON W. HANCOCK	CYCLOPENTANE	
COMPLETED010204	HEXANES PLUS	0.2
SAMPLED020801_	NITROGEN	1.0
FORMATIONCRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE585	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 3810	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG	CARBON DIOXIDE	0.7
,	HELIUM	0.14
OPEN FLOW, MCFD2161	HEATING VALUE*	1,091
	SPECIFIC GRAVITY	0.626
SAMPLE 21018	COMPONENT, MOLE PCT	
CTATE	METHANE	93.3
STATEUTAH	ETHANE	
COLINITY ODANID	LIII/ANL	3.6
	PROPANE	
FIELDSTATELINE		0.8
FIELDSTATELINE.	PROPANE	0.8
FIELDSTATELINE	PROPANEN-BUTANE	0.8 0.2 0.2
FIELDSTATELINE. WELL NAMEHANCOCK GOVERNMENT NO. 4. API4301915483	PROPANEN-BUTANEISOBUTANE	0.8 0.2 0.2 0.1
FIELD STATELINE WELL NAME HANCOCK GOVERNMENT NO. 4 API 4301915483 LOCATION SEC. 9, T17S, R25E	PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.8 0.2 0.2 0.1
FIELD STATELINE WELL NAME HANCOCK GOVERNMENT NO. 4 API 4301915483 LOCATION SEC. 9, T17S, R25E. OWNER BURTON W. HANCOCK.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.8 0.2 0.2 0.1 0.1
FIELD STATELINE WELL NAME HANCOCK GOVERNMENT NO. 4 API 4301915483 LOCATION SEC. 9, T17S, R25E OWNER BURTON W. HANCOCK COMPLETED 600423	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.8 0.2 0.2 0.1 0.1
FIELD STATELINE WELL NAME HANCOCK GOVERNMENT NO. 4 API 4301915483 LOCATION SEC. 9, T17S, R25E OWNER BURTON W. HANCOCK COMPLETED 600423 SAMPLED 020801	PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.8 0.2 0.2 0.1 0.1 0.1 0.7
FIELD STATELINE WELL NAME HANCOCK GOVERNMENT NO. 4 API 4301915483 LOCATION SEC. 9, T17S, R25E OWNER BURTON W. HANCOCK COMPLETED 600423 SAMPLED 020801 FORMATION CRET-DAKOTA, CEDAR MOUNTAIN	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.8 0.2 0.2 0.1 0.1 0.1 0.7
FIELD STATELINE WELL NAME HANCOCK GOVERNMENT NO. 4 API 4301915483 LOCATION SEC. 9, T17S, R25E OWNER BURTON W. HANCOCK COMPLETED 600423 SAMPLED 020801 FORMATION CRET-DAKOTA, CEDAR MOUNTAIN GEOLOGIC PROVINCE CODE 585	PROPANE	0.8 0.2 0.2 0.1 0.1 0.1 0.7 0.0
FIELD STATELINE WELL NAME HANCOCK GOVERNMENT NO. 4 API 4301915483 LOCATION SEC. 9, T17S, R25E OWNER BURTON W. HANCOCK COMPLETED 600423 SAMPLED 020801 FORMATION CRET-DAKOTA, CEDAR MOUNTAIN GEOLOGIC PROVINCE CODE 585 TRUE VERTICAL DEPTH (FT) 3978	PROPANE	0.8
FIELD STATELINE WELL NAME HANCOCK GOVERNMENT NO. 4 API 4301915483 LOCATION SEC. 9, T.17S, R25E OWNER BURTON W. HANCOCK COMPLETED 600423 SAMPLED 020801 FORMATION CRET-DAKOTA, CEDAR MOUNTAIN GEOLOGIC PROVINCE CODE 585 TRUE VERTICAL DEPTH (FT) 3978 MEASURED DEPTH	PROPANE	0.8
FIELD STATELINE WELL NAME HANCOCK GOVERNMENT NO. 4 API 4301915483 LOCATION SEC. 9, T17S, R25E OWNER BURTON W. HANCOCK COMPLETED 600423 SAMPLED 020801 FORMATION CRET-DAKOTA, CEDAR MOUNTAIN GEOLOGIC PROVINCE CODE 585 TRUE VERTICAL DEPTH (FT) 3978 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 950	PROPANE	0.8 0.2 0.2 0.1 0.1 0.1 0.7 0.0 0.0 TRACE 0.0 1.0
COUNTY GRAND FIELD STATELINE WELL NAME HANCOCK GOVERNMENT NO. 4 API 4301915483 LOCATION SEC. 9, T17S, R25E OWNER BURTON W. HANCOCK COMPLETED 600423 SAMPLED 020801 FORMATION CRET-DAKOTA, CEDAR MOUNTAIN GEOLOGIC PROVINCE CODE 585 TRUE VERTICAL DEPTH (FT) 3978 MEASURED DEPTH 950 OPEN FLOW, MCFD 3729	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	0.8 0.2 0.2 0.1 0.1 0.1 0.7 0.0 TRACE 0.0 0.09

^{*} 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

SAMPLE 21385	COMPONENT, MOLE PCT	
STATEUTAH	METHANE	88.7
COUNTYUINTAH	ETHANE	2.5
	PROPANE	2.9
FIELD WALKER HOLLOW	N-BUTANE	1.0
WELL NAME WALKER HOLLOW UNIT NO. 81	ISOBUTANE	0.6
API4304734758.	N-PENTANE	0.3
LOCATION SEC 11, T7S, R23E	ISOPENTANE	0.4
OWNER CITATION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED030610_	HEXANES PLUS	0.3
SAMPLED040817_	NITROGEN	3.1
FORMATION EOCE-GREEN RIVER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE575_	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)5368	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG250	CARBON DIOXIDE	0.2
OPEN FLOW, MCFD 160	HELIUM	0.04
OI ENT EOV, NOI D	HEATING VALUE*	1,108
	SPECIFIC GRAVITY	0.652
SAMPLE 21381	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT METHANE	88.5
STATE UTAH		
STATEUTAH COUNTYUINTAH	METHANE	4.8
STATEUTAH COUNTYUINTAH FIELDWEST WILLOW CREEK.	METHANE	4.8 2.7
STATEUTAH COUNTYUINTAH FIELDWEST WILLOW CREEK.	METHANE ETHANE PROPANE	4.8 2.7 0.7
STATEUTAH COUNTYUINTAH FIELDWEST WILLOW CREEK. WELL NAMEFEDERAL NO. 3-25B.	METHANE ETHANE PROPANE N-BUTANE	4.8 2.7 0.7 0.4
STATE UTAH COUNTY UINTAH FIELD WEST WILLOW CREEK. WELL NAME FEDERAL NO. 3-25B. API 4304732417.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.8 2.7 0.7 0.4 0.2
STATEUTAH COUNTYUINTAH FIELDWEST WILLOW CREEK WELL NAMEFEDERAL NO. 3-25B. API4304732417. LOCATIONSEC 25, T9S, R19E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.8 2.7 0.7 0.4 0.2
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.8 2.7 0.7 0.4 0.2 0.2
STATEUTAH COUNTYUINTAH FIELDWEST WILLOW CREEK. WELL NAMEFEDERAL NO. 3-25B. API4304732417. LOCATIONSEC 25, T9S, R19E. OWNERDOMINION EXPLORATION & PRODUCTION, INC. COMPLETED930509	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE	4.8 2.7 0.7 0.4 0.2 0.2
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.8 2.7 0.7 0.4 0.2 0.2 0.2
STATE UTAH COUNTY UINTAH FIELD WEST WILLOW CREEK. WELL NAME FEDERAL NO. 3-25B. API 4304732417. LOCATION SEC 25, T9S, R19E. OWNER DOMINION EXPLORATION & PRODUCTION, INC. COMPLETED 930509 SAMPLED 040817. FORMATION EOCE-GREEN RIVER	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.8 2.7 0.7 0.4 0.2 0.2 0.2 1.7 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.8 2.7 0.7 0.4 0.2 0.2 0.2 1.7 0.0 TRACE
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.8 2.7 0.7 0.4 0.2 0.2 1.7 0.0 TRACE
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.8 2.7 0.7 0.4 0.2 0.2 1.7 0.0 TRACE 0.0
STATE	METHANE	4.8 2.7 0.7 0.4 0.2 0.2 1.7 0.0 TRACE 0.0
SAMPLE 21381 STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	4.8 2.7 0.7 0.4 0.2 0.2 0.2 1.7 0.0 TRACE 0.0 0.5 0.03

^{*} 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

SAMPLE	21382	COMPONENT, MOLE PCT	
STATE	<u>UTAH</u>	METHANE	87.1
	UINTAH	ETHANE	5.2
		PROPANE	3.2
	WEST WILLOW CREEK	N-BUTANE	0.9
	FEDERAL 5-24B NO. 5	ISOBUTANE	0.5
API	4304732447	N-PENTANE	0.2
LOCATION	SEC 24, T9S, R19E	ISOPENTANE	0.2
OWNER <u>DOMINION E</u>	XPLORATION & PRODUCTION, INC.	CYCLOPENTANE	
COMPLETED	931219	HEXANES PLUS	0.3
SAMPLED	040817	NITROGEN	1.8
FORMATION	EOCE-GREEN RIVER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	575_	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	4854	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.5
,	600	HELIUM	0.04
OF LINT LOW, MICH D	000	HEATING VALUE*	1,131
		SPECIFIC GRAVITY	0.659
SAMPLE	20933	SPECIFIC GRAVITY	0.659
STATE	UTAH	COMPONENT, MOLE PCT	92.9
STATE	UTAH GRAND	COMPONENT, MOLE PCT METHANE	92.9 3.4
STATE COUNTY FIELD	UTAH GRAND WESTWATER	COMPONENT, MOLE PCT METHANE ETHANE	92.9 3.4 0.9
STATE COUNTY FIELD	UTAH GRAND	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	92.9 3.4 0.9 0.2
STATE COUNTY FIELD WELL NAME	UTAH GRAND WESTWATER	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	92.9 3.4 0.9 0.2
STATE COUNTY FIELD WELL NAME	UTAH GRAND WESTWATER FEDERAL NO. 4-M	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	92.9 3.4 0.9 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION	UTAH GRAND WESTWATER FEDERAL NO. 4-M 4301920154	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	92.9 3.4 0.9 0.2 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	UTAH. GRAND WESTWATER. FEDERAL NO. 4-M 4301920154 SEC. 6, T17S, R24E	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	92.9 3.4 0.9 0.2 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	UTAH GRAND WESTWATER FEDERAL NO. 4-M 4301920154 SEC. 6, T17S, R24E J.C. THOMPSON	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	92.9 3.4 0.9 0.2 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	UTAH GRAND WESTWATER FEDERAL NO. 4-M 4301920154 SEC. 6, T17S, R24E J.C. THOMPSON 680619	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	92.9 3.4 0.9 0.2 0.1 0.1 0.2 0.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	UTAH GRAND WESTWATER FEDERAL NO. 4-M 4301920154 SEC. 6, T17S, R24E J.C. THOMPSON 680619 020617	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE HEXANES PLUS NITROGEN	92.9 3.4 0.9 0.2 0.1 0.1 0.2 0.4 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	UTAH GRAND WESTWATER FEDERAL NO. 4-M 4301920154 SEC. 6, T17S, R24E J.C. THOMPSON 680619 020617 CRET-BUCKHORN 585	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	92.9 3.4 0.9 0.2 0.1 0.1 0.2 0.4 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	UTAH GRAND WESTWATER FEDERAL NO. 4-M 4301920154 SEC. 6, T17S, R24E J.C. THOMPSON 680619 020617 CRET-BUCKHORN 585 6276	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	92.9 3.4 0.9 0.2 0.1 0.1 0.2 0.4 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	UTAH GRAND WESTWATER FEDERAL NO. 4-M 4301920154 SEC. 6, T17S, R24E J.C. THOMPSON 680619 020617 CRET-BUCKHORN 585 6276	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	92.9 3.4 0.9 0.2 0.1 0.1 0.2 0.4 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	UTAH GRAND WESTWATER. FEDERAL NO. 4-M 4301920154 SEC. 6, T17S, R24E J.C. THOMPSON 680619 020617 CRET-BUCKHORN 585. 6276.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	92.9 3.4 0.9 0.2 0.1 0.1 0.1 0.2 0.4 0.0 TRACE 0.0 1.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	UTAH GRAND WESTWATER FEDERAL NO. 4-M 4301920154 SEC. 6, T17S, R24E J.C. THOMPSON 680619 020617 CRET-BUCKHORN 585 6276	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE ACTION OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	92.9 3.4 0.9 0.2 0.1 0.1 0.2 0.4 0.0 TRACE 0.0 1.6

^{*} 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

SAMPLE	20936	COMPONENT, MOLE PCT	
STATE	UTAH	METHANE	81.5
		ETHANE	7.5
	GRAND	PROPANE	3.9
	WESTWATER	N-BUTANE	1.2
	WESTWATER UNIT NO. 6-C	ISOBUTANE	0.7
API	4301915652	N-PENTANE	0.3
LOCATION	SEC. 18, T17S, R24E	ISOPENTANE	0.4
OWNER	J.C. THOMPSON	CYCLOPENTANE	
COMPLETED	590513	HEXANES PLUS	0.5
SAMPLED	020617	NITROGEN	0.6
FORMATION	CRET-CASTLEGATE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	0.0
	684	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	210	CARBON DIOXIDE	3.3
		HELIUM	0.03
OPEN FLOW, MICFD	50	HEATING VALUE*	1,172
		SPECIFIC GRAVITY	0.717
SAMPLE	20940	COMPONENT, MOLE PCT	
CTATE	UTAH	METHANE	84.1
		ETHANE	6.1
COUNTY		PROPANE	2.4
	WESTWATER.	N-BUTANE	0.7
	FEDERAL NO. 2-C	ISOBUTANE	0.5
API	4301915649	N-PENTANE	0.2
LOCATION	SEC. 18, T17S, R24E	ISOPENTANE	0.3
OVANIED			
OWNER	J.C. THOMPSON	CYCLOPENTANE	
	J.C. THOMPSON 571106	CYCLOPENTANE	
COMPLETED			0.4
COMPLETED	571106	HEXANES PLUS	0.4 0.6
COMPLETEDSAMPLEDFORMATION	571106 020617	HEXANES PLUS	0.4 0.6 0.0
COMPLETEDSAMPLEDFORMATIONGEOLOGIC PROVINCE CODE	571106 .020617. CRET-CASTLEGATE .585	HEXANES PLUS NITROGEN OXYGEN ARGON	0.4 0.6 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	571106 020617 CRET-CASTLEGATE 585. 765.	HEXANES PLUS	0.4 0.6 0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	571106 020617 CRET-CASTLEGATE 585 765	HEXANES PLUS	0.4 0.6 0.0 0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	571106 020617. CRET-CASTLEGATE 585. 765.	HEXANES PLUS	0.4 0.6 0.0 0.0 0.0 0.0 4.8
COMPLETEDSAMPLEDFORMATION	571106 020617. CRET-CASTLEGATE 585. 765.	HEXANES PLUS	0.4 0.6 0.0 0.0 0.0 0.0 4.8

 $^{^\}star$ 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

SAMPLE	20939	COMPONENT, MOLE PCT	
STATE	UTA <u>H</u>	METHANE	76.1
	GRAND	ETHANE	8.4
		PROPANE	6.4
	WESTWATER NO. 7.0	N-BUTANE	2.5
	WESTWATER NO. 7-C	ISOBUTANE	1.5
	4301915653.	N-PENTANE	0.9
LOCATION	SEC. 7, T17S, R24E	ISOPENTANE	1.0
OWNER	J.C. THOMPSON	CYCLOPENTANE	
COMPLETED	590509	HEXANES PLUS	1.6
SAMPLED	020617	NITROGEN	0.7
FORMATION	CRET-CASTLEGATE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	1084	HYDROGEN	0.0
, ,		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.8
, 	30	HELIUM	0.08
OPEN FLOW, MICFD		HEATING VALUE*	1,366
		SPECIFIC GRAVITY	0.801
SAMPLE	20934	COMPONENT, MOLE PCT	
CTATE	IITALI	METHANE	90.5
	UTAH	METHANE	
COUNTY	GRAND		4.9
COUNTY	GRAND WESTWATER	ETHANE	4.9 1.5
COUNTY	GRAND	ETHANE	4.9 1.5 0.4
COUNTYFIELD	GRAND WESTWATER WESTWATER UNIT NO. 3-M.	ETHANE PROPANE N-BUTANE	4.9 1.5 0.4 0.3
COUNTY	GRAND WESTWATER WESTWATER UNIT NO. 3-M.	ETHANE PROPANE N-BUTANE ISOBUTANE	4.9 1.5 0.4 0.3
COUNTY FIELD WELL NAME API LOCATION	GRAND WESTWATER WESTWATER UNIT NO. 3-M 4301915662	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.9 1.5 0.4 0.3 0.1 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER	GRAND WESTWATER. WESTWATER UNIT NO. 3-M. 4301915662 SEC. 7, T17S, R24E.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.9 1.5 0.4 0.3 0.1 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	GRAND WESTWATER WESTWATER UNIT NO. 3-M 4301915662 SEC. 7, T17S, R24E J.C. THOMPSON	ETHANEPROPANEN-BUTANEISOBUTANEISOPENTANEISOPENTANE	4.9 1.5 0.4 0.3 0.1 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	GRAND WESTWATER. WESTWATER UNIT NO. 3-M. 4301915662 SEC. 7, T17S, R24E J.C. THOMPSON. 640624	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.9 1.5 0.4 0.3 0.1 0.2 0.3 0.7
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	GRAND WESTWATER. WESTWATER UNIT NO. 3-M. 4301915662 SEC. 7, T17S, R24E J.C. THOMPSON. 640624 020617.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.9 1.5 0.4 0.3 0.1 0.2 0.3 0.7
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	GRAND WESTWATER. WESTWATER UNIT NO. 3-M. 4301915662 SEC. 7, T17S, R24E J.C. THOMPSON. 640624 020617. CRET-CASTLEGATE, DAKOTA. 585.	ETHANE	4.9 1.5 0.4 0.3 0.1 0.2 0.3 0.7 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	GRAND WESTWATER WESTWATER UNIT NO. 3-M 4301915662 SEC. 7, T17S, R24E J.C. THOMPSON 640624 020617 CRET-CASTLEGATE, DAKOTA 585	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.9 1.5 0.4 0.3 0.1 0.2 0.3 0.7 0.0 0.0 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	GRAND WESTWATER WESTWATER UNIT NO. 3-M 4301915662 SEC. 7, T17S, R24E J.C. THOMPSON 640624 020617. CRET-CASTLEGATE, DAKOTA 585	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.9 1.5 0.4 0.3 0.1 0.2 0.3 0.7 0.0 0.0 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	GRAND WESTWATER WESTWATER UNIT NO. 3-M 4301915662 SEC. 7, T17S, R24E J.C. THOMPSON 640624 020617 CRET-CASTLEGATE, DAKOTA 585	ETHANE	4.9 1.5 0.4 0.3 0.1 0.2 0.3 0.7 0.0 TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	GRAND WESTWATER WESTWATER UNIT NO. 3-M 4301915662 SEC. 7, T17S, R24E J.C. THOMPSON 640624 020617. CRET-CASTLEGATE, DAKOTA 585	ETHANE	4.9 1.5 0.4 0.3 0.1 0.2 0.3 0.7 0.0 TRACE 0.0 1.0 0.08

^{*} 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

SAMPLE 20942	COMPONENT, MOLE PCT	
STATE UTAH	METHANE	93.7
COUNTY GRAND	ETHANE	3.1
	PROPANE	0.7
FIELD WESTWATER.	N-BUTANE	0.1
WELL NAME MIDDLE CANYON FEDERAL NO. 11-30	ISOBUTANE	0.1
API 4301930925	N-PENTANE	0.1
LOCATIONSEC. 30, T16S, R24E	ISOPENTANE	0.1
OWNER J.C. THOMPSON	CYCLOPENTANE	
COMPLETED821026	HEXANES PLUS	0.1
SAMPLED020617_	NITROGEN	0.6
FORMATIONCRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE585_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)5581_	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG450.	CARBON DIOXIDE	1.3
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	
SAMPLE 20937	COMPONENT, MOLE PCT	
STATEUTAH	METHANE	85.5
COUNTY GRAND	ETHANE	7.9
FIELD WESTWATER.	PROPANE	2.9
	N-BUTANE	
WELL NAME FEDERAL NO. 2-D.	ISOBUTANE	0.6
API4301915656	N-PENTANE	0.2
LOCATION SEC. 18, T17S, R24E	ISOPENTANE	0.3
OWNER	CYCLOPENTANE	
COMPLETED 610515	HEXANES PLUS	0.2
SAMPLED020617_	NITROGEN	0.9
FORMATION <u>CRET-DAKOTA, CASTLEGATE</u>	OXYGEN	
GEOLOGIC PROVINCE CODE585_	ARGON	
TRUE VERTICAL DEPTH (FT)722	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD60_	HELIUM	
,	HEATING VALUE*	1,151
	SPECIFIC GRAVITY	

^{*} 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

SAMPLE	20931	COMPONENT, MOLE PCT	
STATE	<u>UTAH</u>	METHANE	89.3
	GRAND	ETHANE	6.0
		PROPANE	1.9
	WESTWATER	N-BUTANE	0.4
	WESTWATER NO. 3-E	ISOBUTANE	0.4
API	4301915658	N-PENTANE	0.1
LOCATION	SEC. 17, T17S, R24E	ISOPENTANE	0.1
OWNER	J.C. THOMPSON	CYCLOPENTANE	
COMPLETED	590728	HEXANES PLUS	0.1
SAMPLED	020617	NITROGEN	0.8
FORMATION	JURA-ENTRADA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	585	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	5488	HYDROGEN	
		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.7
•	110	HELIUM	0.09
OI LIVI LOW, MOI D	110	HEATING VALUE*	1,099
		SPECIFIC GRAVITY	0.63
SAMPLE	20938	COMPONENT, MOLE PCT	
07475		METHANE	86.7
	UTAH	ETHANE	4.2
	GRAND	PROPANE	1.4
	WESTWATER	N-BUTANE	0.7
WELL NAME	WESTWATER UNIT NO. 2-E.	ISOBUTANE	0.5
API	4301915657	N-PENTANE	0.4
LOCATION	SEC. 7, T17S, R24E	ISOPENTANE	0.5
OWNER	J.C. THOMPSON.	CYCLOPENTANE	
COMPLETED	590126	HEXANES PLUS	0.5
SAMPLED	020617	NITROGEN	3.9
		OXYGEN	0.0
FORMATION	JURA-ENTRADA, MORRISON	071.02.1	
	JURA-ENTRADA, MORRISON 585	ARGON	TRACE
GEOLOGIC PROVINCE CODE	585		
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	585_ 5300_	ARGON	TRACE
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	585. 5300.	ARGON	TRACE
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG		ARGONHYDROGENHYDROGEN SULFIDE**	TRACE 0.0 1.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	585. 5300.	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE 0.0 1.0 0.19

^{*} 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

METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY	7.2 4.3 1.4 0.7 0.4 0.4 2.5 0.0 0.0 TRACE 0.0 0.4 0.11
PROPANE	4.3 1.4 0.7 0.4 0.4 2.5 0.0 0.0 TRACE 0.0 0.4 0.11 1.187
N-BUTANE	1.4 0.7 0.4 0.4 2.5 0.0 0.0 TRACE 0.0 0.4 0.11 1.187
ISOBUTANE	0.7 0.4 0.4 0.4 2.5 0.0 0.0 TRACE 0.0 0.4 0.11
N-PENTANE	0.4 0.4 0.4 2.5 0.0 0.0 TRACE 0.0 0.4 0.11 1.187
ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	0.4 0.4 2.5 0.0 0.0 TRACE 0.0 0.4 0.11
CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	
HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	0.4 2.5 0.0 0.0 TRACE 0.0 0.4 0.11
NITROGEN	2.5 0.0 0.0 TRACE 0.0 0.4 0.11
OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	0.0 0.0 TRACE 0.0 0.4 0.11
ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	0.0 TRACE 0.0 0.4 0.11 1,187
HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	TRACE 0.0 0.4 0.11 1,187
HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	0.0 0.4 0.11 1,187
CARBON DIOXIDE HELIUM HEATING VALUE*	0.4 0.11 1,187
HELIUM	0.11 1,187
HEATING VALUE*	1,187
	,
SPECIFIC GRAVITY	0.7
COMPONENT, MOLE PCT	
METHANE	91.0
ETHANE	3.3
PROPANE	1.0
N-BUTANE	0.3
ISOBUTANE	0.2
N-PENTANE	0.1
ISOPENTANE	0.1
CYCLOPENTANE	- -
HEXANES PLUS	0.9
NITROGEN	2.6
OXYGEN	0.0
ARGON	0.1
HYDROGEN	0.0
HYDROGEN SULFIDE**	0.0
CARBON DIOXIDE	0.4
HELIUM	
HEATING VALUE*	1,070
	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE

^{*} 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

SAMPLE 21406		COMPONENT, MOLE PCT	
STATE	IITALI	METHANE	68.3
	······································	ETHANE	11.1
COUNTY		PROPANE	9.6
FIELD WONSITS VA		N-BUTANE	2.5
WELL NAMEW	<u>/U 132</u>	ISOBUTANE	1.4
API43047		N-PENTANE	0.6
LOCATIONSEC 15, T8S	, R21E	ISOPENTANE	0.6
OWNER QUESTAR EXPLORATION & PRODUCTION		CYCLOPENTANE	
COMPLETEDBASI	10327	HEXANES PLUS	1.0
SAMPLED0	41207	NITROGEN	2.8
FORMATION <u>EOCE-GREEN</u>	RIVER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	575	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	5261	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	1.7
OPEN FLOW, MCFD		HELIUM	0.10
OPEN FLOW, MOPD	••••••	HEATING VALUE*	1,360
		SPECIFIC GRAVITY	0.836
SAMPLE 21409		COMPONENT, MOLE PCT	
OTATE	LITALI	METHANE	90.3
STATE		ETHANE	3.6
COUNTYU		PROPANE	1.1
FIELDWONSITS VA		N-BUTANE	0.3
WELL NAMEOVER & UNDER GLEN BENCH 1W-1	7-8-22	IOODI ITANIE	
API43047		ISOBUTANE	0.2
	34623	N-PENTANE	
LOCATION SEC 17, T8S			0.1
OWNERQUESTAR EXPLORATION & PRODUCTION	R22E.	N-PENTANE	0.1 0.1
OWNERQUESTAR EXPLORATION & PRODUCTION	, R22E	N-PENTANE	0.1 0.1
OWNERQUESTAR EXPLORATION & PRODUCTION BASI	R22E UINTA NJ NC 30201	N-PENTANE ISOPENTANE CYCLOPENTANE	0.1 0.1 0.8
OWNERQUESTAR EXPLORATION & PRODUCTION. COMPLETEDBASIJ SAMPLED0	R22E UINTA 30201 41214	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.1 0.8 3.0
OWNER QUESTAR EXPLORATION & PRODUCTION COMPLETED BASK SAMPLED 0 FORMATION EOCE-WAS	R22E UINTA 3d261 41214 SATCH	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.1 0.8 3.0 0.0
OWNERQUESTAR EXPLORATION & PRODUCTION. COMPLETED	R22E UINTA 30001 41214 SATCH 575	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.1 0.8 3.0 0.0
OWNERQUESTAR EXPLORATION & PRODUCTION COMPLETED	R22E UINTA 3d261 41214 SATCH 575 7666	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 0.1 0.8 3.0 0.0 0.1 0.0
OWNERQUESTAR EXPLORATION & PRODUCTION BASIJES SAMPLED	R22E UINTA 3d 201 41214 SATCH 575 7666	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.1 0.1 0.8 3.0 0.0 0.1 0.0
OWNERQUESTAR EXPLORATION & PRODUCTION COMPLETED	R22E UINTA 30201 41214 6ATCH 575 7666	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.1 0.1 0.8 3.0 0.0 0.1 0.0 0.0 0.0
OWNERQUESTAR EXPLORATION & PRODUCTION COMPLETED	R22E UINTA 3d 201 41214 SATCH 575 7666	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.1 0.8 3.0 0.0 0.1 0.0 0.0 0.3

^{*} 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

SAMPLE 50598	COMPONENT, MOLE PCT	
STATE WEST VIRGINIA	METHANE	99.0
COUNTYROANE	ETHANE	0.7
FIELD AMMA-LOONEYVILLE-NEWTON.	PROPANE	TRACE
	N-BUTANE	0.0
WELL NAME FREDRICK C. PARKER ET AL NO. 820097	ISOBUTANE	
API 4708724250	N-PENTANE	0.0
LOCATION GEARY DISTRICT, CLIO 7.5 QUAD	ISOPENTANE	0.0
OWNERCOLUMBIA NATURAL RESOURCES, INC.	CYCLOPENTANE	
COMPLETED990628_	HEXANES PLUS	0.0
SAMPLED990428_	NITROGEN	0.1
FORMATION ORDO-TRENTON-BLACK RIVER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE160_	ARGON	
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE. PSIG	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD 50000	HELIUM	0.02
OF EINT LOVY, INICI D	HEATING VALUE*	1,018
	SPECIFIC GRAVITY	0.56
SAMPLE 50599	COMPONENT, MOLE PCT	
MEST MESSAGE	METHANE	99.0
STATE WEST VIRGINIA	ETHANE	0.7
		0.1
	PROPANE	<u>U. I</u>
FIELDAMMA-LOONEYVILLE-NEWTON.	PROPANE N-BUTANE	
FIELDAMMA-LOONEYVILLE-NEWTON.		0.0
FIELDAMMA-LOONEYVILLE-NEWTON. WELL NAMEFREDRICK C. PARKER ET AL NO. 820097.	N-BUTANE	0.0
FIELDAMMA-LOONEYVILLE-NEWTON. WELL NAMEFREDRICK.C. PARKER ET AL NO. 820097. API4708724250.	N-BUTANE	0.0 0.0 0.0
FIELD AMMA-LOONEYVILLE-NEWTON WELL NAME FREDRICK C. PARKER ET AL NO. 820097. API 4708724250. LOCATION GEARY DISTRICT, CLIO 7.5 QUAD	N-BUTANE ISOBUTANE N-PENTANE	0.0 0.0 0.0 0.0
FIELD AMMA-LOONEYVILLE-NEWTON. WELL NAME FREDRICK C. PARKER ET AL NO. 820097. API 4708724250. LOCATION GEARY DISTRICT, CLIQ 7.5 QUAD. OWNER COLUMBIA NATURAL RESOURCES, INC.	N-BUTANEISOBUTANEN-PENTANEISOPENTANE	0.0 0.0 0.0 0.0
AMMA-LOONEYVILLE-NEWTON. WELL NAME FREDRICK C. PARKER ET AL NO. 820097. API 4708724250. LOCATION GEARY DISTRICT, CLIO 7.5 QUAD. OWNER COLUMBIA NATURAL RESOURCES, INC. COMPLETED 990628.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.0 0.0 0.0 0.0
AMMA-LOONEYVILLE-NEWTON WELL NAME FREDRICK C. PARKER ET AL NO. 820097 API 4708724250 LOCATION GEARY DISTRICT, CLIO 7.5 QUAD OWNER COLUMBIA NATURAL RESOURCES, INC. COMPLETED 990628 SAMPLED 991027	N-BUTANEISOBUTANEISOPENTANEISOPENTANEISOPENTANE	0.0 0.0 0.0 0.0 0.0
AMMA-LOONEYVILLE-NEWTON. WELL NAME FREDRICK C. PARKER ET AL NO. 820097. API 4708724250 LOCATION GEARY DISTRICT, CLIO 7.5 QUAD. OWNER COLUMBIA NATURAL RESOURCES, INC. COMPLETED 990628 SAMPLED 991027. FORMATION ORDO-TRENTON-BLACK RIVER	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.0 0.0 0.0 0.0 0.0 0.1
AMMA-LOONEYVILLE-NEWTON WELL NAME FREDRICK C. PARKER ET AL NO. 820097. API 4708724250 LOCATION GEARY DISTRICT, CLIO 7.5 QUAD OWNER COLUMBIA NATURAL RESOURCES, INC. COMPLETED 990628 SAMPLED 991027. FORMATION ORDO-TRENTON-BLACK RIVER GEOLOGIC PROVINCE CODE 160.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.0 0.0 0.0 0.0 0.0 0.1 0.1
AMMA-LOONEYVILLE-NEWTON. WELL NAME FREDRICK C. PARKER ET AL NO. 820097. API 4708724250 LOCATION GEARY DISTRICT, CLIO 7.5 QUAD. OWNER COLUMBIA NATURAL RESOURCES, INC. COMPLETED 990628. SAMPLED 991027. FORMATION ORDO-TRENTON-BLACK RIVER. GEOLOGIC PROVINCE CODE 160. TRUE VERTICAL DEPTH (FT) 10271.	N-BUTANE	0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0
AMMA-LOONEYVILLE-NEWTON. WELL NAME FREDRICK C. PARKER ET AL NO. 820097. API 4708724250 LOCATION GEARY DISTRICT, CLIO 7.5 QUAD. OWNER COLUMBIA NATURAL RESOURCES, INC. COMPLETED 990628 SAMPLED 991027. FORMATION ORDO-TRENTON-BLACK RIVER GEOLOGIC PROVINCE CODE 160. TRUE VERTICAL DEPTH (FT) 10271. MEASURED DEPTH	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.0 0.0 0.0 0.0 0.0 0.1 0.1 0.0 0.0
AMMA-LOONEYVILLE-NEWTON WELL NAME FREDRICK C. PARKER ET AL NO. 820097. API 4708724250 LOCATION GEARY DISTRICT, CLIO 7.5 QUAD OWNER COLUMBIA NATURAL RESOURCES, INC. COMPLETED 990628 SAMPLED 991027. FORMATION ORDO-TRENTON-BLACK RIVER GEOLOGIC PROVINCE CODE 160. TRUE VERTICAL DEPTH (FT) 10271. MEASURED DEPTH WELLHEAD PRESSURE, PSIG 5750.	N-BUTANE	0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0
COUNTY ROANE FIELD AMMA-LOONEYVILLE-NEWTON WELL NAME FREDRICK C. PARKER ET AL NO. 820097 API 4708724250 LOCATION GEARY DISTRICT, CLIO. 7.5, QUAD. OWNER COLUMBIA NATURAL RESOURCES, INC. COMPLETED 990628 SAMPLED 991027 FORMATION ORDO-TRENTON-BLACK RIVER GEOLOGIC PROVINCE CODE 160 TRUE VERTICAL DEPTH (FT) 10271 MEASURED DEPTH 5750 OPEN FLOW, MCFD 50000	N-BUTANE	0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0 0.1

 $^{^{\}star}$ 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

SAMPLE 21134	COMPONENT, MOLE PCT	
STATEWEST VIRGINIA	METHANE	89.2
COUNTYMCDOWELL	ETHANE	8.0
FIELD HUFF CREEK	PROPANE	TRACE
	N-BUTANE	0.0
WELL NAME STATE OF WV-DIV OF NAT RES NO. 506144	ISOBUTANE	0.0
API 4704721505	N-PENTANE	0.0
LOCATIONSANDY RIVER DIST, PANTHER QUAD	ISOPENTANE	0.0
OWNEREQUITABLE PRODUCTION CO.	CYCLOPENTANE	
COMPLETED020124_	HEXANES PLUS	0.0
SAMPLED030212_	NITROGEN	8.4
FORMATION MISS-MAXON, BEREA, DEVO-HURON	OXYGEN	8.0
GEOLOGIC PROVINCE CODE160_	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 5421	HYDROGEN	0.1
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG 345.	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	HELIUM	0.1 0.55
OI ENT EOW, MOI D	HEATING VALUE*	919
	SPECIFIC GRAVITY	0.595
SAMPLE 21148	COMPONENT, MOLE PCT	
STATEWEST VIRGINIA.	METHANE	91.0
	ETHANE	3.7
COUNTY WYOMING	PROPANE	0.7
FIELDMCGRAW.	N-BUTANE	0.1
WELL NAMEPOCAHONTAS LAND CORP.LC-223	ISOBUTANE	0.1
API 4710922114	N-PENTANE	TRACE
LOCATIONOCEANA DIST, PILOT KNOB QUAD	ISOPENTANE	0.1
OWNERPENN VIRGINIA OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED 020222	HEXANES PLUS	0.1
	NITROGEN	3.9
SAMPLED030507	OXYGEN	0.0
	OXYGEN	
FORMATION MISS-GLADY FORK, RAVENCLIFF	ARGON	0.0
FORMATIONMISS-GLADY FORK, RAVENCLIFF GEOLOGIC PROVINCE CODE160.		
FORMATIONMISS-GLADY FORK, RAVENCLIFF GEOLOGIC PROVINCE CODE160. TRUE VERTICAL DEPTH (FT)2980.	ARGON	0.2
FORMATIONMISS-GLADY FORK, RAVENCLIFE GEOLOGIC PROVINCE CODE160. TRUE VERTICAL DEPTH (FT)2980. MEASURED DEPTH	ARGON	0.2
FORMATIONMISS-GLADY FORK, RAVENCLIFF GEOLOGIC PROVINCE CODE160. TRUE VERTICAL DEPTH (FT)2980. MEASURED DEPTH WELLHEAD PRESSURE, PSIG305.	ARGON HYDROGEN HYDROGEN SULFIDE**	0.2 0.0 TRACE
SAMPLED	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.2 0.0 TRACE 0.11

 $^{^{\}star}$ 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

SAMPLE 21025	COMPONENT, MOLE PCT	
STATE WEST VIRGINIA	METHANE	86.3
COUNTY CLAY	ETHANE	7.2
	PROPANE	2.6
FIELD MIDDLE SYCAMORE CREEK.	N-BUTANE	0.8
WELL NAMEWEBSTER HARDWOOD NO. B-7	ISOBUTANE	0.5
API4701522627	N-PENTANE	0.2
LOCATIONPLEASANT DISTRICT, BENTREE 7.5 QUAD	ISOPENTANE	0.3
OWNER CABOT OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED011102	HEXANES PLUS	0.4
SAMPLED020731_	NITROGEN	1.5
FORMATION MISS-BIG INJUN SANDSTONE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE160_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.1
MEASURED DEPTH2550.	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG163.	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	HELIUM	0.03
OF EITH EOVY, INOT D	HEATING VALUE*	1,150
	SPECIFIC GRAVITY	0.659
SAMPLE 21283	COMPONENT, MOLE PCT	
STATEWYOMING	METHANE	84.0
	ETHANE	6.7
COUNTYCARBON	PROPANE	3.0
FIELDBALDY.BUTTE.	N-BUTANE	0.8
WELL NAMEBALDY.BUTTE FEDERAL NO. 7.	ISOBUTANE	0.7
API 4900722047	N-PENTANE	0.2
		0.0
LOCATION SEC. 4, T17N, R92W	ISOPENTANE	0.3
	ISOPENTANE	
OWNERYATES PETROLEUM CORP.		<u>==</u>
OWNERYATES PETROLEUM CORP. COMPLETED020118	CYCLOPENTANE	0.3
OWNERYATES PETROLEUM CORP. COMPLETED020118 SAMPLED031005.	CYCLOPENTANE	0.3 1.5
OWNER	CYCLOPENTANE HEXANES PLUS NITROGEN	0.3 1.5 0.0
OWNERYATES PETROLEUM CORP. COMPLETED020118 SAMPLED031005 FORMATIONCRET-ALMOND GEOLOGIC PROVINCE CODE535	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.3 1.5 0.0 TRACE
OWNERYATES PETROLEUM CORP. COMPLETED020118 SAMPLED031005 FORMATIONCRET-ALMOND GEOLOGIC PROVINCE CODE535 TRUE VERTICAL DEPTH (FT)8196.	CYCLOPENTANE	0.3 1.5 0.0 TRACE
OWNER	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.3 1.5 0.0 TRACE
OWNER	CYCLOPENTANE	0.3 1.5 0.0 TRACE 0.0 0.0
LOCATION SEC. 4, T17N, R92W. OWNER YATES PETROLEUM CORP. COMPLETED 020118. SAMPLED 031005. FORMATION CRET-ALMOND. GEOLOGIC PROVINCE CODE 535. TRUE VERTICAL DEPTH (FT) 8196. MEASURED DEPTH WELLHEAD PRESSURE, PSIG 1000. OPEN FLOW, MCFD 295.	CYCLOPENTANE	0.3 1.5 0.0 TRACE 0.0 0.0 2.5

^{*} 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

SAMPLE	21054	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	91.7
COUNTY		ETHANE	2.8
		PROPANE	0.8
FIELD		N-BUTANE	0.3
WELL NAME		ISOBUTANE	0.3
API	4903720410	N-PENTANE	0.1
LOCATION	SEC. 24, T18N, R104W	ISOPENTANE	0.1
OWNER	WEXPRO CO.	CYCLOPENTANE	
COMPLETED	780410	HEXANES PLUS	0.2
SAMPLED	021010	NITROGEN	2.5
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	2254	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	140	CARBON DIOXIDE	1.3
OPEN FLOW, MCFD		HELIUM	0.2 2.5 0.0 TRACE 0.0 0.0 1.3 1.029 0.612 92.8 2.0 0.1
OI LIVI LOW, MOI D	170	HEATING VALUE*	1,029
		SPECIFIC GRAVITY	0.612
SAMPLE	21055	COMPONENT, MOLE PCT	
07475	MANGAMINIO	METHANE	92.8
STATE		ETHANE	2.0
COUNTY		PROPANE	0.1
FIELD		N-BUTANE	
WELL NAME			IRACE
	E.S. LAUZER NO. 1	ISOBUTANE	
		ISOBUTANE	TRACE
API	4903705359		TRACE 0.0
API	4903705359 SEC. 30, T18N, R103W	N-PENTANE	TRACE 0.0 0.0
API LOCATION OWNER	4903705359 SEC. 30, T18N, R103W WEXPRO CO.	N-PENTANE	TRACE 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED	4903705359 SEC. 30, T18N, R103W WEXPRO CO. 380123	N-PENTANE ISOPENTANE CYCLOPENTANE	TRACE 0.0 0.0 TRACE
API LOCATION OWNER COMPLETED SAMPLED	4903705359 SEC. 30, T18N, R103W WEXPRO CO. 380123 021010	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	TRACE 0.0 0.0 1.0 TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION	4903705359 SEC. 30, T18N, R103W WEXPRO CO. 380123 021010 CRET-FRONTIER	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	TRACE 0.0 0.0 0.0 TRACE 0.7 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	4903705359 SEC. 30, T18N, R103W WEXPRO CO. 380123 021010 CRET-FRONTIER 535	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	TRACE 0.0 0.0 TRACE 0.7 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	4903705359 SEC. 30, T18N, R103W WEXPRO CO. 380123 021010 CRET-FRONTIER 535. 1685.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE 0.0 0.0 TRACE 0.7 0.0 0.0 0.0 0.0 0.0
API	4903705359 SEC. 30, T18N, R103W WEXPRO CO. 380123 021010 CRET-FRONTIER 535. 1685.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	TRACE 0.0 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
API	4903705359 SEC. 30, T18N, R103W. WEXPRO CO. 380123 021010. CRET-FRONTIER 535. 1685.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	TRACE 0.0 0.0 0.0 TRACE 0.7 0.0 0.0 0.0 4.4
API	4903705359 SEC. 30, T18N, R103W. WEXPRO CO. 380123 021010. CRET-FRONTIER 535. 1685.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE 0.0 0.0 TRACE 0.7 0.0 0.0 0.0 4.4 0.05

^{*} 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

SAMPLE	21294	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	88.7
	SWEETWATER	ETHANE	4.2
		PROPANE	1.1
	BAXTER BASIN S	N-BUTANE	0.3
	SOUTH BAXTER UNIT NO. 22	ISOBUTANE	0.2
	4903725253	N-PENTANE	
	SEC. 5, T15N, R104W	ISOPENTANE	0.1
OWNER	WEXPRO CO.	CYCLOPENTANE	
COMPLETED	030124	HEXANES PLUS	0.1
SAMPLED	031210	NITROGEN	3.1
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535	ARGON	
TRUE VERTICAL DEPTH (FT)	3602	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
	1000	CARBON DIOXIDE	1.9
,	12000	HELIUM	
o. 2 2011, 1110. D		HEATING VALUE*	1,028
		SPECIFIC GRAVITY	U.b3
SAMPLE	21048	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	87.6
	LINCOLN	ETHANE	6.4
	BIRD CANYON	PROPANE	3.0
	OUNTY LINE FEDERAL NO. 22-6.	N-BUTANE	0.9
		ISOBUTANE	0.6
	4902320629	N-PENTANE	
	SEC. 6, T26N, R111W	ISOPENTANE	
	PRIDE ENERGY CO.	CYCLOPENTANE	
COMPLETED	850812	HEXANES PLUS	
SAMPLED	021010	NITROGEN	
FORMATION	CRET-BEAR RIVER	OXYGEN	
	F0.F	ARGON	0.0
GEOLOGIC PROVINCE CODE	535		
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)		HYDROGEN	
TRUE VERTICAL DEPTH (FT)		HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (FT)	9161	HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	9161	HYDROGEN SULFIDE**	0.0 0.2 0.05

^{*} 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

SAMPLE	21038	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	97.3
	SWEETWATER	ETHANE	1.8
		PROPANE	0.1
	BLACK BUTTE CREEK	N-BUTANE	TRACE
	FEDERAL BAXTER NO. 4-22	ISOBUTANE	TRACE
	4903721543	N-PENTANE	0.0
	SEC. 22, T19N, R103W	ISOPENTANE	TRACE
OWNER	SAMSON RESOURCES CO.	CYCLOPENTANE	
COMPLETED	801013	HEXANES PLUS	TRACE
SAMPLED	021010	NITROGEN	0.3
FORMATION	CRET-FRONTIER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535	ARGON	
TRUE VERTICAL DEPTH (FT)	2882	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.3
,	288	HELIUM	0.03
OI LIVI LOVV, WIOI D	200	HEATING VALUE*	1,022
		SPECIFIC GRAVITY	0.569
SAMPLE	21217	COMPONENT, MOLE PCT	
STATE		METHANE	89.8
		ETHANE	4.8
	SWEETWATER	PROPANE	1.0
	BLUE FOREST	N-BUTANE	0.2
WELL NAME	BLUE FOREST UNIT NO. 20-14	ISOBUTANE	0.1
API	4903724580	N-PENTANE	TRACE
LOCATION	SEC. 14, T24N, R111W	ISOPENTANE	0.1
OWNER	CABOT OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	010502	HEXANES PLUS	0.1
SAMPLED	030710	NITROGEN	3.2
FORMATION	CRET-FRONTIER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	10007_	HYDROGEN	0.0
,		HYDROGEN SULFIDE**	0.0
· · · · · · · · · · · · · ·		CARBON DIOXIDE	0.6
WELLHEAD PRESSLIRE PSIC	1100		
	1100	HELIUM	0.02
	1100. 440.	HELIUMHEATING VALUE*	

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

SAMPLE	21031	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	91.5
	CARBON	ETHANE	4.7
		PROPANE	1.7
	CHEROKEE CREEK	N-BUTANE	0.5
	WILD COW CREEK NO. 1-23	ISOBUTANE	
	4900721531	N-PENTANE	0.1
	SEC. 23, T15N, R91W	ISOPENTANE	0.1
OWNER	MERIT ENERGY CO.	CYCLOPENTANE	
COMPLETED	961209	HEXANES PLUS	0.2
SAMPLED	021010	NITROGEN	0.3
FORMATION	CRET-COW CREEK	OXYGEN	0.0
GEOLOGIC PROVINCE CODE .	535	ARGON	0.0
TRUE VERTICAL DEPTH (FT) _	3336	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE PSIG		CARBON DIOXIDE	0.6
,		HELIUM	
OI EIVI EOVV, MOI D		HEATING VALUE*	1,098
		SPECIFIC GRAVITY	0.622
SAMPLE	21032	COMPONENT, MOLE PCT	
CTATE	MANAMANA	METHANE	81.9
	WYOMING.	ETHANE	7.5
	SWEETWATER	PROPANE	3.5
	FIVE MILE GULCH	N-BUTANE	1.0
WELL NAME	USA AMOCO T NO. 1.	ISOBUTANE	0.8
API	4903721252	N-PENTANE	0.3
LOCATION	SEC. 4, T20N, R93W	ISOPENTANE	0.4
OWNER	BP AMERICA PRODUCTION CO	CYCLOPENTANE	- -
COMPLETED	790723	HEXANES PLUS	1.0
SAMPLED	021010	NITROGEN	0.1
FORMATION	CRET-ALMOND	OXYGEN	0.0
	CRET-ALMOND 535.	OXYGEN	
GEOLOGIC PROVINCE CODE .	535		0.0
GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT)	535_ 10490_	ARGON	0.0
GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	53510490	ARGON	0.0 0.0 0.0
GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG		ARGONHYDROGENHYDROGEN SULFIDE**	0.0 0.0 0.0 3.5
GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	53510490	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.0 3.5 0.07

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

SAMPLE	21043	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	93.7
COUNTY		ETHANE	3.6
		PROPANE	0.9
FIELD	······································	N-BUTANE	0.2
WELL NAME		ISOBUTANE	0.1
API	4903722683	N-PENTANE	TRACE
LOCATION	SEC. 9, T23N, R110W	ISOPENTANE	0.1
OWNER	MERIT ENERGY CO.	CYCLOPENTANE	
COMPLETED	910523	HEXANES PLUS	0.1
SAMPLED	021010	NITROGEN	0.6
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	11370	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.8
,		HELIUM	0.02
OPEN FLOW, MCFD	2/5	HEATING VALUE*	1,054
		SPECIFIC GRAVITY	0.599
SAMPLE	21042	COMPONENT, MOLE PCT	
07.75		METHANE	90.7
STATE		ETHANE	6.1
COUNTY		PROPANE	1.3
FIELD	FOUR MILE GULCH	N-BUTANE	0.2
WELL NAME	FEDERAL NO. 1-9	ISOBUTANE	0.2
API	4903722683	N-PENTANE	0.1
LOCATION	SEC. 9, T23N, R110W	ISOPENTANE	0.1
OWNER	MERIT ENERGY CO.	CYCLOPENTANE	
COMPLETED	910523	HEXANES PLUS	0.3
SAMPLED	021010	NITROGEN	0.4
FORMATION	CRET-FRONTIER	OXYGEN	0.0
FORMATION GEOLOGIC PROVINCE CODE		OXYGEN	
GEOLOGIC PROVINCE CODE	535		0.0
GEOLOGIC PROVINCE CODE	535. 10670.	ARGON	0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	53510670	ARGON	0.0 0.0 0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	53510670	ARGONHYDROGENHYDROGEN SULFIDE**	0.0 0.0 0.0 0.7
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	53510670	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.0 0.7 0.03

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

SAMPLE	21041	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	90.8
		ETHANE	6.0
	SWEETWATER.	PROPANE	1.3
	FOUR MILE GULCH	N-BUTANE	0.2
	FOUR MILE GULCH NO. 10-9	ISOBUTANE	0.2
API	4903724238	N-PENTANE	0.1
	SEC. 9, T23N, R110W.	ISOPENTANE	0.1
OWNER	CABOT OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	991202	HEXANES PLUS	0.3
SAMPLED	021010	NITROGEN	0.4
FORMATION	CRET-FRONTIER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535.	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	10604	HYDROGEN	0.0
, ,		HYDROGEN SULFIDE**	0.0
	700	CARBON DIOXIDE	0.6
•	382	HELIUM	0.03
OF LINT LOVY, IVICI D	502	HEATING VALUE*	1,091
		SPECIFIC GRAVITY	0.619
SAMPLE	21040	COMPONENT, MOLE PCT	
CTATE	WYOMING.	METHANE	89.3
-		ETHANE	6.8
	SWEETWATER	PROPANE	1.6
	FOLID MILE OLIL OLI	11101741L	
	FOUR MILE GULCH.	N-BUTANE	
WELL NAMES	SWAN SOUTH FEDERAL A NO. 2.		0.3
WELL NAMES		N-BUTANE	0.3 0.5
WELL NAMES	SWAN SOUTH FEDERAL A NO. 2.	N-BUTANE	0.3 0.5 0.1
WELL NAMES APILOCATION	6WAN SOUTH FEDERAL A NO. 2 4903722498	N-BUTANEISOBUTANE	0.3 0.5 0.1
WELL NAME S API LOCATION OWNER	SWAN SOUTH FEDERAL A NO. 2 4903722498 SEC. 8, T23N, R110W	N-BUTANEISOBUTANEN-PENTANEISOPENTANE	0.3 0.5 0.1 0.1
WELL NAMES API LOCATION OWNER COMPLETED	SWAN SOUTH FEDERAL A NO. 2. 4903722498 SEC. 8, T23N, R110W SAMSON RESOURCES CO.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.3 0.5 0.1 0.1
WELL NAMES API LOCATION OWNER COMPLETED SAMPLED	SWAN SOUTH FEDERAL A NO. 2. 4903722498 SEC. 8, T23N, R110W. SAMSON RESOURCES CO. 880413	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE	0.3 0.5 0.1 0.1 0.2
WELL NAMES API LOCATION OWNER COMPLETED SAMPLED FORMATION	SWAN SOUTH FEDERAL A NO. 2 4903722498 SEC. 8, T23N, R110W SAMSON RESOURCES CO. 880413 021010	N-BUTANEISOBUTANEISOPENTANE	0.3 0.5 0.1 0.1 0.2 0.6 0.0
WELL NAMES API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	SWAN SOUTH FEDERAL A NO. 2 4903722498 SEC. 8, T23N, R110W SAMSON RESOURCES CO. 880413 021010 CRET-FRONTIER 535	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.3 0.5 0.1 0.1 0.2 0.6 0.0
WELL NAMES API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SWAN SOUTH FEDERAL A NO. 2 4903722498 SEC. 8, T23N, R110W SAMSON RESOURCES CO. 880413 021010 CRET-FRONTIER 535. 10584	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.3 0.5 0.1 0.1 0.2 0.6 0.0 0.0
WELL NAMES API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SWAN SOUTH FEDERAL A NO. 2 4903722498 SEC. 8, T23N, R110W SAMSON RESOURCES CO. 880413 021010 CRET-FRONTIER 535. 10584	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.3 0.5 0.1 0.1 0.2 0.6 0.0 0.0 0.0
WELL NAMES API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SWAN SOUTH FEDERAL A NO. 2 4903722498 SEC. 8, T23N, R110W SAMSON RESOURCES CO. 880413 021010 CRET-FRONTIER 535. 10584	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.3 0.5 0.1 0.1 0.2 0.6 0.0 0.0 0.0 0.0
WELL NAMES API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SWAN SOUTH FEDERAL A NO. 2 4903722498 SEC. 8, T23N, R110W SAMSON RESOURCES CO. 880413 021010 CRET-FRONTIER 535. 10584	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.3 0.5 0.1 0.1 0.2 0.6 0.0 0.0 0.0 0.0 0.0

^{*} 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

SAMPLE	21035	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	85.7
	SWEETWATER	ETHANE	6.6
		PROPANE	2.5
	HIGGINS.	N-BUTANE	0.6
	PRONGHORN FEDERAL NO. 1	ISOBUTANE	0.5
	4903723538	N-PENTANE	
	SEC. 2, T17N, R99W	ISOPENTANE	0.2
OWNER	KAISER-FRANCIS OIL CO.	CYCLOPENTANE	
COMPLETED	950906	HEXANES PLUS	0.3
SAMPLED	021010	NITROGEN	0.2
FORMATION	CRET-ALMOND	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	6406	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	3.2
	2898	HELIUM	
OI EIVI EOVV, IVIOI D	2000	HEATING VALUE*	1,114
		SPECIFIC GRAVITY	0.672
SAMPLE	21057	COMPONENT, MOLE PCT	
CTATE		METHANE	90.8
		ETHANE	4.1
	SWEETWATER	PROPANE	1.4
	KINNEY	N-BUTANE	0.4
WELL NAME	KINNEY UNIT NO. 4.	ISOBUTANE	0.3
API	4903705151	N-PENTANE	0.1
LOCATION	SEC. 12, T13N, R100W	ISOPENTANE	0.2
OWNER	WEXPRO.CO.	CYCLOPENTANE	
COMPLETED	620929	HEXANES PLUS	0.3
OOW LETED			
	021010	NITROGEN	0.1
SAMPLED		NITROGEN	
SAMPLEDFORMATION	021010		0.0
SAMPLED	021010. CRET-MESAVERDE 535.	OXYGEN	0.0
SAMPLED		OXYGEN	0.0 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	021010 CRET-MESAVERDE 535 4664	OXYGEN ARGON HYDROGEN	0.0 0.0 0.0
SAMPLED	021010. CRET-MESAVERDE 535. 4664.	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.0 0.0 0.0 0.0 2.3
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	021010. CRET-MESAVERDE 535. 4664.	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.0 0.0 2.3 0.03

^{*} 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

SAMPLE	21056	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	97.9
COUNTY		ETHANE	0.2
FIELD		PROPANE	0.0
		N-BUTANE	0.0
WELL NAME		ISOBUTANE	TRACE
API		N-PENTANE	0.0
LOCATION	,	ISOPENTANE	0.0
OWNER QU	ESTAR EXPLORATION & PROD.	CYCLOPENTANE	
COMPLETED	961112	HEXANES PLUS	
SAMPLED	021010	NITROGEN	
FORMATION	EOCE-WASATCH	OXYGEN	
GEOLOGIC PROVINCE CODE	535	ARGON	
TRUE VERTICAL DEPTH (FT)	1380	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	2006	HELIUM	
		HEATING VALUE*SPECIFIC GRAVITY	
SAMPLE	21045	COMPONENT, MOLE PCT	
		METHANE	89.8
STATE		ETHANE	
COUNTY	SWEETWATER	PROPANE	
FIELD	LINCOLN ROAD	N-BUTANE	
WELL NAME	LINCOLN ROAD NO. 70-22	ISOBUTANE	0.3
API	4903723829	N-PENTANE	0.1
LOCATION	SEC. 22, T24N, R111W.	ISOPENTANE	0.1
OWNER	CABOT OIL & GAS CORP	CYCLOPENTANE	
COMPLETED	971018	HEXANES PLUS	0.3
SAMPLED	021010	NITROGEN	0.5
FORMATION	CRET-FRONTIER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535.	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	9941	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
			4 404
OI 2141 2044, MOI D		HEATING VALUE*	1,104

 $^{^{\}star}$ 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

SAMPLE	21039	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	75.4
		ETHANE	11.5
	SWEETWATER	PROPANE	7.7
	MESA	N-BUTANE	2.0
	HORSESHOE NO. 10-13	ISOBUTANE	1.5
API	4903723786	N-PENTANE	0.2
LOCATION	SEC. 13, T23N, R111W	ISOPENTANE	0.4
OWNER	MERRION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	970514	HEXANES PLUS	0.1
SAMPLED	021010	NITROGEN	0.7
FORMATION	CRET-MOWRY	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	10800	HYDROGEN	0.0
, ,		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.5
		HELIUM	0.12
OPEN FLOW, MICFD	163	HEATING VALUE*	1,304
		SPECIFIC GRAVITY	0.755
SAMPLE	20925	COMPONENT, MOLE PCT	
07.77		METHANE	92.4
-	WYOMING.	ETHANE	
	SUBLETTE	PROPANE	1.2
FIELD	MESA UNIT.	N-BUTANE	0.3
WELL NAME	MESA NO. 11-16	ISOBUTANE	0.3
API	4903522303	N-PENTANE	0.1
LOCATION	SEC. 16, T32N, R109W.	ISOPENTANE	0.1
OWNER	WEXPRO CO.	CYCLOPENTANE	
-	WEXPRO CO	CYCLOPENTANE	
COMPLETED			0.2
COMPLETED	010326	HEXANES PLUS	0.2
COMPLETEDSAMPLEDFORMATION	010326 020400 CRET-LANCE	HEXANES PLUS	0.2 0.6 0.0
COMPLETEDSAMPLEDFORMATIONGEOLOGIC PROVINCE CODE	010326 .020400 	HEXANES PLUS	0.2 0.6 0.0 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	010326 020400 CRET-LANCE 535 13276	HEXANES PLUS	0.2 0.6 0.0 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	010326 020400 CRET-LANCE 535 13276	HEXANES PLUS	0.2 0.6 0.0 0.1 0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	010326 020400 CRET-LANCE 535 13276 4700	HEXANES PLUS	0.2 0.6 0.0 0.1 0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	010326 020400 CRET-LANCE 535 13276	HEXANES PLUS	0.2 0.6 0.0 0.1 0.0 0.0 0.8 0.02

 $^{^{\}star}$ 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

SAMPLE	21186	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	86.2
	SUBLETTE	ETHANE	4.9
		PROPANE	2.1
	PINEDALE WC SE	N-BUTANE	0.5
	BULL DRAW 3-11	ISOBUTANE	0.5
	4903521283	N-PENTANE	0.2
LOCATION	SEC. 11, T28N, R107W	ISOPENTANE	0.2
OWNER	MOUNTAIN PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	020514	HEXANES PLUS	0.6
SAMPLED	030521	NITROGEN	3.0
FORMATION	CRET-LANCE, MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	12617	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	260	CARBON DIOXIDE	1.7
•		HELIUM	0.04
OPEN FLOW, MICFD	60_	HEATING VALUE*	1,088
		SPECIFIC GRAVITY	0.663
SAMPLE	21036	COMPONENT, MOLE PCT	
07475	MAN COMINIO	METHANE	96.8
	WYOMING	ETHANE	2.1
	SWEETWATER	PROPANE	0.3
			<u>V.V</u>
FIELD	POINT OF ROCKS	N-BUTANE	
	POINT OF ROCKS. BROWN FEDERAL NO. 11-12.		0.1
WELL NAME		N-BUTANE	0.1 TRACE
WELL NAMEAPI	BROWN FEDERAL NO. 11-12	N-BUTANE	0.1 TRACE TRACE
WELL NAMEAPI	BROWN FEDERAL NO. 11-12 4903720368	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	0.1 TRACE TRACE TRACE
WELL NAMEAPI	BROWN FEDERAL NO. 11-12 4903720368 SEC. 12, T19N, R101W	N-BUTANE ISOBUTANE N-PENTANE	0.1 TRACE TRACE TRACE
WELL NAME API LOCATION OWNER COMPLETED	BROWN FEDERAL NO. 11-12 4903720368 SEC. 12, T19N, R101W TRUE OIL CO.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.1 TRACE TRACE TRACE TRACE
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	BROWN FEDERAL NO. 11-12 4903720368 SEC. 12, T19N, R101W TRUE OIL CO. 730423 021010.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 TRACE TRACE TRACE TRACE TRACE 0.3
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	BROWN FEDERAL NO. 11-12 4903720368 SEC. 12, T19N, R101W TRUE OIL CO. 730423	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 TRACE TRACE TRACE TRACE TRACE 0.3
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	BROWN FEDERAL NO. 11-12 4903720368 SEC. 12, T19N, R101W TRUE OIL CO. 730423 021010. CRET-FRONTIER	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 TRACE TRACE TRACE TRACE TRACE 0.3 0.0
WELL NAME	BROWN FEDERAL NO. 11-12 4903720368 SEC. 12, T19N, R101W TRUE OIL CO. 730423 021010 CRET-FRONTIER 535 7266	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 TRACE TRACE TRACE TRACE TRACE 0.3 0.0 0.0
WELL NAME	BROWN FEDERAL NO. 11-12 4903720368 SEC. 12, T19N, R101W TRUE OIL CO. 730423 021010 CRET-FRONTIER. 535. 7266.	N-BUTANE	0.1 TRACE TRACE TRACE TRACE TRACE 0.3 0.0 0.0 0.0
WELL NAME	BROWN FEDERAL NO. 11-12 4903720368 SEC. 12, T19N, R101W TRUE OIL CO. 730423 021010. CRET-FRONTIER 535. 7266.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.1 TRACE TRACE TRACE TRACE TRACE 0.3 0.0 0.0 0.0 0.0 0.0
WELL NAME	BROWN FEDERAL NO. 11-12 4903720368 SEC. 12, T19N, R101W TRUE OIL CO. 730423 021010 CRET-FRONTIER. 535. 7266.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 TRACE TRACE TRACE TRACE 0.3 0.0 0.0 0.0 0.0 0.4 0.02

^{*} 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

SAMPLE	21037	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	96.6
	SWEETWATER.	ETHANE	2.0
		PROPANE	0.5
	POINT OF ROCKS	N-BUTANE	0.1
	TEXACO FEDERAL NO. 11-2	ISOBUTANE	0.1
	4903720719	N-PENTANE	
LOCATION	SEC. 2, T19N, R101W	ISOPENTANE	TRACE
OWNER	TRUE OIL CO.	CYCLOPENTANE	
COMPLETED	760601	HEXANES PLUS	0.1
SAMPLED	021010	NITROGEN	0.3
FORMATION	CRET-FRONTIER 2	OXYGEN	0.0
GEOLOGIC PROVINCE COL	DE535.	ARGON	0.0
TRUE VERTICAL DEPTH (F	T)6913	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE PS	SIG	CARBON DIOXIDE	0.3
, -	373	HELIUM	
OI EITT 2011, MOI B	<u> </u>	HEATING VALUE*	1,037
		SPECIFIC GRAVITY	0.577
SAMPLE	21052	COMPONENT, MOLE PCT	
CTATE	WYOMING.	METHANE	87.7
		ETHANE	8.2
	LINCOLN	PROPANE	2.0
	SEVEN MILE GULCH	N-BUTANE	0.3
	SEVEN MILE GULCH UNIT NO. 20.	ISOBUTANE	0.2
API		N-PENTANE	0.1
LOCATION	SEC. 22, T20N, R112W	ISOPENTANE	0.1
OWNER	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	-
COMPLETED	911024	HEXANES PLUS	0.3
SAMPLED	021010	NITROGEN	0.5
O/ WII LLD	<u>UZ1U1U</u>		
	CRET-DAKOTA, FRONTIER	OXYGEN	0.0
FORMATION		OXYGEN	
FORMATION	CRET-DAKOTA, FRONTIER		0.0
FORMATION GEOLOGIC PROVINCE COL TRUE VERTICAL DEPTH (F	CRET-DAKOTA, FRONTIER. DE	ARGON	0.0
FORMATION GEOLOGIC PROVINCE COL TRUE VERTICAL DEPTH (F MEASURED DEPTH	CRET-DAKOTA, FRONTIER DE	ARGON	0.0 0.0 0.0
FORMATION GEOLOGIC PROVINCE COL TRUE VERTICAL DEPTH (F MEASURED DEPTH WELLHEAD PRESSURE, PS	CRET-DAKOTA, FRONTIER. DE	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.0 0.0 0.0 0.6 0.03
FORMATION GEOLOGIC PROVINCE COL TRUE VERTICAL DEPTH (F MEASURED DEPTH WELLHEAD PRESSURE, PS	CRET-DAKOTA, FRONTIER DE	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.0 0.6 0.03

^{*} 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

SAMPLE	21029	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	82.4
COUNTY		ETHANE	6.0
		PROPANE	6.1
FIELD		N-BUTANE	2.1
WELL NAME		ISOBUTANE	0.8
API		N-PENTANE	0.5
LOCATION	SEC. 19, T13N, R89W	ISOPENTANE	0.5
OWNER	MERIT ENERGY CO.	CYCLOPENTANE	
COMPLETED	980218	HEXANES PLUS	0.8
SAMPLED	021010	NITROGEN	0.7
FORMATION	CRET-SHANNON	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535	ARGON	
TRUE VERTICAL DEPTH (FT)	3478	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.2
OPEN FLOW, MCFD		HELIUM	
OI LIVI LOVV, MOI D		HEATING VALUE*	1,263
		SPECIFIC GRAVITY	0.725
SAMPLE	21030	COMPONENT, MOLE PCT	
STATE	MANOMINO	METHANE	88.4
		ETHANE	5.1
COUNTY		PROPANE	1.0
FIELD		N-BUTANE	0.2
WELL NAME		ISOBUTANE	0.2
API		N-PENTANE	0.1
LOCATION	SEC. 31, T15N, R93W.	ISOPENTANE	0.1
OWNER	CABOT OIL & GAS CORP	CYCLOPENTANE	
COMPLETED	950827	HEXANES PLUS	0.2
SAMPLED	021010	NITROGEN	0.1
FORMATION	CRET-ALMOND	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	11364	HYDROGEN	0.0
· /		HYDROGEN SULFIDE**	0.0
MEASURED DEPTH			4.0
		CARBON DIOXIDE	4.8
MEASURED DEPTH	1000	CARBON DIOXIDE HELIUM	
	1000		0.02

^{*} 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

SAMPLE	21034	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	90.8
		ETHANE	4.9
COUNTY		PROPANE	1.3
FIELD		N-BUTANE	0.3
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.1
LOCATION	SEC. 34, T18N, R99W	ISOPENTANE	0.1
OWNER	KAISER-FRANCIS OIL CO.	CYCLOPENTANE	
COMPLETED	730731	HEXANES PLUS	0.3
SAMPLED	021010	NITROGEN	0.1
FORMATION	CRET-ALMOND	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535.	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	5556	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	2.0
OPEN FLOW, MCFD		HELIUM	
OI 2111 2011, MOI D	<u> </u>	HEATING VALUE*	1,074
		SPECIFIC GRAVITY	0.627
SAMPLE	21049	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	85.5
COUNTY		ETHANE	6.7
FIELD		PROPANE	3.8
		N-BUTANE	1.1
WELL NAMEEAS		ISOBUTANE	0.7
API		N-PENTANE	0.3
LOCATION	SEC. 12, T26N, R112W	ISOPENTANE	0.3
OWNER	EOG RESOURCES, INC	CYCLOPENTANE	- -
COMPLETED	970805	HEXANES PLUS	0.7
SAMPLED	021010	NITROGEN	0.7
FORMATION	CRET-BAXTER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535	ARGON	
TRUE VERTICAL DEPTH (FT)	6866	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
	232	HELIUM	
OPEN FLOW MICED			
OPEN FLOW, MICFD	6.1/s	HEATING VALUE*SPECIFIC GRAVITY	

^{*} 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

SAMPLE	21033	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	84.3
	SWEETWATER	ETHANE	6.3
		PROPANE	2.9
	TIERNEY	N-BUTANE	0.7
	USA AMOCO S NO. 1	ISOBUTANE	0.7
	4903721235	N-PENTANE	0.2
	SEC. 22, T20N, R94W	ISOPENTANE	
OWNER	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	790820	HEXANES PLUS	0.5
SAMPLED	021010	NITROGEN	0.2
FORMATION	CRET-ALMOND	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535	ARGON	
TRUE VERTICAL DEPTH (FT)	9816	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE PSIG		CARBON DIOXIDE	3.9
•	679	HELIUM	0.06
OI LIVI LOVV, INOI D		HEATING VALUE*	1,127
		SPECIFIC GRAVITY	0.693
SAMPLE	21305	COMPONENT, MOLE PCT	
CTATE	MANOMINIO	METHANE	78.1
	WYOMING	ETHANE	8.9
	SWEETWATER	PROPANE	4.2
	TWO RIM	N-BUTANE	0.9
WELL NAME	TWO RIM UNIT NO. 30-2	ISOBUTANE	0.7
API	4903724389	N-PENTANE	0.2
LOCATION	SEC. 30, T19N, R94W	ISOPENTANE	0.2
OWNER	BP AMERICA PRODUCTION CO	CYCLOPENTANE	
COMPLETED	010101	HEXANES PLUS	0.1
SAMPLED	040414	NITROGEN	3.3
FORMATION	CRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535.	ARGON	TRACE
		HYDROGEN	0.0
TRUE VERTICAL DEPTH (FT)	10016		
, , .		HYDROGEN SULFIDE**	0.0
MEASURED DEPTH		HYDROGEN SULFIDE** CARBON DIOXIDE	
MEASURED DEPTH	1000.	CARBON DIOXIDE	3.2 0.06
	1000.	CARBON DIOXIDE	3.2 0.06

^{*} 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

SAMPLE 21053		COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	82.6
COUNTY		ETHANE	9.7
		PROPANE	3.7
FIELD		N-BUTANE	0.8
WELL NAME CHAMPLIN 186 AMO		ISOBUTANE	0.7
API4	904120354	N-PENTANE	0.1
LOCATIONSEC. 1, T1		ISOPENTANE	0.3
OWNER BP AMERICA PRODU	ICTION CO.	CYCLOPENTANE	
COMPLETED	821104	HEXANES PLUS	0.3
SAMPLED	021010	NITROGEN	0.8
FORMATION <u>CRET-DAKOTA, F</u>	RONTIER 2	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	11520	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.9
OPEN FLOW, MCFD		HELIUM	0.06
OPEN FLOW, MICFO	3208	HEATING VALUE*	1,181
		SPECIFIC GRAVITY	0.685
SAMPLE 21051		COMPONENT, MOLE PCT	
		METHANE	77.4
STATE		ETHANE	11.9
COUNTY		PROPANE	
FIELDWHISH	KEY BUTTE	N-BUTANE	1.2
WELL NAMEHELWI	G NO. 30-8.	ISOBUTANE	1.0
API4	902321507	N-PENTANE	0.2
LOCATIONSEC. 8, T2			
	0N, R112W	ISOPENTANE	
***************************************			0.4
OWNERCABOT OIL & C	SAS CORP	ISOPENTANE	0.4
OWNERCABOT OIL & C	GAS.CORP	ISOPENTANE	0.4
OWNERCABOT.OIL & C COMPLETED	000209 021010	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.4 0.5 0.8
OWNERCABOT OIL & C COMPLETED SAMPLED FORMATIONCRET-DAKOTA,	000209 021010	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.4 0.5 0.8 0.0
OWNER CABOT OIL & C COMPLETED SAMPLED FORMATION CRET-DAKOTA, GEOLOGIC PROVINCE CODE	000209 021010 FRONTIER	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.4
OWNERCABOT OIL & C COMPLETED SAMPLED FORMATIONCRET-DAKOTA, GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	000209 021010 FRONTIER 535 11270	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.4 0.5 0.8 0.0 0.0
OWNER CABOT OIL & C COMPLETED SAMPLED FORMATION CRET-DAKOTA, GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	000209 021010 FRONTIER 535 11270	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.4
OWNERCABOT OIL & C COMPLETED SAMPLED FORMATIONCRET-DAKOTA, GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	000209 021010 FRONTIER 535 11270	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.4 0.5 0.8 0.0 0.0 TRACE 0.0
OWNERCABOT OIL & C COMPLETED SAMPLED FORMATIONCRET-DAKOTA,	000209 021010 FRONTIER 535 11270	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.4

^{*} 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 Natural Gas Pipelines in the United States

TABLE 2. - SAMPLES FROM PIPELINES IN THE UNITED STATES

SAMPLE 21125	COMPONENT, MOLE PCT	
STATECOLORADO_	METHANE	96.9
STATE COLORADO	ETHANE	0.1
COUNTYLA PLATA_	PROPANE	0.0
FIELD.	N-BUTANE	
FIELD	ISOBUTANE	0.0
PLANTFLORIDA RIVER-COAL BED METHANE PLANT_	N-PENTANE	
LOCATIONFUEL TO EL PASO NATURAL GAS.	ISOPENTANE	0.0
LOCATIONFUEL TO EL PASO NATURAL GAS_	CYCLOPENTANE	
OWNER BP AMERICA PRODUCTION CO.	HEXANES PLUS	0.0
	NITROGEN	1.2
SAMPLED	OXYGEN	0.0
FORMATION	ARGON	0.0
	HYDROGEN	0.0
GEOLOGIC PROVINCE CODE580_	HYDROGEN SULFIDE	0.0
PRESSURE, PSIG	CARBON DIOXIDE	1.8
	HELIUM	0.00
FLOW, MCFD350000_	HEATING VALUE'	984
	SPECIFIC GRAVITY	0.577
SAMPLE 21288	COMPONENT, MOLE PCT	
	METHANE	86.6
STATENEW MEXICO_	ETHANE	6.6
COUNTYCHAVES_	PROPANE	2.9
	N-BUTANE	
FIELD	ISOBUTANE	0.4
PLANTLONG ARROYO "MQ" VALLEY CENTRAL POINT_	N-PENTANE	0.2
	ISOPENTANE	0.3
LOCATION SEC. 25, T14S, R28E	CYCLOPENTANE	_
OWNER YATES PETROLEUM CO.	HEXANES PLUS	0.5
	NITROGEN	0.9
SAMPLED031021_	OXYGEN	0.0
FORMATION	ARGON	0.1
	HYDROGEN	0.0
GEOLOGIC PROVINCE CODE 430	HYDROGEN SULFIDE	0.0
PRESSURE, PSIG974_	CARBON DIOXIDE	0.6
	HELIUM	0.07
FLOW, MCFD		
7 LOVV, WOLD	HEATING VALUE [*]	1,152

 $^{^\}star$ 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

SAMPLE 21287		COMPONENT, MOLE PCT	
STATE NEW N	4EVIOO	METHANE	76.5
STATE NEW N	/IEXICO	ETHANE	8.2
COUNTYC	HAVES	PROPANE	4.7
FIELD		N-BUTANE	1.6
FIELD		ISOBUTANE	0.8
PLANTSLAYTON CDP CENTRAL	POINT	N-PENTANE	0.4
LOCATION SEC. 23. T14:	2 D27E	ISOPENTANE	0.5
LOCATION SEC. 23, 114.	5, R2/E	CYCLOPENTANE	
OWNERYATES PETROLE	UM CO.	HEXANES PLUS	0.7
CAMPLED	004004	NITROGEN	5.8
SAMPLED	031021	OXYGEN	0.0
FORMATION		ARGON	0.1
	400	HYDROGEN	TRACE
GEOLOGIC PROVINCE CODE	430	HYDROGEN SULFIDE	0.0
PRESSURE, PSIG	109	CARBON DIOXIDE	0.5
ELOW MOED	40	HELIUM	0.12
FLOW, MCFD	12_	HEATING VALUE'	1,185
		SPECIFIC GRAVITY	0.737
SAMPLE 21285		COMPONENT, MOLE PCT	
OTATE NEW A	4EVIOO	METHANE	87.0
STATENEW.N	/IEXICO	ETHANE	4.4
COUNTYC	HAVES_	PROPANE	1.8
FIELD		N-BUTANE	0.6
FIELD		ISOBUTANE	0.3
PLANTBITTER LAKE CENTRAL	POINT	N-PENTANE	0.2
LOCATIONTRANSFER	DOINT	ISOPENTANE	0.2
LUCATIONTRANSFER	R POINT	CYCLOPENTANE	
OWNERYATES PETROLE	UM CO.	HEXANES PLUS	0.5
OAMBI ED	004004	NITROGEN	4.2
SAMPLED	031021	OXYGEN	0.0
FORMATION	<u> </u>	ARGON	0.2
0.0010000000000000000000000000000000000		HYDROGEN	TRACE
GEOLOGIC PROVINCE CODE	430_	HYDROGEN SULFIDE	0.0
PRESSURE, PSIG		CARBON DIOXIDE	0.3
	950	0/11/2011/21/07/12/2	
ELOW MOED		HELIUM	0.33
FLOW, MCFD	950 45000		

 $^{^\}star$ 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

SAMPLE 21286	COMPONENT, MOLE PCT	
STATENEW MEXICO_	METHANE	87.3
STATE NEW MEXICO	ETHANE	3.9
COUNTYCHAVES_	PROPANE	1.5
FIELD	N-BUTANE	0.6
FIELD	ISOBUTANE	0.3
PLANTRED BLUFF CENTRAL POINT_	N-PENTANE	0.2
LOCATIONSEC. 2, T8S, R25E_	ISOPENTANE	0.2
LUCATION SEC. 2, 185, R25E	CYCLOPENTANE	
OWNERYATES PETROLEUM CO.	HEXANES PLUS	0.4
04404	NITROGEN	4.9
SAMPLED	OXYGEN	0.0
FORMATION	ARGON	0.1
OFOLOGIO PROVINCE CORE	HYDROGEN	TRACE
GEOLOGIC PROVINCE CODE 430	HYDROGEN SULFIDE	0.0
PRESSURE, PSIG950_	CARBON DIOXIDE	0.2
	HELIUM	0.38
FLOW, MCFD	HEATING VALUE'	1,054
	SPECIFIC GRAVITY	0.639
SAMPLE 21106	COMPONENT, MOLE PCT	
STATENEW MEXICO_	METHANE	84.1
STATE NEW WILLIAM	ETHANE	7.9
COUNTYLEA_	PROPANE	3.6
FIELD	N-BUTANE	1.0
rielu	ISOBUTANE	0.5
PLANTNORTH VERSADO (TOWNSEND)_	N-PENTANE	0.2
LOCATION14" INLET	ISOPENTANE	0.3
LOCATION14 INLET	CYCLOPENTANE	
OWNER DYNEGY CORP.	HEXANES PLUS	0.3
CAMPLED 201000	NITROGEN	1.1
SAMPLED	OXYGEN	0.0
FORMATION	ARGON	0.0
0501 0010 PROVINCE 00PF	HYDROGEN	0.0
GEOLOGIC PROVINCE CODE 430	HYDROGEN SULFIDE	0.0
PRESSURE, PSIG646_	CARBON DIOXIDE	1.1
	HELIUM	0.06
FLOW, MCFD	HEATING VALUE'	1,162

^{*} 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

SAMPLE 21108	COMPONENT, MOLE PCT	
CTATE NEW MEVICO	METHANE	83.6
STATE NEW MEXICO	ETHANE	7.7
COUNTYLEA_	PROPANE	3.7
FIELD	N-BUTANE	1.1
FIELD	ISOBUTANE	0.6
PLANTLINAM PLANT_	N-PENTANE	0.3
LOCATION EDDVLINE 40"	ISOPENTANE	0.3
LOCATIONEDDY LINE, 12"	CYCLOPENTANE	
OWNER DUKE ENERGY CORP.	HEXANES PLUS	0.4
	NITROGEN	1.4
SAMPLED 021202	OXYGEN	0.0
FORMATION	ARGON	0.0
	HYDROGEN	0.0
GEOLOGIC PROVINCE CODE 430	HYDROGEN SULFIDE	0.0
PRESSURE, PSIG	CARBON DIOXIDE	0.9
	HELIUM	0.06
FLOW, MCFD	HEATING VALUE'	1,174
	SPECIFIC GRAVITY	0.687
SAMPLE 21109	COMPONENT, MOLE PCT	
STATENEW MEXICO_	METHANE	81.6
STATE NEW MEXICO	ETHANE	8.6
COUNTYLEA	PROPANE	4.3
	N-BUTANE	4.0
	N-DUTANE	1.3
FIELD	ISOBUTANE	
		0.6
PLANTLINAM PLANT_	ISOBUTANE	0.6 0.3
PLANTLINAM PLANT_	ISOBUTANEN-PENTANE	0.6 0.3 0.3
PLANTLINAM PLANT_ LOCATIONLEA COUNTY INLET LINE, 12"	ISOBUTANE N-PENTANE ISOPENTANE	0.6 0.3 0.3
PLANT LINAM PLANT LOCATION LEA COUNTY INLET LINE, 12" OWNER DUKE ENERGY CORP.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.6 0.3 0.3 0.5
PLANTLINAM PLANT_ LOCATIONLEA COUNTY INLET LINE, 12" OWNERDUKE ENERGY CORP.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.6 0.3 0.3 0.5 1.6
PLANTLINAM PLANT_ LOCATIONLEA COUNTY INLET LINE, 12" OWNERDUKE ENERGY CORP. SAMPLED021202_	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.6 0.3 0.3 0.5 1.6
PLANTLINAM PLANT_ LOCATIONLEA COUNTY INLET LINE, 12" OWNERDUKE ENERGY CORP. SAMPLED FORMATION	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.6 0.3 0.3 0.5 1.6 0.0
PLANTLINAM PLANT_ LOCATIONLEA COUNTY INLET LINE, 12" OWNERDUKE ENERGY CORP. SAMPLED FORMATION	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.6 0.3 0.3 0.5 1.6 0.0 0.0
PLANTLINAM PLANT_ LOCATIONLEA COUNTY INLET LINE, 12" OWNERDUKE ENERGY CORP. SAMPLED FORMATION GEOLOGIC PROVINCE CODE430	ISOBUTANE	0.6 0.3 0.3 0.5 1.6 0.0 0.0 0.0
PLANT LINAM PLANT LOCATION LEA COUNTY INLET LINE, 12" OWNER DUKE ENERGY CORP. SAMPLED 021202 FORMATION GEOLOGIC PROVINCE CODE 430 PRESSURE, PSIG	ISOBUTANEN-PENTANEISOPENTANECYCLOPENTANEHEXANES PLUSNITROGENOXYGENARGONHYDROGENHYDROGEN SULFIDE	0.6 0.3 0.3 0.5 1.6 0.0 0.0 0.0 0.0 0.0
PLANT LINAM PLANT LOCATION LEA COUNTY INLET LINE, 12" OWNER DUKE ENERGY CORP. SAMPLED 021202 FORMATION GEOLOGIC PROVINCE CODE 430 PRESSURE, PSIG 42000	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE CARBON DIOXIDE	0.6 0.3 0.3 0.5 1.6 0.0 0.0 0.0 0.0 0.8 0.07

^{*} 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

SAMPLE 21113	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	77.0
STATE NEW MEXICO	ETHANE	9.8
COUNTYLEA_	PROPANE	5.6
FIELD	N-BUTANE	1.8
FIELD	ISOBUTANE	0.7
PLANTJAL NO. 4 GAS PLANT_	N-PENTANE	0.4
LOCATION FEED TO IAI NO 2 HIGH PRESSURE	ISOPENTANE	0.4
LOCATION FEED TO JAL NO. 3, HIGH PRESSURE	CYCLOPENTANE	_
OWNER SID RICHARDSON GASOLINE	HEXANES PLUS	0.4
0.1400 ED	NITROGEN	1.9
SAMPLED	OXYGEN	0.0
FORMATION	ARGON	0.0
	HYDROGEN	TRACE
GEOLOGIC PROVINCE CODE 430	HYDROGEN SULFIDE	0.3
PRESSURE, PSIG605_	CARBON DIOXIDE	1.5
	HELIUM	0.07
FLOW, MCFD32000_	HEATING VALUE'	1,230
	SPECIFIC GRAVITY	0.742
SAMPLE 21114	COMPONENT, MOLE PCT	
STATE NEW MEXICO	METHANE	75.2
STATE NEW MEXICO	ETHANE	10.0
COUNTYLEA_	PROPANE	5.9
FIELD.	N-BUTANE	2.0
FIELD	ISOBUTANE	3.0
PLANTEUNICE PLANT_	N-PENTANE	0.5
LOCATIONNORTH/SOUTH INLET, METER 41.	ISOPENTANE	0.5
LOCATION NORTH/SOUTH INLET METER 41	CYCLOPENTANE	
HONTHWOOTH INCE I, WILLIAM		
,	HEXANES PLUS	3.0
OWNERDYNEGY CORP.		
OWNERDYNEGY CORP.	HEXANES PLUS	1.8
OWNER	HEXANES PLUSNITROGEN	1.8
OWNER DYNEGY CORP. SAMPLED FORMATION	HEXANES PLUSNITROGENOXYGEN	1.8 0.0 0.0
OWNER DYNEGY CORP. SAMPLED FORMATION	HEXANES PLUS NITROGEN OXYGENARGON	1.8 0.0 0.0 TRACE
OWNER DYNEGY CORP. SAMPLED 021203. FORMATION GEOLOGIC PROVINCE CODE 430.	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	1.8 0.0 0.0 TRACE
OWNER DYNEGY CORP. SAMPLED	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE	1.8 0.0 0.0 TRACE 0.2
OWNERDYNEGY CORP.	HEXANES PLUS	1.8 0.0 0.0 TRACE 0.4 2.0

 $^{^\}star$ 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

SAMPLE 21110	COMPONENT, MOLE PCT	
CTATE NEW MEYICO	METHANE	76.3
STATE NEW MEXICO.	ETHANE	9.1
COUNTYLEA_	PROPANE	5.4
FIELD.	N-BUTANE	2.0
FIELD	ISOBUTANE	0.8
PLANTEUNICE NATURAL GAS PLANT_	N-PENTANE	0.7
LOCATION "P" LINE. 6". FROM SAND DUNES	ISOPENTANE	0.7
LOCATION P LINE, 8 , FROM SAND DUNES	CYCLOPENTANE	
OWNER DUKE ENERGY CORP.	HEXANES PLUS	0.4
0.440.50	NITROGEN	3.3
SAMPLED	OXYGEN	0.0
FORMATION	ARGON	0.0
	HYDROGEN	TRACE
GEOLOGIC PROVINCE CODE 430	HYDROGEN SULFIDE	0.0
PRESSURE, PSIG	CARBON DIOXIDE	1.3
	HELIUM	0.08
FLOW, MCFD	HEATING VALUE'	1,233
	SPECIFIC GRAVITY	0.752
SAMPLE 21111	COMPONENT, MOLE PCT	
STATENEW MEXICO_	METHANE	75.8
STATE NEW MEXICO	ETHANE	8.6
COUNTYLEA	PROPANE	5.6
	PROPANE N-BUTANE	
		2.1
FIELD	N-BUTANE	2.1 0.9
FIELD PLANTEUNICE NATURAL GAS PLANT_	N-BUTANEISOBUTANE	2.1 0.9 0.5
FIELD PLANT EUNICE NATURAL GAS PLANT_	N-BUTANE ISOBUTANE N-PENTANE	2.1 0.9 0.5 0.6
PLANT EUNICE NATURAL GAS PLANT LOCATION 12", 200 PSI LINE FROM CORRIDOR EAST OF PLANT	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	2.1 0.9 0.5 0.6
FIELD	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	2.1 0.9 0.5 0.6
FIELD	N-BUTANEISOBUTANEISOPENTANEISOPENTANECYCLOPENTANEHEXANES PLUS	2.1 0.5 0.5 0.6
FIELD	N-BUTANEISOBUTANEISOPENTANEISOPENTANEHEXANES PLUSNITROGEN	2.1 0.9 0.6 0.6
FIELD	N-BUTANEISOBUTANEISOPENTANEISOPENTANECYCLOPENTANEHEXANES PLUSNITROGENOXYGEN	2.1 0.5 0.5 0.6
FIELD	N-BUTANEISOBUTANE	2.1 0.9 0.5 0.6
FIELD	N-BUTANEISOBUTANEISOBUTANEISOPENTANE	2.1 0.9 0.5 0.6 0.6 2.4 0.0 0.0 0.1
FIELD	N-BUTANEISOBUTANEN-PENTANEISOPENTANECYCLOPENTANEHEXANES PLUSNITROGENOXYGENARGONHYDROGENHYDROGEN_SULFIDE	2.1 0.9 0.5 0.6 0.6 2.4 0.0 0.0 0.1
OWNER DUKE ENERGY CORP. SAMPLED FORMATION	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE CARBON DIOXIDE	2.1 0.9 0.5 0.6 0.6 2.4 0.0 0.0 0.1 0.0 2.9

^{*} 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

SAMPLE 21112	COMPONENT, MOLE PCT	
OTATE NEW MEYOO	METHANE	71.7
STATE NEW MEXICO	ETHANE	9.5
COUNTYLEA_	PROPANE	6.5
FIELD	N-BUTANE	2.7
FIELD	ISOBUTANE	2.0
PLANTJAL NO. 3 GAS PLANT_	N-PENTANE	3.0
LOCATION LEA COUNTY LOW PRESSURE GAS	ISOPENTANE	3.0
LEA COUNTY LOW PRESSURE GAS	CYCLOPENTANE	_
OWNER SID RICHARDSON GASOLINE	HEXANES PLUS	1.3
CAMPLED 024202	NITROGEN	3.0
SAMPLED	OXYGEN	0.3
FORMATION	ARGON	0.0
0501 0010 PROVINCE 00PF 400	HYDROGEN	TRACE
GEOLOGIC PROVINCE CODE 430	HYDROGEN SULFIDE	0.5
PRESSURE, PSIG	CARBON DIOXIDE	2.0
FLOW MOED	HELIUM	0.09
FLOW, MCFD64500_	HEATING VALUE'	1,302
	SPECIFIC GRAVITY	0.813
SAMPLE 21107	COMPONENT, MOLE PCT	
STATE NEW MEXICO.	METHANE	74.2
STATE NEW MEXICO	ETHANE	10.9
COUNTYLEA_	PROPANE	6.5
FIELD	N-BUTANE	1.8
FIELD	ISOBUTANE	1.0
PLANTLINAM PLANT_	N-PENTANE	0.3
LOCATION DUOVEVE LINE 401	ISOPENTANE	0.3
LOCATIONBUCKEYE LINE, 10"	CYCLOPENTANE	
OWNER DUKE ENERGY CORP.	HEXANES PLUS	0.3
OAMBI ED	NITROGEN	2.2
SAMPLED	OXYGEN	0.0
FORMATION	ARGON	0.0
	HYDROGEN	TRACE
GEOLOGIC PROVINCE CODE 430	HYDROGEN SULFIDE	0.5
PRESSURE, PSIG	CARBON DIOXIDE	2.0
	HELIUM	0.09
ELOW MOED	11LL10111	
FLOW, MCFD	HEATING VALUE'	1,240

 $^{^\}star$ 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

SAMPLE	21104	COMPONENT, MOLE PCT	
07475	NEWMENIOO	METHANE	63.1
STATE	NEW MEXICO	ETHANE	10.9
COUNTY	LEA	PROPANE	6.9
EIEL D		N-BUTANE	2.3
FIELD		ISOBUTANE	0.9
PLANT	NORTH VERSADO	N-PENTANE	0.5
LOCATION	40" IN U. E.T.	ISOPENTANE	0.6
LOCATION	16" INLET	CYCLOPENTANE	
OWNER	DYNEGY CORP.	HEXANES PLUS	1.0
0.11151 55	20122	NITROGEN	10.5
SAMPLED	021202	OXYGEN	1.5
FORMATION	<u> </u>	ARGON	0.0
		HYDROGEN	0.0
GEOLOGIC PROVINCE CODE	430	HYDROGEN SULFIDE	TRACE
PRESSURE, PSIG	4	CARBON DIOXIDE	1.7
		HELIUM	0.10
FLOW, MCFD	16906	HEATING VALUE'	1,204
		SPECIFIC GRAVITY	0.833
SAMPLE	21103	COMPONENT, MOLE PCT	
OTATE	NEWNEYIOO	METHANE	69.3
STATE	NEW MEXICO	ETHANE	8.8
COUNTY	LEA.	PROPANE	5.2
====		N-BUTANE	
FIELD		ISOBUTANE	0.7
PLANT	VADA BOOSTER	N-PENTANE	0.3
		ISOPENTANE	0.3
LOCATION	10" INLET, NORTH SIDE	CYCLOPENTANE	_
OWNER	DYNEGY CORP.	HEXANES PLUS	0.3
		NITROGEN	6.2
SAMPLED	021202	OXYGEN	0.0
FORMATION	<u>-</u> _	ARGON	0.0
		HYDROGEN	TRACE
GEOLOGIC PROVINCE CODE	430	HYDROGEN SULFIDE	8.0
PRESSURE, PSIG	740	CARBON DIOXIDE	6.3
		HELIUM	0.13
FLOW, MCFD	16088	HEATING VALUE'	1,108

^{*} 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

SAMPLE	21105	COMPONENT, MOLE PCT	
STATE	NEW MENO	METHANE	70.2
STATE	NEW MEXICO	ETHANE	10.5
COUNTY	<u>LEA</u>	PROPANE	7.1
EIELD		N-BUTANE	2.8
FIELD		ISOBUTANE	1.1
PLANT	NORTH VERSADO	N-PENTANE	8.0
LOCATION	24" INILET	ISOPENTANE	0.8
LOCATION	Z4 INLET	CYCLOPENTANE	
OWNER	DYNEGY CORP.	HEXANES PLUS	1.6
0.1.15.1.55		NITROGEN	3.5
SAMPLED	021202	OXYGEN	0.2
FORMATION	<u>-</u>	ARGON	0.0
0501 0010 BB01/****		HYDROGEN	TRACE
GEOLOGIC PROVINCE CODE	430	HYDROGEN SULFIDE	0.0
PRESSURE, PSIG	6	CARBON DIOXIDE	1.2
	9035	HELIUM	0.13
FLOW, MCFD		HEATING VALUE'	1,345
		SPECIFIC GRAVITY	0.828
SAMPLE	21121	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	81.5
STATE	NEW WEXICO	ETHANE	0.4
COUNTY	SAN JUAN	PROPANE	0.1
EIELD		N-BUTANE	TRACE
FIELD		ISOBUTANE	TRACE
PLANT	VALVERDE PLANT	N-PENTANE	TRACE
LOCATION	DI ANITINII ET OTDEANAO	ISOPENTANE	TRACE
LOCATION 16" I	PLANTINLET - STREAM 6	CYCLOPENTANE	
OWNER	DUKE ENERGY CORP.	HEXANES PLUS	TRACE
CAMPLED	201000	NITROGEN	0.0
SAMPLED	021203	OXYGEN	0.0
FORMATION		ARGON	0.0
0501 0010 0001////05 0055		HYDROGEN	0.0
GEOLOGIC PROVINCE CODE	580	HYDROGEN SULFIDE	0.0
PRESSURE, PSIG	660_	CARBON DIOXIDE	17.9
ELOW MOED		HELIUM	0.00
FLOW, MCFD	415000	HEATING VALUE'	836
		SPECIFIC GRAVITY	0.704

^{*} 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

SAMPLE 21	1118	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	93.7
		ETHANE	
COUNTY	SAN JUAN	PROPANE	0.7
FIELD		N-BUTANE	0.2
		ISOBUTANE	0.1
PLANT	CHACO PLANT	N-PENTANE	0.1
LOCATION BIS	STI 16" INLET 02-662-01	ISOPENTANE	0.1
		CYCLOPENTANE	
OWNEREL PA	SO NATURAL GAS CO.	HEXANES PLUS	0.1
SAMPLED	021203	NITROGEN	0.4
SAMFLED	021203	OXYGEN	0.0
FORMATION	<u>=</u> _	ARGON	0.0
	500	HYDROGEN	0.0
GEOLOGIC PROVINCE CODE	580_	HYDROGEN SULFIDE	0.0
PRESSURE, PSIG	56.	CARBON DIOXIDE	1.8
		HELIUM	0.01
FLOW, MCFD	16989	HEATING VALUE*	1,036
		SPECIFIC GRAVITY	0.603
SAMPLE 21	1117	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	86.5
STATE	NEW WEXICO	ETHANE	6.9
COUNTY	SAN JUAN	PROPANE	3.1
		N-BUTANE	0.9
FIELD		ISOBUTANE	0.6
PLANT	CHACO PLANT	N-PENTANE	0.2
		ISOPENTANE	0.3
LOCATION	B" INLET 01-857-01, 30"	CYCLOPENTANE	_
OWNER EL PA	SO NATURAL GAS CO.	HEXANES PLUS	0.5
		NITROGEN	0.4
SAMPLED	021203	OXYGEN	0.0
FORMATION	<u>-</u> _	ARGON	TRACE
		HYDROGEN	0.0
GEOLOGIC PROVINCE CODE	580_	HYDROGEN SULFIDE	
PRESSURE, PSIG	160	CARBON DIOXIDE	
	100	HELIUM	
			U.U.
FLOW, MCFD	229029	HEATING VALUE'	1 164

^{*} 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

SAMPLE	21116	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	85.8
OTATE	THE VV IVIEXIOO	ETHANE	6.8
COUNTY	SAN JUAN	PROPANE	3.1
EIELD		N-BUTANE	0.9
FIELD		ISOBUTANE	0.6
PLANT	CHACO PLANT	N-PENTANE	0.2
LOCATION	"A" INLET 01-261-01, 30"	ISOPENTANE	0.3
LOCATION	A INLET 01-261-01, 30	CYCLOPENTANE	
OWNER	EL PASO NATURAL GAS CO.	HEXANES PLUS	0.5
OAMBI ED	004000	NITROGEN	0.4
SAMPLED	021203	OXYGEN	0.0
FORMATION		ARGON	TRACE
	ODE 500	HYDROGEN	0.0
GEOLOGIC PROVINCE CO	ODE580_	HYDROGEN SULFIDE	0.0
PRESSURE, PSIG	159	CARBON DIOXIDE	1.5
51 0111 MOSS		HELIUM	0.06
FLOW, MCFD	306329	HEATING VALUE'	1,155
		SPECIFIC GRAVITY	0.674

 $^{^\}star$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY

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