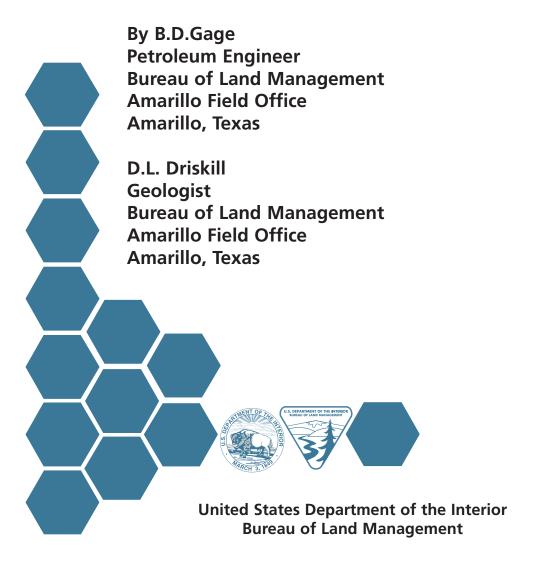
Analyses of Natural Gases, 1998–2001

Technical Note 412

May 2003



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Abstract

Technical Note 412 contains analyses and related source data for 311 natural gas samples from 13 States. Of the total samples, 309 were collected during calendar years 1998 through 2001. The analyses were made using mass spectroscopy and 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 free-market 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 412, *Analyses of Natural Gases*, 1998–2001, contains analyses and related source data for 311 natural gas samples from 13 States. Of the total samples, 309 were collected during calendar years 1998 through 2001. The remaining two 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 made using mass spectroscopy and 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-two publications have presented the results of 16,058 gas analyses performed through 1997. 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, 38–42) containing 10,840 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

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

through 1990. The 1991 publication 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 1997 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 PB98-502206. The update to the 1997 CD-ROM, which will include

the 1998–2001 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)
Arizona	1	1	Oregon	1	1
Arkansas	2	1	Pennsylvania	2	1
Colorado	35	1,2	Tennessee	1	1
Kansas	77	1	Texas	20	1
New Mexico	126	1	Utah	2	1
Ohio	2	1	Wyoming	3	1
Oklahoma	39	1			

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 1². 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.

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

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

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

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

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

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

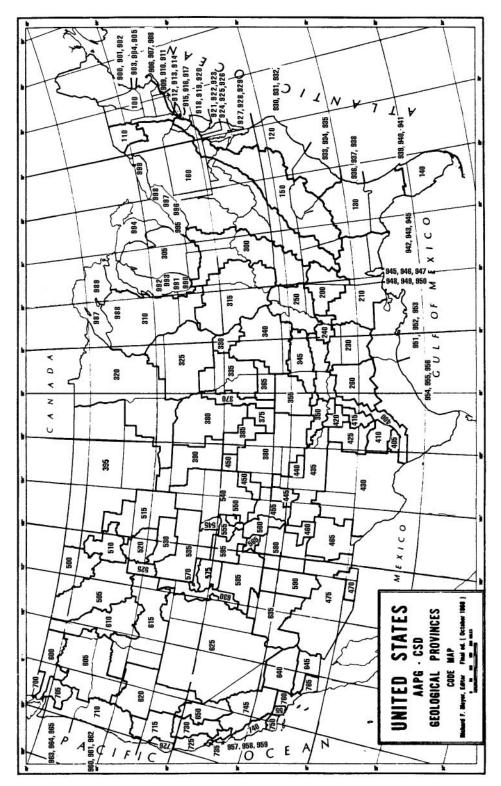


Figure 1. Geologic Provinces of the United States.

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	20044	COMPONENT, MOLE PCT	
STATE	ARIZONIA	METHANE	0.1
COUNTY		ETHANE	TRACE
	-	PROPANE	TRACE
FIELD		N-BUTANE	TRACE
WELL NAME		ISOBUTANE	0.0
API		N-PENTANE	TRACE
LOCATION	SEC. 3. T11N, R29E	ISOPENTANE	0.0
OWNERRIDG	EWAY ARIZONA OIL CORP	CYCLOPENTANE	
COMPLETED	950913	HEXANES PLUS	0.0
SAMPLED	991220	NITROGEN	2.4
FORMATION	PERM-AMOS WASH	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	590	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	1676	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	TRACE
WELLHEAD PRESSURE, PSIG	420	CARBON DIOXIDE	96.5
OPEN FLOW, MCFD	1347	HELIUM	
		HEATING VALUE*	6
		SPECIFIC GRAVITY	1.505
SAMPLE	20918	COMPONENT, MOLE PCT	
STATE	ARKANSAS	METHANE	95.8
COUNTY		ETHANE	1.0
FIELD		PROPANE	0.1
WELL NAME		N-BUTANE	0.0
		ISOBUTANE	0.0
API		N-PENTANE	0.0
LOCATION		ISOPENTANE	0.0
OWNER	XTO ENERGY, INC.	CYCLOPENTANE	
COMPLETED	001126	HEXANES PLUS	0.0
SAMPLED	011029	NITROGEN	2.7
FORMATIONMIS	S-BOONE, DEVO-PENTERS	OXYGEN	
	345.	ARGON	
GEOLOGIC PROVINCE CODE			TO 100
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)		HYDROGEN	IXACE
	4560	HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (FT)	4560	HYDROGEN SULFIDE** CARBON DIOXIDE	0.0
TRUE VERTICAL DEPTH (FT)	4560 345	HYDROGEN SULFIDE**	0.0 0.4 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

20008	COMPONENT, MOLE PCT	
ARKANSAS	METHANE	95.6
	ETHANE	2.0
	PROPANE	0.2
	N-BUTANE	TRACE
	ISOBUTANE	0.1
	N-PENTANE	0.0
SEC. 10, T5N, R25W	ISOPENTANE	0.0
SEECO, INC.	CYCLOPENTANE	
971201	HEXANES PLUS	0.0
980000	NITROGEN	0.7
PENN-BORUM U&L	OXYGEN	0.0
345	ARGON	0.0
6754	HYDROGEN	TRACE
	HYDROGEN SULFIDE**	
1994	CARBON DIOXIDE	
	SPECIFIC GRAVITY	0.582
20915	COMPONENT, MOLE PCT	
COLORADO	METHANE	50.2
	ETHANE	2.3
	PROPANE	1.5
	N-BUTANE	0.7
	ISOBUTANE	0.3
	N-PENTANE	0.2
SEC. 16, T34S, R41W	ISOPENTANE	0.2
KAISER-FRANCIS OIL CO.	CYCLOPENTANE	
920813	HEXANES PLUS	0.2
011101	NITROGEN	42.7
PERM-RED CAVE	OXYGEN	
360	ARGON	
1760	HYDROGEN	
1260		
1490	HYDROGEN SULFIDE**	
	CARBON DIOXIDE	TRACE
		TRACE
	ARKANSAS YELL WAVELAND USA NO. 1-10 0314910013 SEC. 10. T5N, R25W SEECO, INC. 971201 980000 PENN-BORUM U&L 345 6754 1994 7752 20915 COLORADO BRANDT O'NEILL UNIT 1 0500906220 SEC. 16. T34S, R41W KAISER-FRANCIS OIL CO. 920813 011101 PERM-RED CAVE	ARKANSAS. YELL WAVELAND. USA NO. 1-10. 0314910013. SEC. 10. T5N, R25W. SEECO, INC. 971201. HEXANES PLUS. 980000. PENN-BORLIM USL. 345. 6754. HYDROGEN. HYDROGEN. HYDROGEN. 1994. 7752. HEATING VALUE* SPECIFIC GRAVITY. 20915. COMPONENT, MOLE PCT. METHANE. SEC. 16. T34S, R41W. KAISER-FRANCIS OIL CO. 920813. HEXANES PLUS. 1050090620. NITROGEN. HYDROGEN. HYDROGEN. HYDROGEN. METHANE. SPECIFIC GRAVITY. 1050090620. N-BUTANE. SEC. 16. T34S, R41W. KAISER-FRANCIS OIL CO. 920813. HEXANES PLUS. 1050090620. NITROGEN. HYDROGEN. HYDROGEN. HELIUM. 1050090620. NETHANE. SPECIFIC GRAVITY. SPECIFIC GRAVITY. N-PENTANE. ISOPENTANE. ISOPENTANE. ISOPENTANE. ISOPENTANE. ISOPENTANE. HEXANES PLUS. 11101. NITROGEN. NITROG

^{*} 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	20917	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	34.1
	BACA	ETHANE	1.7
		PROPANE	0.9
	GREENWOOD	N-BUTANE	0.4
	SEMINOLE 1-33	ISOBUTANE	0.3
	0500906601	N-PENTANE	0.1
LOCATION	SEC, 33, T34S, R41W	ISOPENTANE	0.2
OWNER	ENERGY ALLIANCE CO., INC.	CYCLOPENTANE	
COMPLETED	000212	HEXANES PLUS	0.2
SAMPLED	011101	NITROGEN	60.2
FORMATION	PERM-RED CAVE	OXYGEN	0.0
GEOLOGIC PROVINCE COD	DE360	ARGON	0.2
TRUE VERTICAL DEPTH (F)	Г)1290_	HYDROGEN	0.1
		HYDROGEN SULFIDE**	0.0
	IIG	CARBON DIOXIDE	TRACE
	147	HELIUM	1.51
OPEN FLOW, MOFD	141	HEATING VALUE*	444
		SPECIFIC GRAVITY	0.836
SAMPLE	20909	COMPONENT, MOLE PCT	·
STATE	COLORADO	METHANE	34.9
		ETHANE	1.1
	BACA.	PROPANE	0.6
	WALSH	N-BUTANE	0.2
	GREENSBURG STATE 1-16	ISOBUTANE	0.1
API	0500906560	N-PENTANE	0.1
COCATION	SEC. 16, T33S, R43W	ISOPENTANE	0.1
LOCATION			
	ENERGY ALLIANCE CO., INC.	CYCLOPENTANE	
OWNER	ENERGY ALLIANCE CO., INC. 960118	CYCLOPENTANE	
OWNER			0.1
OWNER COMPLETED SAMPLED	960118	HEXANES PLUS	0.1 61.2
OWNER COMPLETED SAMPLED FORMATION	960118 011031 PERM-RED CAVE	HEXANES PLUS	0.1 61.2 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD	960118 011031 PERM-RED CAVE DE360	HEXANES PLUS NITROGEN OXYGEN	0.1 61.2 0.0 0.2
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT	960118 011031 PERM-RED CAVE DE	HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 61.2 0.0 0.2 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT	960118 011031 PERM-RED CAVE DE	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.1 61.2 0.0 0.2 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PS	960118 011031 PERM-RED CAVE DE360 T)1609	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.1 61.2 0.0 0.2 0.0 0.0 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PS	960118 011031 PERM-RED CAVE DE	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 61.2 0.0 0.2 0.0 0.0 TRACE

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

SAMPLE	20911	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	34.1
	BACA	ETHANE	1.0
	SPELUNKER	PROPANE	0.6
		N-BUTANE	0.2
	KITO 1-21	ISOBUTANE	0.1
	0500906588	N-PENTANE	0.1
	SEC. 21, T33S, R43W	ISOPENTANE	0.1
	ENERGY ALLIANCE CO., INC.	CYCLOPENTANE	
COMPLETED	981217	HEXANES PLUS	0.1
SAMPLED	011031	NITROGEN	61.7
FORMATION	PERM-RED CAVE	OXYGEN	0.0
GEOLOGIC PROVINCE CO	DE360	ARGON	0.2
TRUE VERTICAL DEPTH (F	T) 1609	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, P	SIG62	CARBON DIOXIDE	0.1
	480	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.823
SAMPLE	20912	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	35.3
		ETHANE	1.1
	BACA	PROPANE	0.6
	WALSH	N-BUTANE	0.3
WELL NAME	MCKINLEY 2-20	ISOBUTANE	0.1
	0500906564	N-PENTANE	0.1
LOCATION	SEC. 20, T33S, R43W	ISOPENTANE	0.1
OWNER	ENERGY ALLIANCE CO., INC.	CYCLOPENTANE	
COMPLETED	960331	HEXANES PLUS	0.1
SAMPLED	011031	NITROGEN	60.4
FORMATION	PERM-RED CAVE	OXYGEN	0.0
GEOLOGIC PROVINCE CO	DE360	ARGON	0.2
TRUE VERTICAL DEPTH (F	T)1624	HYDROGEN	0.1
,		HYDROGEN SULFIDE**	0.0
MEASURED DEPTH		CARBON DIOXIDE	0.1
	SIG		
WELLHEAD PRESSURE, P	SIG	HELIUM	1.62
WELLHEAD PRESSURE, P	SIG487.		

^{*} 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	20910	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	36.8
		ETHANE	1_1
	BACA	PROPANE	0.6
	UNNAMED	N-BUTANE	0.3
	ALLEY 2-17	ISOBUTANE	0.1
	0500906569	N-PENTANE	0.1
	SEC. 17, T33S, R43W	ISOPENTANE	0.1
OWNER	ENERGY ALLIANCE CO. INC.	CYCLOPENTANE	
COMPLETED	961005	HEXANES PLUS	0.1
SAMPLED	011031	NITROGEN	58.9
FORMATIONPERM	RED CAVE PENN-WABAUNSEE	OXYGEN	0.0
GEOLOGIC PROVINCE COD	DE360.	ARGON	0.2
TRUE VERTICAL DEPTH (FT	r)	HYDROGEN	TRACE
		HYDROGEN SULFIDE**	0.0
	SIG322	CARBON DIOXIDE	0.1
		HELIUM	1.65
OPEN FLOW, MICED	1391	HEATING VALUE*	430
		SPECIFIC GRAVITY	0.814
SAMPLE	20916	COMPONENT, MOLE PCT	
Code & other	COLORADO	METHANE	66.1
		ETHANE	~ ~
			5.2
	BACA	PROPANE	
FIELD	GREENWOOD	PROPANE	4.0
FIELD	GREENWOOD BURGHART A-1 LEASE		4.0
FIELD	GREENWOOD BURGHART A-1 LEASE	N-BUTANE	4.0 1.3
FIELD WELL NAMEAPI	GREENWOOD BURGHART A-1 LEASE	N-BUTANE	4.0 1.3 0.5 0.4
FIELD	GREENWOOD. BURGHART A-1 LEASE. 0500905038	N-BUTANE ISOBUTANE N-PENTANE	4.0 1.3 0.5 0.2
FIELD WELL NAME API LOCATION OWNER	GREENWOOD BURGHART A-1 LEASE 0500905038 SEC. 22, T34S, R41W	N-BUTANEISOBUTANEN-PENTANEISOPENTANE	4.5 0.5 0.2
FIELD WELL NAME API LOCATION OWNER COMPLETED	GREENWOOD. BURGHART A-1 LEASE. 0500905038. SEC. 22, T34S, R41W. BEREXCO, INC.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	4.6 1.5 0.5 0.2 0.3
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	GREENWOOD BURGHART A-1 LEASE 0500905038 SEC. 22, T34S, R41W BEREXCO, INC. 560502	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.6 1.3 0.5 0.2 0.3 0.5
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	GREENWOOD BURGHART A-1 LEASE 0500905038 SEC. 22 T34S, R41W BEREXCO, INC. 560502 011101 PENN-TOPEKA	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.6 1.3 0.5 0.2 0.3 0.5 19.8
FIELD	GREENWOOD BURGHART A-1 LEASE 0500905038 SEC 22 T34S, R41W BEREXCO, INC. 560502 011101 PENN-TOPEKA DE 360	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.0 1.3 0.5 0.4 0.3 0.5 19.6 0.0
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COE TRUE VERTICAL DEPTH (FT	GREENWOOD BURGHART A-1 LEASE 0500905038 SEC 22 T34S, R41W BEREXCO, INC. 560502 011101 PENN-TOPEKA DE 360 T) 2830	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.6 0.5 0.2 0.3 0.5 0.5 0.6 0.6
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COE TRUE VERTICAL DEPTH (FI	GREENWOOD BURGHART A-1 LEASE 0500905038 SEC. 22 T34S, R41W BEREXCO, INC. 560502 011101 PENN-TOPEKA DE 360 T) 2830	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.6 0.5 0.2 0.3 0.5 19.6 0.6 0.6
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COE TRUE VERTICAL DEPTH (FI MEASURED DEPTH WELLHEAD PRESSURE, PS	GREENWOOD. BURGHART A-1 LEASE 0500905038 SEC 22 T34S, R41W BEREXCO, INC. 560502 011101 PENN-TOPEKA DE 360 T) 2830	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	4.6 1.3 0.5 0.4 0.3 0.5 19.6 0.0 0.1
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COE TRUE VERTICAL DEPTH (FI	GREENWOOD. BURGHART A-1 LEASE 0500905038 SEC 22 T34S, R41W BEREXCO, INC. 560502 011101 PENN-TOPEKA DE 360 T) 2830	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	4.0 1.3 0.5 0.4 0.3 0.5 19.6 0.0 0.1 0.5 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	20914	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	63.7
		ETHANE	5.8
COUNTY		PROPANE	3.4
FIELD	MIDWAY	N-BUTANE	1.0
WELL NAME	LEACH 1-10	ISOBUTANE	0.4
API	0500906397	N-PENTANE	0.3
LOCATION	SEC. 10, T33S, R42W	ISOPENTANE	0.2
OWNER	SANDLIN OIL CORP.	CYCLOPENTANE	
COMPLETED	991102	HEXANES PLUS	0.3
SAMPLED	011101	NITROGEN	24.3
FORMATION	PENN-TOPEKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3063	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.62
of citt cow, word	1.0	HEATING VALUE*	907
		SPECIFIC GRAVITY	0.748
SAMPLE	20906	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	57.8
COUNTY		ETHANE	5.5
FIELD		PROPANE	3.6
		N-BUTANE	1.1
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.3
LOCATION		ISOPENTANE	0.2
OWNERE		CYCLOPENTANE	
COMPLETED	950426	HEXANES PLUS	0.3
SAMPLED	011031	NITROGEN	29.8
FORMATION	PENN-TOPEKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3264	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
	368	HELIUM	
DPEN FLOW, MCFD			
OPEN FLOW, MCFD		HEATING VALUE*	860

 $^{^{\}circ}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\circ}$ 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	20875	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	89.2
	GARFIELD	ETHANE	4.8
	PARACHUTE	PROPANE	1.0
	AMERICAN SODA GM 268-3	N-BUTANE	0.2
		ISOBUTANE	0.2
	0504507313	N-PENTANE	0.1
	SEC. 3, T7S, R96W	ISOPENTANE	
	LIAMS PRODUCTION RMT CO.	CYCLOPENTANE	
	000809	HEXANES PLUS	
	011015	NITROGEN	
FORMATION	CRET-MESAVERDE	OXYGEN	
GEOLOGIC PROVINCE CODE	595	ARGON	
TRUE VERTICAL DEPTH (FT)	6266	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	32000	CARBON DIOXIDE	
OPEN FLOW, MCFD	1128	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20812	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	
COUNTY	MESA	ETHANE	
FIELD	BRONCO FLATS	PROPANE	
WELL NAME	SULFUR GULCH 9-98-10	N-BUTANE	
API	0507708682	ISOBUTANE	
LOCATION	SEC. 10, T9S, R98W	ISOPENTANE	
OWNER	MARALEX RESOURCES, INC.	CYCLOPENTANE	
COMPLETED	950225	HEXANES PLUS	
SAMPLED	010828	NITROGEN	0.4
FORMATION	CRET-CAMEO	OXYGEN	0.0
	595	ARGON	0.0
GEOLOGIC PROVINCE CODE		HYDDOCEN	0.0
		HYDROGEN	
TRUE VERTICAL DEPTH (FT)	3052	HYDROGEN SULFIDE**	
TRUE VERTICAL DEPTH (FT)	3052		0.0
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	3052	HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.0 1.0 0.03
MEASURED DEPTH	3052	HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 1.0 0.03 1.116

^{*} 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	COLORADO	METHANE	91.5
COUNTY		ETHANE	4.0
FIELDBR		PROPANE	1.6
		N-BUTANE	0.2
WELL NAMESULFUR (ISOBUTANE	0.3
API		N-PENTANE	TRACE
LOCATIONSEC.	· · · · · · · · · · · · · · · · · · ·	ISOPENTANE	0.1
OWNER MARALEX RESC	URCES, INC.	CYCLOPENTANE	
COMPLETED	000518	HEXANES PLUS	0.1
SAMPLED	010828	NITROGEN	0.4
FORMATIONCRET-	CAMEO COAL	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	595	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2600	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	1.8
OPEN FLOW, MCFD		HELIUM	
0/ EIT (E011, WOF)		HEATING VALUE*	1,061
		SPECIFIC GRAVITY	0.619
SAMPLE 20796		COMPONENT, MOLE PCT	
	COLORADO	COMPONENT, MOLE PCT METHANE	94.3
STATE		METHANE	
STATE	MESA	,	2.3
STATE	MESA HIRE GULCH	METHANE	2.3 0.6
STATE	MESA HIRE GULCH	METHANE ETHANE PROPANE	2.3 0.6 0.1
STATE	MESA HIRE GULCH FEDERAL 1-3	METHANE ETHANE PROPANE N-BUTANE	2.3 0.6 0.1 0.1
STATE COUNTY FIELD S WELL NAME	MESA. HIRE GULCH FEDERAL 1-3 0507708192	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	2.3 0.6 0.1 0.1 TRACE
STATE	MESA. HIRE GULCH. FEDERAL 1-3. 0507708192. T10S, R97W.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	2.3 0.6 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION SEC. 1 OWNER ROCKY MOUNTAIN OPERATION	MESA. HIRE GULCH. FEDERAL 1-3 0507708192 T10S, R97W. NG CO., INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	2.3 0.6 0.1 0.1 TRACE
STATE COUNTY FIELD S WELL NAME API LOCATION SEC. 1 OWNER ROCKY MOUNTAIN OPERATION COMPLETED	MESA. HIRE GULCH. FEDERAL 1-3 0507708192 T10S, R97W. NG CO., INC. 791129	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	2.3 0.6 0.1 0.1 TRACE TRACE
STATE COUNTY FIELD S WELL NAME API LOCATION SEC. 1 OWNER ROCKY MOUNTAIN OPERATI COMPLETED SAMPLED	MESA. HIRE GULCH. FEDERAL 1-3. 0507708192. T10S, R97W. NG CO., INC. 791129. 010827.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.3 0.6 0.1 0.1 TRACE TRACE
STATE COUNTY FIELD SWELL NAME API LOCATION SEC. 1 OWNER ROCKY MOUNTAIN OPERATION COMPLETED SAMPLED FORMATION CRET	MESA. HIRE GULCH. FEDERAL 1-3 0507708192 T10S, R97W. NG CO., INC. 791129 010827	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	2.3 0.6 0.1 0.1 TRACE TRACE
STATE	MESA. HIRE GULCH. FEDERAL 1-3 0507708192 T10S, R97W. NG CO., INC. 791129 010827 -CORCORAN. 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	2.3 0.6 0.1 TRACE TRACE TRACE 0.1
STATE COUNTY FIELD SWELL NAME API LOCATION SEC. 1 OWNER ROCKY MOUNTAIN OPERATION COMPLETED SAMPLED FORMATION CRET GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	MESA. HIRE GULCH. FEDERAL 1-3 0507708192 T10S, R97W NG CO., INC. 791129 010827 -CORCORAN 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	2.3 0.6 0.1 TRACE TRACE
STATE COUNTY FIELD SWELL NAME API LOCATION SEC. 1 OWNER ROCKY MOUNTAIN OPERAT COMPLETED SAMPLED FORMATION CRET GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	MESA. HIRE GULCH. FEDERAL 1-3 0507708192 T10S, R97W NG CO., INC. 791129 010827 -CORCORAN 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	2.3 0.6 0.1 TRACE TRACE
STATE	MESA. HIRE GULCH FEDERAL 1-3 0507708192 T10S, R97W NG CO., INC. 791129 010827 -CORCORAN 595 3262	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	2.3 0.6 0.1 TRACE TRACE
STATE COUNTY FIELD SWELL NAME API LOCATION SEC. 1 OWNER ROCKY MOUNTAIN OPERAT COMPLETED SAMPLED FORMATION CRET GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	MESA. HIRE GULCH FEDERAL 1-3 0507708192 T10S, R97W NG CO., INC. 791129 010827 -CORCORAN 595 3262	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN LYDROGEN SULFIDE*** CARBON DIOXIDE	2.3 0.6 0.1 TRACE TRACE

 $^{^{\}circ}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\circ}$ 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	20800	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	87.9
	MESA	ETHANE	6.5
FIELD	SHIRE GULCH	PROPANE	2.3
		N-BUTANE	0.6
	FEDERAL 35-1	ISOBUTANE	0.4
	0507708178	N-PENTANE	0.2
	SEC, 35, T9S, R97W	ISOPENTANE	0.2
OWNERROCKY M	OUNTAIN OPERATING CO., INC.	CYCLOPENTANE	
COMPLETED	791226	HEXANES PLUS	0.4
SAMPLED	010827	NITROGEN	0.5
FORMATION	CRET-CORCORAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODI	E595	ARGON	0.0
TRUE VERTICAL DEPTH (FT	3072	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	IG0	CARBON DIOXIDE	1.2
•	1000	HELIUM	0.04
O/ E/11 EO11, MO/ D		HEATING VALUE*	1,124
		SPECIFIC GRAVITY	0.651
SAMPLE	20816	COMPONENT, MOLE PCT	
2		COMPONENT, MOLE PCT METHANE	87.5
STATE	COLORADO	·	
STATE	COLORADO MESA	METHANE	7.1
STATE COUNTY FIELD	COLORADO MESA BRONCO FLATS	METHANE	7.1 2.6
STATE	COLORADO MESA BRONCO FLATS. WAGON TRACK FEDERAL 12-16	METHANE ETHANE PROPANE	7.1 2.6 0.6
STATE COUNTY FIELD WELL NAME	COLORADO MESA BRONCO FLATS WAGON TRACK FEDERAL 12-16 0507708700	METHANE ETHANE PROPANE N-BUTANE	7.1 2.6 0.6
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO MESA BRONCO FLATS WAGON TRACK FEDERAL 12-16 0507708700 SEC. 12, T9S, R98W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	7.1 2.6 0.6 0.4
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO MESA BRONCO FLATS WAGON TRACK FEDERAL 12-16 0507708700	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	7.1 2.6 0.6 0.4 0.2
STATE COUNTY FIELD WELL NAME API LOCATION DWNER BI	COLORADO MESA BRONCO FLATS WAGON TRACK FEDERAL 12-16 0507708700 SEC. 12, T9S, R98W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	7.1 2.6 0.6 0.4 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION DWNERBI COMPLETED	COLORADO MESA BRONCO FLATS WAGON TRACK FEDERAL 12-16 0507708700 SEC. 12, T9S, R98W LACK HILLS EXPL. & PROD. INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	7.1 2.6 0.6 0.4 0.2 0.2
STATE	COLORADO MESA BRONCO FLATS WAGON TRACK FEDERAL 12-16 0507708700 SEC. 12. T9S, R98W LACK HILLS EXPL. & PROD. INC. 961226	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	7.1 2.6 0.6 0.4 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER BI COMPLETED SAMPLED FORMATION	COLORADO MESA BRONCO FLATS. WAGON TRACK FEDERAL 12-16 0507708700 SEC. 12. T9S, R98W LACK HILLS EXPL. & PROD. INC. 961226 010828	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	7.1 2.6 0.6 0.4 0.2 0.2 0.3 0.4
STATE COUNTY FIELD WELL NAME API LOCATION DWNER BI COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODI	COLORADO MESA BRONCO FLATS WAGON TRACK FEDERAL 12-16 0507708700 SEC. 12. T9S. R98W LACK HILLS EXPL. & PROD. INC. 961226 010828 CRET-CORCORAN E 595.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	7.1 2.6 0.6 0.4 0.2 0.2 0.3 0.4 0.0
STATE	COLORADO MESA BRONCO FLATS. WAGON TRACK FEDERAL 12-16 0507708700 SEC. 12. T9S. R98W LACK HILLS EXPL. & PROD. INC. 961226 010828 CRET-CORCORAN E 595.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	7.1 2.6 0.6 0.4 0.2 0.2 0.3 0.4 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER BI COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODI TRUE VERTICAL DEPTH (FT)	COLORADO MESA BRONCO FLATS WAGON TRACK FEDERAL 12-16 0507708700 SEC. 12, T9S, R98W LACK HILLS EXPL. & PROD. INC. 961226 010828 CRET-CORCORAN E 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	7.1 2.6 0.6 0.4 0.2 0.2 0.3 0.4 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER SAMPLED FORMATION GEOLOGIC PROVINCE CODI TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSI	COLORADO MESA BRONCO FLATS WAGON TRACK FEDERAL 12-16 0507708700 SEC. 12. T9S. R98W LACK HILLS EXPL. & PROD. INC. 961226 010828 CRET-CORCORAN E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	7.1 2.6 0.6 0.4 0.2 0.2 0.3 0.4 0.0 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER SAMPLED FORMATION GEOLOGIC PROVINCE CODI TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSI	COLORADO MESA BRONCO FLATS WAGON TRACK FEDERAL 12-16 0507708700 SEC. 12, T9S, R98W LACK HILLS EXPL. & PROD. INC. 961226 010828 CRET-CORCORAN E 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	7.1 2.6 0.6 0.4 0.2 0.2 0.3 0.4 0.0 0.0 0.0 0.0

 $^{^{\}circ}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\circ}$ 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	88.
COUNTY MESA	ETHANE	6.8
FIELD BRONCO FLATS	PROPANE	2.3
	N-BUTANE	0.6
WELL NAMEWAGON TRACK FEDERAL 12-14	ISOBUTANE	0.4
API	N-PENTANE	0.1
LOCATION SEC. 12, T9S, R98W	ISOPENTANE	0.3
OWNER BLACK HILLS EXPL & PROD. INC.	CYCLOPENTANE	
COMPLETED961228_	HEXANES PLUS	0.3
SAMPLED010828_	NITROGEN	0.3
FORMATIONCRET-CORCORAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE595	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.5
OPEN FLOW, MCFD 475	HELIUM	0.04
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.642
SAMPLE 20819	COMPONENT, MOLE PCT	
AT4TF	METHANE	92.
STATE COLORADO	111211111111	92.5
	ETHANE	
COUNTYMESA		2.0
COUNTY MESA FIELD SHIRE GULCH	ETHANE	2.0
COUNTYMESA_ FIELDSHIRE GULCH_ WELL NAMEHORSESHOE CANYON 4-21	PROPANE	2.0 0.5 0.5
COUNTY MESA FIELD SHIRE GULCH. WELL NAME HORSESHOE CANYON 4-21 API 0507708486	PROPANEN-BUTANE	0.5 0.5 0.7
COUNTY	ETHANE PROPANE N-BUTANE ISOBUTANE	0.5 0.5 0.7 TRACE
COUNTY	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.5 0.5 0.7 TRACE
COUNTY MESA FIELD SHIRE GULCH. WELL NAME HORSESHOE CANYON 4-21 API 0507708486 LOCATION SEC. 21, T9S, R97W OWNER KOCH EXPLORATION CO., LLC	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	2.0 0.5 0.7 TRACE
COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 4-21 API 0507708486 LOCATION SEC. 21, T9S, R97W OWNER KOCH EXPLORATION CO., LLC COMPLETED 830218	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	2.0 0.5 0.7 TRACE
COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 4-21 API 0507708486 LOCATION SEC. 21, T9S, R97W OWNER KOCH EXPLORATION CO., LLC COMPLETED 830218 SAMPLED 010828	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.0 0.5 0.7 TRACE
COUNTY MESA FIELD SHIRE GULCH. WELL NAME HORSESHOE CANYON 4-21 API 0507708486 LOCATION SEC. 21, T9S, R97W. OWNER KOCH EXPLORATION CO., LLC. COMPLETED 830218 SAMPLED 010828 FORMATION CRET-CORCORAN, DAKOTA	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	2.0 0.1 0.2 TRACE 0.3
COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 4-21 API 0507708486 LOCATION SEC. 21, T9S, R97W OWNER KOCH EXPLORATION CO., LLC COMPLETED 830218 SAMPLED 010828 FORMATION CRET-CORCORAN, DAKOTA GEOLOGIC PROVINCE CODE 595	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	2.0 0.1 0.2 TRACE 0.3
COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 4-21 API 0507708486 LOCATION SEC. 21, T9S, R97W OWNER KOCH EXPLORATION CO., LLC COMPLETED 830218 SAMPLED 010828 FORMATION CRET-CORCORAN, DAKOTA GEOLOGIC PROVINCE CODE 595 TRUE VERTICAL DEPTH (FT) 7671	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	2.0 0.1 0.1 TRACE 0.1 0.2 0.3
COUNTY MESA FIELD SHIRE GULCH. WELL NAME HORSESHOE CANYON 4-21 API 0507708486 LOCATION SEC. 21, T9S, R97W. OWNER KOCH EXPLORATION CO., LLC. COMPLETED 830218 SAMPLED 010828 FORMATION CRET-CORCORAN, DAKOTA GEOLOGIC PROVINCE CODE 595 TRUE VERTICAL DEPTH (FT) 7671 MEASURED DEPTH MEASURED DEPTH	ETHANE	2.0 0.1 0.2 TRACE 0.2 0.3 0.0 0.0
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 4-21 API 0507708486 LOCATION SEC. 21. T9S, R97W OWNER KOCH EXPLORATION CO. LLC COMPLETED 830218 SAMPLED 010828 FORMATION CRET-CORCORAN, DAKOTA GEOLOGIC PROVINCE CODE 595 TRUE VERTICAL DEPTH (FT) 7671 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 100 OPEN FLOW, MCFD 2947	ETHANE	2.0 0.1 0.2 TRACE 0.3 0.0 0.0 0.0 0.0 0.0
COUNTY MESA FIELD SHIRE GULCH. WELL NAME HORSESHOE CANYON 4-21 API 0507708486 LOCATION SEC. 21, T9S, R97W. OWNER KOCH EXPLORATION CO., LLC. COMPLETED 830218 SAMPLED 010828 FORMATION CRET-CORCORAN, DAKOTA GEOLOGIC PROVINCE CODE 595 TRUE VERTICAL DEPTH (FT) 7671 MEASURED DEPTH MEASURED DEPTH	ETHANE	2.0 0.1 0.2 TRACE 0.1 0.3 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	20803	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	89.8
	MESA	ETHANE	4.6
	SHIRE GULCH	PROPANE	1.6
		N-BUTANE	0.4
	HORSESHOE CANYON 3	ISOBUTANE	0.3
	0507708656	N-PENTANE	0.1
	SEC. 28, T9S, R97W	ISOPENTANE	0.1
	KOCH EXPLORATION CO., LLC.	CYCLOPENTANE	=
COMPLETED	930315	HEXANES PLUS	
	010827	NITROGEN	
FORMATION	CRET-COZZETTE	OXYGEN	
GEOLOGIC PROVINCE COD	E595	ARGON	
TRUE VERTICAL DEPTH (FT)2902	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSI	G360_	CARBON DIOXIDE	
OPEN FLOW, MCFD	501	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	U.054
SAMPLE	20814	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	87.3
	MESA	ETHANE	7.1
	BRONCO FLATS	PROPANE	2.7
	WAGON TRAIL FEDERAL 44-11	N-BUTANE	0.7
	WAGON TRAIL PEDERAL 44-11		
A 1701	050770000	ISOBUTANE	0.5
	0507708606	ISOBUTANE	
LOCATION	SEC. 11, T9S, R98W.	N-PENTANE	0.1
LOCATION		N-PENTANE ISOPENTANE CYCLOPENTANE	0.1
LOCATIONB	SEC. 11, T9S, R98W.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.2 —————
LOCATIONBI OWNERBI COMPLETED	SEC. 11, T9S, R98W LACK HILLS EXPL. & PROD. INC.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.2 - 0.3 0.3
LOCATION	SEC. 11, T9S, R98W LACK HILLS EXPL. & PROD. INC. 911220	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.2 - 0.3 0.3
LOCATION	SEC. 11, T9S, R98W LACK HILLS EXPL. & PROD. INC. 911220 010828	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.2 0.3 0.3 0.0 0.0
LOCATIONBI OWNERBI COMPLETED SAMPLED FORMATION	SEC. 11, T9S, R98W LACK HILLS EXPL. & PROD. INC. 911220 010828 CRET-COZZETTE E 595	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.1 0.2
LOCATION	SEC. 11, T9S, R98W. LACK HILLS EXPL. & PROD. INC. 911220. 010828. CRET-COZZETTE E 595.) 2790.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.1 0.2 0.3 0.3 0.0 0.0
LOCATION	SEC. 11, T9S, R98W LACK HILLS EXPL. & PROD. INC. 911220 010828 CRET-COZZETTE E 595	N-PENTANE	0.1 0.2 0.3 0.3 0.0 0.0 0.0 0.0
LOCATION	SEC. 11, T9S, R98W LACK HILLS EXPL. & PROD. INC. 911220 010828 CRET-COZZETTE E 595) 2790	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.1 0.2 0.3 0.3 0.0 0.0 0.0 0.0 0.0
LOCATION	SEC. 11, T9S, R98W LACK HILLS EXPL. & PROD. INC. 911220 010828 CRET-COZZETTE E 595) 2790	N-PENTANE	0.1 0.2 0.3 0.3 0.0 0.0 0.0 0.0 0.0 1.139

 $^{^{\}circ}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\circ}$ 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 20820	COMPONENT, MOLE PCT	
STATECOLORADO	METHANE	89.1
	ETHANE	6.5
	PROPANE	2.2
FIELD SHIRE GULCH	N-BUTANE	0.5
WELL NAME HORSESHOE CANYON 2-22	ISOBUTANE	0.3
API	N-PENTANE	0.1
LOCATION SEC. 22, T9S, R97W	ISOPENTANE	0.1
OWNER KOCH EXPLORATION CO., LLC	CYCLOPENTANE	
COMPLETED 930105	HEXANES PLUS	0.1
SAMPLED010828	NITROGEN	0.2
FORMATION CRET-COZZETTE CORCORAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE595	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	1.0
OPEN FLOW, MCFD 905	HELIUM	0.01
OPEN FLOW, WIGFD	HEATING VALUE*	1,109
	SPECIFIC GRAVITY	0.634
SAMPLE 20817	COMPONENT, MOLE PCT	
STATE COLORADO	METHANE	89.5
COUNTY MESA	ETHANE	5.8
	PROPANE	1.9
FIELD SHIRE GUI CH	N-BUTANE	0.5
WELL NAME HORSESHOE CANYON 3-16	ISOBUTANE	0.3
API0507708660	N-PENTANE	0.1
LOCATION SEC. 16, T9S, R97W	ISOPENTANE	0.
OWNER KOCH EXPLORATION CO., LLC	CYCLOPENTANE	
COMPLETED 930106	HEXANES PLUS	0.3
SAMPLED010828	NITROGEN	0.3
FORMATIONCRET-COZZETTE_CORCORAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 595	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 3190	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	1.2
OPEN FLOW, MCFD 1357	HELIUM	0.02
UCEN FLUIV. MUFU 135/	HEATING VALUE*	1 104
	HEATING VALUE	1,10

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 80 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

SAMPL	E 20818	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	89.
	MESA.	ETHANE	5.
	SHIRE GULCH	PROPANE	1.9
		N-BUTANE	0.
	HORSESHOE CANYON 1-16	ISOBUTANE	0.
	0507708650	N-PENTANE	0.
	SEC. 16, T9S, R97W	ISOPENTANE	0.
OWNER	KOCH EXPLORATION CO., LLC.	CYCLOPENTANE	
COMPLETED	921216	HEXANES PLUS	0.
SAMPLED	010828	NITROGEN	0.
FORMATION	CRET-COZZETTE, CORCORAN	OXYGEN	0.
GEOLOGIC PROVINC	E CODE595	ARGON	0.
TRUE VERTICAL DEF	PTH (FT)3165	HYDROGEN	0.
		HYDROGEN SULFIDE**	0.
	RE. PSIG 310	CARBON DIOXIDE	1.
	745	HELIUM	
O1 2141 2044, 18101 D		HEATING VALUE*	1,10
		SPECIFIC GRAVITY	0.63
SAMPL	E 20824	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	89.
	MESA	ETHANE	5.
	SHIRE GULCH	PROPANE	1.
		N-BUTANE	0.
	HORSESHOE CANYON 3-27	ISOBUTANE	0.
	0507708655	N-PENTANE	0.
LOCATION	SEC. 27, T9S, R97W	ISOPENTANE	0
OWNER	KOCH EXPLORATION CO., LLC.	CYCLOPENTANE	
COMPLETED	921229	HEXANES PLUS	0.
SAMPLED	010828	NITROGEN	0.
FORMATION	CRET-COZZETTE, CORCORAN	OXYGEN	0.
GEOLOGIC PROVINC	E CODE595	ARGON	0.
TRUE VERTICAL DEF	PTH (FT)3091_	HYDROGEN	0.
		HYDROGEN SULFIDE**	0.
_	RE, PSIG360	CARBON DIOXIDE	1.
	425	HELIUM	0.0
	4/3	1 1 T A T 1 A T 1 A A A A A A A A A A A	4.44
OF EN FLOW, INICI D		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 20825	COMPONENT, MOLE PCT	
STATECOLORADO	METHANE	89.4
COUNTY MESA	ETHANE	5.8
FIELD ROBERTS CANYON	PROPANE	2.0
	N-BUTANE	0.5
WELL NAME HORSESHOE CANYON 1-27	ISOBUTANE	0.3
API	N-PENTANE	0.1
LOCATION SEC. 27. T9S, R97W	ISOPENTANE	0.2
OWNER KOCH EXPLORATION CO. LLC	CYCLOPENTANE	
COMPLETED 930125	HEXANES PLUS	0.3
SAMPLED010828	NITROGEN	0.1
FORMATIONCRET-COZZETTE_CORCORAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE595	ARGON	0.0
TRUE VERTICAL DEPTH (FT)3126	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG185	CARBON DIOXIDE	1.1
OPEN FLOW, MCFD 555	HELIUM	0.03
J. 277 . 2077 , 1807 D	HEATING VALUE*	1,112
	SPECIFIC GRAVITY	0.638
SAMPLE 20823	COMPONENT, MOLE PCT	
STATECOLORADO	METHANE	88.2
COUNTY MESA	ETHANE	6.4
	PROPANE	2.3
FIELD SHIRE GULCH	N-BUTANE	0.6
WELL NAME HORSESHOE CANYON 2-17	ISOBUTANE	0.4
API0507708651	N-PENTANE	0.2
LOCATION SEC. 17, T9S, R97W	ISOPENTANE	0.2
OWNER KOCH EXPLORATION CO., LLC	CYCLOPENTANE	
COMPLETED930112	HEXANES PLUS	0.3
SAMPLED010828_	NITROGEN	0.3
FORMATIONCRET-COZZETTE_CORCORAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE595	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
	CARBON DIOXIDE	1.0
WELLHEAD PRESSURE, PSIG580	HELIUM	0.04
	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 20806	COMPONENT, MOLE PCT	
STATE COLORADO	METHANE	92.8
COUNTY MESA	ETHANE	1.8
	PROPANE	0.5
	N-BUTANE	0.1
WELL NAMEHORSESHOE CANYON 3-29	ISOBUTANE	0.1
API0507708658_	N-PENTANE	TRACE
LOCATION SEC. 29, T9S, R97W	ISOPENTANE	TRACE
OWNER KOCH EXPLORATION CO., LLC	CYCLOPENTANE	
COMPLETED921214	HEXANES PLUS	0.1
SAMPLED010827_	NITROGEN	0.4
FORMATIONCRET-COZZETTE, DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE595	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG300_	CARBON DIOXIDE	4.2
OPEN FLOW, MCFD	HELIUM	0.06
OPEN FLOW, MOFD	HEATING VALUE*	994
	SPECIFIC GRAVITY	0.614
SAMPLE 20822	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT METHANE	90.6
STATECOLORADO	•	90.6 3.4
STATECOLORADO_ COUNTY MESA_	METHANE	3.4
STATE COLORADO_ COUNTY MESA_ FIELD SHIRE GULCH_	METHANE	3.4
STATECOLORADO_ COUNTYMESA_ FIELDSHIRE GULCH_ WELL NAMEHORSESHOE CANYON 2-20_	METHANE ETHANE PROPANE	3.4 1.1 0.3
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 2-20 API 0507708645	METHANE ETHANE PROPANE N-BUTANE	3.4 1.1 0.3 0.2
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 2-20 API 0507708645	METHANE ETHANE PROPANE N-BUTANE	3.4 1.1 0.3 0.2 0.1
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 2-20 API 0507708645 LOCATION SEC. 20, T9S, R97W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	3.4 1.1 0.3 0.2 0.1
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 2-20 API 0507708645 LOCATION SEC. 20, T9S, R97W OWNER KOCH EXPLORATION CO. LLC	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.4 1.1 0.3 0.2 0.1
COLORADO	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	3.4 1.1 0.3 0.2 0.1 0.1
COLORADO	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.4 1.1 0.3 0.2 0.1 0.1
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 2-20 API 0507708645 LOCATION SEC. 20, T9S, R97W OWNER KOCH EXPLORATION CO. LLC COMPLETED 930222 SAMPLED 010828 FORMATION CRET-CZZT, CRCR, DKOT.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.4 1.1 0.3 0.2 0.1 0.1 0.1 0.5
COLORADO	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.4 1.1 0.3 0.2 0.1 0.1 0.1 0.5 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.4 1.1 0.3 0.2 0.1 0.1 0.1 0.5 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS OXYGEN ARGON HYDROGEN	3.4 1.1 0.3 0.2 0.1 0.1 0.5 0.0 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	3.4 1.1 0.3 0.2 0.1 0.1 0.5 0.0 0.0
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 2-20 API 0507708645 LOCATION SEC. 20, T9S, R97W OWNER KOCH EXPLORATION CO. LLC COMPLETED 930222 SAMPLED 010828 FORMATION CRET-CZZT, CRCR, DKOT	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	3.4 1.1 0.3 0.2 0.1 0.1 0.5 0.0 0.0 0.0 0.0 3.5

^{*} 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	
STATECOLORADO	METHANE	85.7
COUNTY MESA	ETHANE	3.0
FIELD SHIRE GULCH	PROPANĖ	0.1
WELL NAME HORSESHOE CANYON 1-21	N-BUTANE	0.2
	ISOBUTANE	0:
API	N-PENTANE	0.
LOCATION SEC. 21, T9S, R97W	ISOPENTANE	0.
OWNERKOCH EXPLORATION CO. LLC	CYCLOPENTANE	
COMPLETED 820630	HEXANES PLUS	0.4
SAMPLED010828	NITROGEN	0.9
FORMATIONCRET-CZZT, CRCR, DKOT	OXYGEN	0.0
GEOLOGIC PROVINCE CODE595	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 7744	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG 300	CARBON DIOXIDE	
OPEN FLOW, MCFD3463	HELIUM	0.09
	HEATING VALUE*	967
	SPECIFIC GRAVITY	0.677
SAMPLE 20802	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT METHANE	89.9
STATECOLORADO	•	
STATE COLORADO COUNTY MESA	METHANE	4.6
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH	METHANE	4.6
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 1-33	METHANE ETHANE PROPANE	4.6 1.7 0.4
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 1-33 API 0507708426	METHANE ETHANE PROPANE N-BUTANE	4.6 1.7 0.4 0.2
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 1-33 AP! 0507708426 LOCATION SEC. 33, T9S, R97W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.6 1.7 0.4 0.2 0.1
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 1-33 AP! 0507708426 LOCATION SEC. 33, T9S, R97W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.6 1.7 0.4 0.2 0.3
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 1-33 API 0507708426 LOCATION SEC. 33, T9S, R97W OWNER KOCH EXPLORATION CO., LLC	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.6 1.7 0.4 0.2 0.3
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 1-33 AP! 0507708426 LOCATION SEC. 33, T9S, R97W OWNER KOCH EXPLORATION CO. LLC COMPLETED 820201	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	4.6 1.7 0.4 0.3 0.3 0.3
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 1-33 API 0507708426 LOCATION SEC. 33, T9S, R97W OWNER KOCH EXPLORATION CO. LLC COMPLETED 820201 SAMPLED 010827	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.6 1.7 0.4 0.3 0.3 0.3
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 1-33 API 0507708426 LOCATION SEC, 33, T9S, R97W OWNER KOCH EXPLORATION CO. LLC COMPLETED 820201 SAMPLED 010827 FORMATION CRET-DAKOTA	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.6 0.2 0.2 0.3 0.3 0.3 0.3 0.5 0.5
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 1-33 AP! 0507708426 LOCATION SEC. 33. T9S. R97W OWNER KOCH EXPLORATION CO. LLC COMPLETED 820201 SAMPLED 010827 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.6 1.7 0.2 0.3 0.3 0.3 0.3 0.5 0.0 0.0
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 1-33 API 0507708426 LOCATION SEC. 33, T9S, R97W OWNER KOCH EXPLORATION CO. LLC COMPLETED 820201 SAMPLED 010827 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 595 TRUE VERTICAL DEPTH (FT) 7098	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.6 0.2 0.2 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 1-33 API 0507708426 LOCATION SEC. 33, T9S, R97W OWNER KOCH EXPLORATION CO. LLC COMPLETED 820201 SAMPLED 010827 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 595 TRUE VERTICAL DEPTH (FT) 7098 MEASURED DEPTH	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.6 0.2 0.3 0.3 0.3 0.5 0.5 0.6 0.0 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE***	4.6 0.2 0.3 0.3 0.3 0.5 0.6 0.6 0.6 0.6 0.6
STATE COLORADO COUNTY MESA FIELD SHIRE GULCH WELL NAME HORSESHOE CANYON 1-33 API 0507708426 LOCATION SEC. 33, T9S, R97W OWNER KOCH EXPLORATION CO. LLC COMPLETED 820201 SAMPLED 010827 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 595 TRUE VERTICAL DEPTH (FT) 7098 MEASURED DEPTH	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	4.6 0.2 0.3 0.3 0.3 0.5 0.6 0.6 0.6 0.6 0.6

^{*} CALCULATED GROSS 8TU PER CU FT, DRY, AT 80 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION OF H28 DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

∠∪ 0 ∪ 4	COMPONENT, MOLE PCT	
COLORADO	METHANE	85.8
	ETHANE	6.1
	PROPANE	3.1
······································	N-BUTANE	1.2
	ISOBUTANE	0.9
	N-PENTANE	0.3
	ISOPENTANE	0.5
KOCH EXPLORATION CO., LLC.	CYCLOPENTANE	
930301	HEXANES PLUS	0.4
010827	NITROGEN	0.3
CRET-DAKOTA	OXYGEN	0.0
ODE595	ARGON	0.0
(FT)7172	HYDROGEN	0.0
	HYDROGEN SULFIDE**	0.0
PSIG 430	CARBON DIOXIDE	1.2
	HELIUM	0.09
	HEATING VALUE*	1,176
	SPECIFIC GRAVITY	0.682
20809	COMPONENT, MOLE PCT	
COLORADO	METHANE	90.5
	ETHANE	4.0
	N-BUTANE	0.2
	ISOBUTANE	0.2
	N-PENTANE	TRACE
	ISOPENTANE	0.1
Y MOUNTAIN OPERATING CO., INC.		
810527	HEXANES PLUS	0.1
010828	NITROGEN	0.5
CRET-DAKOTA	OXYGEN	0.0
ODE595	ARGON	0.0
(FT)7687	HYDROGEN	TRACE
	HYDROGEN SULFIDE**	0.0
	HYDROGEN SULFIDE** CARBON DIOXIDE	
, ,	-	3.6 0.09
	Q10827 CRET-DAKOTA CODE	COLORADO METHANE MESA SHIRE GUICH HORSESHOE CANYON 2-29 0507708657 N-PENTANE SEC. 29. T9S. R97W KOCH EXPLORATION CO., LLC. 930301 HEXANES PLUS 010827 CRET-DAKOTA CODE 595 ARGON (FT) 7172 PSIG 430 2106 HEATING VALUE* SPECIFIC GRAVITY 20809 COMPONENT, MOLE PCT METHANE PROPANE HEATING METHANE ETHANE PROPANE HEATINE SPECIFIC GRAVITY PROPANE NICHOLS 2-26 0507708332 N-PENTANE SPECIFIC SPENTANE SP

^{*} 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	20795	COMPONENT, MOLE PCT	
QTATE	COLORADO	METHANE	93.2
	MESA	ETHANE	0.9
		PROPANE	0.1
	SHIRE GULCH	N-BUTANE	TRACE
	BLAIR NO. 1	ISOBUTANE	TRACE
	0507708156	N-PENTANE	0.0
	SEC. 1, T10S, R97W	ISOPENTANE	TRACE
OWNERROCKY N	MOUNTAIN OPERATING CO., INC.	CYCLOPENTANE	
COMPLETED	790502	HEXANES PLUS	TRACE
SAMPLED	010827	NITROGEN	
FORMATION	CRET-DAKOTA, FRONTIER	OXYGEN	0.0
GEOLOGIC PROVINCE COD	DE595	ARGON	0.0
TRUE VERTICAL DEPTH (F1	7412	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PS	siG0	CARBON DIOXIDE	4.0
•	230	HELIUM	
		HEATING VALUE*	965
		SPECIFIC GRAVITY	0.605
SAMPLE	20813	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT	95.5
STATE	COLORADO	•	
STATE	COLORADO MESA	METHANE	1,5
STATE COUNTY FIELD	COLORADO MESA BRONCO FLATS	METHANE	1,5 0.1
STATE COUNTY FIELD WELL NAME	COLORADO MESA BRONCO FLATS WAGON TRAIL NO. 1-3	METHANE ETHANE PROPANE	1,5 0.1 TRACE
STATE COUNTY FIELD WELL NAME API	COLORADO MESA BRONCO FLATS WAGON TRAIL NO. 1-3 0507708672	METHANE ETHANE PROPANE N-BUTANE	1.5 0.1 TRACE 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO MESA BRONCO FLATS WAGON TRAIL NO. 1-3 0507708672 SEC. 3, T9S, R98W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	1.5 0.1 TRACE 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	COLORADO MESA BRONCO FLATS WAGON TRAIL NO. 1-3 0507708672 SEC. 3, T9S, R98W. MARALEX RESOURCES, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	1,5 0.1 TRACE 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	COLORADO MESA BRONCO FLATS WAGON TRAIL NO. 1-3 0507708672 SEC. 3, T9S, R98W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.5 0.1 TRACE 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	COLORADO MESA BRONCO FLATS WAGON TRAIL NO. 1-3 0507708672 SEC. 3, T9S, R98W. MARALEX RESOURCES, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.5 0.1 TRACE 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	COLORADO MESA BRONCO FLATS WAGON TRAIL NO. 1-3 0507708672 SEC. 3, T9S, R98W MARALEX RESOURCES, INC. 950511	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.5 0.1 TRACE 0.1 TRACE TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	COLORADO MESA BRONCO FLATS WAGON TRAIL NO. 1-3 0507708672 SEC. 3, T9S, R98W MARALEX RESOURCES, INC. 950511 010828	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.5 0.1 TRACE 0.1 TRACE TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD	COLORADO MESA BRONCO FLATS WAGON TRAIL NO. 1-3 0507708672 SEC. 3, T9S, R98W MARALEX RESOURCES, INC. 950511 010828 CRET-MESAVERDE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.5 0.1 TRACE 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD	COLORADO MESA BRONCO FLATS WAGON TRAIL NO. 1-3 0507708672 SEC. 3, T9S, R98W MARALEX RESOURCES, INC. 950511 010828 CRET-MESAVERDE DE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	1.5 0.1 TRACE 0.1 TRACE TRACE 0.1 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FI	COLORADO MESA BRONCO FLATS WAGON TRAIL NO. 1-3 0507708672 SEC. 3, T9S, R98W MARALEX RESOURCES, INC. 950511 010828 CRET-MESAVERDE DE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE*** CARBON DIOXIDE	1.5 0.1 TRACE 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FI MEASURED DEPTH WELLHEAD PRESSURE, PS	COLORADO MESA BRONCO FLATS WAGON TRAIL NO. 1-3 0507708672 SEC. 3, T9S, R98W MARALEX RESOURCES, INC. 950511 010828 CRET-MESAVERDE DE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	1.5 0.1 TRACE 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FI MEASURED DEPTH WELLHEAD PRESSURE, PS	COLORADO MESA BRONCO FLATS WAGON TRAIL NO. 1-3 0507708672 SEC. 3, T9S, R98W MARALEX RESOURCES, INC. 950511 010828 CRET-MESAVERDE DE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE*** CARBON DIOXIDE	1.5. 0.1 TRACE 0.1 TRACE TRACE TRACE 0.1 0.0 0.0 0.0 0.0 0.0 1.002

^{*} 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 COLORADO	METHANE 85.8
COUNTY MES/	ETHANE 6.1
FIELD SHIRE GULCH	PROPANE3.1
	N-BUTANE1_2
WELL NAME HORSESHOE CANYON 2-29	130801ANE
API 050770865	N-PENTANEU3
LOCATION SEC. 29, T9S, R97W	100. 2141. 1142
OWNER KOCH EXPLORATION CO. LLC	C. CYCLOPENTANE
COMPLETED 93030	
SAMPLED	
FORMATIONCRET-MESAVERDE	
GEOLOGIC PROVINCE CODE59	
TRUE VERTICAL DEPTH (FT)250i	
MEASURED DEPTH	HYDROGEN SULFIDE**0.0
WELLHEAD PRESSURE, PSIG135	CARBON DIOXIDE1.2
OPEN FLOW, MCFD105	HELIUM
0. 2.7. 2077, 770. 0	HEATING VALUE*1.176
	SPECIFIC GRAVITY
SAMPLE 20735	COMPONENT, MOLE PCT
STATE KANSAS	S METHANE 83.1
COUNTY BARBEE	ETHANE 3.7
FIELD MEDICINE LODGE-BOGGS	PROPANE21
WELL NAME RICKE NO.	N-BUTANEO.
	ISOBUTANE0.3
	N-PENTANE 0.2
LOCATION SEC. 29, T33S, R13W	Y. ISOPENTANE 0.2
LOCATION SEC. 29, T33S, R13V OWNER CLARK EXPLORATION CO	Y ISOPENTANE 0.2 CYCLOPENTANE
LOCATION SEC. 29, T33S, R13M OWNER CLARK EXPLORATION CO COMPLETED 000229	Y_ ISOPENTANE 0.2 Q CYCLOPENTANE
LOCATION SEC. 29, T33S, R13W OWNER CLARK EXPLORATION CO COMPLETED 000221 SAMPLED 01071:	Y ISOPENTANE 0.2 0 CYCLOPENTANE
LOCATION SEC. 29, T33S, R13W OWNER CLARK EXPLORATION CO COMPLETED 000221 SAMPLED 01071:	V. ISOPENTANE 0.2 D. CYCLOPENTANE — 9. HEXANES PLUS 0.3 2. NITROGEN 9.1 E. OXYGEN 0.0
LOCATION SEC. 29, T33S, R13W OWNER CLARK EXPLORATION CO COMPLETED 000229 SAMPLED 010713 FORMATION PENN-SNYDERVILLE	V. ISOPENTANE 0.2 D. CYCLOPENTANE 9. HEXANES PLUS 0.3 2. NITROGEN 9.1 E OXYGEN 0.0 5. ARGON 0.0
LOCATION SEC. 29, T33S, R13M DWNER CLARK EXPLORATION CO COMPLETED 000221 SAMPLED 01071: FORMATION PENN-SNYDERVILLE GEOLOGIC PROVINCE CODE 375	SOPENTANE
LOCATION SEC. 29, T33S, R13W OWNER CLARK EXPLORATION CO COMPLETED 00022: SAMPLED 01071: FORMATION PENN-SNYDERVILLE GEOLOGIC PROVINCE CODE 379 TRUE VERTICAL DEPTH (FT) 3999	SOPENTANE
LOCATION SEC. 29, T33S, R13M OWNER CLARK EXPLORATION CO COMPLETED 000221 SAMPLED 010711 FORMATION PENN-SNYDERVILLE GEOLOGIC PROVINCE CODE 371	SOPENTANE
LOCATION SEC. 29, T33S, R13M OWNER CLARK EXPLORATION CO COMPLETED 000229 SAMPLED 010713 FORMATION PENN-SNYDERVILLE GEOLOGIC PROVINCE CODE 379 TRUE VERTICAL DEPTH (FT) 3999 MEASURED DEPTH	SOPENTANE

^{*} 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	20405	COMPONENT MOLE PCT	
STATE	MANGAG	METHANE	71.5
		ETHANE	6.4
COUNTY		PROPANE	3.4
FIELD		N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION	SEC. 6, T26S, R34W	ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	_
COMPLETED	960423	HEXANES PLUS	0.2
SAMPLED	000815	NITROGEN	16.1
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	2668	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.41
OFEN FLOW, WICFD		HEATING VALUE*	1,006
		SPECIFIC GRAVITY	0.721
SAMPLE	20406	COMPONENT, MOLE PCT	
OTATE	(AROAG	METHANE	71.5
STATE		ETHANE	5.9
COUNTY	FINNEY	PROPANE	
FIELD			3.1
	HUGOTON	N-BUTANE	
WELL NAME			0.9
	JONES 6-2	N-BUTANE	0.9
API	JONES 6-2 1505521506	N-BUTANE	0.9 0.3 0.2
API	JONES 6-2 1505521506 SEC. 29, T26S, R34W	N-BUTANE ISOBUTANE N-PENTANE	0.9 0.3 0.2 0.2
APILOCATION OWNER	JONES 6-2 1505521506 SEC. 29. T26S. R34W CIMAREX ENERGY CO.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.9 0.3 0.2 0.2
APILOCATION OWNER	JONES 6-2 1505521506 SEC. 29, T26S, R34W CIMAREX ENERGY CO. 970304	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.9 0.3 0.2 0.2
API LOCATION OWNER COMPLETED SAMPLED	JONES 6-2 1505521506 SEC. 29, T26S, R34W CIMAREX ENERGY CO. 970304 000815	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.9 0.3 0.2 0.2
API	JONES 6-2 1505521506 SEC. 29, T26S, R34W CIMAREX ENERGY CO. 970304 000815 PERM-CHASE GROUP	N-BUTANE	0.9 0.3 0.2 0.2
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	JONES 6-2 1505521506 SEC. 29. T26S. R34W CIMAREX ENERGY CO. 970304 000815 PERM-CHASE GROUP 360	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.9 0.3 0.2 0.2
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	JONES 6-2 1505521506 SEC. 29. T26S. R34W CIMAREX ENERGY CO. 970304 000815 PERM-CHASE GROUP 360. 2726	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.9 0.3 0.2 0.2 0.2 17.2 0.0 0.1
API	JONES 6-2 1505521506 SEC. 29, T26S, R34W CIMAREX ENERGY CO. 970304 000815 PERM-CHASE GROUP 360 2726	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.9 0.3 0.2 0.2 0.2 17.2 0.0 0.1 0.0
API	JONES 6-2 1505521506 SEC. 29, T26S, R34W CIMAREX ENERGY CO. 970304 000815 PERM-CHASE GROUP 360 2726	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.9 0.3 0.2 0.2
FORMATION	JONES 6-2 1505521506 SEC. 29, T26S, R34W CIMAREX ENERGY CO. 970304 000815 PERM-CHASE GROUP 360 2726	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.9 0.3 0.2 0.2 0.2 17.2 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 20004	COMPONENT, MOLE PCT	
STATE KANSAS	METHANE	61.2
	ETHANE	4.7
COUNTY FINNEY	PROPANE	2.5
FIELD HUGOTON	N-BUTANE	0.7
WELL NAMEJACKSON, ALVIN NO. 2-33	ISOBUTANE	0.3
API1505521564	N-PENTANE	0.1
LOCATION SEC. 33, T22S, R32W	SOPENTANE	0.1
OWNERCROSS TIMBERS OPERATING CO.	CYCLOPENTANE	
COMPLETED 970829	HEXANES PLUS	0.1
SAMPLED 980127	NITROGEN	29.5
FORMATION PERM-CHASE GROUP	OXYGEN	_0.0
GEOLOGIC PROVINCE CODE	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	HYDROGENT	RACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG70	CARBON DIOXIDE	0_1
OPEN FLOW, MCFD 406	HELIUM	0.6
OPEN FLOW, MICED	HEATING VALUE*	817
	SPECIFIC GRAVITY	0.744
SAMPLE 20404	COMPONENT, MOLE PCT	
STATEKANSAS_	METHANE	71.5
COUNTY FINNEY	ETHANE	6.3
FIELD PANOMA	PROPANE	3.4
	N-BUTANE	1.0
WELL NAMECARLTON B-1	ISOBUTANE	0.4
API1505520270	N-PENTANE	0.2
LOCATION SEC. 6, T26S, R34W	ISOPENTANE	0.2
OWNERCIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.2
SAMPLED	NITROGEN	_16.3
FORMATION PERM-COUNCIL GROVE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE360_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	HYDROGENT	
MEASURED DEPTH	HYDROGEN SULFIDE**	
	CARBON DIOXIDET	
WELLHEAD PRESSURE, PSIG		0.42
WELLHEAD PRESSURE, PSIG	HELIUM	17.71
WELLHEAD PRESSURE, PSIG	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	20407	COMPONENT, MOLE PCT	
STATE	KVNGVG	METHANE	70.9
	FINNEY	ETHANE	6.0
FIELD		PROPANE	3.3
		N-BUTANE	0.9
WELL NAME		ISOBUTANE	0.3
API	1505520304	N-PENTANE	
LOCATION		ISOPENTANE	0.2
	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	780726	HEXANES PLUS	0.2
SAMPLED	000817	NITROGEN	17.6
FORMATION	PERM-COUNCIL GROVE	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)	2891	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
,		HEATING VALUE*	
		SPECIFIC GRAVITY	
SAMPLE	20288	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	73.0
COUNTY	GRANT	ETHANE	6.5
FIELD		PROPANE	
		N-BUTANE	1.0
WELLNAME	MEYERS 2-2		
	MEYERS 2-2	ISOBUTANE	0.4
API	1506720511	ISOBUTANE	0.4
API	1506720511 SEC. 17. T27S, R35W	ISOBUTANEISOPENTANE	0.4 0.2 0.2
API LOCATION OWNER	1506720511 SEC. 17. T27S, R35W SAMEDAN OIL CORP.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.4 0.2 0.2
API LOCATION OWNER COMPLETED	1506720511 SEC. 17. T27S, R35W SAMEDAN OIL CORP. 780119	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.4 0.2 0.2
API LOCATION OWNER COMPLETED SAMPLED	1506720511 SEC. 17. T27S, R35W SAMEDAN OIL CORP. 780119 000612	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.4 0.2 0.2
API LOCATION OWNER COMPLETED SAMPLED FORMATION	1506720511 SEC. 17. T27S, R35W SAMEDAN OIL CORP. 780119 000612 PERM-COUNCIL GROVE	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.4 0.2 0.2 0.2 14.6
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	1506720511 SEC. 17. T27S, R35W SAMEDAN OIL CORP. 780119 000612 PERM-COUNCIL GROVE 360	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.4 0.2 0.2
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	1506720511 SEC. 17. T27S, R35W SAMEDAN OIL CORP. 780119 000612 PERM-COUNCIL GROVE 360 2946	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.4 0.2 0.2 0.2 14.6 0.1
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	1506720511 SEC. 17. T27S, R35W SAMEDAN OIL CORP. 780119 000612 PERM-COUNCIL GROVE 360 2946	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.4 0.2 0.2 0.2 14.6 0.1 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	1506720511 SEC. 17. T27S, R35W SAMEDAN OIL CORP. 780119 000612 PERM-COUNCIL GROVE 360 2946	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE*** CARBON DIOXIDE	0.4 0.2 0.2 0.2 14.6 0.1 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	1506720511 SEC. 17. T27S, R35W SAMEDAN OIL CORP. 780119 000612 PERM-COUNCIL GROVE 360 2946	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.4 0.2 0.2 0.2 14.6 0.1 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	20287	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	72.9
		ETHANE	6.5
COUNTY		PROPANE	3.4
FIELD		N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION	SEC. 9, T27S, R35W	ISOPENTANE	0.2
OWNER	SAMEDAN OIL CORP.	CYCLOPENTANE	
COMPLETED	791213	HEXANES PLUS	0.2
SAMPLED	000612	NITROGEN	14.6
FORMATION	PERM-COUNCIL GROVE	OXYGEN	0.1
GEOLOGIC PROVINCE CODE	360	ARGON	0,0
TRUE VERTICAL DEPTH (FT)	2840	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	0.42
OPEN PLOW, MOI D	42.00	HEATING VALUE*	1,020
		SPECIFIC GRAVITY	0.714
SAMPLE	20437	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	64.8
COUNTY	_	ETHANE	5.1
		PROPANE	2.7
FIELD		N-BUTANE	8.0
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.2
LOCATION		ISOPENTANE	0.1
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	980414	HEXANES PLUS	0.1
SAMPLED	001107	NITROGEN	23.3
FORMATION	PERM-CHASE GROUP	OXYGEN	2.2
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2662	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	0.36
O1 E141 COVV, WIOFU		HEATING VALUE*	
		SPECIFIC GRAVITY	

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

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

SAMPLE	20444	COMPONENT, MOLE PCT	
STATE	KVNGVG	METHANE	70.7
COUNTY		ETHANE	6.4
		PROPANE	3.8
FIELD		N-BUTANE	1.3
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.3
LOCATION		ISOPENTANE	0.3
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	970902	HEXANES PLUS	0.3
SAMPLED	001107	NITROGEN	16.0
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	2694	HYDROGEN	0.0
MEASURED DEPTH	· · · · · · · · · · · · · · · · · · ·	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _	137	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	0.38
		HEATING VALUE*	•
		SPECIFIC GRAVITY	0.73
SAMPLE	20442	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	71.9
COUNTY		ETHANE	5.8
		PROPANE	3.0
FIELD		N-BUTANE	3.0
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.3
LOCATION	SEC. 4, T27S, R34W	ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
		CYCLOPENTANE	
COMPLETED	480116		0.2
COMPLETED	480116 001107	HEXANES PLUS	0.2
COMPLETEDSAMPLEDFORMATION	480116 001107 PERM-CHASE GROUP	HEXANES PLUS	0.2 17.1 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	480116 001107 PERM-CHASE GROUP 360	HEXANES PLUS NITROGEN OXYGEN	0.2 17.1 0.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	480116 001107 PERM-CHASE GROUP 360. 2740.	HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 17.1 0.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	480116 001107 PERM-CHASE GROUP 360 2740	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.2 17.1 0.0 TRACE 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	480116 001107 PERM-CHASE GROUP 	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.2 17.1 0.0 TRACE 0.0 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	480116 001107 PERM-CHASE GROUP 	HEXANES PLUS	0.2 17.1 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	20443	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	71.9
COUNTY		ETHANE	5.8
		PROPANE	3.1
FIELD		N-BUTANE	0.9
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.2
LOCATION		ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	970602	HEXANES PLUS	0.2
SAMPLED	001107	NITROGEN	17.0
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	2695	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	129	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	
	**************************************	HEATING VALUE*	
		SPECIFIC GRAVITY	0.712
SAMPLE	20440	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	71.8
	- AAINDAU	ETHANE	
COONT	MACKELL	E 11 1/7/4E	5.8
EIEI D	HASKELL	PROPANE	
	HUGOTON		3.1
WELL NAME	HUGOTON JONES 12-2	PROPANE	3.1
WELL NAME	HUGOTON JONES 12-2 1508120758	PROPANEN-BUTANE	3.1 0.9 0.4
WELL NAME	HUGOTON JONES 12-2 1508120758	PROPANEN-BUTANEISOBUTANE	3.1 0.9 0.4 0.2
WELL NAMEAPILOCATION	HUGOTON JONES 12-2 1508120758 SEC. 10, T27S, R34W	PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.1 0.9 0.4 0.2 0.2
WELL NAME	HUGOTON JONES 12-2 1508120758 SEC. 10, T27S, R34W CIMAREX ENERGY CO.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.1 0.9 0.4 0.2 0.2
WELL NAME	HUGOTON JONES 12-2 1508120758 SEC. 10, T27S, R34W CIMAREX ENERGY CO. 930413	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.1 0.9 0.4 0.2 0.2
WELL NAME	HUGOTON JONES 12-2 1508120758 SEC. 10, T27S, R34W CIMAREX ENERGY CO. 930413 001107	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.1 0.9 0.4 0.2 0.2 0.2
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	HUGOTON JONES 12-2 1508120758 SEC. 10, T27S, R34W CIMAREX ENERGY CO. 930413 001107 PERM-CHASE GROUP	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.1 0.9 0.4 0.2 0.2
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	HUGOTON. JONES 12-2 1508120758 SEC. 10. T27S, R34W CIMAREX ENERGY CO. 930413 001107 PERM-CHASE GROUP 360	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.1 0.9 0.4 0.2 0.2
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	HUGOTON JONES 12-2 1508120758 SEC. 10, T27S, R34W CIMAREX ENERGY CO. 930413 001107 PERM-CHASE GROUP 360 2701	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.1 0.9 0.4 0.2 0.2 17.0 0.0 TRACE
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	HUGOTON JONES 12-2 1508120758 SEC. 10, T27S, R34W CIMAREX ENERGY CO. 930413 001107 PERM-CHASE GROUP 360 2701	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	3.1 0.9 0.4 0.2 0.2 17.0 0.0 TRACE 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	HUGOTON. JONES 12-2 1508120758 SEC. 10, T27S, R34W CIMAREX ENERGY CO. 930413 001107 PERM-CHASE GROUP 360 2701	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	3.1 0.9 0.4 0.2 0.2 17.0 0.0 TRACE 0.0 0.0
FIELD	HUGOTON. JONES 12-2 1508120758 SEC. 10, T27S, R34W CIMAREX ENERGY CO. 930413 001107 PERM-CHASE GROUP 360 2701	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	3.1 0.9 0.4 0.2 0.2 17.0 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	20436	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	72.2
COUNTY		ETHANE	5.6
	HUGOTON	PROPANE	2.9
		N-BUTANE	0.8
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.2
LOCATION		ISOPENTANE	0.1
OWNER		CYCLOPENTANE	
COMPLETED	490831	HEXANES PLUS	0.1
SAMPLED	001107	NITROGEN	
FORMATION	PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)	2766	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	420	CARBON DIOXIDE	
OPEN FLOW, MCFD	333	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20446	COMPONENT, MOLE PCT	
OAWII CL	20440		70.0
STATE	KANSAS	METHANE	
COUNTY	HASKELL	ETHANEPROPANE	
FIELD	HUGOTON	N-BUTANE	
WELL NAME	GOVERNMENT 3-2	ISOBUTANE	
API	1508121007	N-PENTANE	
LOCATION	SEC 12 T27S, R34W	ISOPENTANE	
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
		CYCLOPENTANE HEXANES PLUS	
COMPLETED	990726	CYCLOPENTANE HEXANES PLUS NITROGEN	0.1
COMPLETED	990726 001107	HEXANES PLUS	0.1 17.5
COMPLETEDSAMPLEDFORMATION	990726 001107 PERM-CHASE GROUP	HEXANES PLUS	0.1 17.5 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	990726 001107 PERM-CHASE GROUP 360	HEXANES PLUS NITROGEN OXYGEN	0.1 17.5 0.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	990726 001107 PERM-CHASE GROUP 360 2762	HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 17.5 0.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	990726 001107 PERM-CHASE GROUP 360 2762	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.1 17.5 0.0 TRACE 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	990726 001107 PERM-CHASE GROUP 360 2762	HEXANES PLUS	0.1 17.5 0.0 TRACE 0.0 0.0 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	990726 001107 PERM-CHASE GROUP 360 2762	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 17.5 0.0 TRACE 0.0 0.0 TRACE

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

СТ	COMPONENT, MOLE PCT	20447	SAMPLE
71.9	METHANE	KANSAS	STATE
5.4	ETHANE		COUNTY
2.8	PROPANE		
0.8	N-BUTANE		FIELD
0.3	ISOBUTANE		WELL NAME
0.2	N-PENTANE		API
0.1	ISOPENTANE		LOCATION
	CYCLOPENTANE		OWNER
	HEXANES PLUS	490727	COMPLETED
	NITROGEN	001107	SAMPLED
	OXYGEN	PERM-CHASE GROUP	FORMATION
TRACE	ARGON	360	GEOLOGIC PROVINCE CODE
	HYDROGEN	2770	TRUE VERTICAL DEPTH (FT)
	HYDROGEN SULFIDE**		MEASURED DEPTH
	CARBON DIOXIDE		WELLHEAD PRESSURE, PSIG
	HELIUM	172	OPEN FLOW, MCFD
	HEATING VALUE*		
CT	COMPONENT, MOLE PCT	20439	SAMPLE
68.9	METHANE	MANICAC	DTATE
5.6	ETHANE		STATE
2.9	PROPANE		COUNTY
3.0	N-BUTANE		FIELD
0.3	ISOBUTANE		WELL NAME
0.2	N-PENTANE	1508120133	API
0.1	ISOPENTANE		LOCATION
	CYCLOPENTANE	CIMAREX ENERGY CO.	OWNER
	HEXANES PLUS	781012	COMPLETED
	NITROGEN	001107	SAMPLED
	OXYGEN	PERM-COUNCIL GROVE	FORMATION
	ARGON	360	GEOLOGIC PROVINCE CODE
	HYDROGEN	2858	TRUE VERTICAL DEPTH (FT)
	HYDROGEN SULFIDE**		MEASURED DEPTH
	CARBON DIOXIDE	····	WELLHEAD PRESSURE, PSIG
	HELIUM		
	HEATING VALUE*		
			OPEN FLOW, MCFD

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 80 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY TO 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	20438	COMPONENT, MOLE PCT	
STATE	VANCAC	METHANE	72.0
COUNTY		ETHANE	5.7
		PROPANE	
FIELD		N-BUTANE	0.8
WELL NAME		ISOBUTANE	0.3
API	1508120157	N-PENTANE	0.2
LOCATION	SEC. 2, T27S, R34W	ISOPENTANE	0.1
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	790227	HEXANES PLUS	0.1
SAMPLED	001107	NITROGEN	17.2
FORMATION	PERM-COUNCIL GROVE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	TRACE
		HELIUM	0.43
OPEN FLOW, MCFD	109	HEATING VALUE*	962
		SPECIFIC GRAVITY	0.709
SAMPLE	20441	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	71.7
COUNTY		ETHANE	5.9
		PROPANE	3.1
FIELD		N-BUTANE	0.9
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION	SEC. 7, T27S, R34W	ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	771215	HEXANES PLUS	0.2
SAMPLED	001107	NITROGEN	17.1
FORMATION	PERM-COUNCIL GROVE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	0.44
<フにもフすぎもと300 . IVIL.2門と3	213	LIEATING VALUE	074
		HEATING VALUE*	9/1

^{*}CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY TO 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	20445	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	72.0
	HASKELL	ETHANE	5.5
	PANOMA	PROPANE	2.9
		N-BUTANE	0.8
	GOVERNMENT A-3	ISOBUTANE	0.3
API	1508120175	N-PENTANE	0.2
LOCATION	SEC. 12, T27S, R34W	ISOPENTANE	0.1
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	800318	HEXANES PLUS	0.1
SAMPLED	001107	NITROGEN	17.5
FORMATION	PERM-COUNCIL GROVE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	2922	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	TRACE
	294	HELIUM	0.48
OPEN PLOW, MOPD	234	HEATING VALUE*	954
		SPECIFIC GRAVITY	0.707
SAMPLE	50574	COMPONENT, MOLE PCT	
CTATE	KANSAS	METHANE	77.4
		ETHANE	5.5
	HASKELL	PROPANE	3.9
	EUBANK S	N-BUTANE	
WELL NAME	ADAMS 'L' NO. 2	ISOBUTANE	0.9
API	1508121093	N-PENTANE	0.8
LOCATION	SEC, 33, T29S, R34W	ISOPENTANE	0.7
OWNERAN	IADARKO PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	970221	HEXANES PLUS	2.0
SAMPLED	970911	NITROGEN	5.9
FORMATION	PENN-MORROW	OXYGEN	***
	360	ARGON	
	5296	HYDROGEN	4+46
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
MEDOCINED DEC 111		CARBON DIOXIDE	0.4
WELLHEAD BRESSLIRE REIC			
WELLHEAD PRESSURE, PSIG		HELIUM	0.63
	77.10	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	20060	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	71.7
COUNTY		ETHANE	6.5
FIELD	-	PROPANE	3.8
		N-BUTANE	1.2
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION	SEC. 19, T25S, R36W	ISOPENTANE	0.3
OWNER	OSBORN HEIRS CO.	CYCLOPENTANE	
COMPLETED	941020	HEXANES PLUS	0.3
SAMPLED	000413	NITROGEN	15.4
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	2586	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _	39	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.37
Of Cit (2017, MOI D	303	HEATING VALUE*	1.023
		SPECIFIC GRAVITY	0.725
SAMPLE	20059	COMPONENT, MOLE PCT	
STATE	KVN6V6	METHANE	72.5
COUNTY		ETHANE	6.6
		PROPANE	3.8
FIELD		N-BUTANE	1,2
WELL NAME	JOHNSON 4-19	ISOBUTANE	
ΔP!		100001744E	<u>U.4</u>
73 1	1509300320	N-PENTANE	
			0.2
LOCATION	SEC. 19, T25S, R36W	N-PENTANE	0.2
LOCATION	SEC. 19, T25S, R36W OSBORN HEIRS CO	N-PENTANE	0.2
LOCATIONOWNERCOMPLETED	SEC. 19, T25S, R36W OSBORN HEIRS CO. 481027	N-PENTANEISOPENTANE	0.2 0.3 0.3
LOCATION OWNER COMPLETED SAMPLED	SEC. 19, T25S, R36W OSBORN HEIRS CO. 481027 000413	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2 0.3 0.3 14.4
LOCATION OWNER COMPLETED SAMPLED FORMATION	SEC. 19, T25S, R36W OSBORN HEIRS CO. 481027 000413 PERM-CHASE GROUP	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.2 0.3
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	SEC. 19, T25S, R36W OSBORN HEIRS CO. 481027 000413 PERM-CHASE GROUP 360	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.2 0.3
LOCATION	SEC. 19, T25S, R36W OSBORN HEIRS CO. 481027 000413 PERM-CHASE GROUP 360. 2555	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.3 0.3 14.4 0.0 0.1
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SEC. 19, T25S, R36W OSBORN HEIRS CO. 481027 000413 PERM-CHASE GROUP 360. 2555	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.2 0.3 0.3 14.4 0.0 0.1 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SEC. 19, T25S, R36W OSBORN HEIRS CO. 481027 000413 PERM-CHASE GROUP 360 2555	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.2 0.3 0.3 14.4 0.0 0.1 0.0 0.0
LOCATION	SEC. 19, T25S, R36W OSBORN HEIRS CO. 481027 000413 PERM-CHASE GROUP 360 2555	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.2 0.3 0.3 14.4 0.0 0.1 0.0 0.0 TRACE

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

SI	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM EATING VALUE* PECIFIC GRAVITY	6.5 3.3 1.0 0.2 0.3 0.3 14.7 0.0 0.0 0.0 TRACE 0.39
SOUNTY	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM EATING VALUE* PECIFIC GRAVITY	3.5 1.0 0.2 0.3
HUGOTON TATE 4-1	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM EATING VALUE* PECIFIC GRAVITY	1.0 0.2 0.2 0.2 14.7 0.0 0.7 0.0 TRACE 0.38
VELL NAME	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM EATING VALUE* PECIFIC GRAVITY	0.4 0.3 0.2 14.7 0.0 0.0 0.0 TRACE 0.39
1509320911 150	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM EATING VALUE* PECIFIC GRAVITY	0.2 0.3 14.7 0.9 0.9 0.9 TRACE 0.39
OCATION	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM EATING VALUE* PECIFIC GRAVITY	0.3 14. 0.0 0.0 0.0 TRACE 0.39
WILLIAMS PRODUCTION RMT CO. COMPLETED	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM EATING VALUE* PECIFIC GRAVITY	0.2 14.7 0.0 0.0 0.0 TRACE 0.38
### STATE	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM EATING VALUE* PECIFIC GRAVITY	0.2 14.7 0.0 0.2 0.0 TRACE 0.39
### SAMPLED	NITROGEN	14.7 0.6 0.7 0.6 TRACE 0.36
PERM-CHASE GROUP SEOLOGIC PROVINCE CODE	OXYGEN	0.0 0.0 0.0 TRACE 0.39
SEOLOGIC PROVINCE CODE	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM EATING VALUE* PECIFIC GRAVITY	0.0 0.0 TRACE 0.39
RUE VERTICAL DEPTH (FT)	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM EATING VALUE* PECIFIC GRAVITY	0.0 TRACE 0.39 1.01
MEASURED DEPTH	HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM EATING VALUE* PECIFIC GRAVITY	0.0 TRACE 0.39 1.01
VELLHEAD PRESSURE, PSIG 157 OPEN FLOW, MCFD 766 H SI SAMPLE 20307 STATE KANSAS COUNTY KEARNY	CARBON DIOXIDE HELIUM EATING VALUE* PECIFIC GRAVITY	TRACI 0.3 1.01
STATE KANSAS COUNTY KEARNY	HELIUMEATING VALUE*PECIFIC GRAVITY	1.01
STATE KANSAS COUNTY KEARNY	EATING VALUE*PECIFIC GRAVITY	1,01
SAMPLE 20307 CONTACT KANSAS COUNTY KEARNY	PECIFIC GRAVITY	
SAMPLE 20307 CONTACT KANSAS COUNTY KEARNY		0.71
STATEKANSAS_ COUNTYKEARNY_	OMPONENT, MOLE PCT	
COUNTY KEARNY		
COUNTY KEARNY	METHANE	73.
	ETHANE	6.5
	PROPANE	3.
VELL NAMETATE 8-L	N-BUTANE	
	ISOBUTANE	0.
PI	N-PENTANE	0.
OCATION SEC. 23, T26S, R36W	ISOPENTANE	
WILLIAMS PRODUCTION RMT CO.	CYCLOPENTANE	
OMPLETED	HEXANES PLUS	
AMPLED	NITROGEN	
ORMATION PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE360	ARGON	
RUE VERTICAL DEPTH (FT)2762_	HYDROGEN	0.1
MEASURED DEPTH	HYDROGEN SULFIDE**	
VELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
DPEN FLOW MCFD 889	HELIUM	
H Si		1.01

^{*} 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

	COMPONENT, MOLE PCT	
STATEKANSAS	METHANE	72.6
COUNTY KEARNY	ETHANE	6.4
	PROPANE	3.4
FIELD HUGOTON	N-BUTANE	1.0
WELL NAME MASONIC HOME 2-1	ISOBUTANE	0.4
API1509321264	N-PENTANE	0.2
LOCATION SEC. 6, T26S, R35W	ISOPENTANE	0.2
OWNER WILLIAMS PRODUCTION RMT CO.	CYCLOPENTANE	
COMPLETED 930710	HEXANES PLUS	0.2
SAMPLED	NITROGEN	15.1
FORMATION PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE360	ARGON	0.1
TRUE VERTICAL DEPTH (FT) 2716.	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.716
SAMPLE 20303	COMPONENT, MOLE PCT	****
	•	
STATE KANSAS	METHANE	72.2
	METHANE	
COUNTY KEARNY		6.5
COUNTY KEARNY FIELD HUGOTON	ETHANE	6.5 3.6
COUNTY KEARNY FIELD HUGOTON WELL NAME TATE 3	ETHANE	6.5 3.6 1.1
COUNTY KEARNY FIELD HUGOTON WELL NAME TATE 3 API 1509300514	ETHANE PROPANE N-BUTANE	6.5 3.6 1.1 0.4
COUNTY KEARNY FIELD HUGOTON WELL NAME TATE 3 API 1509300514 LOCATION SEC. 13, T26S, R36W	ETHANE PROPANE N-BUTANE ISOBUTANE	6.5 3.6 1.1 0.4 0.3
COUNTY KEARNY FIELD HUGOTON WELL NAME TATE 3 API 1509300514 LOCATION SEC. 13, T26S, R36W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	6.5 3.6 1.1 0.4 0.3 0.2
COUNTY KEARNY FIELD HUGOTON WELL NAME TATE 3 API 1509300514 LOCATION SEC. 13, T26S, R36W OWNER WILLIAMS PRODUCTION RMT CO.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	6.5 3.6 1.1 0.4 0.3 0.2
COUNTY KEARNY FIELD HUGOTON WELL NAME TATE 3 API 1509300514 LOCATION SEC. 13. T26S, R36W OWNER WILLIAMS PRODUCTION RMT CO. COMPLETED 491019	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE	6.5 3.6 1.1 0.4 0.3 0.2
COUNTY KEARNY FIELD HUGOTON WELL NAME TATE 3 API 1509300514 LOCATION SEC. 13. T26S, R36W OWNER WILLIAMS PRODUCTION RMT CO. COMPLETED 491019 SAMPLED 000620	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	6.5 3.6 1.1 0.4 0.3 0.2 0.3 15.0
COUNTY KEARNY FIELD HUGOTON WELL NAME TATE 3 API 1509300514 LOCATION SEC. 13. T26S, R36W OWNER WILLIAMS PRODUCTION RMT CO. COMPLETED 491019 SAMPLED 000620 FORMATION PERM-CHASE GROUP	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	6.5 3.6 1.1 0.4 0.3 0.2 0.3 15.0
COUNTY KEARNY FIELD HUGOTON WELL NAME TATE 3 API 1509300514 LOCATION SEC. 13, T26S, R36W OWNER WILLIAMS PRODUCTION RMT CO. COMPLETED 491019 SAMPLED 000620 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 360	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	6.5 3.6 1.1 0.4 0.3 0.2 0.3 15.0 0.0 TRACE
COUNTY KEARNY FIELD HUGOTON WELL NAME TATE 3 API 1509300514 LOCATION SEC. 13, T26S, R36W OWNER WILLIAMS PRODUCTION RMT CO. COMPLETED 491019 SAMPLED 000620 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2632	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	6.5 3.6 1.1 0.4 0.3 0.2 0.3 15.0 0.0 TRACE
COUNTY KEARNY FIELD HUGOTON WELL NAME TATE 3 API 1509300514 LOCATION SEC. 13. T26S, R36W OWNER WILLIAMS PRODUCTION RMT CO. COMPLETED 491019 SAMPLED 000620 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2632 MEASURED DEPTH	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	6.5 3.6 1.1 0.4 0.3 0.2 0.3 15.0 0.0 TRACE
COUNTY KEARNY FIELD HUGOTON WELL NAME TATE 3 API 1509300514 LOCATION SEC. 13. T26S, R36W OWNER WILLIAMS PRODUCTION RMT CO. COMPLETED 491019 SAMPLED 000620 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2632 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 402	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	6.5 3.6 3.6 1.1 0.4 0.3 0.2 0.3 15.0 0.0 TRACE 0.0 TRACE 0.0 0.0 40
FIELD HUGOTON WELL NAME TATE 3 API 1509300514 LOCATION SEC. 13. T26S, R36W OWNER WILLIAMS PRODUCTION RMT CO. COMPLETED 491019	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	6.5 3.6 3.6 1.1 0.4 0.3 0.2 0.3 15.0 0.0 TRACE 0.0 TRACE 0.0 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 20308	COMPONENT, MOLE PCT
STATE KANSAS	METHANE73.0
COUNTY KEARNY	ETHANE6.5
	PROPANE3,3
FIELD HUGOTON	N-BUTANE1,0
WELL NAME TATE 8	ISOBUTANE0.4
API1509300524	N-PENTANE0.2
LOCATION SEC. 23, T26S, R36W	ISOPENTANE0.2
OWNER WILLIAMS PRODUCTION RMT CO.	CYCLOPENTANE
COMPLETED	HEXANES PLUS0.2
SAMPLED000620_	NITROGEN 14.5
FORMATION PERM-CHASE GROUP	OXYGEN0.0
GEOLOGIC PROVINCE CODE	ARGON 0.1
TRUE VERTICAL DEPTH (FT) 2688	HYDROGEN0.0
MEASURED DEPTH	HYDROGEN SULFIDE** 0.0
WELLHEAD PRESSURE, PSIG 409	CARBON DIOXIDE TRACE
OPEN FLOW, MCFD2587.	HELIUM 0.40
Of EN 7 2011, MOI D	HEATING VALUE*1.02:
	SPECIFIC GRAVITY
SAMPLE 20302	COMPONENT, MOLE PCT
STATE KANSAS	METHANE72.5
COUNTY KEARNY	ETHANE64
	PROPANE3.2
FIELD HUGOTON	N-BUTANE1.0
WELL NAME MASONIC HOME 2	ISOBUTANE04
API	N-PENTANE0.2
LOCATION SEC. 6, T26S, R35W	ISOPENTANE0.
OWNER WILLIAMS PRODUCTION RMT CO.	CYCLOPENTANE
COMPLETED	HEXANES PLUS
SAMPLED	NITROGEN15.3
FORMATIONPERM-CHASE GROUP	OXYGEN0.0
GEOLOGIC PROVINCE CODE	ARGON0.
TRUE VERTICAL DEPTH (FT)	HYDROGEN0.0
MEASURED DEPTH	HYDROGEN SULFIDE** 0.0
WELLHEAD PRESSURE, PSIG 430	CARBON DIOXIDETRACE
	HELIUM0.40
OPEN FLOW, MCFD 7000	HEATING VALUE*1,009

^{*}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	20310	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	73.1
COUNTY		ETHANE	6.5
FIELD		PROPANE	3.3
		N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION		ISOPENTANE	0.2
OWNER WILLIA	AMS PRODUCTION RMT CO.	CYCLOPENTANE	
COMPLETED	900724	HEXANES PLUS	0.2
SAMPLED	000620	NITROGEN	14.6
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	2773	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	177	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	0.40
or Envisory, mor b	V. V.	HEATING VALUE*	
		SPECIFIC GRAVITY	0.713
SAMPLE	20282	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	72.4
COUNTY		ETHANE	6.7
FIELD		PROPANE	4.0
		N-BUTANE	1.1
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.3
LOCATION		ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	960728	HEXANES PLUS	0.3
SAMPLED	000612	NITROGEN	14.0
FORMATION	PERM-CHASE GROUP	OXYGEN	0.1
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2692	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	118	CARBON DIOXIDE	
		HELIUM	0.40
OPEN FLOW, MCFD	287		
OPEN FLOW, MCFD	287	HEATING VALUE*	1,046

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

SAMPLE 20300	COMPONENT, MOLE PCT
STATE KANSA:	METHANE 72.3
COUNTY KEARN	ETHANE 6.5
FIELD HUGOTOI	PROPANE3.6
	N-BUTANE1.0
WELL NAME MASONIC HOME 2:	ISOBU (ANE0.4
API150932126	N-PENTANE 0.2
LOCATION SEC. 6, T26S, R35V	TOOPEN TANK
OWNER WILLIAMS PRODUCTION RMT CO	CYCLOPENTANE
COMPLETED 93071	0. HEXANES PLUS0.2
SAMPLED	0 NITROGEN15.1
FORMATION PERM-CHASE GROUP	OXYGEN 0.0
GEOLOGIC PROVINCE CODE	O ARGON O.1
TRUE VERTICAL DEPTH (FT) 271	6 HYDROGEN
MEASURED DEPTH	HYDROGEN SULFIDE** 0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE TRACE
OPEN FLOW, MCFD	HELIUM0.40
OF ENT LOW, MICE D	HEATING VALUE*1,018
	SPECIFIC GRAVITY
SAMPLE 20306	COMPONENT, MOLE PCT
STATEKANSA	METHANE
COUNTY KEARN	ETHANE6.9
	PROPANE3.5
FIELD HUGOTOI	N-BUTANE1.
WELL NAME TATE	13000 TAINE
API150930051	14°FEIATAINE
LOCATION SEC. 11, T26S, R36V	V. ISOPENTANE0.3
OWNER WILLIAMS PRODUCTION RMT CO	CYCLOPENTANE
COMPLETED 49113	0. HEXANES PLUS
SAMPLED00062	Q NITROGEN14.8
FORMATION PERM-CHASE GROUP	OXYGEN
GEOLOGIC PROVINCE CODE36	0. ARGON0.
TRUE VERTICAL DEPTH (FT)	Z. HYDROGEN0.0
MEASURED DEPTH	HYDROGEN SUIL FIDE** 0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE TRACE
	HELIUM0.40
·	n
OPEN FLOW, MCFD	0. HEATING VALUE*1,023

^{&#}x27; 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	20298	COMPONENT, MOLE PCT	
	KANICAC	METHANE	72.7
		ETHANE	6.5
		PROPANE	3.3
		N-BUTANE	1.0
		ISOBUTANE	0.4
		N-PENTANE	0.2
· ·	SEC. 2, T26S, R36W	ISOPENTANE	0.2
WILL	AMS PRODUCTION RMT CO.	CYCLOPENTANE	
<u> </u>	471022	HEXANES PLUS	0.2
	000620	NITROGEN	15.1
l	PERM-CHASE GROUP	OXYGEN	
PROVINCE CODE _	360		
ICAL DEPTH (FT)	2720	HYDROGEN	0.0
DEPTH		HYDROGEN SULFIDE**	0.0
PRESSURE. PSIG	386	CARBON DIOXIDE	TRACE
		HELIUM	
, , , , ,	Mark	HEATING VALUE*	1.011
		SPECIFIC GRAVITY	0.714
SAMPLE	20299	COMPONENT, MOLE PCT	
	KANSAS	METHANE	72.6
		ETHANE	6.5
		PROPANE	3.3
		N-BUTANE	1.0
		ISOBUTANE	0.4
		N-PENTANE	0.2
	SEC. 6, T26S, R35W	ISOPENTANE	0.2
WILL	AMS PRODUCTION RMT CO.	CYCLOPENTANE	
·	620619	HEXANES PLUS	0.2
	000620	NITROGEN	15.2
l	PERM-CHASE GROUP	OXYGEN	0.0
PROVINCE CODE _	360	ARGON	0.1
CAL DEPTH (FT)	2688	HYDROGEN	0.0
DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	TRACE
	353		
PRESSURE, PSIG	353 13700	HELIUM	0.40
	WILLI WILLI PROVINCE CODE _ ICAL DEPTH (FT) _ DEPTH _ PRESSURE, PSIG _ V, MCFD _ SAMPLE WILLI PROVINCE CODE _ PROVINCE CODE _	KANSAS KEARNY HUGOTON MASONIC HOME 6 1509300501 SEC. 2, T26S, R36W WILLIAMS PRODUCTION RMT CO. 471022 000620 PERM-CHASE GROUP PROVINCE CODE 360 ICAL DEPTH (FT) 2720 DEPTH PRESSURE, PSIG 386	KANSAS KEARNY PROPANE

^{*} 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 20295	COMPONENT, MOLE PCT	
STATE KANSAS	METHANE	72.7
	ETHANE	6.5
COUNTY KEARNY	PROPANE	3.4
FIELD HUGOTON	N-BUTANE	1.0
WELL NAMELEE 6-L	ISOBUTANE	0.4
API1509320927	N-PENTANE	0.2
LOCATION SEC. 27, T25S, R36W	ISOPENTANE	0.2
OWNER WILLIAMS PRODUCTION RMT CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.2
SAMPLED000620_	NITROGEN	14.8
FORMATION PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE360_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG153.	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD 701	HELIUM	0.40
OPEN FLOW, MICFO	HEATING VALUE*	1,017
	SPECIFIC GRAVITY	0.715
SAMPLE 20331	COMPONENT, MOLE PCT	
STATEKANSAS_	METHANE	72.6
COUNTY KEARNY	ETHANE	6.7
	PROPANE	3.6
FIELD HUGOTON	N-BUTANE	1.1
WELL NAMEJOHNSON_3.	ISOBUTANE	0.4
API1509300319	N-PENTANE	0.3
LOCATION SEC. 18, T25S, R36W	ISOPENTANE	0.2
OWNER OSBORN HEIRS CO.	CYCLOPENTANE	
	HEXANES PLUS	0.2
COMPLETED		
	NITROGEN	14.5
SAMPLED 000620		
SAMPLED	NITROGEN	0.0
SAMPLED	NITROGEN	0.0
SAMPLED 000620 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2500	NITROGENOXYGENARGON	0.0 0.1 0.0
SAMPLED 000620 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2500 MEASURED DEPTH	NITROGENOXYGENARGONHYDROGEN	0.0 0.1 0.0 0.0
SAMPLED 000620 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2500 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 40	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.0 0.1 0.0 0.0 TRACE
COMPLETED 481103 SAMPLED 000620 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2500 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 40 OPEN FLOW, MCFD 40	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.1 0.0 0.0 TRACE 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	20272	COMPONENT, MOLE PCT	
STATE	KVNCVC	METHANE	72.0
		ETHANE	6.4
COUNTY		PROPANE	3.5
FIELD		N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
	1509300483	N-PENTANE	0.2
LOCATION		ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	***
COMPLETED	480116	HEXANES PLUS	0.2
SAMPLED	000612	NITROGEN	15.6
FORMATION	PERM-CHASE GROUP	OXYGEN	0.1
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2699	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	
Of LIVE LOW, MOI D		HEATING VALUE*	1.011
		SPECIFIC GRAVITY	0.718
SAMPLE	20275	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	72.1
COUNTY		ETHANE	6.4
FIELD		PROPANE	3.5
WELL NAME		N-BUTANE	1.0
		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION		ISOPENTANE	
OWNER		CYCLOPENTANE	
COMPLETED	480116	HEXANES PLUS	0.2
SAMPLED	000612	NITROGEN	15.6
FORMATION	PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2750	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	419	CARBON DIOXIDE	
OPEN FLOW, MCFD	79	HELIUM	
, +-=	-	HEATING VALUE*	1,007

^{*} 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	20274	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	72.1
COUNTY		ETHANE	6.5
FIELD	·	PROPANE	3.4
·	HUGOTON	N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION	SEC. 15, T26S, R35W	ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	980209	HEXANES PLUS	0.2
SAMPLED	000612	NITROGEN	15.4
FORMATION	PERM-CHASE GROUP	OXYGEN	0.1
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2676	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	•	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	0.41
OF ENT LOW, MOST D	134	HEATING VALUE*	1,012
		SPECIFIC GRAVITY	0.718
SAMPLE	20284	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	71.9
COUNTY		ETHANE	6.5
		PROPANE	3.5
FIELD		N-BUTANE	1.1
WELL NAME	, , ,	ISOBUTANE	0.4
API		N-PENTANE	0.3
LOCATION	SEC. 9, T26S, R35W	ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	450703	HEXANES PLUS	0.3
SAMPLED	000612	NITROGEN	15.4
FORMATION	PERM-CHASE GROUP	OXYGEN	TRACE
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2704	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	TRACE
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		HELIUM	0.41
OPEN ELOW MOED	183		
OPEN FLOW, MCFD	183_	HEATING VALUE*	1.019

^{*} 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	20276	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	72.2
COUNTY		ETHANE	6.4
		PROPANE	3.3
FIELD		N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION	SEC. 11, T26S, R35W	ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	480116	HEXANES PLUS	0.2
SAMPLED	000612	NITROGEN	15.6
FORMATION	PERM-CHASE GROUP	OXYGEN	0.1
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2742	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	412	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	
or Err (2011, mor b		HEATING VALUE*	1,006
		SPECIFIC GRAVITY	0.716
SAMPLE	20278	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	72.2
COUNTY	KEARNY	ETHANE	6.5
		PROPANE	3.3
	HUGOTON	N-BUTANE	1.0
WELL NAME	CB & L 1-2	ISOBUTANE	
API	1509321557	N-PENTANE	
API		N-PENTANE	0.2
LOCATION	SEC. 14, T26S, R35W		0.2
	SEC. 14, T26S, R35W CIMAREX ENERGY CO.	ISOPENTANE	0.2
LOCATION	SEC. 14, T26S, R35W CIMAREX ENERGY CO. 970302	ISOPENTANE	0.2
LOCATION OWNER COMPLETED SAMPLED	SEC. 14, T26S, R35W CIMAREX ENERGY CO. 970302 000612	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2 0.2 0.2 15.5
LOCATION OWNER COMPLETED SAMPLED FORMATION	SEC. 14, T26S, R35W CIMAREX ENERGY CO. 970302 000612 PERM-CHASE GROUP	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.3 0.3 0.3 15.5
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	SEC. 14, T26S, R35W CIMAREX ENERGY CO. 970302 000612 PERM-CHASE GROUP. 360	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.2 0.2 0.2 15.5 0.1
LOCATION	SEC. 14, T26S, R35W, CIMAREX ENERGY CO. 970302 000612 PERM-CHASE GROUP 360 2676	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.2 0.2 15.5 0.1
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SEC. 14, T26S, R35W CIMAREX ENERGY CO. 970302 000612 PERM-CHASE GROUP 360 2676	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.2 0.2 0.2 15.5 0.1 0.0
LOCATION	SEC. 14, T26S, R35W CIMAREX ENERGY CO. 970302 000612 PERM-CHASE GROUP 360 2676	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.2 0.2 0.2 15.5 0.1 0.0 0.0
LOCATIONOWNERCOMPLETED	SEC. 14, T26S, R35W CIMAREX ENERGY CO. 970302 000612 PERM-CHASE GROUP 360 2676	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.2 0.2 0.2 15.5 0.1 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	20277	COMPONENT, MOLE PCT	
STATE	NAMEAC	METHANE	72.2
		ETHANE	6.4
COUNTY		PROPANE	3.3
	HUGOTON	N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
· · · · ·	1509300478	N-PENTANE	0.2
LOCATION	SEC. 15. T26S, R35W	ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	450221	HEXANES PLUS	0.2
SAMPLED	000612	NITROGEN	15.7
FORMATION	PERM-CHASE GROUP	OXYGEN	0.1
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2720	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	0.42
OPEN LOW, MC D	230.	HEATING VALUE*	1,004
		SPECIFIC GRAVITY	0.716
		01 2011 10 010 (11)	
SAMPLE	20281	COMPONENT, MOLE PCT	
-			
STATE	KANSAS	COMPONENT, MOLE PCT	71.8
STATE	KANSAS KEARNY	COMPONENT, MOLE PCT METHANE	71.8 6.4
STATE COUNTY FIELD	KANSAS KEARNY HUGOTON	COMPONENT, MOLE PCT METHANE ETHANE	71.8 6.4 3.5
STATE COUNTY FIELD WELL NAME	KANSAS KEARNY HUGOTON WHITE 2	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	71.8 6.4 3.5
STATE COUNTY FIELD WELL NAME API	KANSAS KEARNY HUGOTON WHITE 2 1509300475	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	71.8 6.4 3.5 1.0
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS KEARNY HUGOTON WHITE 2 1509300475 SEC. 12 T26S, R35W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	71.8 6.4 3.5 1.0 0.4
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS KEARNY HUGOTON WHITE 2 1509300475 SEC. 12 T26S, R35W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	71.8 6.4 3.5 1.0 0.4 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	KANSAS KEARNY HUGOTON WHITE 2 1509300475 SEC. 12 T26S, R35W CIMAREX ENERGY CO.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	71.8 6.4 3.5 1.0 0.4 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	KANSAS KEARNY HUGOTON WHITE 2 1509300475 SEC. 12, T26S, R35W CIMAREX ENERGY CO. 480116	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	71.8 6.4 3.5 1.0 0.4 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	KANSAS KEARNY HUGOTON WHITE 2 1509300475 SEC. 12, T26S, R35W CJMAREX ENERGY CO. 480116 000612	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	71.8 6.4 3.5 1.0 0.4 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	KANSAS KEARNY HUGOTON WHITE 2 1509300475 SEC. 12 T26S, R35W CIMAREX ENERGY CO. 480116 000612 PERM-CHASE GROUP	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	71.8 6.4 3.5 1.0 0.4 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	KANSAS KEARNY HUGOTON WHITE 2 1509300475 SEC. 12 T26S, R35W CIMAREX ENERGY CO. 480116 000612 PERM-CHASE GROUP 360	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	71.8 6.4 3.5 1.0 0.4 0.2 0.2 15.8 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	KANSAS KEARNY HUGOTON WHITE 2 1509300475 SEC. 12 T26S, R35W CJMAREX ENERGY CO. 480116 000612 PERM-CHASE GROUP 360 2714	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	71.8 6.4 3.5 1.0 0.4 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KANSAS KEARNY HUGOTON WHITE 2 1509300475 SEC. 12 T26S, R35W CIMAREX ENERGY CO. 480116 000612 PERM-CHASE GROUP 360 2714	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	71.8 6.4 3.5 1.0 0.4 0.2 0.2 15.8 TRACE 0.0
STATE	KANSAS KEARNY HUGOTON WHITE 2 1509300475 SEC. 12 T26S, R35W CIMAREX ENERGY CO. 480116 000612 PERM-CHASE GROUP 360 2714	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	71.8 6.4 3.5 1.0 0.4 0.2 0.2 15.8 TRACE 0.0 0.0 TRACE
SAMPLE STATE	KANSAS KEARNY HUGOTON WHITE 2 1509300475 SEC. 12 T26S, R35W CIMAREX ENERGY CO. 480116 000612 PERM-CHASE GROUP 360 2714	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	71.8 6.4 3.5 1.0 0.4 0.2 0.2 15.8 TRACE 0.0 0.0 TRACE

 $^{^{\}star}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\star\prime}$ 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	20333	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	71.0
COUNTY		ETHANE	6.4
FIELD		PROPANE	3.4
		N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION		ISOPENTANE	0.2
OWNER		CYCLOPENTANE	
COMPLETED	791103	HEXANES PLUS	
SAMPLED	000620	NITROGEN	16.5
FORMATION	PERM-COUNCIL GROVE	OXYGEN	0.3
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2852	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	_	HELIUM	
o. c		HEATING VALUE*	
		SPECIFIC GRAVITY	0.722
SAMPLE	20286	COMPONENT, MOLE PCT	
STATE	KANIGAG	METHANE	73.1
COUNTY		ETHANE	6.7
		PROPANE	3.8
FIELD		N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION	SEC. 20, T26S, R36W	ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
CONDITTED		HEXANES PLUS	0.2
COMPLETED	751014	11E/ANES FE03	
		NITROGEN	
SAMPLED	000612		13.9
SAMPLED FORMATION GEOLOGIC PROVINCE CODE	000612 PERM-COUNCIL GROVE	NITROGEN	13.9 0.1
SAMPLED	000612 PERM-COUNCIL GROVE 360	NITROGEN	13.9 0.1 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE	000612 PERM-COUNCIL GROVE 360 2812	NITROGEN OXYGEN ARGON	13.9 0.1 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	000612 PERM-COUNCIL GROVE 360 2812	NITROGENOXYGENARGONHYDROGEN	13.9 0.1 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	000612 PERM-COUNCIL GROVE 360 2812	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	13.9 0.1 0.0 0.0 TRACE
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	000612 PERM-COUNCIL GROVE 360 2812	NITROGEN	13.9 0.1 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 20297	COMPONENT, MOLE PCT	
STATE KANSAS	METHANE	72.8
COUNTYKEARNY	ETHANE	6.5
FIELD PANOMA	PROPANE	3.3
	N-BUTANE	1.0
WELL NAMEMASONIC HOME 4-2	ISOBUTANE	0.4
API1509320304_	N-PENTANE	0.2
LOCATION SEC. 35, T25S, R36W	ISOPENTANE	0.2
OWNER WILLIAMS PRODUCTION RMT CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.2
SAMPLED	NITROGEN	14.9
FORMATION PERM-COUNCIL GROVE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE360_	ARGON	0.1
TRUE VERTICAL DEPTH (FT) 2796	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD1200_	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.714
SAMPLE 20309	COMPONENT, MOLE PCT	*****
	COMPONENT, MOLE PCT METHANE	72.8
STATE KANSAS	,	
STATE KANSAS COUNTY KEARNY	METHANE	6.5
STATE KANSAS COUNTY KEARNY FIELD PANOMA	METHANE	6.5 3.5
STATE KANSAS COUNTY KEARNY FIELD PANOMA WELL NAME TATE 8-2	METHANE ETHANE PROPANE	6.5 3.5 1.0
STATE KANSAS COUNTY KEARNY FIELD PANOMA WELL NAME TATE 8-2 API 1509320216	METHANE ETHANE PROPANE N-BUTANE	6.5 3.5 1.0 0.4
STATE KANSAS COUNTY KEARNY FIELD PANOMA WELL NAME TATE 8-2 API 1509320216 LOCATION SEC. 23, T26S, R36W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	6.5 3.5 1.0 0.4 0.2
STATE KANSAS COUNTY KEARNY FIELD PANOMA WELL NAME TATE 8-2 API 1509320216 LOCATION SEC. 23, T26S, R36W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	6.5 3.5 1.0 0.4 0.2
STATE KANSAS COUNTY KEARNY FIELD PANOMA WELL NAME TATE 8-2 API 1509320216 LOCATION SEC. 23, T26S, R36W OWNER WILLIAMS PRODUCTION RMT CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	6.5 3.5 1.0 0.4 0.2
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	6.5 3.5 1.0 0.4 0.2 0.2
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	6.5 3.5 1.0 0.4 0.2 0.2 0.2 14.6
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	6.5 3.5 1.0 0.4 0.2 0.2 0.2 14.6
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	6.5 3.5 1.0 0.4 0.2 0.2
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	6.5 3.5 1.0 0.4 0.2 0.2
STATE KANSAS COUNTY KEARNY FIELD PANOMA WELL NAME TATE 8-2 API 1509320216 LOCATION SEC. 23, T26S, R36W OWNER WILLIAMS PRODUCTION RMT CO. COMPLETED 751229 SAMPLED 000620 FORMATION PERM-COUNCIL GROVE GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2855	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	6.5 3.5 1.0 0.4 0.2 0.2
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	6.5 3.5 1.0 0.4 0.2 0.2 14.6 0.0 0.1 0.0 0.0 TRACE
STATE KANSAS COUNTY KEARNY FIELD PANOMA WELL NAME TATE 8-2 API 1509320216 LOCATION SEC. 23, T26S, R36W OWNER WILLIAMS PRODUCTION RMT CO. COMPLETED 751229	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	6.5 3.5 1.0 0.4 0.2 0.2 14.6 0.0 0.1 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

COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PSI	KANSAS KEARNY PANOMA JOHNSON 4A 1509320092 SEC. 19, T25S, R36W OSBORN HEIRS CO. 731128 000619 PERM-COUNCIL GROVE E 360 7) 2770	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY	6.7 3.8 1.0 0.4 0.3 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PSI	KEARNY	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	3.8 1.0 0.4 0.3 0.2 14.3 0.0 TRACE 0.0 0.40 1.035
FIELD	PANOMA JOHNSON 4A 1509320092 SEC. 19, T25S, R36W OSBORN HEIRS CO. 731128 000619 PERM-COUNCIL GROVE 360 7770	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	1.0 0.4 0.3 0.2 14.3 0.0 TRACE 0.0 0.0 TRACE
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PSI	JOHNSON 4A 1509320092 SEC. 19, T25S, R36W OSBORN HEIRS CO. 731128 000619 PERM-COUNCIL GROVE DE 360 T) 2770	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	0.4 0.3 0.2 14.3 0.0 TRACE 0.0 0.0 TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PSI	1509320092 SEC. 19, T25S, R36W OSBORN HEIRS CO. 731128 000619 PERM-COUNCIL GROVE DE	N-PENTANE	0.3 0.2 0.2 14.3 0.0 TRACE 0.0 0.0 TRACE 0.40
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PSI	SEC. 19, T25S, R36W OSBORN HEIRS CO. 731128 000619 PERM-COUNCIL GROVE 360 7770 116 36	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	0.2
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PSI	OSBORN HEIRS CO. 731128 000619 PERM-COUNCIL GROVE 0E 360 7) 27770	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	0.2 14.3 0.0 TRACE 0.0 0.0 TRACE 0.40
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PSI	731128 000619 PERM-COUNCIL GROVE DE	HEXANES PLUS	0.2 14.3 0.0 TRACE 0.0 0.0 TRACE 0.40
SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PSI	000619 PERM-COUNCIL GROVE 0E	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	14.3 0.0 TRACE 0.0 0.0 TRACE 0.40
FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PSI	PERM-COUNCIL GROVE 360 2770 IG36	OXYGENARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	0.0 TRACE 0.0 0.0 TRACE 0.40
GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PSI	360 7) 2770 NG 36	ARGON	1RACE 0.0 0.0 1RACE 0.40 1.035
TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PSI	7)2770.	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	0.0 0.0 TRACE 0.40 1,035
MEASURED DEPTH WELLHEAD PRESSURE, PS	IG36_	HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE*	0.0 TRACE 0.40 1,035
WELLHEAD PRESSURE, PS	IG36	CARBON DIOXIDE HELIUM HEATING VALUE*	TRACE 0.40 1,035
		HELIUM	0.40 1,035
		HEATING VALUE*	1,035
o, 2.(, 1.50), (v.o, 5			
		SPECIFIC GPAVITY	
		35 LOB (O O) (AVIII	0.719
SAMPLE	20304	COMPONENT, MOLE PCT	
STATE	KANSAS.	METHANE	72.3
	KEARNY	ETHANE	6.5
		PROPANE	3.4
	PANOMA.	N-BUTANE	1.1
	TATE 3-2	ISOBUTANE	0.4
	1509320218	N-PENTANE	0.3
LOCATION	SEC. 13. T26S, R36W	ISOPENTANE	0.2
OWNERW	VILLIAMS PRODUCTION RMT CO.	CYCLOPENTANE	
COMPLETED	751229	HEXANES PLUS	0.3
SAMPLED	000620	NITROGEN	15.1
FORMATION	PERM-COUNCIL GROVE	OXYGEN	0.0
GEOLOGIC PROVINCE COD	E360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT	2803	HYDROGEN	
MEASURED DEPTH	-	HYDROGEN SULFIDE**	0.0
	IG223	CARBON DIOXIDE	TRACE
•	2000	HELIUM	
o 1 CO11, MOI D	2000	HEATING VALUE*	1,024

 $^{^{\}star}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 80 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\star\prime}$ 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	72.7
COUNTY KEARNY	ETHANE	6.5
FIELD PANOMA	PROPANE	3.4
	N-BUTANE	1.0
WELL NAMERODERICK 3-2	ISOBUTANE	0.4
API1509320305	N-PENTANE	0.2
LOCATION SEC. 26, T25S, R36W	ISOPENTANE	0.2
OWNER WILLIAMS PRODUCTION RMT CO.	CYCLOPENTANE	_
COMPLETED	HEXANES PLUS	0.2
SAMPLED	NITROGEN	15.0
FORMATION PERM-COUNCIL GROVE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE360_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)2798	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	HELIUM	0.40
OPEN FLOW, MOFD	HEATING VALUE*	1,012
	SPECIFIC GRAVITY	0.713
SAMPLE 20285	COMPONENT, MOLE PCT	
STATEKANSAS	METHANE	71.3
	ETHANE	6.6
	PROPANE	
FIELD PANOMA.		3.7
FIELD PANOMA WELL NAME WHITE A-2.	PROPANE	3.7
FIELD PANOMA WELL NAME WHITE A-2	PROPANEN-BUTANE	3.7 1.3 0.5
FIELD PANOMA WELL NAME WHITE A-2. API 1509320457.	PROPANE N-BUTANE ISOBUTANE	3.7 1.3 0.5 0.4
FIELD PANOMA WELL NAME WHITE A-2 API 1509320457 LOCATION SEC. 9, T26S, R35W	PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.7 1.3 0.5 0.4 0.3
FIELD PANOMA WELL NAME WHITE A-2. API 1509320457. LOCATION SEC. 9, T26S, R35W. OWNER CIMAREX ENERGY CO.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.7 1.3 0.5 0.4 0.3
FIELD PANOMA	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.7 1.3 0.5 0.4 0.3
FIELD PANOMA WELL NAME WHITE A-2 API 1509320457 LOCATION SEC. 9, T26S, R35W OWNER CIMAREX ENERGY CO. COMPLETED 780111 SAMPLED 000612	PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.7 1.3 0.5 0.4 0.3 0.4
FIELD PANOMA WELL NAME WHITE A-2. API 1509320457 LOCATION SEC. 9, T26S, R35W OWNER CIMAREX ENERGY CO. COMPLETED 780111	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.7 1.3 0.5 0.4 0.3 0.4 15.1 TRACE
FIELD PANOMA WELL NAME WHITE A-2. API 1509320457 LOCATION SEC. 9, T26S, R35W OWNER CIMAREX ENERGY CO. COMPLETED 780111 SAMPLED 000612 FORMATION PERM-COUNCIL GROVE	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.7 1.3 0.5 0.4 0.3 0.4 15.1 TRACE
FIELD PANOMA WELL NAME WHITE A-2 API 1509320457 LOCATION SEC. 9, T26S, R35W OWNER CIMAREX ENERGY CO. COMPLETED 780111 SAMPLED 000612 FORMATION PERM-COUNCIL GROVE GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2962	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.7 1.5 0.5 0.4 0.3
FIELD PANOMA WELL NAME WHITE A-2 API 1509320457 LOCATION SEC. 9, T26S, R35W OWNER CIMAREX ENERGY CO. COMPLETED 780111 SAMPLED 000612 FORMATION PERM-COUNCIL GROVE GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2962 MEASURED DEPTH	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	3.7 1.3 0.5 0.4 0.3
FIELD PANOMA WELL NAME WHITE A-2 API 1509320457 LOCATION SEC. 9, T26S, R35W OWNER CIMAREX ENERGY CO. COMPLETED 780111 SAMPLED 000612 FORMATION PERM-COUNCIL GROVE GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2962 MEASURED DEPTH WELLHEAD PRESSURE, PSIG	PROPANE	3.7 1.3 0.5 0.4 0.3 0.4 15.1 TRACE 0.0 0.0
FIELD PANOMA WELL NAME WHITE A-2 API 1509320457 LOCATION SEC. 9, T26S, R35W OWNER CIMAREX ENERGY CO. COMPLETED 780111 SAMPLED 000612 FORMATION PERM-COUNCIL GROVE GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2962	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	3.7 1.3 0.5 0.4 0.3 0.4 15.1 TRACE 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	20334	COMPONENT, MOLE PCT	
STATE	KAMEAR	METHANE	72.5
COUNTY		ETHANE	6.5
FIELD		PROPANE	3.5
		N-BUTANE	1.0
WELL NAME		ISOBUTANE	
API		N-PENTANE	0.2
LOCATION		ISOPENTANE	0.2
OWNER	SAMEDAN OIL CORP	CYCLOPENTANE	
COMPLETED	809818	HEXANES PLUS	0.2
SAMPLED	000620	NITROGEN	14.9
FORMATION	PERM-COUNCIL GROVE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	2806	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
J. 211 1 40 41 1 110 1 5		HEATING VALUE*	1,020
		SPECIFIC GRAVITY	0.717
SAMPLE	20332	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	72.3
		ETHANE	6.5
COUNTY		PROPANE	3.5
FIELD		N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
AP!	1509320639	N-PENTANE	0.2
LOCATION	SEC. 6, T26S, R35W	ISOPENTANE	0.2
OWNER	SAMEDAN OIL CORP.	CYCLOPENTANE	
OWNER		CYCLOPENTANE	
	800605		0.2
COMPLETED	800 605 000620	HEXANES PLUS	<u>0.2</u> 15.3
COMPLETEDSAMPLEDFORMATION	800605 000620 PERM-COUNCIL GROVE	HEXANES PLUS NITROGEN	0.2 15.3 0.0
COMPLETEDSAMPLEDFORMATIONGEOLOGIC PROVINCE CODE	800605 000620 PERM-COUNCIL GROVE 360	HEXANES PLUS NITROGEN OXYGEN	0.2 15.3 0.0 0.1
COMPLETEDSAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	800605 000620 PERM-COUNCIL GROVE 360 2830	HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 15.3 0.0 0.1 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	800605 000620 PERM-COUNCIL GROVE 360 2830	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.2 15.3 0.0 0.1 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	800605 000620 PERM-COUNCIL GROVE 360 2830	HEXANES PLUS	0.2 15.3 0.0 0.1 0.0 0.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	800605 000620 PERM-COUNCIL GROVE 360 2830	HEXANES PLUS	0.2 15.3 0.0 0.1 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	20279	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	71.9
COUNTY		ETHANE	6.4
FIELD		PROPANE	3.5
		N-BUTANE	1.0
WELL NAME	***************************************	ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION		ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	770816	HEXANES PLUS	0.2
SAMPLED	000612	NITROGEN	15.6
FORMATION	PERM-COUNCIL GROVE	OXYGEN	0.1
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2886	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
J. 2117 2011, 11101 5		HEATING VALUE*	
		SPECIFIC GRAVITY	0.72
SAMPLE	20273	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	71.9
COUNTY		ETHANE	6.5
		PROPANE	3.5
FIELD		N-BUTANE	1.1
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.3
LOCATION	SEC. 15, T26S, R35W	ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	780710	HEXANES PLUS	0.3
SAMPLED	000612	NITROGEN	15.4
FORMATION	PERM-COUNCIL GROVE	OXYGEN	0.1
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2930	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	TRACE
		HELIUM	0.41
OPEN FLOW MCFD			
OPEN FLOW, MCFD		HEATING VALUE*	1.016

^{*} 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	20270	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	72.0
COUNTY		ETHANE	6.4
		PROPANE	3.4
FIELD		N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
	1509320434	N-PENTANE	0.2
LOCATION		ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	771122	HEXANES PLUS	0.2
SAMPLED	000612	NITROGEN	15.7
FORMATION	PERM-COUNCIL GROVE	OXYGEN	0.1
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2792	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0,0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	1,007
		SPECIFIC GRAVITY	0.718
SAMPLE	20283	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	71.8
COUNTY		ETHANE	6.4
FIELD		PROPANE	3.4
WELL NAME		N-BUTANE	1.0
		ISOBUTANE	0.4
API		N-PENTANE	0.2
OCATION		ISOPENTANE	0.2
OWNER		CYCLOPENTANE	
COMPLETED		HEXANES PLUS	0.2
SAMPLED	000612	NITROGEN	15.7
FORMATION	PERM-COUNCIL GROVE	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2888	HYDROGEN	0.0
MEASURED DEPTH	····	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE PSIG		CARBON DIOXIDE	0.1
Transfer in the country in the second in the		HELIUM	0.42
OPEN FLOW, MCFD	113		
	113	HEATING VALUE*	1,007

^{*} 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

20271	COMPONENT, MOLE PCT	
KVNCVE	METHANE	72.1
	ETHANE	6.3
	PROPANE	3.4
	N-BUTANE	1.0
	ISOBUTANE	0.4
	N-PENTANE	0.2
SEC. 35, T26S, R35W	ISOPENTANE	0.2
CIMAREX ENERGY CO.	CYCLOPENTANE	
771107	HEXANES PLUS	0.2
000612	NITROGEN	15.9
PERM-COUNCIL GROVE	OXYGEN	0.1
360	ARGON	0.0
2949.	HYDROGEN	0.0
	HYDROGEN SULFIDE**	
	CARBON DIOXIDE	TRACE
	HELIUM	0.42
	HEATING VALUE*	1,003
20280	COMPONENT, MOLE PCT	
(AAA)CA C	METHANE	71.7
	ETHANE	6.3
	PROPANE	3.4
	N-BUTANE	0.9
	ISOBUTANE	0.4
	N-PENTANE	0,2
•	ISOPENTANE	0.2
CIMAREX ENERGY CO.	CYCLOPENTANE	
781130	HEXANES PLUS	0.2
000612	NITROGEN	16.2
PERM-COUNCIL GROVE	OXYGEN	0.1
360	ARGON	0.0
2873	HYDROGEN	
	HYDROGEN SULFIDE**	0.0
	CARBON DIOXIDE	
		0.42
	771107	KANSAS KEARNY PANOMA CITIZEN BLDG B-7 1509320435 N-PENTANE 1509817ANE 1509817ANE 1509817ANE SEC. 35. T26S. R35W CIMAREX ENERGY CO. 771107 MEXANES PLUS 100612 PERM-COUNCIL GROVE 360 ARGON 132 HEATING VALUE* SPECIFIC GRAVITY 20280 COMPONENT, MOLE PCT KANSAS KEARNY PANOMA WHITE A-3 1509320553 N-PENTANE CIMAREX ENERGY CO. COYCLOPENTANE CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY 20280 COMPONENT, MOLE PCT KANSAS KEARNY PROPANE N-BUTANE 1509320553 N-PENTANE SEC. 13, T26S. R35W CIMAREX ENERGY CO. CYCLOPENTANE CYCLOPENTANE CIMAREX ENERGY CO. T81130 HEXANES PLUS NITROGEN OYGEN ARGON ARGON ARGON

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

	20290	COMPONENT, MOLE PCT	
STATE	KANSAS_	METHANE	67.9
COUNTY	KEARNY	ETHANE	5.8
FIELD		PROPANE	3.1
	PANOMA.	N-BUTANE	0.9
	ZIBELL 1	ISOBUTANE	0.3
	1509320258	N-PENTANE	0.2
	SEC. 10, T22S, R36W	ISOPENTANE	0.1
OWNER	CONTINENTAL ENERGY CORP.	CYCLOPENTANE	-
COMPLETED	781120	HEXANES PLUS	0.2
SAMPLED	000614	NITROGEN	20.8
FORMATION	PERM-COUNCIL GROVE	OXYGEN	0.1
GEOLOGIC PROVINCE	CODE360_	ARGON	0.0
TRUE VERTICAL DEPTH	H (FT)	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE	, PSIG	CARBON DIOXIDE	0.0
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	HELIUM	0.54
O1 E141 E044, MIO1 D		HEATING VALUE*	937
		SPECIFIC GRAVITY	0.727
SAMPLE	20144	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT	62.3
STATE	KANSAS	·	
STATE	KANSAS MORTON	METHANE	5.5
STATE COUNTY FIELD	KANSAS MORTON INTERSTATE	METHANE	5.5 3.3
STATE COUNTY FIELD WELL NAME	KANSAS MORTON INTERSTATE INTERSTATE B2-18	METHANE ETHANE PROPANE	5.5 3.3 1.0
STATE COUNTY FIELD WELL NAME	KANSAS MORTON INTERSTATE	METHANE ETHANE PROPANE N-BUTANE	5.5 3.3 1.0 0.3
STATE COUNTY FIELD WELL NAME	KANSAS MORTON INTERSTATE INTERSTATE B2-18	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	5.5 3.3 1.0 0.3
STATE COUNTY FIELD WELL NAMEAPI	KANSAS MORTON INTERSTATE INTERSTATE B2-18 1512920400	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	5.5 3.3 1.0 0.3 0.3
STATE COUNTY FIELD WELL NAMEAPI	KANSAS MORTON INTERSTATE INTERSTATE B2-18 1512920400 SEC. 18, T34S, R43W EDGAR W. WHITE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	5.5 3.3 1.0 0.3 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	KANSAS MORTON INTERSTATE INTERSTATE B2-18 1512920400 SEC. 18, T34S, R43W EDGAR W. WHITE 800604	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	5.5 3.3 1.0 0.3 0.3 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	KANSAS MORTON INTERSTATE INTERSTATE B2-18 1512920400 SEC. 18, T34S, R43W EDGAR W. WHITE 800604	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	5.5 3.3 1.0 0.3 0.3 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	KANSAS. MORTON. INTERSTATE INTERSTATE B2-18 1512920400. SEC. 18, T34S, R43W EDGAR W. WHITE. 800604 000502.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	5.5 3.3 1.0 0.3 0.3 0.2 0.4 25.7
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE O	KANSAS MORTON INTERSTATE INTERSTATE B2-18 1512920400 SEC. 18, T34S, R43W EDGAR W. WHITE 800604 000502 PERM-RED CAVE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	5.5 3.3 1.0 0.3 0.3 0.2
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE (TRUE VERTICAL DEPTH	KANSAS MORTON INTERSTATE INTERSTATE B2-18 1512920400 SEC. 18, T34S, R43W EDGAR W. WHITE 800604 000502 PERM-RED CAVE CODE 360 I (FT) 2564	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	5.5 3.3 1.0 0.3 0.3 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH MEASURED DEPTH	KANSAS MORTON INTERSTATE INTERSTATE B2-18 1512920400 SEC. 18, T34S, R43W EDGAR W. WHITE 800604 000502 PERM-RED CAVE CODE 360 H (FT) 2564	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	5.5 3.3 1.0 0.3 0.3 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH MEASURED DEPTH WELLHEAD PRESSURE	KANSAS MORTON INTERSTATE INTERSTATE B2-18 1512920400 SEC. 18, T34S, R43W EDGAR W. WHITE 800604 000502 PERM-RED CAVE CODE 360 H (FT) 2564	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	5.5 3.3 1.0 0.3 0.3 0.2 0.4 25.7 0.1 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH MEASURED DEPTH WELLHEAD PRESSURE	KANSAS MORTON INTERSTATE INTERSTATE B2-18 1512920400 SEC. 18, T34S, R43W EDGAR W. WHITE 800604 000502 PERM-RED CAVE CODE 360 H (FT) 2564	METHANE	5.5 3.3 1.0 0.3 0.3 0.2 0.4 25.7 0.1 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	20045	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	51.6
		ETHANE	1.7
	MORTON	PROPANE	1.2
	INTERSTATE	N-BUTANE	1.2
	INTERSTATE NO. D3-9	ISOBUTANE	0.1
	1512930085	N-PENTANE	0.2
LOCATION	SEC 9, T34S, R43W	ISOPENTANE	0.5
OWNER	BEARTOOTH OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	651202	HEXANES PLUS	0.6
SAMPLED	000200	NITROGEN	41.4
FORMATION	PERM-RED CAVE	OXYGEN	0.0
GEOLOGIC PROVINCE CODI	E360	ARGON	0.1
)1358_	HYDROGEN	0.5
•	,	HYDROGEN SULFIDE**	0.0
	G170	CARBON DIOXIDE	0.1
		HELIUM	0.89
OPEN FLOW, MOFD	80	HEATING VALUE*	689
		SPECIFIC GRAVITY	0.788
SAMPLE	20145	COMPONENT, MOLE PCT	
07475	KANGAG	METHANE	52.7
	KANSAS	ETHANE	2.4
COUNTY	MORTON	PROPANE	4.0
		FROFAINE	1.6
FIELD	INTERSTATE	N-BUTANE	
WELL NAME	INTERSTATE RED CAVE 1		3.0
WELL NAME		N-BUTANE	0.8
WELL NAME	INTERSTATE RED CAVE 1	N-BUTANE	0.8 0.3 0.3
WELL NAME	INTERSTATE RED CAVE 1 1512920339	N-BUTANE ISOBUTANE N-PENTANE	0.3 0.3 0.3
WELL NAME	INTERSTATE RED CAVE 1. 1512920339. SEC. 18, T34S, R43W.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.8 0.3 0.3 0.3
WELL NAME	INTERSTATE RED CAVE 1. 1512920339 SEC. 18, T34S, R43W. EDGAR W. WHITE	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.8 0.3 0.3 0.3
WELL NAME	INTERSTATE RED CAVE 1. 1512920339. SEC. 18, T34S, R43W. EDGAR W. WHITE. 780313.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.8 0.3 0.3 0.3 0.5
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	INTERSTATE RED CAVE 1. 1512920339. SEC. 18, T34S, R43W. EDGAR W. WHITE. 780313. 000501. PERM-RED CAVE.	N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.8 0.3 0.3 0.3 0.5 39.6
WELL NAME API LOCATION DWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODI	INTERSTATE RED CAVE 1. 1512920339. SEC. 18, T34S, R43W. EDGAR W. WHITE. 780313. 000501. PERM-RED CAVE. E	N-BUTANE	0.8 0.3 0.3 0.3 0.3 0.5 39.6 0.1
WELL NAME	INTERSTATE RED CAVE 1. 1512920339 SEC. 18, T34S, R43W EDGAR W. WHITE. 780313. 000501. PERM-RED CAVE. E	N-BUTANE	0.8 0.3 0.3 0.3 0.5 39.6 0.1
WELL NAME	INTERSTATE RED CAVE 1. 1512920339. SEC. 18, T34S, R43W. EDGAR W. WHITE. 780313. 000501. PERM-RED CAVE. E	N-BUTANE	0.8 0.3 0.3 0.3 0.5 39.6 0.1 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODI TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PSI	INTERSTATE RED CAVE 1. 1512920339 SEC. 18, T34S, R43W EDGAR W. WHITE 780313 000501. PERM-RED CAVE E	N-BUTANE	0.8 0.3 0.3 0.3 0.5 39.6 0.1 0.0 0.5 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODI TRUE VERTICAL DEPTH (FT] MEASURED DEPTH WELLHEAD PRESSURE, PSI	INTERSTATE RED CAVE 1. 1512920339. SEC. 18, T34S, R43W. EDGAR W. WHITE. 780313. 000501. PERM-RED CAVE. E	N-BUTANE	0.8 0.3 0.3 0.3 0.5 39.6 0.1 0.0 0.5 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	20148	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	65.6
COUNTY		ETHANE	6.3
	GREENWOOD	PROPANE	4.5
		N-BUTANE	1.5
WELL NAME		ISOBUTANE	0.5
	1512920620	N-PENTANE	0.5
LOCATION		ISOPENTANE	0.4
OWNER	NADEL & GUSSMAN, LLC	CYCLOPENTANE	
COMPLETED	820317	HEXANES PLUS	0.0
SAMPLED	000502	NITROGEN	18.8
FORMATION	PENN-SHAWNEE	OXYGEN	TRACE
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	3104	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.49
OI EIVI LOVV, MOI D	71.1	HEATING VALUE*	1,050
		SPECIFIC GRAVITY	0.777
SAMPLE	20176	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	62.9
COUNTY		ETHANE	6.5
		PROPANE	4.2
FIELD		N-BUTANE	1.6
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.6
LOCATION		ISOPENTANE	0.4
OWNER	NADEL & GUSSMAN, LLC	CYCLOPENTANE	
		CYCLOPENTANE HEXANES PLUS	
OWNER COMPLETED SAMPLED	551214		0.6
COMPLETED	551214 000509	HEXANES PLUS	0.6 22.0
COMPLETED	551214 000509 PENN-TOPEKA	HEXANES PLUS	0.6 22.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	551214 000509 PENN-TOPEKA 360	HEXANES PLUS NITROGEN OXYGEN	0.6 22.0 TRACE
COMPLETEDSAMPLEDFORMATION	551214 000509 PENN-TOPEKA 360 3646	HEXANES PLUS NITROGEN OXYGEN ARGON	0.6 22.0 TRACE 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	551214 000509 PENN-TOPEKA 360 3646	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.6 22.0 TRACE 0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	551214 000509 PENN-TOPEKA 360 3646	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.6 72.0 TRACE 0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	551214 000509 PENN-TOPEKA 360 3646	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.6 7RACE 0.0 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 20146	COMPONENT, MOLE PCT	
STATE KANSA	METHANE	63.1
COUNTYMORTO	FTHANE	5.9
	PROPANE	3.6
FIELD GREENWOO	N-BUTANE	1.0
WELL NAMEINTERSTATE A	ISOBUTAINE	0.3
API151292037	N-PENTANE	0.3
LOCATION SEC. 19, T34S, R43\		0.2
OWNEREDGAR W. WHIT	E CYCLOPENTANE	
COMPLETED 90011	15. HEXANES PLUS	0.4
SAMPLED00050	01 NITROGEN	24.4
FORMATION PENN-TOPEK	A OXYGEN	0.1
GEOLOGIC PROVINCE CODE36	30. ARGON	0.0
TRUE VERTICAL DEPTH (FT)	20. HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.
OPEN FLOW, MCFD	HELIUM	
OPEN FLOW, MOFD	HEATING VALUE*	924
	SPECIFIC GRAVITY	0.757
SAMPLE 20041	COMPONENT, MOLE PCT	
STATE KANSA	METHANE	66.0
COUNTY MORTO	ETHANE	5.7
	PROPANE	3.7
FIELD GREENWOO	N-BUTANE	1.
WELL NAMEINTERSTATE NO. 1-1	ISOBUTANE	0
API151291051	N-PENTANE	0
LOCATION SEC 11, T34S, R43	W ISOPENTANE	0.4
OWNER BEARTOOTH OIL & GAS CO	CYCLOPENTANE	
COMPLETED55060	11 HEXANES PLUS	0.5
SAMPLED 99120	NITROGEN	21.
FORMATION PENN-WABAUNSE	CXYGEN	0.0
GEOLOGIC PROVINCE CODE	60_ ARGON	.0.
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	TRACE
	CARBON DIOXIDE	0.1
WELLHEAD PRESSURE PSIG 43		0.45
,	HELIUM	
WELLHEAD PRESSURE, PSIG 42 OPEN FLOW, MCFD 512		

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

SAMPLE	20191	COMPONENT, MOLE PCT	
STATE	KANSAS.	METHANE	63.7
	MORTON	ETHANE	6.8
	GREENWOOD	PROPANE	4.5
	UNION 1-4	N-BUTANE	1.7
		ISOBUTANE	0.5
API		N-PENTANE	0.6
LOCATION		ISOPENTANE	0.4
	NADEL & GUSSMAN, LLC	CYCLOPENTANE	
-	550515	HEXANES PLUS	
	000509	NITROGEN	
FORMATION	PENN-WABAUNSEE	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT) _	2537_	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	34050	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	•
SAMPLE	20758	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	65.1
00111177			
COUNTY	MORTON.	ETHANE	
FIELD	MORTON_ GREENWOOD	PROPANE	3.8
	GREENWOOD	PROPANEN-BUTANE	3.8
FIELD	GREENWOOD	PROPANEN-BUTANE	3.8 1.3 0.4
FIELD WELL NAMEAPI	GREENWOOD INTERSTATE NO. 1-11 1512910513	PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.8 1.3 0.4 0.4
FIELD WELL NAMEAPI	GREENWOOD INTERSTATE NO. 1-11 	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.8 1.3 0.4 0.4 0.3
FIELD WELL NAME API LOCATION OWNER	GREENWOOD INTERSTATE NO. 1-11 1512910513 SEC. 11, T34S, R43W BEARTOOTH OIL & GAS CO.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.8 1.3 0.4 0.4
FIELD WELL NAMEAPI	GREENWOOD INTERSTATE NO. 1-11 1512910513 SEC. 11, T34S, R43W BEARTOOTH OIL & GAS CO. 550601	PROPANE	3.8 1.3 0.4 0.4 0.3 -
FIELD	GREENWOOD INTERSTATE NO. 1-11 .1512910513 SEC. 11, T34S, R43W BEARTOOTH OIL & GAS CO. 550601 010731	PROPANE	3.8 1.3 0.4 0.4 0.3 0.5 21.4
FIELD	GREENWOOD INTERSTATE NO. 1-11 1512910513 SEC. 11, T34S, R43W BEARTOOTH OIL & GAS CO. 550601 010731 PENN-WABAUNSEE	PROPANE	3.8 1.3 0.4 0.4 0.3 0.5 21.4
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	GREENWOOD INTERSTATE NO. 1-11	PROPANE	3.8 1.3 0.4 0.3 0.3 0.5 21.4 0.0
FIELD	GREENWOOD INTERSTATE NO. 1-11	PROPANE	3.8 0.4 0.4 0.3 0.3 0.5 21.4 0.0
FIELD	GREENWOOD INTERSTATE NO. 1-11 1512910513 SEC. 11, T34S, R43W BEARTOOTH OIL & GAS CO. 550601 010731 PENN-WABAUNSEE 360 2955	PROPANE	3.8 1.5 0.4 0.2 0.5 21.4 0.0 0.0
FIELD	GREENWOOD INTERSTATE NO. 1-11	PROPANE	3.8 0.4 0.4 0.3 0.5 21.4 0.0 0.1
FIELD	GREENWOOD INTERSTATE NO. 1-11	PROPANE	3.8 0.4 0.4 0.3 0.5 0.5 0.0 0.1 0.0 0.1 0.5 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	20040	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	65.1
	MORTON	ETHANE	5.3
	BERRYMAN	PROPANE	3.0
	_	N-BUTANE	1.1
	CMT NO. 1-20	ISOBUTANE	0.2
API	1512920006	N-PENTANE	0.1
	SEC 20, T33S, R41W	ISOPENTANE	0.3
OWNER	BEARTOOTH OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	800722	HEXANES PLUS	0.3
SAMPLED	991202	NITROGEN	23.8
FORMATION	PENN-WABAUNSEE	OXYGEN	.0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT) _	2960	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	231	CARBON DIOXIDE	0.1
·	104	HELIUM	
OI EIVI EOVI, MOI D	THY.	HEATING VALUE*	906
		SPECIFIC GRAVITY	0.742
SAMPLE	20761	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	64.
	MORTON	ETHANE	5.5
		PROPANE	2.9
	BERRYMAN	N-BUTANE	0.8
·	CMT NO. 1-20	ISOBUTANE	0.3
	1512920006	N-PENTANE	0.2
LOCATION	SEC. 20, T33S, R41W	ISOPENTANE	0.:
OWNER	BEARTOOTH OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	800722	HEXANES PLUS	0.2
SAMPLED	010801	NITROGEN	24.7
FORMATION	PENN-WABAUNSEE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT) _	2960	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	231	CARBON DIOXIDE	0.1
	104	HELIUM	0.6
OPEN FLOW, MCFD		HEATING VALUE*	882

^{*} 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	20427	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	68.1
	SEWARD	ETHANE	9.1
FIELD	HITCH	PROPANE	8.8
		N-BUTANE	3.3
WELL NAME		ISOBUTANE	1.3
API	1517520961	N-PENTANE	1.0
LOCATION		ISOPENTANE	0.8
OWNER	BEREXCO, INC.	CYCLOPENTANE	
COMPLETED	870722	HEXANES PLUS	1.3
SAMPLED	001107	NITROGEN	5.7
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT) _	5708	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	30	CARBON DIOXIDE	0.5
OPEN FLOW, MCFD		HELIUM	0.11
	2000	HEATING VALUE*	1,358
		SPECIFIC GRAVITY	0.852
SAMPLE	20358	COMPONENT, MOLE PCT	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>
STATE	KANSAS	METHANE	83.9
COUNTY		ETHANE	5.1
		PROPANE	2.8
FIELD		N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.4
LOCATION	SEC. 3, T35S, R35W	ISOPENTANE	0.3
OWNER	QUINQUE OPERATING CO.	CYCLOPENTANE	
COMPLETED	850829	HEXANES PLUS	0.4
SAMPLED	000711	NITROGEN	5.2
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.4
WELLHEAD PRESSURE PSIG			
WELLHEAD PRESSURE, PSIG		HELIUM	0.20
WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD		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	20357	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	83.8
COUNTY		ETHANE	5.0
FIELD		PROPANE	2.7
		N-BUTANE	0.9
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.3
LOCATION	SEC. 3, T35S, R35W	ISOPENTANE	0.3
OWNER	AMERICAN WARRIOR INC.	CYCLOPENTANE	
COMPLETED	861101	HEXANES PLUS	0.4
SAMPLED	000711	NITROGEN	5.5
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	6522	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.5
OPEN FLOW, MCFD		HELIUM	0.21
O) E(1) CO11, (1) O) D		HEATING VALUE*	1.089
		SPECIFIC GRAVITY	0.67
SAMPLE	20356	COMPONENT, MOLE PCT	
STATE	KVNEVE	METHANE	82.9
COUNTY		ETHANE	5.1
		PROPANE	2.9
FIELD		N-BUTANE	1.2
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.5
LOCATION	SEC. 3, T35S, R35W	ISOPENTANE	0.3
OWNER	QUINQUE OPERATING CO.	CYCLOPENTANE	
COMPLETED	870402	HEXANES PLUS	0.4
SAMPLED	000711	NITROGEN	5.7
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	6254	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.4
WELL MEAL PRESSURE DOIL		HELIUM	0.21
	20	I SECTION	
OPEN FLOW, MCFD	20	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

	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	0.1
COUNTY CATRON	ETHANE	0.1
FIELD WILDCAT	PROPANE	TRACE
WELL NAME STATE 1-4 NO. 1	N-BUTANE	TRACE
	ISOBUTANE	0.0
API	N-PENTANE	TRACE
LOCATION SEC. 4, T1N, R21W	ISOPENTANE	
OWNERRIDGEWAY ARIZONA OIL CORP.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	
SAMPLED	NITROGEN	
FORMATION PERM-FORT APACHE	OXYGEN	
GEOLOGIC PROVINCE CODE475	ARGON	
TRUE VERTICAL DEPTH (FT)1783	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG318	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 20566	COMPONENT, MOLE PCT	
	METHANE	
STATENEW MEXICO.	METHANE	5.1
STATENEW MEXICO_ COUNTYCHAVES_	METHANE ETHANE PROPANE	5.1
STATE NEW MEXICO_ COUNTY CHAVES_ FIELD PECOS SLOPE_	METHANE ETHANE PROPANE N-BUTANE	5.1 2.0 0.8
STATE NEW MEXICO. COUNTY CHAVES. FIELD PECOS SLOPE. WELL NAME HELEN COLLINS FEDERAL NO. 3.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	5.1 2.0 0.8 0.4
STATE NEW MEXICO. COUNTY CHAVES. FIELD PECOS SLOPE. WELL NAME HELEN COLLINS FEDERAL NO. 3. API 3000562072.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	5.1 2.0 0.8 0.4 0.3
STATE NEW MEXICO. COUNTY CHAVES. FIELD PECOS SLOPE. WELL NAME HELEN COLLINS FEDERAL NO. 3. API 3000562072. LOCATION SEC. 9, T7S, R26E.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	5.1 2.0 0.8 0.4 0.3
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME HELEN COLLINS FEDERAL NO. 3 API 3000562072 LOCATION SEC. 9, T7S, R26E OWNER PECOS RIVER OPERATING, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	5.1 2.0 0.8 0.4 0.3 0.3
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME HELEN COLLINS FEDERAL NO. 3 API 3000562072 LOCATION SEC. 9, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 831211	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	5.1 2.0 0.8 0.4 0.3 0.3
STATE NEW MEXICO. COUNTY CHAVES. FIELD PECOS SLOPE WELL NAME HELEN COLLINS FEDERAL NO. 3 API 3000562072 LOCATION SEC. 9, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 831211 SAMPLED 001220	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	5.1 2.0 0.8 0.4 0.3 0.3 0.3
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME HELEN COLLINS FEDERAL NO. 3 API 3000562072 LOCATION SEC. 9, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 831211 SAMPLED 001220 FORMATION PERM-ABO	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	5.1 2.0 0.8 0.4 0.3 0.3 0.7 4.9
NEW MEXICO	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	5.1 2.0 0.8 0.4 0.3 0.3 0.7 4.9 0.0
NEW MEXICO	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	5.1 2.0 0.8 0.4 0.3 0.3 0.7 4.9 0.0 TRACE
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME HELEN COLLINS FEDERAL NO. 3 API 3000562072 LOCATION SEC. 9, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 831211 SAMPLED 001220 FORMATION PERM-ABO GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 4156 MEASURED DEPTH	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	5.1 2.0 0.8 0.4 0.3 0.3 0.7 4.9 0.0 TRACE
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	5.1 2.0 0.8 0.4 0.3 0.3 0.7 4.9 0.0 TRACE TRACE
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	5.1 2.0 0.8 0.4 0.3 0.3 0.7 4.9 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	20567	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	86.8
COUNTY		ETHANE	4.5
FIELD		PROPANE	1.6
		N-BUTANE	0,6
WELL NAMEHELE		ISOBUTANE	0.3
API		N-PENTANE	0.2
LOCATION	,	ISOPENTANE	0.2
OWNERPECO	S RIVER OPERATING, INC.	CYCLOPENTANE	
COMPLETED	840518	HEXANES PLUS	0.5
SAMPLED	001220	NITROGEN	5.0
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	4271	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	739	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	
CI 211 2011, MOI D	1100	HEATING VALUE*	1,062
		SPECIFIC GRAVITY	0.643
SAMPLE	20586	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	87.7
COUNTY		ETHANE	5.4
FIELD		PROPANE	1.8
		N-BUTANE	0.5
WELL NAME		ISOBUTANE	0.2
API	3000562562	N-PENTANE	0.1
LOCATION	SEC. 7, T10S, R26E	ISOPENTANE	0.1
OWNERCHES			
	APEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	•	CYCLOPENTANE HEXANES PLUS	
COMPLETEDSAMPLED	871209		0.1
	871209 010228	HEXANES PLUS	0.1 3.6
SAMPLED	871209 010228 PERM-ABO	HEXANES PLUS	0.1 3.6 0.0
SAMPLED	871209 010228 PERM-ABO 430	HEXANES PLUS NITROGEN OXYGEN	0.1 3.6 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	871209 010228 PERM-ABO 430 4428	HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 3.6 0.0 TRACE
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	871209 010228 PERM-ABO 430 4428	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.1 3.6 0.0 0.0 TRACE
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	871209 010228 PERM-ABO 430 4428	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.1 3.6 0.0 0.0 TRACE
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	871209 010228 PERM-ABO 430 4428	HEXANES PLUS	0.1 3.6 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 20563	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	86.8
COUNTY CHAVES	ETHANE	4.7
FIELD PECOS SLOPE	PROPANE	1.7
	N-BUTANE	0.6
WELL NAMESUN FEDERAL NO. 4	ISOBUTANE	0.3
API3000561596	N-PENTANE	0.2
LOCATION SEC. 28, T7S, R26E	ISOPENTANE	0.2
OWNER PECOS RIVER OPERATING INC.	CYCLOPENTANE	
COMPLETED 820629	HEXANES PLUS	0.4
SAMPLED001220_	NITROGEN	4.8
FORMATIONPERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE430_	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 4472	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG1079	CARBON DIOXIDE	
OPEN FLOW, MCFD 873	HELIUM	
<u> </u>	HEATING VALUE*	1.066
	SPECIFIC GRAVITY	0.643
SAMPLE 20548	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT METHANE	86.1
STATE NEW MEXICO		
STATE NEW MEXICO COUNTY CHAVES	METHANE	4.9
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE	METHANE	4.9
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME NICHOLS DALE FEDERAL NO. 5	METHANE ETHANE PROPANE	4.9 1.8 0.6
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME NICHOLS DALE FEDERAL NO. 5 API 3000561806	METHANEPROPANEN-BUTANE	4.9 1.8 0.6 0.3
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME NICHOLS DALE FEDERAL NO. 5 API 3000561806 LOCATION SEC. 33, T7S, R26E	METHANE ETHANE PROPANE N-BUTANE	4.9 1.8 0.6 0.3
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME NICHOLS DALE FEDERAL NO. 5 API 3000561806 LOCATION SEC. 33, T7S, R26E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.9 1.8 0.6 0.3 0.2
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME NICHOLS DALE FEDERAL NO. 5 API 3000561806 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.9 1.8 0.6 0.3 0.2
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME NICHOLS DALE FEDERAL NO. 5 API 3000561806 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821112	METHANE ETHANE PROPANE N-BUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	4.9 1.8 0.6 0.3 0.2 0.2
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME NICHOLS DALE FEDERAL NO. 5 API 3000561806 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821112	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.9 1.8 0.6 0.3 0.2 0.2
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME NICHOLS DALE FEDERAL NO. 5 API 3000561806 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821112 SAMPLED 001219 FORMATION PERM-ABO	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.9 1.8 0.6 0.3 0.2 0.2 0.5 5.0
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME NICHOLS DALE FEDERAL NO. 5 API 3000561806 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821112 SAMPLED 001219 FORMATION PERM-ABO GEOLOGIC PROVINCE CODE 430	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.9 1.8 0.6 0.3 0.2 0.2 0.5 5.0 0.0
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME NICHOLS DALE FEDERAL NO. 5 API 3000561806 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821112 SAMPLED 001219 FORMATION PERM-ABO GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 4197	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.9 1.8 0.6 0.3 0.2 0.2 0.5 5.0 0.0 TRACE
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME NICHOLS DALE FEDERAL NO. 5 API 3000561806 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821112 SAMPLED 001219 FORMATION PERM-ABO GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 4197 MEASURED DEPTH	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.9 1.8 0.6 0.3 0.2 0.5 5.0 0.0 TRACE
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME NICHOLS DALE FEDERAL NO. 5 API 3000561806 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821112 SAMPLED 001219 FORMATION PERM-ABO GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 4197 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 909	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	4.9 1.8 0.6 0.3 0.2 0.2 0.5 5.0 0.0 TRACE TRACE 0.0
STATE NEW MEXICO COUNTY CHAVES FIELD PECOS SLOPE WELL NAME NICHOLS DALE FEDERAL NO. 5 API 3000561806 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821112 SAMPLED 001219 FORMATION PERM-ABO GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 4197 MEASURED DEPTH	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	4.9 1.8 0.6 0.3 0.2 0.2 0.5 5.0 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 20560	COMPONENT, MOLE PCT
STATENEW MEXICO	METHANE 86.9
COUNTY CHAVES	ETHANE 4.7
FIELD PECOS SLOPE	PROPANE1.7
	N-BUTANE0.6
WELL NAME VANCE FED. A NO. 1	ISOBUTANE0.3
API 3000561509	N-PENTANE0.2
LOCATION SEC. 34, T7S, R26E	1001 ENTAILE
OWNEREXCO RESOURCES, INC.	CYCLOPENTANE
COMPLETED	HEXANES PLUS 0.3
SAMPLED	NITROGEN4.7
FORMATIONPERM-ABO	
GEOLOGIC PROVINCE CODE430_	ARGONTRACE
TRUE VERTICAL DEPTH (FT)4508	
MEASURED DEPTH	HYDROGEN SULFIDE**0.0
WELLHEAD PRESSURE, PSIG891	CARBON DIOXIDETRACE
OPEN FLOW, MCFD	HELIUM0.36
	HEATING VALUE*
SAMPLE 20547	COMPONENT MOLE DOT
SAMPLE 2004/	COMPONENT, MOLE PCT
STATENEW MEXICO	METHANE 86.1
COUNTY CHAVES	ETHANE 4.8
	DDOD44F
FIELD PECOS SLOPE	PROPANE 1.7
	N-BUTANE0.6
WELL NAME NICHOLS DALE FEDERAL NO. 6	N-BUTANE
WELL NAME NICHOLS DALE FEDERAL NO. 6 API 3000561854	N-BUTANE 0.6 ISOBUTANE 0.3 N-PENTANE 0.2
WELL NAME NICHOLS DALE FEDERAL NO. 6 API 3000561854 LOCATION SEC. 33, T7S, R26E	N-BUTANE 0.6 ISOBUTANE 0.3 N-PENTANE 0.2 ISOPENTANE 0.2
WELL NAME NICHOLS DALE FEDERAL NO. 6 API 3000561854 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC.	N-BUTANE 0.6 ISOBUTANE 0.3 N-PENTANE 0.2 ISOPENTANE 0.2 CYCLOPENTANE
FIELD PECOS SLOPE WELL NAME NICHOLS DALE FEDERAL NO. 6 API 3000561854 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821229 SAMPLED 001219	N-BUTANE 0.6 ISOBUTANE 0.3 N-PENTANE 0.2 ISOPENTANE 0.2 CYCLOPENTANE HEXANES PLUS 0.4
WELL NAME NICHOLS DALE FEDERAL NO. 6 API 3000561854 LOCATION SEC. 33. T7S. R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821229 SAMPLED 001219	N-BUTANE 0.6 ISOBUTANE 0.3 N-PENTANE 0.2 ISOPENTANE 0.2 CYCLOPENTANE HEXANES PLUS 0.4 NITROGEN 5.4
WELL NAME NICHOLS DALE FEDERAL NO. 6 API 3000561854 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821229 SAMPLED 001219 FORMATION PERM-ABO	N-BUTANE 0.6 ISOBUTANE 0.3 N-PENTANE 0.2 ISOPENTANE 0.2 CYCLOPENTANE HEXANES PLUS 0.4 NITROGEN 5.4
WELL NAME NICHOLS DALE FEDERAL NO. 6 API 3000561854 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821229 SAMPLED 001219 FORMATION PERM-ABO GEOLOGIC PROVINCE CODE 430	N-BUTANE 0.6 ISOBUTANE 0.3 N-PENTANE 0.2 ISOPENTANE 0.2 CYCLOPENTANE HEXANES PLUS 0.4 NITROGEN 5.4 OXYGEN 0.0
WELL NAME NICHOLS DALE FEDERAL NO. 6 API 3000561854 LOCATION SEC. 33. T7S. R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821229 SAMPLED 001219 FORMATION PERM-ABO GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 4319	N-BUTANE 0.6 ISOBUTANE 0.3 N-PENTANE 0.2 ISOPENTANE 0.2 CYCLOPENTANE HEXANES PLUS 0.4 NITROGEN 5.4 OXYGEN 0.0 ARGON 0.0
WELL NAME NICHOLS DALE FEDERAL NO. 6 API 3000561854 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821229 SAMPLED 001219 FORMATION PERM-ABO GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 4319 MEASURED DEPTH	N-BUTANE 0.6 ISOBUTANE 0.3 N-PENTANE 0.2 ISOPENTANE CYCLOPENTANE HEXANES PLUS 0.4 NITROGEN 5.4 OXYGEN 0.0 ARGON 0.0 HYDROGEN TRACE
WELL NAME NICHOLS DALE FEDERAL NO. 6 API 3000561854 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC. COMPLETED 821229 SAMPLED 001219 FORMATION PERM-ABO GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 4319 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 832	N-BUTANE 0.6 ISOBUTANE 0.3 N-PENTANE 0.2 ISOPENTANE 0.2 CYCLOPENTANE HEXANES PLUS 0.4 NITROGEN 5.4 OXYGEN 0.0 ARGON 0.0 HYDROGEN TRACE HYDROGEN SULFIDE** 0.0
WELL NAME NICHOLS DALE FEDERAL NO. 6 API 3000561854 LOCATION SEC. 33, T7S, R26E OWNER PECOS RIVER OPERATING, INC.	N-BUTANE 0.6 ISOBUTANE 0.3 N-PENTANE 0.2 ISOPENTANE CYCLOPENTANE HEXANES PLUS 0.4 NITROGEN 5.4 OXYGEN 0.0 ARGON 0.0 HYDROGEN TRACE HYDROGEN SULFIDE** 0.0 CARBON DIOXIDE 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	20602	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	86.1
	CHAVES	ETHANE	5.9
****	PECOS SLOPE S	PROPANE	2.1
		N-BUTANE	0.5
-	PENJACK FEDERAL NO. 2	ISOBUTANE	0.3
	3000562465	N-PENTANE	0.1
	SEC. 12, T10S, R25E	ISOPENTANE	0.1
OWNERCH	HESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	870428	HEXANES PLUS	0.1
SAMPLED	010228	NITROGEN	4.3
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	4421	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	980	CARBON DIOXIDE	0.0
OPEN FLOW, MCFD	1600	HELIUM	
		HEATING VALUE*	1.070
		SPECIFIC GRAVITY	0.64
SAMPLE	20562	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	86.4
	CHAVES	ETHANE	4.8
	CHAVES	PROPANE	1.7
	DECOC CLODE		
	PECOS SLOPE	N-BUTANE	
WELL NAME	VANCE FED. A NO. 2	N-BUTANEISOBUTANE	0.6
WELL NAME	VANCE FED. A NO. 2 3000561762		0.£
WELL NAMEAPILOCATION	VANCE FED. A NO. 2 3000561762 SEC. 34, T7S, R26E	ISOBUTANE	0.£ 0.3 0.2
WELL NAMEAPILOCATION	VANCE FED. A NO. 2 3000561762	ISOBUTANE	0.6 0.3 0.2
WELL NAMEAPILOCATION	VANCE FED. A NO. 2 3000561762 SEC. 34, T7S, R26E	ISOBUTANEISOPENTANE	0.6 0.3 0.2 0.2
WELL NAME API LOCATION OWNER COMPLETED	VANCE FED. A NO. 2 3000561762 SEC. 34, T7S, R26E EXCO RESOURCES, INC.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.6 0.3 0.2 0.2
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	VANCE FED. A NO. 2 3000561762 SEC. 34, T7S, R26E EXCO RESOURCES, INC. 821028	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.6 0.3 0.2 0.2
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	VANCE FED. A NO. 2 3000561762 SEC. 34, T7S, R26E EXCO RESOURCES, INC. 821028 001220 PERM-ABO.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.6 0.3 0.2 0.2
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	VANCE FED. A NO. 2 3000561762 SEC. 34, T7S, R26E EXCO RESOURCES, INC. 821028 001220 PERM-ABO	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.6 0.3 0.2 0.2
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	VANCE FED. A NO. 2 3000561762 SEC. 34, T7S, R26E EXCO RESOURCES, INC. 821028 001220 PERM-ABO 430	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.6 0.2 0.2 0.2
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	VANCE FED. A NO. 2 3000561762 SEC. 34, T7S, R26E EXCO RESOURCES, INC. 821028 001220 PERM-ABO 430 4398	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.6 0.3 0.2 0.2 0.4 5.0 0.0 TRACE
WELL NAME	VANCE FED. A NO. 2 3000561762 SEC. 34, T7S, R26E EXCO RESOURCES, INC. 821028 001220 PERM-ABO 430 4398	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.6 0.3 0.2 0.2 5.0 TRACE TRACE TRACE 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	VANCE FED. A NO. 2 3000561762 SEC. 34, T7S, R26E EXCO RESOURCES, INC. 821028 001220 PERM-ABO 430 4398	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.6 0.3 0.2 0.2 5.0 TRACE 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	20552	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	86.6
COUNTY		ETHANE	4.7
		PROPANE	1.7
FIELD		N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.3
•	3000561508	N-PENTANE	0.2
LOCATION		ISOPENTANE	0.2
	EXCO RESOURCES, INC.	CYCLOPENTANE	
COMPLETED	820709	HEXANES PLUS	0.4
SAMPLED	001220	NITROGEN	5.0
FORMATION	PERM-ABO	OXYGEN	
GEOLOGIC PROVINCE CODE _	430	ARGON	
TRUE VERTICAL DEPTH (FT)	4556	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	865	CARBON DIOXIDE	
OPEN FLOW, MCFD	1753	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20573	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	83.7
COUNTY		ETHANE	5.0
FIELD		PROPANE	2.0
WELL NAMEO'CO		N-BUTANE	0.7
AAETE MAWE			
A DV		ISOBUTANE	
	3000562740	N-PENTANE	0.3
LOCATION	3000562740 SEC. 15, T6S, R26E	N-PENTANE	0.3
API	3000562740 SEC. 15, T6S, R26E COS RIVER OPERATING, INC.	N-PENTANEISOPENTANECYCLOPENTANE	0.3
LOCATIONPEO	3000562740 SEC. 15, T6S, R26E COS RIVER OPERATING, INC. 891228	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS	0.3 0.2 - 0.3
LOCATION	3000562740 SEC. 15, T6S, R26E COS RIVER OPERATING, INC. 891228 001221	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.3 0.2 0.3 6.9
LOCATIONPEO OWNERPEO COMPLETED SAMPLED FORMATION	3000562740 SEC. 15, T6S, R26E COS RIVER OPERATING, INC. 891228 001221 PERM-ABO	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.3 0.2 0.3 6.9
LOCATION	3000562740 SEC. 15, T6S, R26E COS RIVER OPERATING, INC. 891228 001221 PERM-ABO	N-PENTANE	0.3 0.2 0.3 6.9 0.0 TRACE
LOCATION	3000562740 SEC. 15, T6S, R26E COS RIVER OPERATING, INC. 891228 001221 PERM-ABO. 430.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.3 0.3 0.3 6.9 0.0 TRACE
LOCATIONPEO OWNERPEO COMPLETED SAMPLED FORMATION	3000562740. SEC. 15, T6S, R26E. COS RIVER OPERATING, INC. 891228. 001221. PERM-ABO. 430. 4150.	N-PENTANE	0.3 0.3 0.3 6.9 0.0 TRACE TRACE
LOCATION	3000562740. SEC. 15, T6S, R26E. COS RIVER OPERATING, INC. 891228. 001221. PERM-ABO. 430. 4150.	N-PENTANE	0.3 0.2 0.3 6.9 0.0 TRACE TRACE
LOCATION	3000562740 SEC. 15, T6S, R26E COS RIVER OPERATING, INC. 891228 001221 PERM-ABO. 430. 4150.	N-PENTANE	0.3 0.2 0.3 6.9 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	20608	COMPONENT, MOLE PCT	
STATE	NEW MEXICO.	METHANE	87.0
	CHAVES	ETHANE	4.8
	PECOS SLOPE S	PROPANE	1.7
	PENJACK FEDERAL NO. 1	N-BUTANE	0.5
		ISOBUTANE	0.3
	3000560531	N-PENTANE	0.1
· · ·	SEC. 6, T10S, R26E	ISOPENTANE	0.1
OWNER	CHESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	790208	HEXANES PLUS	0.1
SAMPLED	010228	NITROGEN	4.8
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	≡430_	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	4334	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE PSI	G961	CARBON DIOXIDE	0.0
	1272	HELIUM	
OFEN FLOW, MOFD	1212	HEATING VALUE*	1.050
		SPECIFIC GRAVITY	0.633
SAMPLE	20603	COMPONENT, MOLE PCT	
CTATE	NEW MEXICO.	METHANE	86.2
		ETHANE	4.9
	CHAVES	PROPANE	
	PECOS SLOPE S	N-BUTANE	
WELL NAME	JJ FEDERAL COM. 2	ISOBUTANE	
API	3000562678	N-PENTANE	0.2
LOCATION	SEC. 1, T10S, R25E	ISOPENTANE	0.1
OWNER	CHESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	890509	HEXANES PLUS	0.2
SAMPLED	010228	NITROGEN	5.3
		NITROGEN	
FORMATION	010228 PERM-ABO		0.0
FORMATION	010228 	OXYGEN	0.0 TRACE
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	010228 PERM-ABO = 430 4307	OXYGEN	0.0 TRACE TRACE
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	010228 	OXYGEN	0.0 TRACE TRACE
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSI	010228 PERM-ABO E 430 0 4307 G 972	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.0 TRACE TRACE 0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSI	010228 	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 TRACE 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

	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	82.6
COUNTY CHAVES	ETHANE	4.3
FIELD PECOS SLOPE	PROPANE	1.6
	N-BUTANE	0.6
WELL NAMECOBIE-EBEID FEDERAL COM NO. 1	ISOBUTANE	0.3
API3000561350_	N-PENTANE	0.2
LOCATION SEC. 13. T8S. R25E	ISOPENTANE	0.1
OWNER PECOS RIVER OPERATING, INC.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.3
SAMPLED	NITROGEN	9.3
FORMATION PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE430_	ARGON	TRACE
TRUE VERTICAL DEPTH (FT) 4164	HYDROGEN	0.1
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG955	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	HELIUM	
51 EAT ESW, 11101 B	HEATING VALUE*	1,007
SAMPLE 20534	COMPONENT, MOLE PCT	
OF THE LEE LEGIST		04.0
STATENEW MEXICO	METHANE	4.5
COUNTYCHAVES	PROPANE	
FIELD PECOS SLOPE	N-BUTANE	
WELL NAME PECOS SLOPE 24 FEDERAL NO. 1	ISOBUTANE	
API		
	N-PENTANE	0.2
LOCATIONSEC. 24, T8S, R25E.		0.2
LOCATION SEC. 24, T8S, R25E OWNER MEWBOURNE OIL CO.	N-PENTANE ISOPENTANE CYCLOPENTANE	0.2 0.2
API	N-PENTANE	0.2 0.2 — 0.2
LOCATION SEC. 24, T8S, R25E OWNER MEWBOURNE OIL CO. COMPLETED 950408 SAMPLED 001218	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2 0.2 - 0.2 9.7
LOCATION SEC. 24, T8S, R25E OWNER MEWBOURNE OIL CO. COMPLETED 950408 SAMPLED 001218 FORMATION PERM-ABO.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.2 0.2 - 0.2 9.7 0.0
LOCATION SEC. 24, T8S, R25E OWNER MEWBOLIRNE OIL CO. COMPLETED 950408 SAMPLED Q01218 FORMATION PERM-ABO. GEOLOGIC PROVINCE CODE 430	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.2 0.2 - 0.2 9.7 0.0
LOCATION SEC. 24, T8S, R25E OWNER MEWBOURNE OIL CO. COMPLETED 950408. SAMPLED 001218. FORMATION PERM-ABO. GEOLOGIC PROVINCE CODE 430. TRUE VERTICAL DEPTH (FT) 4270.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.2 0.2 0.2 9.7 0.0 TRACE
SEC. 24, T8S, R25E	N-PENTANE	0.2 0.2 0.2 9.7 0.0 TRACE 0.0
SEC. 24, T8S, R25E	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.2 0.2 0.2 9.7 0.0 TRACE 0.0 0.0
SEC. 24, T8S, R25E	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.2 0.2 0.2 9.7 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 205	38	COMPONENT, MOLE PCT	
STATE	NEW WEXICO	METHANE	81.4
COUNTY		ETHANE	4.3
		PROPANE	1.7
	PECOS SLOPE	N-BUTANE	0.8
WELL NAME COBIE-EBEID		ISOBUTANE	0.3
API		N-PENTANE	0.2
LOCATION		ISOPENTANE	0.2
OWNER PECOS RIV	ER OPERATING, INC.	CYCLOPENTANE	
COMPLETED	830216	HEXANES PLUS	0.2
SAMPLED	001219	NITROGEN	10.1
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	3892	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	771	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	0.62
J. 2.1. 2011, 11.0. 2	****	HEATING VALUE*	1,009
		SPECIFIC GRAVITY	0.663
SAMPLE 206	04	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	86.7
STATE	NEW MEXICO	,	
STATE	NEW MEXICO. CHAVES.	METHANE	4.0
STATECOUNTY	NEW MEXICO CHAVES PECOS SLOPE S	METHANE	4.0
STATE COUNTY FIELD WELL NAME	NEW MEXICO CHAVES PECOS SLOPE S MM FEDERAL NO. 7	METHANE ETHANE PROPANE	4.0 1.1 0.3
STATE COUNTY FIELD WELL NAMEAPI	NEW MEXICO CHAVES PECOS SLOPE S MM FEDERAL NO. 7 3000562493	METHANE ETHANE PROPANE N-BUTANE	4.0 1.1 0.3 0.1
STATE COUNTY FIELD WELL NAMEAPI	NEW MEXICO CHAVES PECOS SLOPE S MM FEDERAL NO. 7 3000562493	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.0 1.1 0.3 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	NEW MEXICO CHAVES PECOS SLOPE S MM FEDERAL NO. 7 3000562493 SEC. 25, T9S, R25E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.0 1.1 0.3 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER CHESAPEA	NEW MEXICO CHAVES PECOS SLOPE S MM FEDERAL NO. 7 3000562493 SEC. 25, T9S, R25E KE OPERATING, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.0 1.1 0.3 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION CHESAPEA COMPLETED	NEW MEXICO CHAVES PECOS SLOPE S MM FEDERAL NO. 7 3000562493 SEC. 25, T9S, R25E KE OPERATING, INC. 870730	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	4.0 1.1 0.3 0.1 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER CHESAPEA COMPLETED SAMPLED	NEW MEXICO CHAVES PECOS SLOPE S MM FEDERAL NO. 7 3000562493 SEC. 25, T9S, R25E KE OPERATING, INC. 870730	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.0 1.1 0.3 0.1 0.1 0.1 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER CHESAPEA COMPLETED SAMPLED FORMATION	NEW MEXICO CHAVES PECOS SLOPE S MM FEDERAL NO. 7 3000562493 SEC. 25, T9S, R25E KE OPERATING, INC. 870730 010228 PERM-ABO	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.0 1.1 0.3 0.1 0.1 0.1 0.2 6.7
STATE COUNTY FIELD WELL NAME API LOCATION CHESAPEA COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	NEW MEXICO CHAVES PECOS SLOPE S MM FEDERAL NO. 7 3000562493 SEC. 25, T9S, R25E KE OPERATING, INC. 870730 010228 PERM-ABO 430	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.0 1.1 0.3 0.1 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER CHESAPEA COMPLETED SAMPLED	NEW MEXICO CHAVES PECOS SLOPE S MM FEDERAL NO. 7 3000562493 SEC. 25, T9S, R25E KE OPERATING, INC. 870730 010228 PERM-ABO 430	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.0 1.1 0.3 0.1 0.1 0.1 0.2 6.7 0.0 0.1 TRACE
STATE	NEW MEXICO CHAVES PECOS SLOPE S MM FEDERAL NO. 7 3000562493 SEC. 25, T9S, R25E KE OPERATING, INC. 870730 010228 PERM-ABO 430 4298	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.0 1.1 0.3 0.1 0.1 0.1
STATE	NEW MEXICO CHAVES PECOS SLOPE S MM FEDERAL NO. 7 3000562493 SEC. 25, T9S, R25E KE OPERATING, INC. 870730 010228 PERM-ABO 430 4298	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	4.0 1.1 0.3 0.1 0.1 0.1
STATE	NEW MEXICO CHAVES PECOS SLOPE S MM FEDERAL NO. 7 3000562493 SEC. 25, T9S, R25E KE OPERATING, INC. 870730 010228 PERM-ABO 430 4298	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE*** CARBON DIOXIDE	4.0 1.1 0.3 0.1 0.1 0.2 6.7 0.0 0.1 TRACE 0.0

 $^{^{\}bullet}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\bullet}$ 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	20605	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	84.1
	CHAVES	ETHANE	4.5
		PROPANE	1.6
	PECOS SLOPE S	N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.3
	3000562215	N-PENTANE	0.2
LOCATION	· · · · · ·	ISOPENTANE	0.1
OWNERCHE	ESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	841220	HEXANES PLUS	0.2
SAMPLED	010228	NITROGEN	7.7
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	430	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	4104	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	TRACE
DPEN FLOW, MCFD		HELIUM	
OI ENT LOW, MOI D		HEATING VALUE*	1,022
		SPECIFIC GRAVITY	0.646
SAMPLE	20514	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	82.7
		ETHANE	4.4
COUNTY		PROPANE	1.7
FIELD		N-BUTANE	0.6
WELL NAME	COYOTE FEDERAL NO. 3	ISOBUTANE	0.3
API	3000561099	N-PENTANE	0.3
LOCATION	SEC. 7, T8S, R25E	ISOPENTANE	0.1
OWNERCHE	ESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	820226	HEXANES PLUS	0.6
SAMPLED	001207	NITROGEN	8.6
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	430	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3589	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
MEASURED DEPTH		CARBON DIOXIDE	TRACE
	97 <i>E</i>		
WELLHEAD PRESSURE, PSIG		HELIUM	0.77
MEASURED DEPTH 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 20513	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	83.1
COUNTY CHAVES	ETHANE	4.6
FIELD PECOS SLOPE	PROPANE	1.7
	N-BUTANE	0.6
WELL NAMECOYOTE FEDERAL NO. 4-Y	ISOBUTANE	0.3
API	N-PENTANE	0.3
LOCATION SEC. 7, T8S, R25E	ISOPENTANE	0.2
OWNERCHESAPEAKE OPERATING INC.	CYCLOPENTANE	to.
COMPLETED 830208	HEXANES PLUS	0.4
SAMPLED	NITROGEN	7.9
FORMATIONPERM-ABO	OXYGEN	
GEOLOGIC PROVINCE CODE430	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG826	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD1129	HELIUM	
OF EAT (2017 , 110) D	HEATING VALUE*	1,033
	SPECIFIC GRAVITY	0.657
SAMPLE 20606	COMPONENT, MOLE PCT	
STATE NEW MEXICO	METHANE	83.5
COUNTY CHAVES	ETHANE	4.3
	PROPANE	1.6
FIELD CHAVES CO. UNDESIGNATED	N-BUTANE	0.5
WELL NAME PECOS RIVER FEDERAL NO. 1	ISOBUTANE	0.3
API	N-PENTANE	0.2
LOCATION SEC. 23, T9S, R25E	ISOPENTANE	0.1
OWNER CHESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.2
SAMPLED 010228	NITROGEN	8.3
	OXYGEN	0.0
FORMATIONPERM-ABO_		0.4
	ARGON	U.J
GEOLOGIC PROVINCE CODE	ARGON	0.0
GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 4036		0.0
GEOLOGIC PROVINCE CODE 430 FRUE VERTICAL DEPTH (FT) 4036 MEASURED DEPTH	HYDROGEN	0.0
GEOLOGIC PROVINCE CODE 430 FRUE VERTICAL DEPTH (FT) 4036 MEASURED DEPTH 971	HYDROGEN HYDROGEN SULFIDE**	0.0 0.0 TRACE
### PERM-ABO GEOLOGIC PROVINCE CODE	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 TRACE 0.79

 $^{^{\}star}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\star\prime}$ 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 20516		COMPONENT, MOLE PCT	
STATENEV	V MEXICO	METHANE	82.9
COUNTY		ETHANE	4.5
		PROPANE	1.7
FIELD PECC		N-BUTANE	0.7
WELL NAMECOYOTE FEDE		ISOBUTANE	0.3
API30		N-PENTANE	0.3
LOCATION SEC. 1.		ISOPENTANE	0.2
OWNERCHESAPEAKE OPERA	TING, INC.	CYCLOPENTANE	
COMPLETED	810721	HEXANES PLUS	0.5
SAMPLED	001207	NITROGEN	8.0
FORMATIONP	ERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	3760	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE. PSIG		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	0.80
O. E. (7, 2011, 1907)	1.52	HEATING VALUE*	1.036
		SPECIFIC GRAVITY	U.00
SAMPLE 20515		COMPONENT, MOLE PCT	
STATENEV	V.MEXICO.	METHANE	81.6
COUNTY		ETHANE	4.4
FIELD PECO		PROPANE	1.7
WELL NAME COYOTE F		N-BUTANE	0.6
		ISOBUTANE	0.3
API		N-PENTANE	0.3
LOCATION SEC. 12.		ISOPENTANE	
OWNERCHESAPEAKE OPERA		CYCLOPENTANE	
COMPLETED	811214	HEXANES PLUS	
SAMPLED	001207	NITROGEN	
FORMATIONP	ERM-ABO	OXYGEN	
GEOLOGIC PROVINCE CODE	430	ARGON	
TRUE VERTICAL DEPTH (FT)	3691	HYDROGEN	0.0
MEACHDED DEDTH		HYDROGEN SULFIDE**	
MEASURED DEP I H		CARRON BIOVIDE	TRACE
		CARBON DIOXIDE	
MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	887	HELIUM	0.84
	887		0.84 1.017

 $^{^{\}circ}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\prime\prime}$ 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 20529	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	82.5
COUNTY CHAVES	ETHANE	4.2
	PROPANE	1.4
	N-BUTANE	0.5
WELL NAME DANA FED. NO. 4	ISOBUTANE	0.2
API3000561810	N-PENTANE	0.4
LOCATION SEC. 3, T9S, R25E	ISOPENTANE	0.2
OWNER CHESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	1.8
SAMPLED	NITROGEN	7.7
FORMATION PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 430	ARGON	0.1
TRUE VERTICAL DEPTH (FT)4007	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG1020	CARBON DIOXIDE	TRACE
OPEN FLOW. MCFD 2055	HELIUM	
2001 - 20	HEATING VALUE*	1.079
	SPECIFIC GRAVITY	0.684
SAMPLE 20528	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	84.2
COUNTY CHAVES	ETHANE	4.7
	PROPANE	1.8
FIELDPECOS SLOPE		
	N-BUTANE	0.7
	N-BUTANE	
API3000561435		0.3
API3000561435	ISOBUTANE	0.3
API 3000561435 LOCATION SEC. 3, T9S, R25E	ISOBUTANE	0.3 0.3 0.2
API	ISOBUTANE N-PENTANE ISOPENTANE	0.3 0.3 0.2
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.3 0.3 0.2
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.3 0.3 0.2 0.3 6.4
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.3 0.3 0.2 0.3 6.4 0.0
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.3 0.3 0.2 0.3 0.3 6.4 0.0
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.3 0.3 0.2 0.3 0.3 6.4 0.0 0.1 TRACE
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.3 0.3 0.2 0.3 6.4 0.0 0.1 TRACE
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.3 0.3 0.2 0.3 0.3 6.4 0.0 0.1 TRACE 0.0
WELL NAME DANA FED. NO. 3 API 3000561435 LOCATION SEC. 3, T9S, R25E OWNER CHESAPEAKE OPERATING, INC. COMPLETED 820423 SAMPLED 001218 FORMATION PERM-ABO. GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 4011 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 1022 OPEN FLOW, MCFD 1474	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.3 0.3 0.2 0.3 6.4 0.0 0.1 TRACE 0.0 0.1 0.97

^{*} 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	20500	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	81.0
COUNTY		ETHANE	9.1
		PROPANE	4.8
FIELD		N-BUTANE	1.6
WELL NAME		ISOBUTANE	0.7
API	3000562701	N-PENTANE	0.5
LOCATION	SEC. 35, T14S, R27E	ISOPENTANE	0.5
OWNER	SNOW OIL & GAS, INC.	CYCLOPENTANE	
COMPLETED	890824	HEXANES PLUS	0.9
SAMPLED	001206	NITROGEN	0.4
FORMATION	PENN-ATOKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	8387	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.4
WELLHEAD PRESSURE, PSIG	1839	HELIUM	0.02
OPEN PLOW, MICFD	1098	HEATING VALUE*	1,263
		SPECIFIC GRAVITY	0.73
SAMPLE	20502	COMPONENT, MOLE PCT	
STATE	NEW MEYICO	METHANE	87.4
		ETHANE	7.3
COUNTY		PROPANE	2.5
FIELD		N-BUTANE	
WELL NAME	ROSE FEDERAL NO. 4	ISOBUTANE	0.3
API	3000561597	N-PENTANE	0.2
LOCATION	SEC. 13, T15S, 27E	ISOPENTANE	0.2
OWNER	READ & STEVENS, INC.	CYCLOPENTANE	
COMPLETED	821206	HEXANES PLUS	0.6
SAMPLED	001206	NITROGEN	0.5
FORMATION	PENN-ATOKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
		HYDROGEN	0.0
TRUE VERTICAL DEPTH (ET)	8789		0.0
, ,		HYDROGEN SULFIDE**	
MEASURED DEPTH		HYDROGEN SULFIDE** CARBON DIOXIDE	
MEASURED DEPTH WELLHEAD PRESSURE, PSIG	1751		0.4
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	1751	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 1. - SAMPLES FROM GAS AND OIL WELLS IN THE UNITED STATES

SAMPLE	20503	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	87.0
COUNTY	_	ETHANE	7.5
FIELD	BUFFALO VALLEY	PROPANE	2.8
		N-BUTANE	0.7
	HARRIS FEDERAL COM NO. 2	ISOBUTANE	0.4
API	3000560277	N-PENTANE	0.2
LOCATION	SEC. 24, T15S, R27E	ISOPENTANE	0.2
OWNER	READ & STEVENS, INC.	CYCLOPENTANE	
COMPLETED	740401	HEXANES PLUS	0.3
SAMPLED	001206	NITROGEN	0.6
FORMATION	PENN-ATOKA	OXYGEN	0.0
GEOLOGIC PROVINCE CO	DDE430_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)8807_	HYDROGEN	0.0
MEASURED DEPTH	•	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, F		CARBON DIOXIDE	0.3
DPEN FLOW, MCFD		HELIUM	0.03
OPEN FLOW, MICHO		HEATING VALUE*	1,150
		SPECIFIC GRAVITY	0.656
SAMPLE	20504	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	83.7
	CHAVES	ETHANE	8.7
	DIAMOND MOUND	PROPANE	3.7
	MESA STATE COM NO. 3	N-BUTANE	1.1
		ISOBUTANE	0.5
	3000562255	N-PENTANE	0.3
LOCATION	SEC. 31, T15S, R28E	ISOPENTANE	0.3
OWNER	OCEAN ENERGY, INC.	CYCLOPENTANE	
COMPLETED	851009	HEXANES PLUS	0.6
SAMPLED	001206	NITROGEN	0.8
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CO	DDE430	ARGON	0.0
TRUE VERTICAL DEPTH (I	FT) 9050	HYDROGEN	0.0
	•	HYDROGEN SULFIDE**	0.0
MEASURED DEPTH		CARBON DIOXIDE	0.4
	PSIG 2320		
WELLHEAD PRESSURE, F	PSIG	HELIUM	0.03
WELLHEAD PRESSURE, F	PSIG 2320 14569	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	20493	COMPONENT, MOLE PCT	
STATE	NEW MEYIOO	METHANE	26.1
COUNTY		ETHANE	10.9
		PROPANE	8.0
FIELD		N-BUTANE	2.5
WELL NAME		ISOBUTANE	1.2
API		N-PENTANE	0.6
LOCATION	SEC. 30, T15S, R29E	ISOPENTANE	0.6
OWNER	ELK OIL CO.	CYCLOPENTANE	
COMPLETED	700210	HEXANES PLUS	0.6
SAMPLED	001205	NITROGEN	49.4
FORMATION	PERM-QUEEN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	1482	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	0.07
OPEN FLOW, MOID		HEATING VALUE*	856
		SPECIFIC GRAVITY	0.986
SAMPLE	20570	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	86.7
COUNTY		ETHANE	5.0
		PROPANE	2.2
FIELD		N-BUTANE	0.5
WELL NAMEWEST		ISOBUTANE	0.3
API	3000560290	N-PENTANE	0.1
LOCATION			
LUCATION	SEC. 19, T6S, R27E	ISOPENTANE	0.1
OWNER		CYCLOPENTANE	
	READ & STEVENS, INC.		
OWNER	READ & STEVENS, INC. 811117	CYCLOPENTANE	0.3
OWNER	READ & STEVENS, INC. 811117. .001220	CYCLOPENTANE	0.3
OWNER COMPLETED SAMPLED	READ & STEVENS, INC. 811117. .001220 PENN-VIRGIL	CYCLOPENTANE HEXANES PLUS NITROGEN	0.3 4.4 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	READ & STEVENS, INC. 811117 001220 PENN-VIRGIL 430	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.3 4.4 0.0 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	READ & STEVENS, INC. 811117. 001220 PENN-VIRGIL 430. 5704	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.3 4.4 0.0 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	READ & STEVENS, INC. 811117 .001220 PENN-VIRGIL 430 5704	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.3 4.4 0.0 TRACE TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	READ & STEVENS, INC. 811117. 001220 PENN-VIRGIL 430. 5704	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.3 4.4 0.0 TRACE TRACE 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	READ & STEVENS, INC. 811117. 001220 PENN-VIRGIL 430. 5704	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.3 4.4 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	20571	COMPONENT, MOLE PCT	
STATE	NEW MEYICO	METHANE	85.9
COUNTY		ETHANE	5.3
		PROPANE	2.2
FIELD		N-BUTANE	3.0
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION	• •	ISOPENTANE	0.2
OWNER	READ & STEVENS, INC.	CYCLOPENTANE	
COMPLETED	700921	HEXANES PLUS	0.2
SAMPLED	001220	NITROGEN	4.3
FORMATION	PENN-VIRGIL	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	5977	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.1
DPEN FLOW, MCFD		HELIUM	
01 EN 1 E0 11, 1001 D		HEATING VALUE*	1.084
		SPECIFIC GRAVITY	0.652
SAMPLE	20697	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	82.4
COUNTY		ETHANE	9.0
		PROPANE	3.8
FIELD		N-BUTANE	1.1
WELL NAME LITTI		ISOBUTANE	0.5
API		N-PENTANE	0.3
LOCATION		ISOPENTANE	0.3
OWNER		CYCLOPENTANE	
COMPLETED	770328	HEXANES PLUS	
SAMPLED	010619	NITROGEN	
FORMATION	PENN-ATOKA MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	430	ARGON	0.0
	44400	HYDROGEN	0.0
TRUE VERTICAL DEPTH (FT)	11102		
		HYDROGEN SULFIDE**	
MEASURED DEPTH		HYDROGEN SULFIDE** CARBON DIOXIDE	
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	3103		0.1

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

	20695	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	59.8
COUNTY		ETHANE	14.4
		PROPANE	10.1
		N-BUTANE	3.2
WELL NAME		ISOBUTANE	1.3
API		N-PENTANE	0.9
LOCATION	SEC. 5. T18S, R31E	ISOPENTANE	1.0
OWNER ROBE	RT H. FORREST, JR. OIL LLC	CYCLOPENTANE	
COMPLETED	980201	HEXANES PLUS	1.1
SAMPLED	010619	NITROGEN	7.9
FORMATION	PERM-GRAYBURG	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT) _	3442	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.2
OPEN FLOW, MCFD		HELIUM	
OFEN FLOW, MCFD		HEATING VALUE*	1,388
		SPECIFIC GRAVITY	0.883
SAMPLE	20694	COMPONENT, MOLE PCT	
STATE		145771111	
	NEW MEXICO	METHANE	38.8
	NEW MEXICO	ETHANE	
COUNTY	EDDY		17.4
COUNTY	EDDY GRAYBURG JACKSON	ETHANE	17.4 15.6
COUNTY	EDDY GRAYBURG JACKSON SKELLY UNIT NO. 274	ETHANE	17.4 15.6 5.0
COUNTY FIELD WELL NAME	EDDY GRAYBURG JACKSON SKELLY UNIT NO. 274	ETHANEPROPANEN-BUTANE	17.4 15.6 5.0 2.2
COUNTY FIELD WELL NAMEAPI	GRAYBURG JACKSON SKELLY UNIT NO. 274 3001529210	ETHANE PROPANE N-BUTANE ISOBUTANE	17.4 15.6 5.0 2.2
COUNTY FIELD WELL NAME API LOCATION	EDDY GRAYBURG JACKSON SKELLY UNIT NO. 274 3001529210 SEC. 28, T17S, R31E	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	17.4 15.8 5.0 2.2 2.3
COUNTY FIELD WELL NAME API LOCATION OWNER	GRAYBURG JACKSON SKELLY UNIT NO. 274 3001529210 SEC. 28, T17S, R31E WISER OIL CO.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	17.4 15.6 5.0 2.2 2.3 1.5
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	GRAYBURG JACKSON SKELLY UNIT NO. 274 3001529210 SEC. 28, T17S, R31E WISER OIL CO. 970110	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	17.4 15.8 5.0 2.2 2.3 1.5
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	EDDY GRAYBURG JACKSON SKELLY UNIT NO. 274 3001529210 SEC. 28, T17S, R31E WISER OIL CO. 970110 010619	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	17.4 15.6 5.0 2.2 2.2 1.5
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	EDDY GRAYBURG JACKSON SKELLY UNIT NO. 274 3001529210 SEC. 28, T17S, R31E WISER OIL CO. 970110 010619 PERM-GRAYBURG	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	17.4 15.6 5.0 2.2 1.5
COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	EDDY GRAYBURG JACKSON SKELLY UNIT NO. 274 3001529210 SEC. 28, T17S, R31E WISER OIL CO. 970110 010619 PERM-GRAYBURG 430	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	17.4 15.6 5.0 2.2 2.3 1.5 2.4 12.7 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	EDDY GRAYBURG JACKSON SKELLY UNIT NO. 274 3001529210 SEC. 28, T17S, R31E WISER OIL CO. 970110 010619 PERM-GRAYBURG 430 3541	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	17.4 15.8 5.0 2.2 2.2 1.5 2.4 12.7 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	GRAYBURG JACKSON SKELLY UNIT NO. 274 3001529210 SEC. 28, T17S, R31E WISER OIL CO. 970110 010619 PERM-GRAYBURG 430 3541	ETHANE	17.4 15.6 5.0 2.3 2.3 1.5 12.7 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 .	EDDY GRAYBURG JACKSON SKELLY UNIT NO. 274 3001529210 SEC. 28, T17S, R31E WISER OIL CO. 970110 010619 PERM-GRAYBURG 430 3541	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	17.4 15.6 5.0 2.2 1.5 12.7 0.0 TRACE
COUNTY	EDDY GRAYBURG JACKSON SKELLY UNIT NO. 274 3001529210 SEC. 28, T17S, R31E WISER OIL CO. 970110 010619 PERM-GRAYBURG 430 3541	ETHANE	17.4 15.6 5.0 2.2 1.5 12.7 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 20509	COMPONENT, MOLE PCT	
CTATE	NEW MEXICO.	METHANE	83.2
****		ETHANE	7.7
	EDDY	PROPANE	4.5
	LOGAN DRAW	N-BUTANE	1.9
_	OXY HARVESTER FEDERAL NO. 1	ISOBUTANE	0.9
API	3001530882	N-PENTANE	0.4
	SEC. 26, T17S, R27E	ISOPENTANE	0.5
OWNER	OXY USA WTP LIMITED PARTNERSHIP	CYCLOPENTANE	
COMPLETED .	000519	HEXANES PLUS	0.2
SAMPLED	001206	NITROGEN	0.4
FORMATION _	PENN-MORROW.	OXYGEN	0.0
GEOLOGIC PF	OVINCE CODE430	ARGON	0.0
TRUE VERTIC	AL DEPTH (FT)9640	HYDROGEN	0.0
	EPTH	HYDROGEN SULFIDE**	0.0
	RESSURE, PSIG	CARBON DIOXIDE	0.4
	MCFD1738	HELIUM	0.02
OF EIN FLOW,	1730.	HEATING VALUE*	1,225
		SPECIFIC GRAVITY	0.706
:	SAMPLE 20508	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	86.9
	NEW WEARO		
	EDDY	ETHANE	7.2
	EDDY	ETHANEPROPANE	
FIELD	LOGAN DRAW		2.9
FIELD		PROPANE	2.9 0.8
FIELD	LOGAN DRAW	PROPANE	2.9 0.8 0.4
FIELD WELL NAME _ API	LOGAN DRAW OXY SKINNY SALOON FEDERAL NO. 1	PROPANE N-BUTANE ISOBUTANE	2.9 0.8 0.4 0.2
FIELD WELL NAME _ API LOCATION	LOGAN DRAW OXY SKINNY SALOON FEDERAL NO. 1 3001530756	PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.8 0.4 0.2 0.2
FIELD WELL NAME _ API LOCATION OWNER	LOGAN DRAW OXY SKINNY SALOON FEDERAL NO. 1 3001530756 SEC. 11. T17S, R27E	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.8 0.4 0.2 0.2
FIELD	LOGAN DRAW OXY SKINNY SALOON FEDERAL NO. 1 3001530756 SEC. 11. T17S, R27E OXY USA WTP LIMITED PARTNERSHIP	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	2.9 0.8 0.4 0.2 0.2
FIELD WELL NAME _ API LOCATION OWNER COMPLETED . SAMPLED	LOGAN DRAW OXY SKINNY SALOON FEDERAL NO. 1 3001530756 SEC. 11, T17S, R27E OXY USA WTP LIMITED PARTNERSHIP 991129	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.9 0.8 0.4 0.2 0.2
FIELD WELL NAME _ API LOCATION OWNER COMPLETED SAMPLED FORMATION _	LOGAN DRAW OXY SKINNY SALOON FEDERAL NO. 1 3001530756 SEC. 11, T17S, R27E OXY USA WTP LIMITED PARTNERSHIP 991129 001206 PENN-MORROW	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.8 0.4 0.2 0.2 0.4 0.5 0.0
FIELD	LOGAN DRAW OXY SKINNY SALOON FEDERAL NO. 1 3001530756 SEC. 11, T17S, R27E OXY USA WTP LIMITED PARTNERSHIP 991129 001206 PENN-MORROW OVINCE CODE 430	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.6 0.2 0.2 0.4 0.5 0.0 0.0
FIELD WELL NAME _ API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PRITRUE VERTIC	LOGAN DRAW OXY SKINNY SALOON FEDERAL NO. 1 3001530756 SEC. 11, T17S, R27E OXY USA WTP LIMITED PARTNERSHIP 991129 001206 PENN-MORROW OVINCE CODE 430 AL DEPTH (FT) 9394	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	2.9 0.8 0.4 0.2 0.2 0.4 0.5 0.0 0.0
WELL NAME _ API LOCATION OWNER COMPLETED _ SAMPLED FORMATION _ GEOLOGIC PE TRUE VERTIC MEASURED D	LOGAN DRAW OXY SKINNY SALOON FEDERAL NO. 1 3001530756 SEC. 11, T17S, R27E OXY USA WTP LIMITED PARTNERSHIP 991129 001206 PENN-MORROW OVINCE CODE 430 AL DEPTH (FT) 9394	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	2.9 0.8 0.4 0.2 0.2 0.4 0.5 0.0 0.0 0.0
FIELD	LOGAN DRAW OXY SKINNY SALOON FEDERAL NO. 1 3001530756 SEC. 11. T17S, R27E OXY USA WTP LIMITED PARTNERSHIP 991129 001206 PENN-MORROW OVINCE CODE 430 AL DEPTH (FT) 9394 EPTH RESSURE, PSIG 880	PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	2.9 0.8 0.4 0.2 0.2 0.4 0.5 0.0 0.0 0.0 0.0
FIELD	LOGAN DRAW OXY SKINNY SALOON FEDERAL NO. 1 3001530756 SEC. 11, T17S, R27E OXY USA WTP LIMITED PARTNERSHIP 991129 001206 PENN-MORROW OVINCE CODE 430 AL DEPTH (FT) 9394	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	2.9 0.8 0.4 0.2 0.4 0.5 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	20455	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	91.9
		ETHANE	4.0
COUNTY		PROPANE	3.0
FIELD		N-BUTANE	0.1
WELL NAMELANCA		ISOBUTANE	0.1
	3001530965	N-PENTANE	TRACE
LOCATION	SEC. 8. T22S. R26E	ISOPENTANE	0.1
OWNER RICKS EXPLORAT	ION ACQUISITION CORP.	CYCLOPENTANE	
COMPLETED	001101	HEXANES PLUS	0.1
SAMPLED	001127	NITROGEN	0.3
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	11486	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	2.5
OPEN FLOW, MCFD		HELIUM	0.03
OPEN I LOW, MICH D		HEATING VALUE*	1.038
		SPECIFIC GRAVITY	0.616
SAMPLE	20456	COMPONENT, MOLE PCT	
STATE	NEW WEATOU	METHANE	95.3
	THE VY MILESTON	ETHANE	
COUNTY	EDDV	E HANC	2.5
EIEL B	EDDY	PROPANE	
	EDDY UNDESIGNATED		0.4
WELL NAME	EDDY UNDESIGNATED FEDERAL AA NO. 1	PROPANE	0.4
WELL NAME	EDDY UNDESIGNATED FEDERAL AA NO. 1 3001522926	PROPANE	0.4 0.1 0.1
WELL NAME	EDDY UNDESIGNATED FEDERAL AA NO. 1 3001522926	PROPANEN-BUTANE	0.4 0.1 0.1 TRACE
WELL NAMEAPI	EDDY UNDESIGNATED FEDERAL AA NO. 1 3001522926 SEC. 17, T22S, R26E	PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.4 0.1 0.1 TRACE
WELL NAME API LOCATION OWNER RICKS EXPLORAT	EDDY UNDESIGNATED FEDERAL AA NO. 1 3001522926 SEC. 17, T22S, R26E TION ACQUISITION CORP.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.4 0.1 0.1 TRACE TRACE
FIELD WELL NAME API LOCATION COWNER RICKS EXPLORAT COMPLETED SAMPLED	EDDY UNDESIGNATED FEDERAL AA NO. 1 3001522926 SEC. 17, T22S, R26E TION ACQUISITION CORP. 791009	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.4 0.1 0.1 TRACE TRACE
WELL NAME API LOCATION OWNER RICKS EXPLORAT COMPLETED	EDDY UNDESIGNATED FEDERAL AA NO. 1 3001522926 SEC. 17, T22S, R26E TION ACQUISITION CORP. 791009 001127	PROPANE	0.4 0.1 0.1 TRACE TRACE
WELL NAME API LOCATION OWNER RICKS EXPLORAT COMPLETED SAMPLED	EDDY UNDESIGNATED FEDERAL AA NO. 1 3001522926 SEC. 17, T225, R26E TION ACQUISITION CORP. 791009 001127 PENN-MORROW	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.4 0.1 0.1 TRACE TRACE
WELL NAME API LOCATION OWNER RICKS EXPLORAT COMPLETED SAMPLED FORMATION	EDDY UNDESIGNATED FEDERAL AA NO. 1 3001522926 SEC. 17, T22S, R26E TION ACQUISITION CORP. 791009 001127 PENN-MORROW 430	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.4 0.1 TRACE TRACE
WELL NAME	EDDY UNDESIGNATED FEDERAL AA NO. 1 3001522926 SEC. 17, T22S, R26E TION ACQUISITION CORP. 791009 001127 PENN-MORROW 430 11290	PROPANE	0.4 0.1 TRACE TRACE
WELL NAME API LOCATION OWNER RICKS EXPLORAT COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	EDDY UNDESIGNATED FEDERAL AA NO. 1 3001522926 SEC. 17, T22S, R26E TION ACQUISITION CORP. 791009 001127 PENN-MORROW 430 11290	PROPANE	0.4 0.1 TRACE TRACE 0.1 0.7 0.0 0.0
WELL NAME	EDDY UNDESIGNATED FEDERAL AA NO. 1 3001522926 SEC. 17, T22S, R26E TION ACQUISITION CORP. 791009 001127 PENN-MORROW 430 11290	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.4 0.1 0.1 TRACE TRACE 0.1 0.2 0.0 0.0 0.0
WELL NAME API LOCATION OWNER RICKS EXPLORAT COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	EDDY UNDESIGNATED FEDERAL AA NO. 1 3001522926 SEC. 17, T22S, R26E TION ACQUISITION CORP. 791009 001127 PENN-MORROW 430 11290	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	0.4 0.1 TRACE TRACE 0.1 0.7 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	20457	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	94.9
	EDDY	ETHANE	2.7
	HAPPY VALLEY	PROPANE	0.5
	FEDERAL BN NO. 1	N-BUTANE	0.1
		ISOBUTANE	0.1
	3001523498	N-PENTANE	TRACE
	SEC. 17, T22S, R26E	ISOPENTANE	TRACE
	ORATION ACQUISITION CORP.	CYCLOPENTANE	
COMPLETED	810113	HEXANES PLUS	
SAMPLED	001127	NITROGEN	0.6
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	11668	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSI	G1778.	CARBON DIOXIDE	
OPEN FLOW, MCFD	6500	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.59
SAMPLE	20459	COMPONENT, MOLE PCT	••••
CTATE	NEW MEXICO	METHANE	95.8
		ETHANE	2.1
	EDDY	PROPANE	0.3
	HAPPY VALLEY	N-BUTANE	0.1
WELL NAMEL	ANCASTER SPRING COM NO. 1	ISOBUTANE	0.1
API	3001523437	N-PENTANE	TRACE
LOCATION	SEC. 8, T22S, R26E	ISOPENTANE	TRACE
OWNER RICKS EXPL	ORATION ACQUISITION CORP.	CYCLOPENTANE	
COMPLETED	801028	HEXANES PLUS	0.1
SAMPLED	001127.	NITROGEN	0.8
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	11330	HYDROGEN	0.0
` .		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.7
WELLHEAD PRESSURE, PSIG		HELIUM	0.03
WELLHEAD PRESSURE, PSIG	13000	HELIUM	

 $^{^{\}circ}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\circ}$ 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	20507	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	86.8
	EDDY	ETHANE	7.1
		PROPANE	2.9
FIELD	CROW FLATS	N-BUTANE	0.8
WELL NAME		ISOBUTANE	0.4
	3001524025	N-PENTANE	0.3
LOCATION	SEC. 12, T17S, R27E	ISOPENTANE	0.3
OWNER RICKS EXPLOR	ATION ACQUISITION CORP.	CYCLOPENTANE	
COMPLETED	820222	HEXANES PLUS	0.6
SAMPLED	001206	NITROGEN	0.5
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	9400	HYDROGEN	0.0
MEASURED DEPTH	<u> </u>	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.4
,		HELIUM	0.03
OPEN FLOW, MCFD	1410	HEATING VALUE*	1,167
		SPECIFIC GRAVITY	0.667
SAMPLE	20458	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	91.9
		ETHANE	4.1
COUNTY		PROPANE	1.2
FIELD		N-BUTANE	0.4
WELL NAME		ISOBUTANE	0.3
API	3001523461	N-PENTANE	0.1
LOCATION	SEC. 16, T22S, R26E	ISOPENTANE	0.2
OWNER RICKS EXPLOR	ATION ACQUISITION CORP.	CYCLOPENTANE	
COMPLETED	810622	HEXANES PLUS	0.3
SAMPLED	001127	NITROGEN	1.0
		OVOCEN	0.0
FORMATION	PENN-MORROW	OXYGEN	
		ARGON	
GEOLOGIC PROVINCE CODE	430		0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	430 11542	ARGON	0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	430 11542	ARGON	0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	430. 11542. 3598.	ARGON HYDROGEN HYDROGEN SULFIDE**	0.0 0.0 0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	430. 11542. 3598.	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.0 0.4 0.03

CALCULATED GROSS 8TU 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	20460	COMPONENT, MOLE PCT	
STATE	NEW WEALCO	METHANE	81.3
COUNTY		ETHANE	11.2
		PROPANE	3.7
FIELD		N-BUTANE	1.2
WELL NAME		ISOBUTANE	0.6
API		N-PENTANE	0.4
LOCATION		ISOPENTANE	0.3
OWNER	DELTA PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	790220	HEXANES PLUS	0.4
SAMPLED	001127	NITROGEN	3.0
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	11616	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.05
O/ E/17 EOV1, MO/ D	1093	HEATING VALUE*	1,219
		SPECIFIC GRAVITY	0.701
SAMPLE	20485	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	78.6
COUNTY		ETHANE	10.3
FIELD		PROPANE	4.6
		N-BUTANE	1.4
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.4
LOCATION		ISOPENTANE	0.3
OWNER		CYCLOPENTANE	
COMPLETED	971027	HEXANES PLUS	0.6
SAMPLED	001129	NITROGEN	2.5
FORMATION	PERM-BLINEBRY	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT) _	6387	HYDROGEN	0.0
		HYDROGEN SULFIDE**	
MEASURED DEPTH			
		CARBON DIOXIDE	0.6
WELLHEAD PRESSURE, PSIG		HELIUM	0.04
			0.04

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

SAMPLE	20484	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	77.3
	LEA	ETHANE	10.9
		PROPANE	5.3
FIELD	BLINEBRY	N-BUTANE	1.8
WELL NAME		ISOBUTANE	0.6
API		N-PENTANE	0.6
LOCATION	SEC. 35, T21S, R37E	ISOPENTANE	0.4
OWNER	CONOCO, INC.	CYCLOPENTANE	
COMPLETED	980323	HEXANES PLUS	3.0
SAMPLED	001129	NITROGEN	2.1
FORMATION	PERM-BLINEBRY	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	6226	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	0.04
OF EN FLOW, MICFO	493	HEATING VALUE*	1,269
		SPECIFIC GRAVITY	0.747
SAMPLE	20684	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	70.4
COLINTY		ETHANE	11.5
	LEA	PROPANE	
FIELD	LEA YOUNG N		6.3
FIELD	LEA YOUNG N R.E. GRAHAM 7 NO. 1	PROPANE	6.3
FIELD WELL NAMEAPI	LEA. YOUNG N. R.E. GRAHAM 7 NO. 1 3002529002	PROPANE	6.3 2.5 0.9
FIELD WELL NAMEAPI	LEA. YOUNG N. R.E. GRAHAM 7 NO. 1 3002529002	PROPANE	6.3 2.5 0.9 0.9
FIELD WELL NAME API LOCATION	LEA. YOUNG N. R.E. GRAHAM 7 NO. 1. 3002529002. SEC. 7, T18S, R32E.	PROPANE N-BUTANE ISOBUTANE N-PENTANE	6.3 2.5 0.9 0.9
FIELD WELL NAME API LOCATION OWNER	LEA YOUNG N R.E. GRAHAM 7 NO. 1 3002529002 SEC. 7, T18S, R32E CIMAREX ENERGY CO.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	6.3 2.5 0.5 0.5
FIELD WELL NAME API LOCATION OWNER COMPLETED	LEA. YOUNG N. R.E. GRAHAM 7 NO. 1 3002529002 SEC. 7, T18S, R32E CIMAREX ENERGY CO. 850415	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	6.5 2.5 0.5 0.5 0.5 -
FIELD	LEA YOUNG N R.E. GRAHAM 7 NO. 1 3002529002 SEC. 7, T18S, R32E CIMAREX ENERGY CO. 850415 010618	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	6.3 2.5 0.5 0.5 0.5 1.6 4.7
FIELD	LEA YOUNG N R.E. GRAHAM 7 NO. 1 3002529002 SEC. 7, T18S, R32E CIMAREX ENERGY CO. 850415 010618 PERM-BONE SPRING	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	6.3 2.8 0.9 0.9 0.9
FIELD	LEA. YOUNG N. R.E. GRAHAM 7 NO. 1 3002529002 SEC. 7, T18S, R32E CIMAREX ENERGY CO. 850415 010618 PERM-BONE SPRING 430	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	6.3 2.5 0.5 0.5 0.5 1.6 4.7 0.0
FIELD	LEA. YOUNG N. R.E. GRAHAM 7 NO. 1 3002529002 SEC. 7, T18S, R32E CIMAREX ENERGY CO. 850415 010618 PERM-BONE SPRING 430	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	6.5 2.5 0.5 0.5 1.6 4.7 0.0
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	LEA YOUNG N R.E. GRAHAM 7 NO. 1 3002529002 SEC. 7, T18S, R32E CIMAREX ENERGY CO. 850415 010618 PERM-BONE SPRING 430 8546	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	6.3 2.5 0.9 0.9 0.9 1.6 4.7 0.0 TRACE
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	LEA. YOUNG N. R.E. GRAHAM 7 NO. 1 3002529002 SEC. 7, T18S, R32E CIMAREX ENERGY CO. 850415 010618 PERM-BONE SPRING 430 8546	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	6.3 2.5 0.9 0.9 0.9 1.6 4.7 0.0 TRACE
COUNTY	LEA. YOUNG N. R.E. GRAHAM 7 NO. 1 3002529002 SEC. 7, T18S, R32E CIMAREX ENERGY CO. 850415 010618 PERM-BONE SPRING 430 8546	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE*** CARBON DIOXIDE	6.3 2.5 0.9 0.9 0.9 1.6 4.7 0.0 TRACE 0.0

 $^{^{\}circ}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\circ\circ}$ 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	20465	COMPONENT, MOLE PCT	
STATE	NEW WEXICO	METHANE	65.7
COUNTY		ETHANE	12.1
		PROPANE	7.3
FIELD	AIRSTRIP	N-BUTANE	2.7
WELL NAME		ISOBUTANE	1.0
API	3002525955	N-PENTANE	0.8
LOCATION	SEC. 34, T18S, R34E	ISOPENTANE	0.8
OWNER	AMTEX ENERGY, INC.	CYCLOPENTANE	
COMPLETED	880421	HEXANES PLUS	1.2
SAMPLED	001127	NITROGEN	4.5
FORMATION	PERM-BONE SPRING	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	9975	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _	·	CARBON DIOXIDE	3.8
OPEN FLOW, MCFD		HELIUM	0.08
OF CIVI LOVY, WOFD	<u> </u>	HEATING VALUE*	1,305
		SPECIFIC GRAVITY	0.859
SAMPLE	20679	COMPONENT, MOLE PCT	
STATE	NEW MEVICO	METHANE	67.2
COUNTY	_	ETHANE	13.8
		PROPANE	7.8
FIELD		N-BUTANE	2.7
WELL NAME		ISOBUTANE	1.0
API	3002530051	N-PENTANE	0.7
LOCATION	SEC. 11, T18S, R32E	ISOPENTANE	0.7
OWNER	BTA OIL PRODUCERS	CYCLOPENTANE	
COMPLETED	871119	HEXANES PLUS	1.2
SAMPLED	010618	NITROGEN	2.9
FORMATION	PERM-BONE SPRING	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	8435	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	1.9
WELLHEAD DRESSIEDE DOIC		HELIUM	0.10
WELLHEAD PRESSURE, PSIG		FICEION	
WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD		HEATING VALUE*	

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 50 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

	20700	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	55.7
COUNTY	LEA	ETHANE	9.5
		PROPANE	10.3
FIELD	LEA NE	N-BUTANE	3.6
	PEARL 33 FEDERAL NO. 1	ISOBUTANE	1.8
	3002534119	N-PENTANE	0.9
LOCATION	SEC. 33, T19S, R34E	ISOPENTANE	1.3
OWNER	READ & STEVENS, INC.	CYCLOPENTANE	
COMPLETED	980929	HEXANES PLUS	1.3
SAMPLED	010619	NITROGEN	15.3
FORMATION	PERM-DELAWARE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
	5640	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	3	CARBON DIOXIDE	0.1
	124	HELIUM	0.16
OPEN FLOW, WICFU	124.	HEATING VALUE*	1,320
		SPECIFIC GRAVITY	0.916
SAMPLE	20486	COMPONENT, MOLE PCT	
OTATE		METHANE	
		1415 1 1 W. A	/6./
	NEW MEXICO	ETHANE	
COUNTY	LEA		10.E
COUNTY	LEA DRINKARD	ETHANE	10.6 5.5
COUNTY	LEA	ETHANE	10.6 5.5 2.6
COUNTY FIELD WELL NAME	LEA DRINKARD	ETHANEPROPANEN-BUTANE	10.6 5.5 2.0 0.6
COUNTY FIELD WELL NAME API	LEA DRINKARD CENTRAL DRINKARD UNIT 111	ETHANEPROPANEN-BUTANEISOBUTANE	10.6 5.5 2.0 0.6
COUNTY FIELD WELL NAME API LOCATION	LEA DRINKARD CENTRAL DRINKARD UNIT 111 3002506845	ETHANEPROPANE N-BUTANEISOBUTANE N-PENTANE	10.6 5.5 2.0 0.6 0.7
COUNTY FIELD WELL NAME API LOCATION OWNER	LEA DRINKARD CENTRAL DRINKARD UNIT 111 3002506845 SEC. 28, T21S, R37E	ETHANEPROPANE N-BUTANEISOBUTANE ISOPENTANEISOPENTANE	10.6 5.5 2.0 0.6 0.7 0.5
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	LEA DRINKARD CENTRAL DRINKARD UNIT 111 3002506845 SEC. 28, T21S, R37E CHEVRON U.S.A., INC.	ETHANEPROPANE N-BUTANEISOBUTANE ISOPENTANEISOPENTANE	10.6 5.5 2.0 0.6 0.7 0.5
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	LEA DRINKARD CENTRAL DRINKARD UNIT 111 3002506845 SEC. 28, T21S, R37E CHEVRON U.S.A., INC. 540423	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	10.6 5.5 2.0 0.6 0.7 0.5
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	LEA DRINKARD CENTRAL DRINKARD UNIT 111 3002506845 SEC, 28, T21S, R37E CHEVRON U.S.A., INC. 540423 001130 PERM-DRINKARD	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	10.6 5.5 2.0 0.6 0.7 0.5
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	LEA DRINKARD CENTRAL DRINKARD UNIT 111 3002506845 SEC. 28, T21S, R37E CHEVRON U.S.A., INC. 540423 001130 PERM-DRINKARD	ETHANE	10.6 5.5 2.0 0.6 0.7 0.5 1.0 2.2 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	LEA	ETHANE	10.6 5.5 2.0 0.6 0.7 0.5 1.0 2.2 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	LEA	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	10.6 5.5 2.0 0.6 0.7 0.5 1.0 2.2 0.0 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIC	LEA	ETHANE	10.6 5.5 2.0 0.6 0.7 0.5 1.0 0.0 0.0 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIC	LEA	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	10.6 5.5 2.0 0.6 0.7 0.5 1.0 2.2 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	20488	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	73.5
COUNTY		ETHANE	8.0
		PROPANE	4.8
	EUMONT	N-BUTANE	1,7
WELL NAME GILLULI		ISOBUTANE	0.8
API		N-PENTANE	0.4
LOCATION		ISOPENTANE	0.6
OWNER	OCCIDENTAL PERMIAN LTD	CYCLOPENTANE	
COMPLETED	531128	HEXANES PLUS	0.6
SAMPLED	001130	NITROGEN	3.5
FORMATION	PERM-GRAYBURG	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	3470	HYDROGEN	0.1
MEASURED DEPTH		HYDROGEN SULFIDE**	1.3
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	4.6
OPEN FLOW, MCFD		HELIUM	0.02
OPEN FEOW, WORD	BOOV	HEATING VALUE*	1.167
		SPECIFIC GRAVITY	0.782
SAMPLE	20693	COMPONENT, MOLE PCT	
STATE	NEW MEVICO	METHANE	58.2
		ETHANE	15.5
COUNTY		PROPANE	9.8
FIELD		N-BUTANE	3.3
WELL NAME	BROWN FEDERAL NO. 1	ISOBUTANE	
A FNI			3.1
API	3002530199	N-PENTANE	
LOCATION		N-PENTANE	1.4
	SEC. 31, T17S, R32E		1.4
LOCATION	SEC. 31, T17S, R32E MACK ENERGY CORP.	ISOPENTANE	1.4 1.2
LOCATION	SEC. 31, T17S, R32E MACK ENERGY CORP. 880225	ISOPENTANE	1.4 1.2 1.7
LOCATIONOWNERCOMPLETED	SEC. 31, T17S, R32E MACK ENERGY CORP. 880225 010619	ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.4 1.2 1.7 6.8
LOCATION OWNER COMPLETED SAMPLED	SEC. 31, T17S, R32E MACK ENERGY CORP. 880225 010619 PERM-GRAYBURG	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.4 1.2 1.7 6.8 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION	SEC. 31, T17S, R32E MACK ENERGY CORP. 880225 010619 PERM-GRAYBURG 430	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.4 1.2 1.7 6.8 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SEC. 31, T17S, R32E MACK ENERGY CORP. 880225 010619 PERM-GRAYBURG 430	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.4 1.2 1.7 6.8 0.0 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SEC. 31, T17S, R32E MACK ENERGY CORP. 880225 010619 PERM-GRAYBURG 430 3820	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	1.4 1.2 1.7 6.8 0.0 0.0 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SEC. 31, T17S, R32E MACK ENERGY CORP. 880225 010619 PERM-GRAYBURG 430 3820	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	1.4 1.2 1.7 6.8 0.0 0.0 0.0 0.5
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SEC. 31, T17S, R32E MACK ENERGY CORP. 880225 010619 PERM-GRAYBURG 430 3820	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	1.4 1.2 1.7 6.8 0.0 0.0 0.0 0.5 0.4 0.13

^{*} 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

	•	
NEW MEXICO		
LEA		
BUFFALO		
C FEDERAL GAS COM NO. 1		
3002526799		
· · · · · · · · · · · · · · · · · · ·		
		0.8
430		
13620		
463		0.01
20470	COMPONENT, MOLE PCT	
VIEW WEXICO	METHANE	87.8
	ETHANE	5.7
	PROPANE	2.5
	N-BUTANE	0.8
	ISOBUTANE	0.4
3002534707	N-PENTANE	0.2
SEC. 9, T19S, R33E	ISOPENTANE	0.2
NEARBURG PRODUCING CO.	CYCLOPENTANE	
000612	HEXANES PLUS	0.3
001128	NITROGEN	0.5
PENN-MORROW	OXYGEN	0.0
430	ARGON	0.0
13373	HYDROGEN	0.0
	HYDROGEN SULFIDE**	
	CARBON DIOXIDE	1.5
	CARBON DIOXIDE	
	HELIUM	0.02
	BUFFALO C FEDERAL GAS COM NO. 1 3002526799 SEC. 8. T19S. R33E PENROC OIL CO. 830711 001128 PENN-MORROW 430 13620 463 20470 NEW MEXICO. LEA BUFFALO KUDU 9 FEDERAL COM 1 3002534707 SEC. 9. T19S. R33E NEARBURG PRODUCING CO. 000612 001128 PENN-MORROW 430 13373	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	20468	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	87.2
COUNTY	LEA.	ETHANE	6.2
FIELD	GEM E.	PROPANE	2,6
		N-BUTANE	8.0
	INA DEEP FEDERAL UNIT NO. 2	ISOBUTANE	0.4
API		N-PENTANE	0.3
	SEC. 26, T19S, R33E	ISOPENTANE	0.3
OWNER	MATADOR OPERATING CO.	CYCLOPENTANE	-
COMPLETED	830705	HEXANES PLUS	0.6
SAMPLED	001128	NITROGEN	0.9
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	13390	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSI	G	CARBON DIOXIDE	0.7
	344	HELIUM	
or 2.11 2011, mor b		HEATING VALUE*	1.146
		SPECIFIC GRAVITY	0.663
SAMPLE	20012	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	84.6
	LEA	ETHANE	7.9
	TOWNSEND	PROPANE	3.5
·		N-BUTANE	1.0
	JEFALO ARU STATE COM NO. 1	ISOBUTANE	0.5
	3002502801	N-PENTANE	0.3
LOCATION	SEC. 18, T16S, R35E	ISOPENTANE	0.3
OWNER	YATES PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	971222	HEXANES PLUS	0.3
SAMPLED	980728	NITROGEN	0.7
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	12950	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	G1650_	CARBON DIOXIDE	0.7
		HELIUM	
OPEN FLOW, MCFD	30.31		
OPEN FLOW, MCFD	1030	HEATING VALUE*	1,180

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** 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 20489	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	75.3
COUNTY LEA	ETHANE	6.6
FIELDEUMONT_	PROPANE	4.7
WELL NAME EUMONT 21 FEDERAL NO. 1	N-BUTANE	1.9
	ISOBUTANE	0.9
API 3002533170	N-PENTANE	0.5
LOCATION SEC. 21, T20S, R37E	ISOPENTANE	
OWNER MEWBOURNE OIL CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	
SAMPLED	NITROGEN	
FORMATION PERM-OUEEN	OXYGEN	
GEOLOGIC PROVINCE CODE430_	ARGON	
TRUE VERTICAL DEPTH (FT)3550	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	•
SAMPLE 20491		
57 (W) EE 20101	COMPONENT, MOLE PCT	
	METHANE	
STATENEW MEXICO	METHANE	7.1
STATE NEW MEXICO. COUNTY LEA	METHANE ETHANE PROPANE	7.1 4.4
STATE NEW MEXICO COUNTY LEA FIELD FUMONT	METHANE ETHANE PROPANE N-BUTANE	7.1 4.4 1.5
STATENEW MEXICO COUNTYLEA FIELDEUMONT WELL NAMEGILLULLY B FEDERAL RA A NO. 7	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	7.1 4.4 1.5
STATENEW MEXICO_ COUNTYLEA_ FIELDEUMONT_ WELL NAMEGILLULLY B FEDERAL RA A NO. 7 API3002506236	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	7.1 4.4 1.5 0.7 0.3
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	7.1 4.4 1.5 0.7 0.3
STATE NEW MEXICO COUNTY LEA FIELD EUMONT WELL NAME GILLULLY B FEDERAL RA A NO. 7 API 3002506236 LOCATION SEC. 22. T20S, R37E OWNER OCCIDENTAL PERMIAN LTD	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	7.1 4.4 1.5 0.7 0.3 0.4
STATE	METHANE ETHANE PROPANE N-BUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	7.1 4.4 1.5 0.7 0.3 0.4
STATE NEW MEXICO COUNTY LEA FIELD EUMONT WELL NAME GILLULLY B FEDERAL RA A NO. 7 API 3002506236 LOCATION SEC. 22 T20S, R37E OWNER OCCIDENTAL PERMIAN LTD COMPLETED 560329	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	7.1 4.4 1.5 0.7 0.3 0.4 0.5
STATE NEW MEXICO COUNTY LEA FIELD FUMONT WELL NAME GILLULLY B FEDERAL RA A NO. 7 API 3002506236 LOCATION SEC. 22. T20S. R37E OWNER OCCIDENTAL PERMIAN LTD COMPLETED 560329 SAMPLED 001130 FORMATION PERM-QUEEN	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	7.1 4.4 1.5 0.7 0.3 0.4
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	7.1 4.4 1.5 0.7 0.3 0.4
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	7.1 4.4 1.5 0.7 0.3 0.4 0.5 1.0 0.0 TRACE
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	7.1 4.4 1.5 0.7 0.3 0.4 0.5 1.0 0.0 TRACE
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	7.1 4.4 1.5 0.7 0.3 0.4 0.5 1.0 0.0 TRACE 1.1 6.4

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

	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	77.0
COUNTYLEA	ETHANE	8.0
FIELD EUMONT	PROPANE	4.3
WELL NAME GILLULLY FEDERAL GAS COM NO. 15	N-BUTANE	1.3
API	ISOBUTANE	
	N-PENTANE	
LOCATION SEC. 24, T20S, R36E	ISOPENTANE	
OWNEROCCIDENTAL PERMIAN LTD	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	
SAMPLED001130_	NITROGEN	
FORMATION PERM-QUEEN	OXYGEN	
GEOLOGIC PROVINCE CODE430	ARGON	
TRUE VERTICAL DEPTH (FT)3610	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
,	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 20490	COMPONENT MOLE DOT	
SAMPLE 20490	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	
COUNTY LEA	ETHANE	
FIELDEUMONT	PROPANE	
	N-BUTANE	
WELL NAME GILLULLY B FEDERAL RA A NO. 4		
	ISOBUTANE	0.6
API3002506234	ISOBUTANE	0.6
API	ISOBUTANE N-PENTANE ISOPENTANE	0.6 0.3 0.3
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.6 0.3 0.3
WELL NAME GILLULLY B FEDERAL RA A NO. 4 API 3002506234 LOCATION SEC. 22, T20S, R37E OWNER OCCIDENTAL PERMIAN LTD COMPLETED 540317 SAMPLED 001130	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.6 0.3 0.3
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.6 0.3 0.3 0.3
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.6 0.3 0.3
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.6 0.3 0.3 0.3 5.6 0.0
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.6 0.3 0.3 0.3 5.6 0.0
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.6 0.3 0.3 0.3 5.6 0.0 TRACE
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.6 0.3 0.3 0.3 5.6 0.0 TRACE
API	ISOBUTANE	0.6 0.3 0.3 0.3 5.6 0.0 TRACE 0.0 2.9

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

SAMP	E 20473		COMPONENT, MOLE PCT	
STATE	NEW ME	XICO	METHANE	66.1
	INT AA IA(T-		ETHANE	10.8
			PROPANE	8.0
FIELD			N-BUTANE	3.1
	STATE HI		ISOBUTANE	1.3
	300253		N-PENTANE	1.0
LOCATION	SEC. 17, T22S. I	R36E_	ISOPENTANE	1.0
OWNER	DOYLE HART	MAN.	CYCLOPENTANE	
COMPLETED	98	11231	HEXANES PLUS	1.4
SAMPLED	00	1128	NITROGEN	1.0
FORMATION	PERM-SEVEN RIV	ÆRS.	OXYGEN	0.0
GEOLOGIC PROVIN	CE CODE	430	ARGON	0.0
TRUE VERTICAL DE	PTH (FT)	3607	HYDROGEN	0.0
MEASURED DEPTH			HYDROGEN SULFIDE**	0.7
WELLHEAD PRESSI	JRE. PSIG		CARBON DIOXIDE	5.5
			HELIUM	0.10
or Entricon, word		tektelülü-	HEATING VALUE*	1,355
			SPECIFIC GRAVITY	0.888
SAMP	_E 20043		COMPONENT, MOLE PCT	
STATE	NEW ME	XICO	METHANE	83.2
	13 11 11		ETHANE	9.6
			PROPANE	3.7
FIELD	JOHNSON RA		N-BUTANE	1.3
	TRISTE DRAW 34 STATE N		ISOBUTANE	0.5
API	300253		N-PENTANE	0.2
LOCATION	SEC. 34, T24S, I	R33E	ISOPENTANE	0.3
OWNER	EOG RESOUR	RCES	CYCLOPENTANE	
COMPLETED	98	30930	HEXANES PLUS	0.3
SAMPLED	99	1209	NITROGEN	0.5
FORMATION	PERM-WOLFC	AMP_	OXYGEN	0.0
GEOLOGIC PROVIN	CE CODE	430	ARGON	TRACE
TOLIE VEDTICAL DE	PTH (FT)1	3636	HYDROGEN	0.0
THUE VERTICAL DE			HYDROGEN SULFIDE**	
			CARBON DIOXIDE	0.2
MEASURED DEPTH		1350	OANDON DIOXIDE	
MEASURED DEPTH WELLHEAD PRESSI	JRE, PSIG		HELIUM	0.00
MEASURED DEPTH WELLHEAD PRESSI				0.00

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

	20469	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	81.4
	LEA.	ETHANE	
FIELD	GEM N	PROPANE	4.0
		N-BUTANE	1.7
	SUN BRIGHT FEDERAL NO. 1	ISOBUTANE	3.0
	3002529140	N-PENTANE	1.0
	SEC. 21, T19S, R33E	ISOPENTANE	1.0
OWNER	E.G.L. RESOURCES, INC.	CYCLOPENTANE	
COMPLETED	000331	HEXANES PLUS	1.8
SAMPLED	.001128	NITROGEN	0.6
FORMATION	PERM-WOLFCAMP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT) _	11108	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.7
,	15	HELIUM	0.06
OF E14 1 EO 44, 14101 D	13	HEATING VALUE*	1,294
		SPECIFIC GRAVITY	0.756
SAMPLE	20476	COMPONENT, MOLE PCT	
		COIN CHENT, MOLL I OT	
OTATE		METHANE	74.2
	NEW MEXICO	•	
COUNTY	NEW MEXICO.	METHANE	10.7
COUNTY	NEW MEXICO. LEA. RHODES.	METHANE	10.7 5.9
COUNTY	NEW MEXICO.	METHANE ETHANE PROPANE	10.7 5.9 2.2
COUNTY FIELD WELL NAMEH.G	NEW MEXICO. LEA. RHODES.	METHANE ETHANE PROPANE N-BUTANE	10.7 5.9 2.2 0.9
COUNTY FIELD WELL NAMEH.G API	NEW MEXICO LEA RHODES MOBERLY C FEDERAL NO. 1	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	10.7 5.9 2.2 0.9 0.8
COUNTY FIELD WELL NAMEH.G API LOCATION	NEW MEXICO. LEA RHODES. MOBERLY C FEDERAL NO. 1. 3002511993.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	10.7 5.9 2.2 0.9 0.8
COUNTY FIELD WELL NAME API LOCATION OWNER	NEW MEXICO LEA RHODES MOBERLY C FEDERAL NO. 1 3002511993 SEC. 17, T26S, R37E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	10.7 5.9 2.2 0.9 0.8
COUNTY FIELD WELL NAME H.G API LOCATION OWNER COMPLETED	NEW MEXICO. LEA RHODES. MOBERLY C FEDERAL NO. 1 3002511993 SEC. 17, T26S, R37E LANEXCO, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	10.7 5.5 2.3 0.9 0.8 1.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	NEW MEXICO. LEA RHODES. MOBERLY C FEDERAL NO. 1 3002511993. SEC. 17, T26S, R37E LANEXCO, INC. 290311.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	10.7 5.9 2.2 0.9 0.8 1.6
COUNTY FIELD WELL NAMEH.G API LOCATION OWNER COMPLETED SAMPLED FORMATION	NEW MEXICO LEA RHODES MOBERLY C FEDERAL NO. 1 3002511993 SEC. 17, T26S, R37E LANEXCO, INC. 290311	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	10.7 5.9 0.8 0.8 1.0 1.5 1.8
COUNTY FIELD	NEW MEXICO. LEA. RHODES. MOBERLY C FEDERAL NO. 1. 3002511993. SEC. 17. T26S, R37E. LANEXCO, INC. 290311. 001129. PERM-YATES. 430.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	10.7 5.5 0.5 0.8 1.0 - - 1.5 1.8 0.0
COUNTY FIELD WELL NAME LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	NEW MEXICO LEA RHODES MOBERLY C FEDERAL NO. 1 3002511993 SEC. 17, T26S, R37E LANEXCO, INC. 290311 001129 PERM-YATES 430 3075	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	10.7 5.9 0.9 0.8 1.6 1.9 1.9 0.0
COUNTY FIELD WELL NAME H.G API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	NEW MEXICO LEA RHODES. MOBERLY C FEDERAL NO. 1 3002511993 SEC. 17, T26S, R37E LANEXCO. INC. 290311 001129 PERM-YATES 430 3075	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGENARGON HYDROGEN	10.7 5.9 0.9 0.8 1.0 1.5 1.8 0.0 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	NEW MEXICO. LEA. RHODES. MOBERLY C FEDERAL NO. 1. 3002511993. SEC. 17, T26S, R37E. LANEXCO, INC. 290311. 001129. PERM-YATES. 430. 3075.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	10.7 5.9 0.8 0.8 1.0 1.8 1.8 0.0 0.2 0.0 0.0
COUNTY FIELD WELL NAME H.G API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	NEW MEXICO. LEA. RHODES. MOBERLY C FEDERAL NO. 1. 3002511993. SEC. 17, T26S, R37E. LANEXCO, INC. 290311. 001129. PERM-YATES. 430. 3075.	METHANE	10.7 5.9 0.8 0.8 1.0 1.9 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 20482	COMPONENT, MOLE PCT	
STATE NEW MEXICO	METHANE	71.0
	ETHANE	10.7
COUNTY LEA	PROPANE	7.4
FIELDJALMAT	N-BUTANE	3.1
WELL NAME MYERS B FED. NO. 33	ISOBUTANE	1.3
API	N-PENTANE	1.0
LOCATION SEC. 7, T24S, R37E	ISOPENTANE	1.1
OWNERDOYLE HARTMAN	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	1.5
SAMPLED	NITROGEN	1.3
FORMATION PERM-YATES	OXYGEN	0.0
GEOLOGIC PROVINCE CODE430_	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 3207	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	1.7
OPEN FLOW, MCFD580	HELIUM	0.11
OPEN FLOW, MOPO	HEATING VALUE*	1,389
	SPECIFIC GRAVITY	0.844
SAMPLE 20480	COMPONENT, MOLE PCT	
STATE NEW MEXICO	METHANE	70.0
	ETHANE	11.3
COUNTYLEA	PROPANE	7.6
FIELDJALMAT_	N-BUTANE	3.0
WELL NAME LANGLIE C FEDERAL NO. 1	ISOBUTANE	1.3
	N-PENTANE	0.8
	ISOPENTANE	-
LOCATION SEC. 9, T25S, R37E		1.1
LOCATION SEC. 9, T25S, R37E OWNER OCCIDENTAL PERMIAN LTD	ISOPENTANE	1_1
LOCATION SEC. 9, T25S, R37E OWNER OCCIDENTAL PERMIAN LTD COMPLETED 790706	ISOPENTANE	1.1 1.2
LOCATION SEC. 9, T25S, R37E OWNER OCCIDENTAL PERMIAN LTD COMPLETED 790706 SAMPLED 001129	ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.1 1.2 1.0
LOCATION SEC. 9, T25S, R37E OWNER OCCIDENTAL PERMIAN LTD COMPLETED 790706 SAMPLED 001129 FORMATION PERM-YATES & SEVEN RIVERS	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.1 1.2 1.0 0.0
LOCATION SEC. 9, T25S, R37E OWNER OCCIDENTAL PERMIAN LTD COMPLETED 790706 SAMPLED 001129 FORMATION PERM-YATES & SEVEN RIVERS GEOLOGIC PROVINCE CODE 430	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.1 1.2 1.0 0.0
LOCATION SEC. 9, T25S, R37E OWNER OCCIDENTAL PERMIAN LTD COMPLETED 790706 SAMPLED 001129 FORMATION PERM-YATES & SEVEN RIVERS GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 3130	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.1 1.2 1.0 0.0 0.0 TRACE
LOCATION SEC. 9, T25S, R37E OWNER OCCIDENTAL PERMIAN LTD COMPLETED 790706 SAMPLED 001129 FORMATION PERM-YATES & SEVEN RIVERS GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 3130 MEASURED DEPTH	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	1.1 1.2 1.0 0.0 0.0 TRACE
LOCATION SEC. 9, T25S, R37E OWNER OCCIDENTAL PERMIAN LTD COMPLETED 790706 SAMPLED 001129 FORMATION PERM-YATES & SEVEN RIVERS. GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 3130 MEASURED DEPTH WELLHEAD PRESSURE, PSIG	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	1.1 1.2 1.0 0.0 0.0 TRACE
API	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	1.1 1.2 1.0 0.0 0.0 TRACE 0.5 2.2

^{*} 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

	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	75.2
COUNTY	ETHANE	11.9
FIELD EUMONT	PROPANE	5.7
	N-BUTANE	1.8
WELL NAMEELLIOTT B NO. 6	ISOBUTANE	0.7
API 3002510333	N-PENTANE	0.5
LOCATION SEC. 17, T22S, R37E	ISOPENTANE	0.4
OWNER ZIA ENERGY, INC.	CYCLOPENTANE	**
COMPLETED 380805	HEXANES PLUS	0.7
SAMPLED	NITROGEN	2.3
FORMATION PERM-YATES, SVN RVRS, QUEEN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE430	ARGON	0.1
TRUE VERTICAL DEPTH (FT) 3480	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.7
OPEN FLOW, MCFD58	HELIUM	
	HEATING VALUE*	1,264
SAMPLE 20657	COMPONENT, MOLE PCT	
2007		
STATENEW MEXICO	METHANE	
COUNTY RIO ARRIBA	ETHANE	10.7
	DDODANE	4.0
FIELD BASIN	PROPANE	
	N-BUTANE	1.3
WELL NAMESAN JUAN 28-6 UNIT NO. 99	N-BUTANE	1.3 0.9
WELL NAME SAN JUAN 28-6 UNIT NO. 99 API 3003908141	N-BUTANEISOBUTANEN-PENTANE	1.3 0.9 0.3
WELL NAME SAN JUAN 28-6 UNIT NO. 99 API 3003908141 LOCATION SEC. 24, T28N, R6W	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	1.3 0.9 0.3 0.4
WELL NAME SAN JUAN 28-6 UNIT NO. 99 API 3003908141 LOCATION SEC. 24, T28N, R6W OWNER BURLINGTON RESOURCES OIL & GAS CO.	N-BUTANEISOBUTANEISOPENTANE ISOPENTANECYCLOPENTANE	1.3 0.9 0.3 0.4
WELL NAME SAN JUAN 28-6 UNIT NO. 99 API 3003908141 LOCATION SEC. 24, T28N, R6W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 651014	N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.3 0.9 0.3 0.4
WELL NAME SAN JUAN 28-6 UNIT NO. 99 API 3003908141 LOCATION SEC. 24, T28N, R6W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 651014 SAMPLED 010412	N-BUTANE	1.3 0.9 0.3 0.4
WELL NAME SAN JUAN 28-6 UNIT NO. 99 API 3003908141 LOCATION SEC. 24, T28N, R6W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 651014 SAMPLED 010412 FORMATION CRET-DAKOTA	N-BUTANE	1.3 0.9 0.3 0.4
WELL NAME SAN JUAN 28-6 UNIT NO. 99 API 3003908141 LOCATION SEC. 24, T28N, R6W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 651014 SAMPLED 010412 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 580	N-BUTANE	1.3 0.9 0.3 0.4
WELL NAME SAN JUAN 28-6 UNIT NO. 99 API 3003908141 LOCATION SEC. 24, T28N, R6W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 651014 SAMPLED 010412 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 7749	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.3 0.9 0.3 0.4
WELL NAME SAN JUAN 28-6 UNIT NO. 99 API 3003908141 LOCATION SEC. 24, T28N, R6W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 651014 SAMPLED 010412 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 7749 MEASURED DEPTH	N-BUTANE	1.3 0.9 0.3 0.4
WELL NAME SAN JUAN 28-6 UNIT NO. 99 API 3003908141 LOCATION SEC. 24, T28N, R6W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 651014 SAMPLED 010412 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 7749 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 2678	N-BUTANE	1.3 0.9 0.3 0.4
WELL NAME SAN JUAN 28-6 UNIT NO. 99 API 3003908141 LOCATION SEC. 24, T28N, R6W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 651014 SAMPLED 010412 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 7749 MEASURED DEPTH —	N-BUTANE	1.3 0.9 0.3 0.4 0.4 0.3 0.0 0.0 0.0 0.0 0.0 0.0 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	20659		COMPONENT, MOLE PCT	
STATE			NEW MEXICO	METHANE	
COUNTY			RIO ARRIBA	ETHANE	
FIELD			BASIN	PROPANE	
WELL NAME		SAN JUAN 28-	UNIT NO. 58M	N-BUTANE	
API			3003925597	ISOBUTANE	
		SEC	30 T28N R5W	N-PENTANE	
	BURLINGTO			ISOPENTANE	
)			HEXANES PLUS	
				NITROGEN	
				OXYGEN	
				ARGON	
	PROVINCE CODE			HYDROGEN	
	CAL DEPTH (FT)		7792	HYDROGEN SULFIDE**	
	DEPTH			CARBON DIOXIDE	
	PRESSURE, PSIG			HELIUM	0.06
OPEN FLOW	, MCFD		2205	HEATING VALUE*	1.182
	SAMPLE	20663		SPECIFIC GRAVITY COMPONENT, MOLE PCT	
STATE			NEW MEXICO		
				COMPONENT, MOLE PCT	83.0
COUNTY			RIO ARRIBA	COMPONENT, MOLE PCT METHANE	83.C 0.3
COUNTY			RIO ARRIBA BASIN	COMPONENT, MOLE PCT METHANE	83.0 0.3 0.0
COUNTY FIELD WELL NAME		SAN JUAN 29-	RIO ARRIBA BASIN 5 UNIT NO. 226	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	83.0 0.3 0.0 TRACE
COUNTY FIELD WELL NAME API		SAN JUAN 29-	RIO ARRIBA BASIN 5 UNIT NO. 226 3003925076	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	83.0 0.3 0.0 TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION _		SAN JUAN 29- SEC	RIO ARRIBA BASIN 5 UNIT NO. 226 3003925076 2.7. T29N, R5W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	83.0 0.3 0.0 TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION _ OWNER	P	SAN JUAN 29 SEC HILLIPS PETRO	RIO ARRIBA BASIN 5 UNIT NO. 226 3003925076 2.7, T29N, R5W LEUM CO., NW	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	83.0 0.3 0.0 TRACE TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION _ OWNER		SAN JUAN 29 SEC HILLIPS PETRO	RIO ARRIBA BASIN 5 UNIT NO. 226 3003925076 2.7, T29N, R5W LEUM CO., NW	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	83.0 0.3 0.0 TRACE TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION _ OWNER COMPLETED	P	SAN JUAN 29- SEC HILLIPS PETRO	RIO ARRIBA BASIN 5 UNIT NO. 226 3003925076 2.7, T29N, R5W LEUM CO., NW	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN	83.0 0.3 0.0 TRACE TRACE 0.0 0.0 TRACE
COUNTY FIELD WELL NAME API LOCATION _ OWNER COMPLETED SAMPLED	P	SAN JUAN 29- SEC HILLIPS PETRO	RIO ARRIBA BASIN 5 UNIT NO. 226 3003925076 7, T29N, R5W LEUM CO., NW 921001 010412	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	83.0 0.3 0.0 TRACE TRACE 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION _ OWNER COMPLETED SAMPLED FORMATION	P	SAN JUAN 29- SEC HILLIPS PETRO CR	RIO ARRIBA BASIN 5 UNIT NO. 226 3003925076 7. T29N, R5W LEUM CO., NW 921001 010412 ET-FRUITLAND	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	83.0 0.3 0.0 TRACE TRACE 0.0 0.0 TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION _ OWNER COMPLETED SAMPLED FORMATION GEOLOGIC F	P	SAN JUAN 29- SEC HILLIPS PETRO CR	RIO ARRIBA BASIN 5 UNIT NO. 226 3003925076 7. T29N. R5W LEUM CO., NW 921001 010412 ET-FRUITLAND	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	83.0 0.3 0.0 TRACE TRACE 0.0 TRACE 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION _ OWNER COMPLETED SAMPLED FORMATION GEOLOGIC F	PROVINCE CODE	SAN JUAN 29- SEC HILLIPS PETRO CR	RIO ARRIBA BASIN 5 UNIT NO. 226 3003925076 7. T29N, R5W LEUM CO., NW 921001 010412 ET-FRUITLAND 580 3330	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE***	83.0 0.3 0.0 TRACE TRACE 0.0 TRACE 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION _ OWNER COMPLETED SAMPLED FORMATION GEOLOGIC F TRUE VERTI MEASURED	PROVINCE CODE	SAN JUAN 29- SEC HILLIPS PETRO CR	RIO ARRIBA BASIN 5 UNIT NO. 226 3003925076 7. T29N, R5W LEUM CO., NW 921001 010412 ET-FRUITLAND 580 3330	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE*** CARBON DIOXIDE	83.0 0.3 0.0 TRACE TRACE 0.0 0.0 0.0 0.0 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION _ COMPLETED SAMPLED FORMATION GEOLOGIC F TRUE VERTI MEASURED I	PROVINCE CODE CAL DEPTH (FT)	SAN JUAN 29- SEC HILLIPS PETRO CR	RIO ARRIBA BASIN 5 UNIT NO. 226 3003925076 7. T29N. R5W LEUM CO., NW 921001 010412 ET-FRUITLAND 580 33330	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE***	83.0 0.3 0.0 TRACE TRACE 0.0 0.0 0.0 0.0 0.0 0.0 16.6 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	
STATENEW MEXICO	METHANE	76.3
COUNTY RIO ARRIBA	ETHANE	0.3
FIELD BASIN	PROPANE	0.0
	N-BUTANE	0.0
WELL NAME SAN JUAN 30-6 UNIT NO. 459	ISOBUTANE	0.0
API	N-PENTANE	0.0
LOCATION SEC. 20, T30N, R6W	ISOPENTANE	0.0
OWNER BURLINGTON RESOURCES OIL & GAS CO.	CYCLOPENTANE	
COMPLETED 881007	HEXANES PLUS	0.0
SAMPLED010412	NITROGEN	0.0
FORMATION CRET-FRUITLAND	OXYGEN	0.0
GEOLOGIC PROVINCE CODE580_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG356	CARBON DIOXIDE	23.4
OPEN FLOW, MCFD 103	HELIUM	TRACE
0. 241 2041, 1001 0	HEATING VALUE*	777
	SPECIFIC GRAVITY	0.782
SAMPLE 20662	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	88.8
COUNTY RIO ARRIBA	ETHANE	5.8
	PROPANE	1.5
FIELD BASIN	N-BUTANE	0.5
WELL NAME SAN JUAN 29-5 UNIT NO. 32M	ISOBUTANE	
API3003925817	N-PENTANE	0.1
	LOODENTANE	0.2
LOCATION SEC. 29,T29N R5W	ISOPENTANE	
	CYCLOPENTANE	
LOCATION SEC. 29,T29N R5W		
LOCATION SEC. 29 T29N R5W OWNER PHILLIPS PETROLEUM CO., NW	CYCLOPENTANE	0.3
LOCATION SEC. 29,T29N R5W OWNER PHILLIPS PETROLEUM CO., NW COMPLETED 991019	CYCLOPENTANE	0.3
LOCATION SEC. 29,T29N R5W OWNER PHILLIPS PETROLEUM CO., NW COMPLETED 991019 SAMPLED 010412 FORMATION CRET-MESAVERDE	CYCLOPENTANE HEXANES PLUS NITROGEN	0.3 0.2 0.0
LOCATION SEC. 29,T29N R5W OWNER PHILLIPS PETROLEUM CO., NW COMPLETED 991019 SAMPLED 010412 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.3 0.2 0.0 0.0
COMPLETED 991019 SAMPLED 010412 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.3 0.2 0.0 0.0
COMPLETED 991019 SAMPLED 010412 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 5905 MEASURED DEPTH	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.3 0.2 0.0 0.0 0.0
DOCATION SEC. 29,T29N R5W OWNER PHILLIPS PETROLEUM CO., NW COMPLETED 991019 SAMPLED 010412 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 5905 MEASURED DEPTH WELLHEAD PRESSURE, PSIG	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.3 0.2 0.0 0.0 0.0 0.0
COMPLETED 991019 SAMPLED 010412 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 5905 MEASURED DEPTH	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.3 0.2 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

	20660	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	82.4
COUNTY	RIO ARRIBA	ETHANE	9.8
		PROPANE	3.9
FIELD	BLANCO	N-BUTANE	1.0
	SAN JUAN 28-5 UNIT NO. 14A	ISOBUTANE	0.6
API	3003922205	N-PENTANE	0.3
LOCATION	SEC. 20, T28N, R5W	ISOPENTANE	0.3
OWNER BURI	INGTON RESOURCES OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	000530	HEXANES PLUS	0.4
SAMPLED	010412	NITROGEN	0.3
FORMATION	CRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE	CODE580	ARGON	0.0
TRUE VERTICAL DEPT	TH (FT)5000	HYDROGEN	0.0
MEASURED DEPTH	. ,	HYDROGEN SULFIDE**	0.0
	E. PSIG	CARBON DIOXIDE	1.0
		HELIUM	0.06
OPEN FLOW, MCFD _		HEATING VALUE*	1,199
		SPECIFIC GRAVITY	0.693
SAMPLE	20656	COMPONENT, MOLE PCT	
~		METHANE	81.6
	NEW MEXICO	METHANE	
COUNTY	RIO ARRIBA	ETHANE	10.3
		PROPANE	10.3 4.1
COUNTY	RIO ARRIBA	ETHANE	10.3 4.1 1.0
COUNTY FIELD WELL NAME	RIO ARRIBA BLANCO	ETHANE PROPANE N-BUTANE	10.3 4.1 1.0 0.7
COUNTY FIELD WELL NAME	RIO ARRIBA BLANCO SAN JUAN 28-6 UNIT NO. 5A	ETHANE PROPANE N-BUTANE ISOBUTANE	10.3 4.1 1.0 0.7 0.2
COUNTY FIELD WELL NAME API LOCATION	RIO ARRIBA BLANCO SAN JUAN 28-6 UNIT NO. 5A 3003921869	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	10.3 4.1 1.0 0.7 0.2 0.3
COUNTY FIELD WELL NAME API LOCATION OWNERBURL	RIO ARRIBA BLANCO SAN JUAN 28-6 UNIT NO. 5A 3003921869 SEC. 14, T28N, R6W	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE	10.3 4.1 1.0 0.7 0.2 0.3
COUNTY FIELD WELL NAME API LOCATION OWNERBURL	RIO ARRIBA. BLANCO SAN JUAN 28-6 UNIT NO. 5A 3003921869 SEC. 14, T28N, R6W INGTON RESOURCES OIL & GAS CO. 790728	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	10.3 4.1 1.0 0.7 0.2 0.3 —
COUNTY FIELD WELL NAME API LOCATION OWNERBURL COMPLETED SAMPLED	RIO ARRIBA. BLANCO SAN JUAN 28-6 UNIT NO. 5A 3003921869 SEC. 14, T28N, R6W INGTON RESOURCES OIL & GAS CO. 790728 010412	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	10.3 4.1 1.0 0.7 0.2 0.3 —
COUNTY FIELD WELL NAME API LOCATION OWNERBURL COMPLETED SAMPLED FORMATION	RIO ARRIBA BLANCO SAN JUAN 28-6 UNIT NO. 5A 3003921869 SEC. 14, T28N, R6W LINGTON RESOURCES OIL & GAS CO. 790728 010412 CRET-MESAVERDE	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	10.3 4.1 1.0 0.7 0.2 0.3 - 0.3 0.3
COUNTY FIELD WELL NAME API LOCATION OWNERBURL COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE	RIO ARRIBA BLANCO SAN JUAN 28-6 UNIT NO. 5A 3003921869 SEC. 14, T28N, R6W INGTON RESOURCES OIL & GAS CO. 790728 010412 CRET-MESAVERDE	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	10.3 4.1 1.0 0.7 0.2 0.3 - 0.3 0.3 0.0
COUNTY FIELD WELL NAME API LOCATION OWNERBURL COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPT	RIO ARRIBA BLANCO SAN JUAN 28-6 UNIT NO. 5A 3003921869 SEC. 14, T28N, R6W LINGTON RESOURCES OIL & GAS CO. 790728 010412 CRET-MESAVERDE CODE 580 H (FT) 5875	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	10.3 4.1 1.0 0.7 0.2 0.3 0.3 0.0 0.0 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNERBURL COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPT MEASURED DEPTH	RIO ARRIBA BLANCO SAN JUAN 28-6 UNIT NO. 5A 3003921869 SEC. 14, T28N, R6W LINGTON RESOURCES OIL & GAS CO. 790728 010412 CRET-MESAVERDE CODE 580 H (FT) 5875	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	10.3 4.1 1.0 0.7 0.2 0.3
COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPTH WELLHEAD PRESSURI	RIO ARRIBA BLANCO SAN JUAN 28-6 UNIT NO. 5A 3003921869 SEC. 14, T28N, R6W INGTON RESOURCES OIL & GAS CO. 790728 010412 CRET-MESAVERDE CODE 580 H (FT) 5875	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	10.3 4.1 1.0 0.7 0.2 0.3
COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPTH WELLHEAD PRESSURI	RIO ARRIBA BLANCO SAN JUAN 28-6 UNIT NO. 5A 3003921869 SEC. 14, T28N, R6W LINGTON RESOURCES OIL & GAS CO. 790728 010412 CRET-MESAVERDE CODE 580 H (FT) 5875	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	10.3 4.1 1.0 0.7 0.2 0.3 0.3 0.0 TRACE 0.0 1.0 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	20658	COMPONENT, MOLE PCT	
STATE	NEW MEXICO.	METHANE	81.4
	RIO ARRIBA	ETHANE	10.2
· · · · · · · · · · · · · · · · · · ·	BLANCO.	PROPANE	4.0
-		N-BUTANE	1.1
	SAN JUAN 28-6 UNIT NO. 65	ISOBUTANE	0.7
	3003907375	N-PENTANE	0.3
	SEC. 24, T28N, R6W	ISOPENTANE	0.4
OWNER <u>BURLING</u>	TON RESOURCES OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	561108	HEXANES PLUS	0.5
SAMPLED	010412	NITROGEN	0.3
FORMATION	CRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE COL	DE580_	ARGON	0.0
TRUE VERTICAL DEPTH (F	T)5730_	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	SIG1032	CARBON DIOXIDE	1.0
	3897	HELIUM	0.07
o. 2.11 2011, mor b	<u> </u>	HEATING VALUE*	1,214
SAMPLE	20872	COMPONENT, MOLE PCT	
<u></u>		METHANE	81 6
STATE	NEW MEXICO	ETHANE	
COUNTY	RIO ARRIBA	PROPANE	
FIELD	BLANCO	N-BUTANE	
WELL NAME	JICARILLA 96 NO. 6C	ISOBUTANE	
API	3003926549	N-PENTANE	
LOCATION	SEC. 2, T26N, R3W	ISOPENTANE	0.3
OWNER	ENERGEN RESOURCES CORP.	CYCLOPENTANE	
COMPLETED	010417	HEXANES PLUS	0.4
SAMPLED	011003	NITROGEN	0.5
FORMATION	CRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE COL	DE580	ARGON	0.0
TRUE VERTICAL DEPTH (F		HYDROGEN	0.0
MEASURED DEPTH	·	HYDROGEN SULFIDE**	0.0
	SIG1190	CARBON DIOXIDE	0.7
		HELIUM	0.07
•	626	TILLIONI	
•	636	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 20661	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	82.8
COUNTY RIO ARRIBA	ETHANE	9.6
FIELD BASIN	PROPANE	3.7
WELL NAME SAN JUAN 28-5 UNIT NO. 33	N-BUTANE	1.0
	ISOBUTANE	0.6
API 3003907413	N-PENTANE	0.3
LOCATION SEC. 17, T28N, R5W	ISOPENTANE	0.3
OWNER BURLINGTON RESOURCES OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.3
SAMPLED010412	NITROGEN	0.3
FORMATIONCRET-MESAVERDE, DAKOTA	OXYGEN	
GEOLOGIC PROVINCE CODE580_	ARGON	
TRUE VERTICAL DEPTH (FT)8041	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD5518	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 20580	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	63.0
	ETHANE	11.1
COUNTY ROOSEVELT	PROPANE	7.7
FIELD ALLISON	N-BUTANE	2.7
WELL NAME EL ZORRO NO. 1	ISOBUTANE	1.1
API	N-PENTANE	0,5
LOCATIONSEC. 25, T8S, R36E	ISOPENTANE	0.5
OWNER LAYTON ENTERPRISES, INC.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.5
SAMPLED	NITROGEN	10.6
FORMATIONPENN-CISCO_	OXYGEN	
GEOLOGIC PROVINCE CODE430_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)9614	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
	CARBON DIOXIDE	
WELLHEAD PRESSURE, PSIG		
WELLHEAD PRESSURE, PSIG	HELIUM	
WELLHEAD PRESSURE, PSIG	HELIUM HEATING VALUE* SPECIFIC GRAVITY	1,217

 $^{^{\}star}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\star\prime}$ 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	20578	COMPONENT, MOLE PCT	
STATE	NEW MEXICO.	METHANE	74.3
		ETHANE	7.3
	ROOSEVELT	PROPANE	3.0
FIELD	BLUITT	N-BUTANE	0.8
	ANDRES 18 FEDERAL NO. 14	ISOBUTANE	0.4
	3004120855	N-PENTANE	0.2
LOCATION	SEC, 18, T8S, R38E	ISOPENTANE	0.2
OWNER	SAGA PETROLEUM LLC	CYCLOPENTANE	
COMPLETED	900601	HEXANES PLUS	0.3
SAMPLED	001221	NITROGEN	6.8
FORMATION	PERM-SAN ANDRES	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	4712	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.1
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	6.6
		HELIUM	0.07
OF LINT LOW, WICED		HEATING VALUE*	1,026
		SPECIFIC GRAVITY	0.745
SAMPLE	20574	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	74.2
	ROOSEVELT	ETHANE	7.0
	BLUITT	PROPANE	2.9
		N-BUTANE	0.7
	FEDERAL BL 1	ISOBUTANE	0.3
	3004110135	N-PENTANE	0.2
	SEC. 8, T8S, R37E	ISOPENTANE	0.2
OWNER	BRECK OPERATING CORP.	CYCLOPENTANE	40
COMPLETED	641115	HEXANES PLUS	0.3
SAMPLED	001221	NITROGEN	7.5
FORMATION	PERM-SAN ANDRES	OXYGEN	0.0
	420	ARGON	0.0
GEOLOGIC PROVINCE CODE	430		0.0
GEOLOGIC PROVINCE CODE	4445	HYDROGEN	0.0
TRUE VERTICAL DEPTH (FT)	4445	HYDROGEN SULFIDE**	0.2
TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	4445		0.2
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	4445	HYDROGEN SULFIDE**	0.2 6.3
TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	4445	HYDROGEN SULFIDE** CARBON DIOXIDE	0.2 6.3 0.08 1,014

^{*} 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 20575	COMPONENT, MOLE PCT
STATENEW MEXICO	METHANE
	ETHANE 7.7
COUNTY ROOSEVELT	PROPANE4.0
FIELD BLUITT	N-BUTANE1.6
WELL NAMEFEDERAL C NO. 1	ISOBUTANE0.6
API	N-PENTANE0.
LOCATION SEC. 4, T8S, R37E	ISOPENTANE0_4
OWNER H.L. BROWN OPERATING, LLC	CYCLOPENTANE
COMPLETED	HEXANES PLUS0.6
SAMPLED	NITROGEN8.6
FORMATION PERM-WOLFCAMP	OXYGEN
GEOLOGIC PROVINCE CODE430	ARGON0.2
TRUE VERTICAL DEPTH (FT) 8011	HYDROGEN0.0
MEASURED DEPTH	HYDROGEN SULFIDE**0.0
WELLHEAD PRESSURE. PSIG	CARBON DIOXIDE0_
	HELIUM0.2
OPEN FLOW, MCFD	HEATING VALUE*1,139
	SPECIFIC GRAVITY
SAMPLE 20863	COMPONENT MOLE POT
	COMPONENT, MOLE PCT
STATE NEW MEYICO	METHANE 07
	METHANE 87.4 ETHANE 6.9
COUNTYSAN JUAN	METHANE
COUNTY SAN JUAN FIELD BLANCO	METHANE
COUNTYSAN_JUAN FIELDBLANCO WELL NAMEPAYNE NO. 5	METHANE 87.4 ETHANE 6.5 PROPANE 2.3 N-BUTANE 0.6 ISOBUTANE 0.2
COUNTY SAN JUAN FIELD BLANCO WELL NAME PAYNE NO. 5 API 3004511280	METHANE 87.4 ETHANE 6.5 PROPANE 2.3 N-BUTANE 0.6 ISOBUTANE 0.2 N-PENTANE 0.3
COUNTY SAN JUAN FIELD BLANCO WELL NAME PAYNE NO. 5 API 3004511280	METHANE 87.4 ETHANE 6.5 PROPANE 2.3 N-BUTANE 0.6 ISOBUTANE 0.2 N-PENTANE 0.3
COUNTY SAN JUAN FIELD BLANCO WELL NAME PAYNE NO. 5 API 3004511280 LOCATION SEC. 27, T32N, R10W	METHANE 87.4 ETHANE 6.9 PROPANE 2.3 N-BUTANE 0.6 ISOBUTANE 0.2 N-PENTANE 0.3 ISOPENTANE 0.3
COUNTY SAN_JUAN FIELD BLANCO WELL NAME PAYNE NO. 5 API 3004511280 LOCATION SEC. 27, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO.	METHANE 87.4 ETHANE 6.5 PROPANE 2.3 N-BUTANE 0.6 ISOBUTANE 0.4 N-PENTANE 0.3 ISOPENTANE 0.3 CYCLOPENTANE -
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME PAYNE NO. 5 API 3004511280 LOCATION SEC. 27, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 600607 SAMPLED 011003	METHANE 87.4 ETHANE 6.5 PROPANE 2.3 N-BUTANE 0.6 ISOBUTANE 0.2 N-PENTANE 0.3 ISOPENTANE 0.3 CYCLOPENTANE 0.3 HEXANES PLUS 0.3
COUNTY SAN_JUAN FIELD BLANCO WELL NAME PAYNE NO. 5 API 3004511280 LOCATION SEC. 27, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 600607	METHANE
COUNTY SAN_JUAN FIELD BLANCO WELL NAME PAYNE NO. 5 API 3004511280 LOCATION SEC. 27, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 600607 SAMPLED 011003	METHANE 87.4 ETHANE 6.5 PROPANE 2.3 N-BUTANE 0.6 ISOBUTANE 0.2 N-PENTANE 0.3 ISOPENTANE 0.3 CYCLOPENTANE - HEXANES PLUS 0.3 NITROGEN 0.4 OXYGEN 0.3
COUNTY	METHANE
COUNTY SAN JUAN FIELD BLANCO WELL NAME PAYNE NO. 5 API 3004511280 LOCATION SEC. 27, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 600607 SAMPLED 011003 FORMATION CRET-CLIFF HOUSE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 6262	METHANE
COUNTY	METHANE 87.4 ETHANE 6.5 PROPANE 2.3 N-BUTANE 0.6 ISOBUTANE 0.2 N-PENTANE 0.3 ISOPENTANE - CYCLOPENTANE - HEXANES PLUS 0.3 NITROGEN 0.4 ARGON 0.4 HYDROGEN TRACE HYDROGEN SULFIDE** 0.6 CARBON DIOXIDE 1.7
COUNTY	METHANE 87.4 ETHANE 6.5 PROPANE 2.2 N-BUTANE 0.6 ISOBUTANE 0.2 N-PENTANE 0.2 ISOPENTANE 0.3 CYCLOPENTANE 0.3 HEXANES PLUS 0.3 NITROGEN 0.4 OXYGEN 0.6 HYDROGEN TRACE HYDROGEN SULFIDE** 0.0 CARBON DIOXIDE 1.7 HELIUM 0.00
COUNTY SAN_JUAN FIELD BLANCO WELL NAME PAYNE NO. 5 API 3004511280 LOCATION SEC. 27, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 600607 SAMPLED 011003 FORMATION CRET-CLIFF HOUSE GEOLOGIC PROVINCE CODE 580	METHANE 87.4 ETHANE 6.5 PROPANE 2.2 N-BUTANE 0.6 ISOBUTANE 0.2 N-PENTANE 0.2 ISOPENTANE 0.3 CYCLOPENTANE 0.3 HEXANES PLUS 0.3 NITROGEN 0.4 OXYGEN 0.6 HYDROGEN TRACE HYDROGEN SULFIDE** 0.0 CARBON DIOXIDE 1.7 HELIUM 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

	COMPONENT, MOLE PCT	
STATE NEW MEXICO	METHANE	88.3
COUNTY SAN JUAN	ETHANE	6.0
	PROPANE	1.8
	N-BUTANE	0,5
WELL NAMESAN JUAN 32-9 UNIT NO. 38	ISOBUTANE	0.3
API3004511192	N-PENTANE	0.1
LOCATION SEC. 35, T32N, R10W	ISOPENTANE	0.2
OWNER BURLINGTON RESOURCES OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.3
SAMPLED011002	NITROGEN	0.2
FORMATIONCRET-CLIFF HOUSE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE580	ARGON	0.0
TRUE VERTICAL DEPTH (FT)5420	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	2.2
OPEN FLOW, MCFD 5389	HELIUM	0.03
OPEN FLOW, MOPD	HEATING VALUE*	1,099
	SPECIFIC GRAVITY	0.647
SAMPLE 20864	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	95.0
COUNTY SAN JUAN	ETHANE	0.3
COUNTYSANJUAN		
FIELD BAOW	PROPANE	TRACE
	PROPANE N-BUTANE	
WELL NAME PAYNE NO. 4-A		TRACE
WELL NAME PAYNE NO. 4-A	N-BUTANE	TRACE
WELL NAME PAYNE NO. 4-A API 3004523911	N-BUTANE	TRACE
WELL NAME	N-BUTANE ISOBUTANE N-PENTANE	TRACE TRACE 0.0
WELL NAME PAYNE NO. 4-A API 3004523911 LOCATION SEC. 22, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	TRACE TRACE 0.0
### BASIN WELL NAME PAYNE NO. 4-A API 3004523911 LOCATION SEC. 22, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 800812 SAMPLED 011003	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	TRACE TRACE 0.0 0.0 TRACE
WELL NAME PAYNE NO. 4-A API 3004523911 LOCATION SEC. 22, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 800812 SAMPLED 011003	N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	TRACE TRACE 0.0 0.0 TRACE
WELL NAME PAYNE NO. 4-A API 3004523911 LOCATION SEC. 22, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 800812 SAMPLED 011003 FORMATION CRET-DAKOTA.	N-BUTANE	TRACE TRACE 0.0 0.0 TRACE 0.2
WELL NAME PAYNE NO. 4-A API 3004523911 LOCATION SEC. 22, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 800812 SAMPLED 011003 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 580	N-BUTANE	TRACE
WELL NAME PAYNE NO. 4-A API 3004523911 LOCATION SEC. 22, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 800812 SAMPLED 011003 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 8353	N-BUTANE	TRACE TRACE 0.0 0.0 TRACE 0.2 0.0 0.0 0.0 0.0
WELL NAME PAYNE NO. 4-A API 3004523911 LOCATION SEC. 22, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 800812 SAMPLED 011003 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 8353 MEASURED DEPTH	N-BUTANE	TRACE
WELL NAME	N-BUTANE	TRACE
WELL NAME PAYNE NO. 4-A API 3004523911 LOCATION SEC. 22, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 800812	N-BUTANE	TRACE TRACE 0.0 0.0 TRACE 0.0 0.0 4.4 0.02

 $^{^{\}bullet}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\circ}$ 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	20647	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	85.8
COUNTY		ETHANE	7.6
	UTE DOME	PROPANE	3.0
FIELD		N-BUTANE	0.9
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.3
LOCATION	SEC. 35, T32N, R14W	ISOPENTANE	0.3
OWNER	XTO ENERGY, INC.	CYCLOPENTANE	
COMPLETED	810326	HEXANES PLUS	0.4
SAMPLED	010411	NITROGEN	0.7
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	580	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	2268	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	576	CARBON DIOXIDE	0.5
		HELIUM	0.10
OPEN FLOW, MCFD	1558	HEATING VALUE*	1,164
		SPECIFIC GRAVITY	0.667
SAMPLE	20632	COMPONENT, MOLE PCT	
CTATE	NEW MEYICO	METHANE	80.7
STATE		ETHANE	11.9
COUNTY		PROPANE	3.9
FIELD		N-BUTANE	
WELL NAME	FARFELU 1	ISOBUTANE	0.5
API	3004529426	N-PENTANE	0.2
LOCATION	SEC. 19, T25N, R11W	ISOPENTANE	0.2
OWNER	ELM RIDGE RESOURCES	CYCLOPENTANE	
COMPLETED	970414	HEXANES PLUS	0.4
SAMPLED	010410	NITROGEN	0.9
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	580_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
MEASURED DEPTH		CARBON DIOXIDE	0.4
MEASURED DEPTH WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
			0.10

^{*} 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	20848	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	92.2
COUNTY		ETHANE	3.0
		PROPANE	0.8
FIELD		N-BUTANE	0.2
WELL NAME		ISOBUTANE	0.2
API		N-PENTANE	0.1
LOCATION		ISOPENTANE	0.1
OWNER BURLINGTON RES	OURCES OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	800903	HEXANES PLUS	0.1
SAMPLED	011002	NITROGEN	0.1
FORMATIONCRE	T-DAKOTA MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	580	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	7718	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	3.2
OPEN FLOW, MCFD		HELIUM	0.01
O1 2011, (1101 D	······································	HEATING VALUE*	1.031
		SPECIFIC GRAVITY	0.618
SAMPLE :	20655	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	82.6
COUNTY		ETHANE	
GOO(1) 1			
ביבו ב		PROPANE	
FIELD	BASIN		0.0
WELL NAME	BASIN HOWELL E NO. 300	PROPANE	0.0 TRACE
FIELDWELL NAMEAPI	BASIN HOWELL E NO. 300	PROPANE	0.0 TRACE TRACE
WELL NAMEAPI	BASIN HOWELL E NO. 300 3004526918 SEC. 14, T30N, R8W	PROPANEN-BUTANEISOBUTANE	0.0 TRACE TRACE 0.0
WELL NAME	BASIN HOWELL E NO. 300 3004526918 SEC. 14, T30N, R8W	PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.0 TRACE TRACE 0.0
WELL NAMEAPI	BASIN HOWELL E NO. 300 3004526918 SEC. 14, T30N, R8W OURCES OIL & GAS CO.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.0 TRACE TRACE 0.0 0.0
WELL NAME	BASIN HOWELL E NO. 300 3004526918 SEC. 14, T30N, R8W OURCES OIL & GAS CO. 880910	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.0 TRACE TRACE 0.0 0.0 TRACE
WELL NAME API LOCATION OWNERBURLINGTON RES COMPLETED	BASIN HOWELL E NO. 300 3004526918 SEC. 14, T30N, R8W OURCES OIL & GAS CO. 880910 010412	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.0 TRACE TRACE 0.0 0.0 TRACE
WELL NAME API LOCATION OWNERBURLINGTON RES COMPLETED SAMPLED	BASIN HOWELL E NO. 300 3004526918 SEC. 14, T30N, R8W OURCES OIL & GAS CO. 880910 010412 CRET-FRUITLAND	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.0 TRACE TRACE 0.0 0.0 TRACE 0.0
WELL NAME API LOCATION OWNERBURLINGTON RES COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	BASIN HOWELL E NO. 300 3004526918 SEC. 14, T30N, R8W OURCES OIL & GAS CO. 880910 010412 CRET-FRUITLAND. 580	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.0 TRACE TRACE 0.0 0.0
WELL NAME	BASIN HOWELL E NO. 300 3004526918 SEC. 14, T30N, R8W OURCES OIL & GAS CO. 880910 010412 CRET-FRUITLAND 580 2719	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.0 TRACE TRACE 0.0 0.0 TRACE 0.0 0.0
WELL NAME	BASIN HOWELL E NO. 300 3004526918 SEC. 14, T30N, R8W OURCES OIL & GAS CO. 880910 010412 CRET-FRUITLAND 580 2719	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.0 TRACE TRACE 0.0 0.0 TRACE 0.0 0.0 0.0 0.0 0.0 0.0
WELL NAME	BASIN HOWELL E NO. 300 3004526918 SEC. 14. T30N, R8W OURCES OIL & GAS CO. 880910 010412 CRET-FRUITLAND 580 2719	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.0 TRACE TRACE 0.0 0.0 TRACE 0.0 0.0 0.0
WELL NAME	BASIN HOWELL E NO. 300 3004526918 SEC. 14. T30N, R8W OURCES OIL & GAS CO. 880910 010412 CRET-FRUITLAND 580 2719	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 TRACE TRACE 0.0 0.0 TRACE 0.0 0.0 17.0 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	20652	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	92.3
	SAN JUAN	ETHANE	4.4
	BASIN	PROPANE	1.5
	FLORANCE 119 NO. 120	N-BUTANE	0.2
		ISOBUTANE	0.3
	3004528727	N-PENTANE	0.1
	SEC. 21, T29N, R9W	ISOPENTANE	0.1
· _	CONOCO, INC.	CYCLOPENTANE	
COMPLETED	930422	HEXANES PLUS	0.1
SAMPLED	010412	NITROGEN	0.2
FORMATION	CRET-FRUITLAND	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	580_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	1964	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIC	3	CARBON DIOXIDE	0.9
	130	HELIUM	0.03
or Ent reom, mor b	140	HEATING VALUE*	1.075
		SPECIFIC GRAVITY	0.611
SAMPLE	20633	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	79.4
	SAN JUAN	ETHANE	0.3
•	SANJUAN	PROPANE	
	000 40 400 4		0.0
	CEDAR HILL	N-BUTANE	
WELL NAMEF.C.	DECKER PRIMO COM 2 UNIT H	N-BUTANEISOBUTANE	TRACE
WELL NAMEF.C.	DECKER PRIMO COM 2 UNIT H 3004527480		TRACE
WELL NAMEF.C.	DECKER PRIMO COM 2 UNIT H	ISOBUTANE	TRACE
WELL NAME F.C. API LOCATION	DECKER PRIMO COM 2 UNIT H 3004527480	ISOBUTANE	TRACE TRACE 0.0
WELL NAME F.C. API LOCATION OWNER	DECKER PRIMO COM 2 UNIT H 	ISOBUTANEISOPENTANE	TRACE TRACE 0.0
WELL NAME F.C. API LOCATION OWNER COMPLETED	DECKER PRIMO COM 2 UNIT H	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	TRACE TRACE 0.0 TRACE
WELL NAME F.C. API LOCATION OWNER COMPLETED SAMPLED	DECKER PRIMO COM 2 UNIT H 3004527480 SEC. 19, T32N, R10W CONOCO, INC. 910411	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	TRACE TRACE 0.0 TRACE
WELL NAME F.C. API LOCATION COWNER COMPLETED SAMPLED FORMATION	DECKER PRIMO COM 2 UNIT H 3004527480 SEC. 19, T32N, R10W CONOCO, INC. 910411 010410	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	TRACE TRACE 0.0 0.0 TRACE 0.0 0.0 0.0 0.0 0.0
WELL NAME F.C. API	DECKER PRIMO COM 2 UNIT H 3004527480 SEC. 19, T32N, R10W CONOCO, INC. 910411 010410 CRET-FRUITLAND COAL 580	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	TRACE
WELL NAME F.C. API	DECKER PRIMO COM 2 UNIT H	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE TRACE 0.0 TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0
WELL NAME F.C. API	DECKER PRIMO COM 2 UNIT H 3004527480 SEC. 19, T32N, R10W CONOCO, INC. 910411 010410 CRET-FRUITLAND COAL 580 2848	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	TRACE
WELL NAME	DECKER PRIMO COM 2 UNIT H 3004527480 SEC. 19, T32N, R10W CONOCO, INC. 910411 010410 CRET-FRUITLAND COAL 580 2848	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	TRACE TRACE 0.0 100 TRACE 0.0 0.0 0.0 0.0 0.0 20.2
API	DECKER PRIMO COM 2 UNIT H 3004527480 SEC. 19, T32N, R10W CONOCO, INC. 910411 010410 CRET-FRUITLAND COAL 580 2848	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE TRACE 0.0 0.0 TRACE 0.0 0.0 0.0 0.0 20.2 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	20871	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	75.9
	SANJUAN	ETHANE	9.1
	TOCITO DOME	PROPANE	4.0
		N-BUTANE	1.4
	NAVAJO TRIBAL "N" NO. 1	ISOBUTANE	0.7
	3004505809	N-PENTANE	0.4
LOCATION	SEC. 17, T26N, R18W	ISOPENTANE	0.4
OWNER	ROBERT L. BAYLESS	CYCLOPENTANE	•-
COMPLETED	630421	HEXANES PLUS	8.0
SAMPLED	011003	NITROGEN	5.7
FORMATION	PENN-HERMOSA	OXYGEN	0.0
GEOLOGIC PROVINCE COD	DE580	ARGON	0.0
TRUE VERTICAL DEPTH (FT	6410	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PS		CARBON DIOXIDE	1.1
	5077	HELIUM	0.50
OF EINT LOW, MICH D	5077	HEATING VALUE*	1,169
		SPECIFIC GRAVITY	0.734
SAMPLE	20648	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	68,4
		ETHANE	3.3
	SAN JUAN	PROPANE	1.1
	BARKER DOME	N-BUTANE	0.4
WELL NAME	UTE MOUNTAIN NO. 40	ISOBUTANE	0.2
4PI	3004529354	N-PENTANE	0.1
_OCATION	SEC, 20, T32N, R14W	ISOPENTANE	0.1
OWNERBURLINGT	ON RESOURCES OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	960805	HEXANES PLUS	0.3
SAMDI ED	040444	NITROGEN	19.0
3/4/VIF LLD	010411		
	PENN-ISMAY, PARADOX	OXYGEN	3.2
FORMATION		OXYGEN	
FORMATION	PENN-ISMAY, PARADOX E580		0.0
FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT	PENN-ISMAY, PARADOX. DE	ARGON	0.0
FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH	PENN-ISMAY, PARADOX. DE	ARGON	0.0 0.0
FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PS	PENN-ISMAY, PARADOX DE	ARGONHYDROGEN SULFIDE**	0.0 0.0 0.0 3.5
FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH	PENN-ISMAY, PARADOX DE	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.0 3.5 0.35

 $^{^{\}star}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\star\prime}$ 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 20846	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	92.6
COUNTY SAN JUAN	ETHANE	3.2
	PROPANE	0.8
FIELD BLANCO	N-BUTANE	0.2
WELL NAME PAYNE NO. 1-A	ISOBUTANE	0.2
API	N-PENTANE	0.1
LOCATION SEC. 20, T32N, R10W	ISOPENTANE	0.1
OWNER BURLINGTON RESOURCES OIL & GAS CO	CYCLOPENTANE	
COMPLETED 780720	HEXANES PLUS	0.1
SAMPLED 011002	NITROGEN	0.1
FORMATIONCRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 580	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 5515	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	2.7
OPEN FLOW, MCFD 5769	HELIUM	
V. 571 5011, moi 2	HEATING VALUE*	1.037
	SPECIFIC GRAVITY	0.614
SAMPLE 20861	COMPONENT, MOLE PCT	••••
STATENEW MEXICO	METHANE	91.4
COUNTY SAN JUAN	ETHANE	4.4
	PROPANE	1.1
FIELD BLANCO	N-BUTANE	0.3
WELL NAME SAN JUAN 32-9 UNIT NO. 49A	ISOBUTANE	0.2
API 3004529443	N-PENTANE	0.1
LOCATION SEC. 23, T32N, R10W	ISOPENTANE	0.1
	CYCLOPENTANE	
OWNER BURLINGTON RESOURCES OIL & GAS CO.	CYCLOPENTANE	
OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 970823 SAMPLED 011003		0.2
OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 970823	HEXANES PLUS	0.2
OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 970823 SAMPLED 011003 FORMATION CRET-MESAVERDE	HEXANES PLUS	0.2 0.1 0.8
OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 970823 SAMPLED 011003 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580	HEXANES PLUS NITROGEN OXYGEN	0.2 0.1 0.8
OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 970823 SAMPLED 011003 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 6327	HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.1 0.0 0.0 TRACE
OWNER BURLINGTON RESOURCES OIL & GAS CO COMPLETED 970823 SAMPLED 011003 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 6327 MEASURED DEPTH	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.2 0.1 0.0 0.0 TRACE
OWNER BURLINGTON RESOURCES OIL & GAS CO COMPLETED 970823 SAMPLED 011003 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 6327 MEASURED DEPTH WELLHEAD PRESSURE, PSIG	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.2 0.1 0.0 0.0 TRACE 0.0
OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 970823 SAMPLED 011003 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 6327	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.2 0.1 0.0 0.0 TRACE 0.0 2.2

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

SAMPLE 20869		COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	95.9
COUNTY		ETHANE	1.3
	BLANCO	PROPANE	0.2
WELL NAMESAN JUAN 32		N-BUTANE	
		ISOBUTANE	0.1
API		N-PENTANE	TRACE
LOCATION SEC.		ISOPENTANE	TRACE
OWNERBURLINGTON RESOURCES	OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	600607	HEXANES PLUS	TRACE
SAMPLED	011003	NITROGEN	
FORMATIONCRET	T-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	580	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	6040	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	1021	CARBON DIOXIDE	
OPEN FLOW, MCFD	2559	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.587
· · · · · · · · · · · · · · · · · · ·			
SAMPLE 20850		COMPONENT, MOLE PCT	
	NEW MEXICO	COMPONENT, MOLE PCT METHANE	90.5
STATE		·	
STATE	SAN JUAN	METHANE	4.8
STATE COUNTY FIELD	SAN JUAN BLANCO	METHANE	4.E 1.4
STATE COUNTY FIELD WELL NAME	SAN JUAN BLANCO PAGE 1-A	METHANE ETHANE PROPANE	4.8 1.4 0.4
STATE COUNTY FIELD WELL NAME	SAN JUAN BLANCO PAGE 1-A 3004522455	METHANE ETHANE PROPANE N-BUTANE	4.8 1.4 0.4 0.3
STATE	SAN JUAN. BLANCO PAGE 1-A. 3004522455. 8, T32N, R10W.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.8 1.4 0.4 0.3 0.1
STATE	SAN JUAN. BLANCO PAGE 1-A. 3004522455. 8, T32N, R10W.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.E 1.4 0.4 0.3 0.1
STATE COUNTY FIELD WELL NAME API LOCATION SEC. 1 OWNERBURLINGTON RESOURCES	SAN JUAN BLANCO PAGE 1-A 3004522455 8, T32N, R10W OIL & GAS CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.8 1.4 0.4 0.3 0.1
STATE COUNTY FIELD WELL NAME API LOCATION SEC. 1 OWNERBURLINGTON RESOURCES COMPLETED	SAN JUAN BLANCO PAGE 1-A 3004522455 8, T32N, R10W OIL & GAS CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.8 1.4 0.4 0.3 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION SEC. 1 OWNER BURLINGTON RESOURCES COMPLETED SAMPLED	SAN JUAN. BLANCO PAGE 1-A 3004522455 8, T32N, R10W. OIL & GAS CO. 770624 011002	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.8 1.4 0.4 0.3 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION SEC. 1 OWNER BURLINGTON RESOURCES COMPLETED SAMPLED FORMATION CRE	SAN JUAN. BLANCO PAGE 1-A 3004522455 8, T32N, R10W OIL & GAS CO. 770624 011002 I-MESAVERDE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE HEXANES PLUS NITROGEN	4.8 1.4 0.4 0.5 0.1 0.1 0.2 0.1
STATE	SAN JUAN. BLANCO PAGE 1-A 3004522455 8, T32N, R10W. OIL & GAS CO. 770624 011002 T-MESAVERDE 580	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.8 1.4 0.4 0.3 0.1 0.1 0.2 0.1 0.0
STATE COUNTY FIELD WELL NAME API LOCATION SEC. 1 OWNERBURLINGTON RESOURCES COMPLETED SAMPLED FORMATION CRE GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SAN JUAN. BLANCO PAGE 1-A 3004522455 8, T32N, R10W. OIL & GAS CO. 770624 011002 T-MESAVERDE 580	METHANE	4.8 0.4 0.3 0.1 0.1 0.2 0.1 0.0 TRACE
STATE	SAN JUAN. BLANCO PAGE 1-A. 3004522455 8, T32N, R10W. OIL & GAS CO. 770624 011002 T-MESAVERDE 580 5514	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.8 1.4 0.3 0.1 0.1 0.2 0.1 0.0 TRACE
STATE	SAN JUAN. BLANCO PAGE 1-A 3004522455 8, T32N, R10W. OIL & GAS CO. 770624 011002 I-MESAVERDE 580 5514	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	4.8 1.4 0.3 0.1 0.1 0.2 0.1 0.0 TRACE 0.0 0.1
STATE	SAN JUAN. BLANCO PAGE 1-A 3004522455 8, T32N, R10W. OIL & GAS CO. 770624 011002 I-MESAVERDE 580 5514	METHANE	4.8 1.4 0.3 0.1 0.1 0.2 0.1 0.0 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

NEW MEXICO SAN JUAN BLANCO VANDERSLICE NO. 2Y 3004520996 SEC. 18, T32N, R10W LINGTON RESOURCES OIL & GAS CO. 930821 011002 CRET-MESAVERDE E CODE 580 TH (FT) 5430	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.8 1.3 0.3 0.2 0.1 0.1 0.2 0.1
SAN JUAN BLANCO VANDERSLICE NO. 2Y 3004520996 SEC. 18, T32N, R10W LINGTON RESOURCES OIL & GAS CO. 930821 011002 CRET-MESAVERDE E CODE 580 TH (FT) 5430	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.3 0.3 0.2 0.1 0.1 0.2 0.2 0.1
BLANCO VANDERSLICE NO. 2Y 3004520996 SEC. 18, T32N, R10W LINGTON RESOURCES OIL & GAS CO. 930821 011002 CRET-MESAVERDE E CODE 580 TH (FT) 5430	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.3 0.2 0.1 0.1 0.2 0.2
VANDERSLICE NO. 2Y 3004520996 SEC. 18, T32N, R10W LINGTON RESOURCES OIL & GAS CO. 930821 011002 CRET-MESAVERDE E CODE 580 TH (FT) 5430	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.1 0.1
3004520996 SEC. 18, T32N, R10W LINGTON RESOURCES OIL & GAS CO. 930821 011002 CRET-MESAVERDE E CODE 580 TH (FT) 5430	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 0.1 0.2 0.1
SEC. 18, T32N, R10W LINGTON RESOURCES OIL & GAS CO. 930821 011002 CRET-MESAVERDE E CODE 580 TH (FT) 5430	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 0.2 0.1 0.0
### CODE	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.1 0.0
930821 011002 CRET-MESAVERDE E CODE 580 TH (FT) 5430	HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.1 0.0
011002 CRET-MESAVERDE E CODE580 ITH (FT)5430	NITROGENOXYGENARGON	0.1
CRET-MESAVERDE. E CODE	OXYGEN	0.0
E CODE	ARGON	
TH (FT) 5430		0.0
, ,	HYDROGEN	
	HYDROGEN SULFIDE**	
E, PSIG875	CARBON DIOXIDE	
123	HELIUM	
20844	COMPONENT, MOLE PCT	
NEW MEYICO	METHANE	95.1
	ETHANE	1.6
	PROPANE	0.1
	N-BUTANE	TRACE
	ISOBUTANE	TRACE
	N-PENTANE	0.0
	ISOPENTANE	TRACE
LINGTON RESOURCES OIL & GAS CO.	CYCLOPENTANE	
690325	HEXANES PLUS	
011002	NITROGEN	
CRET-MESAVERDE	OXYGEN	
CODE580_	ARGON	
FH (FT)5060		
E, PSIG		
3632		0.02
	E 20844 NEW MEXICO SAN JUAN BLANCO HARRISON NO. 1 3004511124 SEC. 31, T32N, R10W LINGTON RESOURCES OIL & GAS CO. 690325 011002 CRET-MESAVERDE CODE 580 TH (FT) 5060 RE, PSIG 788	123

^{*} 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 20865	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	88.8
COUNTYSAN JUAN	ETHANE	6.2
	PROPANE	1.9
	N-BUTANE	0.5
WELL NAMEPAYNE NO. 4-A	ISOBUTANE	0.3
API	N-PENTANE	0.1
LOCATION SEC. 22, T32N, R10W	ISOPENTANE	0.1
OWNER BURLINGTON RESOURCES OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.2
SAMPLED011003	NITROGEN	0.1
FORMATIONCRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE580_	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 6298	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG	CARBON DIOXIDE	1.7
OPEN FLOW, MCFD 2784	HELIUM	0.03
OF LINT LOW, INICED	HEATING VALUE*	1,102
	SPECIFIC GRAVITY	0.641
STATENEW MEXICO	METHANE	
COUNTYSAN JUAN	ETHANE	
FIELD BLANCO	PROPANE	
WELL NAME SAN JUAN 32-9 UNIT NO. 68	N-BUTANE	0.5
API 3004511316	ISOBUTANE	
LOCATION SEC. 24, T32N, R10W	N-PENTANE	
	ISOPENTANE	
OWNERBURLINGTON RESOURCES OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	
SAMPLED	NITROGEN	
FORMATIONCRET-MESAVERDE	OXYGEN	
GEOLOGIC PROVINCE CODE580	ARGON	
TRUE VERTICAL DEPTH (FT)6040	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG1020_	CARBON DIOXIDE	
OPEN FLOW, MCFD 6919	HELIUMHEATING VALUE*	0.03
· · · · · · · · · · · · · · · · · · ·		7 7 1 1 5
	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	20847	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	88.5
COUNTY		ETHANE	5.8
FIELD		PROPANE	1.9
	BLANCO	N-BUTANE	0.5
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.1
LOCATION		ISOPENTANE	0.2
OWNER <u>BURLINGTON I</u>	RESOURCES OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	971115	HEXANES PLUS	0.3
SAMPLED	011002	NITROGEN	0.1
FORMATION	CRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	580	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	5701	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	2.3
OPEN FLOW, MCFD		HELIUM	0.03
Of ENT LOVY, MOI D		HEATING VALUE*	1,098
		SPECIFIC GRAVITY	0.648
SAMPLE	20845	COMPONENT, MOLE PCT	
OTATE	NEW NEVIOO	METHANE	89.7
STATE		ETHANE	5.0
COUNTY	_	PROPANE	1.6
FIELD		N-BUTANE	0.4
WELL NAME	PAYNE NO. 1-B	ISOBUTANE	0.3
API	3004530432	N-PENTANE	0.1
LOCATION	SEC. 20, T32N, R10W	SOPENTANE	0.1
		SOPENTANE	
OWNER BURLINGTON	RESOURCES OIL & GAS.CO.		
OWNERBURLINGTON	RESOURCES OIL & GAS CO	CYCLOPENTANE	0.2
OWNERBURLINGTON: COMPLETED SAMPLED	RESOURCES OIL & GAS CO	CYCLOPENTANE	0.2
OWNER BURLINGTON : COMPLETED SAMPLED FORMATION	RESOURCES OIL & GAS CO	CYCLOPENTANE HEXANES PLUS NITROGEN	0.2 0.1 0.0
OWNERBURLINGTON: COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	RESOURCES OIL & GAS CO	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.2 0.1 0.0
OWNERBURLINGTON : COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	010319 011002 0RET-MESAVERDE 580	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.3 0.5 0.0 0.0 TRACE
OWNERBURLINGTON COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	RESOURCES OIL & GAS CO	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.2 0.1 0.0 0.0 TRACE
OWNERBURLINGTON: COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	010319 011002 CRET-MESAVERDE 580 5644	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.2 0.1 0.0 0.0 TRACE
OWNERBURLINGTON : COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	010319 011002 CRET-MESAVERDE 580 5644	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.2 0.1 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	20653	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	82.8
COUNTY		ETHANE	6.6
		PROPANE	2.3
FIELD	BLANCO	N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.4
API	3004521987	N-PENTANE	0.2
LOCATION		ISOPENTANE	0.2
OWNER BURLINGTON R	ESOURCES OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	760505	HEXANES PLUS	0.3
SAMPLED	010412	NITROGEN	4.8
FORMATION	CRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	580	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	5161	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	1.9
OPEN FLOW, MCFD		HELIUM	0.04
OI EITT COTT, MOI D	Juan	HEATING VALUE*	1,074
		SPECIFIC GRAVITY	0.675
SAMPLE	20654	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	86.9
COUNTY		ETHANE	7.0
		PROPANE	2.4
FIELD	DI ANIOO		
	BLANCO	N-BUTANE	0.6
	HOWELL E NO. 2R	N-BUTANE	
API	HOWELL E NO. 2R 3004527563		0.4
API	HOWELL E NO. 2R 3004527563 SEC. 14, T30N, R8W	ISOBUTANE	0.4
API	HOWELL E NO. 2R 3004527563 SEC. 14, T30N, R8W	ISOBUTANE	0.4 0.2 0.2
WELL NAME API LOCATION OWNERBURLINGTON R COMPLETED	HOWELL E NO. 2R 3004527563 SEC. 14, T30N, R8W ESOURCES OIL & GAS CO.	ISOBUTANEN-PENTANE	0.4 0.2 0.2
APILOCATIONBURLINGTON R	HOWELL E NO. 2R 3004527563 SEC. 14, T30N, R8W ESOURCES OIL & GAS CO. 900915	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.2
API LOCATIONBURLINGTON R COMPLETED SAMPLED	HOWELL E NO. 2R 3004527563 SEC. 14, T30N, R8W ESOURCES OIL & GAS CO. 900915 010412	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.4 0.2 0.2 0.3 0.3
API LOCATIONBURLINGTON R COMPLETED	HOWELL E NO. 2R. 3004527563 SEC. 14, T30N, R8W ESOURCES OIL & GAS CO. 900915 010412 CRET-MESAVERDE	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.4 0.2 0.2
API LOCATION OWNERBURLINGTON R COMPLETED SAMPLED FORMATION	HOWELL E NO. 2R 3004527563 SEC. 14, T30N, R8W ESOURCES OIL & GAS CO. 900915 010412 CRET-MESAVERDE	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.4 0.2 0.2 0.3 0.4 0.0
API LOCATION OWNERBURLINGTON R COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	HOWELL E NO. 2R. 3004527563 SEC. 14, T30N, R8W ESOURCES OIL & GAS CO. 900915 010412 CRET-MESAVERDE 580	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.4 0.2 0.2 0.3 0.4 0.0 0.0
API	HOWELL E NO. 2R 3004527563 SEC. 14, T30N, R8W ESOURCES OIL & GAS CO. 900915 010412 CRET-MESAVERDE 580	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.4 0.2 0.3 0.3 0.4 0.0 0.0
API	HOWELL E NO. 2R 3004527563 SEC. 14, T30N, R8W ESOURCES OIL & GAS CO. 900915 010412 CRET-MESAVERDE 580	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.4 0.2 0.3 0.4 0.0 0.0 0.0
API LOCATION OWNERBURLINGTON R COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	HOWELL E NO. 2R 3004527563 SEC. 14, T30N, R8W ESOURCES OIL & GAS CO. 900915 010412 CRET-MESAVERDE 580	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.4 0.2 0.3 0.3 0.4 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	20866	COMPONENT, MOLE PCT	
STATE		NEW MEXICO	METHANE	86.8
		SAN JUAN	ETHANE	7.2
		BLANCO	PROPANE	2.2
FIELD			N-BUTANE	0.5
		SAN JUAN NO. 28-A	ISOBUTANE	0.4
API		3004522916	N-PENTANE	0.1
		SEC. 26, T32N, R10W	ISOPENTANE	0.2
OWNER	BURLINGTON	RESOURCES OIL & GAS CO.	CYCLOPENTANE	
COMPLETED		781017	HEXANES PLUS	0.4
SAMPLED _		011003	NITROGEN	0.2
FORMATION		CRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC F	ROVINCE CODE	580	ARGON	0.0
TRUE VERTI	CAL DEPTH (FT)	6357	HYDROGEN	TRACE
MEASURED	DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD	PRESSURE, PSIG _	712	CARBON DIOXIDE	1.9
		1587	HELIUM	0.04
OI LIVI LOVI	, 11101 0		HEATING VALUE*	1,126
			SPECIFIC GRAVITY	0.659
	SAMPLE	20669	COMPONENT, MOLE PCT	
STATE		NEW MEXICO	METHANE	86.9
		SAN JUAN	ETHANE	7.1
			PROPANE	2.5
		BLANCO	N-BUTANE	0.7
		HOWELL A NO. 3	ISOBUTANE	0.4
		3004509794	N-PENTANE	0.2
		SEC. 4, T30N, R8W	ISOPENTANE	0.2
OWNER	BURLINGTON	RESOURCES OIL & GAS CO.	CYCLOPENTANE	
		940125	HEXANES PLUS	0.4
COMPLETED		010412	NITROGEN	0.1
		010412		
SAMPLED _		CRET-MESAVERDE	OXYGEN	0.0
SAMPLED FORMATION			OXYGEN	
SAMPLED FORMATION GEOLOGIC F	PROVINCE CODE _	CRET-MESAVERDE		0.0
SAMPLED FORMATION GEOLOGIC F TRUE VERT!	PROVINCE CODE _	CRET-MESAVERDE 580 5374	ARGON HYDROGEN HYDROGEN SULFIDE**	0.0 TRACE 0.0
SAMPLED FORMATION GEOLOGIC F TRUE VERTI MEASURED	PROVINCE CODE CAL DEPTH (FT) DEPTH	CRET-MESAVERDE 580 5374	ARGON	0.0 TRACE 0.0
SAMPLED FORMATION GEOLOGIC F TRUE VERTI MEASURED I	PROVINCE CODE CAL DEPTH (FT) DEPTH PRESSURE, PSIG _		ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.0 TRACE 0.0 1.5 0.04
SAMPLED FORMATION GEOLOGIC F TRUE VERTI MEASURED I	PROVINCE CODE CAL DEPTH (FT) DEPTH PRESSURE, PSIG _	CRET-MESAVERDE 580 5374	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 TRACE 0.0 1.5 0.04

^{*} 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 20852	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	85.8
COUNTY SAN JUAN	ETHANE	7.8
FIELD BLANCO	PROPANE	2.7
	N-BUTANE	0.7
WELL NAMEVANDERSLICE NO. 1	ISOBUTANE	0.5
API3004511365	N-PENTANE	0.2
LOCATION SEC. 19, T32N, R10W	ISOPENTANE	0.2
OWNER BURLINGTON RESOURCES OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	
SAMPLED011002	NITROGEN	
FORMATIONCRET-MESAVERDE	OXYGEN	
GEOLOGIC PROVINCE CODE580	ARGON	
TRUE VERTICAL DEPTH (FT)5240	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG864_	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	•
SAMPLE 20860	COMPONENT, MOLE PCT	0.666
STATE NEW MEXICO.	COMPONENT, MOLE PCT	86.2
STATE NEW MEXICO. COUNTY SAN JUAN	COMPONENT, MOLE PCT METHANE	86.2
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO	COMPONENT, MOLE PCT METHANE ETHANE	86.2 7.4 2.5
STATE NEW MEXICO. COUNTY SAN JUAN FIELD BLANCO. WELL NAME SAN JUAN 32-9 UNIT NO. 9A.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	86.2 7.4 2.5 0.7
STATE NEW MEXICO. COUNTY SAN JUAN. FIELD BLANCO. WELL NAME SAN JUAN 32-9 UNIT NO. 9A. API 3004529736.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	86.2 7.4 2.5 0.7
STATE NEW MEXICO. COUNTY SAN JUAN. FIELD BLANCO. WELL NAME SAN JUAN 32-9 UNIT NO. 9A. API 3004529736. LOCATION SEC. 25, T32N, R10W.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	86.2 7.4 2.5 0.7 0.4
STATE NEW MEXICO. COUNTY SAN JUAN. FIELD BLANCO. WELL NAME SAN JUAN 32-9 UNIT NO. 9A. API 3004529736. LOCATION SEC. 25, T32N, R10W. OWNER BURLINGTON RESOURCES OIL & GAS CO.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	86.2 7.4 2.5 0.7 0.4 0.2
STATE NEW MEXICO. COUNTY SAN JUAN FIELD BLANCO WELL NAME SAN JUAN 32-9 UNIT NO. 9A API 3004529736 LOCATION SEC. 25, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 991022	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	86.2 7.4 2.5 0.7 0.4 0.2 0.2
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME SAN JUAN 32-9 UNIT NO. 9A API 3004529736 LOCATION SEC. 25, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 991022 SAMPLED 011002	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	86.2 7.4 2.5 0.7 0.4 0.2 0.2
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME SAN JUAN 32-9 UNIT NO. 9A API 3004529736 LOCATION SEC. 25, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 991022 SAMPLED 011002 FORMATION CRET-MESAVERDE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	86.2 7.4 2.5 0.7 0.4 0.2 0.2 0.3 0.1
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME SAN JUAN 32-9 UNIT NO. 9A API 3004529736 LOCATION SEC. 25, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 991022 SAMPLED 011002 FORMATION CRET-MESAVERDE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	86.2 7.4 2.5 0.7 0.4 0.2 0.2 0.3 0.1 0.0
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME SAN JUAN 32-9 UNIT NO. 9A API 3004529736 LOCATION SEC. 25, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 991022 SAMPLED 011002 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	86.2 7.4 2.5 0.7 0.4 0.2 0.3 0.1 0.0 0.0
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN ARGON HYDROGEN SULFIDE**	86.2 7.4 2.5 0.7 0.4 0.2 0.3 0.1 0.0 TRACE
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME SAN JUAN 32-9 UNIT NO. 9A API 3004529736 LOCATION SEC. 25, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 991022 SAMPLED 011002 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 6102 MEASURED DEPTH	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	86.2 7.4 2.5 0.7 0.4 0.2 0.3 0.1 0.0 TRACE 0.0
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN ARGON HYDROGEN SULFIDE**	86.2 7.4 2.5 0.7 0.4 0.2 0.3 0.1 0.0 TRACE 0.0 1.8 0.05

 $^{^{\}star}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\star\prime}$ 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 20851	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	85.6
COUNTY SAN JUAN	ETHANE	7.8
FIELD BLANCO	PROPANE	2.7
	N-BUTANE	0.7
WELL NAMEVANDERSLICE NO. 1-B	ISOBUTANE	0.5
API	N-PENTANE	0.2
LOCATION SEC. 19, T32N, R10W	ISOPENTANE	0.2
OWNER BURLINGTON RESOURCES OIL & GAS.CO.	CYCLOPENTANE	
COMPLETED000324	HEXANES PLUS	0.4
SAMPLED011002_	NITROGEN	0.2
FORMATIONCRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 5440	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG 187	CARBON DIOXIDE	1.8
OPEN FLOW, MCFD 217	HELIUM	0.05
OPEN FLOW, MICFO	HEATING VALUE*	1,144
	SPECIFIC GRAVITY	0.669
SAMPLE 20857	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	85.7
	ETHANE	7.8
COUNTY SAN JUAN	PROPANE	2.6
FIELD BLANCO	N-BUTANE	0.7
WELL NAME SAN JUAN 32-9 UNIT NO. 34A	ISOBUTANE	0.5
API	N-PENTANE	0.2
LOCATION SEC. 35, T32N, R10W	ISOPENTANE	0.2
OWNERBURLINGTON RESOURCES OIL & GAS CO.	CYCLOPENTANE	
		0.3
COMPLETED	HEXANES PLUS	
	HEXANES PLUS NITROGEN	0.1
SAMPLED011002		
SAMPLED	NITROGEN	0.0
SAMPLED	NITROGEN	0.0
SAMPLED 011002 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 5636	NITROGEN OXYGEN ARGON	0.0 0.0 TRACE
SAMPLED	NITROGEN OXYGEN ARGON HYDROGEN	0.0 0.0 TRACE 0.0
SAMPLED 011002 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 5636 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 576	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.0 0.0 TRACE 0.0
COMPLETED 780717 SAMPLED 011002 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 5636 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 576 OPEN FLOW, MCFD 2779	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 TRACE 0.0 1.8

 $^{^{\}circ}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{*\circ}$ 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	
STATENEW MEXICO	METHANE	85.2
	ETHANE	7.9
COUNTYSAN JUAN	PROPANE	2.8
FIELD BLANCO	N-BUTANE	3.0
WELL NAME SAN JUAN 32-9 UNIT NO. 9	ISOBUTANE	0.5
API3004511219	N-PENTANE	0.2
LOCATION SEC. 25, T32N, R10W	ISOPENTANE	0.3
OWNER BURLINGTON RESOURCES OIL & GAS CO.	CYCLOPENTANE	-
COMPLETED610802	HEXANES PLUS	0.4
SAMPLED011002	NITROGEN	0.3
FORMATIONCRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE580	ARGON	0.0
TRUE VERTICAL DEPTH (FT)5650	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG981	CARBON DIOXIDE	1. 7
OPEN FLOW, MCFD 483	HELIUM	
	HEATING VALUE*	1.151
	SPECIFIC GRAVITY	0.674
SAMPLE 20856	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	84.3
COUNTY SAN JUAN	ETHANE	8.5
FIELD BLANCO	PROPANE	3.0
	N-BUTANE	0.8
WELL NAME SCOTT NO. 5R.	ISOBUTANE	0.5
A.D.	AL DENTANE	0.2
	N-PENTANE	
LOCATION SEC. 34, T32N, R10W	ISOPENTANE	
LOCATION SEC. 34, T32N, R10W		0.3
API	ISOPENTANE	0.8
OWNER BURLINGTON RESOURCES OIL & GAS CO.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.3 0.5 0.2
LOCATION SEC. 34, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 910904	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.5 0.5 0.2
LOCATION SEC. 34, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 910904 SAMPLED 011002	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.5 0.5 0.2 0.0
LOCATION SEC. 34, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 910904 SAMPLED 011002 FORMATION CRET-MESAVERDE	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.3 0.5 0.2 0.0 TRACE
LOCATION SEC. 34, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 910904 SAMPLED 011002 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.5 0.5 0.2 0.0 TRACE
LOCATION SEC. 34, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 910904 SAMPLED 011002 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 5635	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.5 0.5 0.2 0.0 0.0 TRACE
SEC. 34, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 910904 SAMPLED 011002 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 5635 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 550	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.5 0.5 0.2 0.0 TRACE 0.0
LOCATION SEC. 34, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 910904 SAMPLED 011002 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 5635 MEASURED DEPTH	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.5 0.6 0.0 0.0 TRACE 0.0 1.7 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

	COMPONENT, MOLE PCT
STATENEW MEXIC	CO METHANE84.2
COUNTYSAN JUA	FTHANE 86
FIELD BLANC	PROPANE3.0
WELL NAME SCOTT NO. 5	N-BUTANE0.8
API	150BUTANE0.
LOCATION SEC. 34, T32N, R10	IN-PENTAINEU
	1001 ENTANE
OWNERBURLINGTON RESOURCES OIL & GAS C	0.020. EITI/IIC
COMPLETED	
SAMPLED0110	
FORMATIONCRET-MESAVERE	
GEOLOGIC PROVINCE CODE5	
TRUE VERTICAL DEPTH (FT)54	
MEASURED DEPTH	HYDROGEN SULFIDE**0.0
WELLHEAD PRESSURE, PSIG1	CARBON DIOXIDE1
OPEN FLOW, MCFD49	HELIUM0.06
	HEATING VALUE*
SAMPLE 20853	COMPONENT, MOLE PCT
	METHANE 83
STATE NEW MEXIC	CO. METHANE 83.3
STATE NEW MEXIC COUNTY SAN JUL	20. METHANE 83.3 ETHANE 9.3 AN. PROPANE 3.3
STATE NEW MEXIC COUNTY SAN JUE FIELD BLANC	CO. METHANE 83.3 AN. PROPANE 3.3 CO. N-BUTANE 0.9
STATE NEW MEXIC COUNTY SAN JUL FIELD BLANC WELL NAME SCOTT NO. 7	CO. METHANE 83.3 AN. ETHANE 9.3 AN. PROPANE 3.3 CO. N-BUTANE 0.9 EA. ISOBUTANE 0.4
STATE NEW MEXIC COUNTY SAN JULE FIELD BLANC WELL NAME SCOTT NO. 7 API 30045219	20. METHANE 83.3 20. ETHANE 9.3 20. PROPANE 3.3 20. N-BUTANE 0.3 -A. ISOBUTANE 0.4 67. N-PENTANE 0.3
STATE NEW MEXIC COUNTY SAN JUE FIELD BLANC WELL NAME SCOTT NO. 7 API 30045219 LOCATION SEC. 3, T31N, R10	METHANE 83.3 ETHANE 9.3 N-BUTANE 0.9 N-BUTANE 0.9 N-PENTANE 0.3 METHANE 9.3 N-PENTANE 0.3 METHANE 9.3 N-PENTANE 0.3
STATE	METHANE 83.3 ETHANE 9.3 AN PROPANE 3.3 O. N-BUTANE 0.9 FA ISOBUTANE 0.9 M-PENTANE 0.3 W ISOPENTANE 0.3 CYCLOPENTANE
STATE NEW MEXIC COUNTY SAN JUL FIELD BLANC WELL NAME SCOTT NO. 7 API 30045219 LOCATION SEC. 3, T31N, R10 OWNER BURLINGTON RESOURCES OIL & GAS C COMPLETED 7607	METHANE 83.3 ETHANE 9.3 PROPANE 3.3 O. N-BUTANE 0.3 FA ISOBUTANE 0.3 METHANE 0.3 CO N-BUTANE 0.3 CO N-PENTANE 0.3 METHANE 0.3
STATE	METHANE 83.3 ETHANE 9.3 AN PROPANE 3.3 ON-BUTANE 0.5 AN ISOBUTANE 0.5 METHANE 0.5 CYCLOPENTANE 0.5 METHANE 0.5 METHANE 9.5 MET
STATE NEW MEXIC COUNTY SAN JUL FIELD BLANC WELL NAME SCOTT NO. 7 API 30045219 LOCATION SEC. 3, T31N, R10 OWNER BURLINGTON RESOURCES OIL & GAS C COMPLETED 7607	METHANE 83.3 ETHANE 9.6 AN PROPANE 3.6 O. N-BUTANE 0.6 AN ISOBUTANE 0.6 MY ISOPENTANE 0.6 CYCLOPENTANE O. CYCLOPENTANE O. HEXANES PLUS 0.6 O. OXYGEN 0.6
STATE	METHANE 83.3 ETHANE 9.3 AN PROPANE 3.3 CO. N-BUTANE 0.5 EA ISOBUTANE 0.6 M-PENTANE 0.3 WL ISOPENTANE 0.3 CYCLOPENTANE OZ CYCLOPENTANE 0.4 METHANE 0.5 METHANE 9.5 METHANE 9.
STATE NEW MEXIC COUNTY SAN JUL FIELD BLANC WELL NAME SCOTT NO. 7 API 30045219 LOCATION SEC. 3, T31N, R10 OWNER BURLINGTON RESOURCES OIL & GAS C COMPLETED 7607 SAMPLED 0110 FORMATION CRET-MESAVERO	METHANE 83.3 ETHANE 9.3 PROPANE 3.3 O. N-BUTANE 0.3 AN ISOBUTANE 0.3 METHANE 0.3 AN ISOBUTANE 0.3 AN ISOBUTANE 0.3 METHANE 0.3 AN ISOBUTANE 0.3
STATE NEW MEXIC COUNTY SAN JUL FIELD BLANC WELL NAME SCOTT NO. 7 API 30045219 LOCATION SEC. 3, T31N, R10 OWNER BURLINGTON RESOURCES OIL & GAS C COMPLETED 7607 SAMPLED 0110 FORMATION CRET-MESAVERI GEOLOGIC PROVINCE CODE 5	METHANE 83.3 ETHANE 9.3 PROPANE 3.3 N-BUTANE 0.3 N-BUTANE 0.3 N-PENTANE 0.3 N-PENTANE 0.3 METHANE 0.3 AND PROPANE 3.3 N-PENTANE 0.3
STATE	METHANE 83.3 ETHANE 9.3 AN PROPANE 3.3 O. N-BUTANE 0.9 AN ISOBUTANE 0.3 MY ISOPENTANE 0.3 CYCLOPENTANE 0.3 DE OXYGEN 0.4 ARGON 0.3 HYDROGEN SULFIDE** 0.4 CARBON DIOXIDE 1.6
STATE NEW MEXIC COUNTY SAN JUL FIELD BLANC WELL NAME SCOTT NO. 7 API 30045219 LOCATION SEC. 3, T31N, R10 OWNER BURLINGTON RESOURCES OIL & GAS C COMPLETED 7607 SAMPLED 0110 FORMATION CRET-MESAVERD GEOLOGIC PROVINCE CODE 55 TRUE VERTICAL DEPTH (FT) 53	METHANE 83.3 ETHANE 9.3 PROPANE 3.3 O. N-BUTANE 0.3 A ISOBUTANE 0.4 ETHANE 0.5 A ISOBUTANE 0.5 METHANE 0.5 A ISOBUTANE 0.5 METHANE 0.5 A ISOBUTANE 0.5 METHANE 0.5 A ISOBUTANE 0.5 A

^{*} 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 20668	COMPONENT, MOLE PCT	
STATE NEW MEXICO.	METHANE	83.4
COUNTY SAN JUAN	ETHANE	9.1
	PROPANE	3.8
FIELD BLANCO	N-BUTANE	1.0
WELL NAME HOWELL C NO. 3C	ISOBUTANE	0.7
API	N-PENTANE	0.3
LOCATION SEC. 7, T30N, R8W	ISOPENTANE	0.3
OWNER BURLINGTON RESOURCES OIL & GAS CO.	CYCLOPENTANE	-
COMPLETED 000416	HEXANES PLUS	0.5
SAMPLED 010412	NITROGEN	0.2
FORMATIONCRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE580	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 5298	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.7
•	HELIUM	0.07
OPEN FLOW, MCFD870	HEATING VALUE*	1.200
	SPECIFIC GRAVITY	0.000
	SECURIC GROWITT	U.588
SAMPLE 20843	COMPONENT, MOLE PCT	
STATE NEW MEXICO	COMPONENT, MOLE PCT	82.3
STATE NEW MEXICO. COUNTY SAN JUAN	COMPONENT, MOLE PCT METHANE	82.3 9.1
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO	COMPONENT, MOLE PCT METHANE ETHANE	82.3 9.1 3.7
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	82.3 9.1 3.7
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME HARRISON NO. 1-R.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	82.3 9.1 3.7 1.1
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME HARRISON NO. 1-R API 3004529533	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	82.3 9.1 3.7 1.1 0.7
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME HARRISON NO. 1-R API 3004529533 LOCATION SEC. 31, T32N, R10W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	82.3 9.1 3.7 1.1 0.7 0.3
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME HARRISON NO. 1-R API 3004529533 LOCATION SEC. 31, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	82.3 9.1 3.7 1.1 0.7 0.3
	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE	82.3 9.1 3.7 1.1 0.7 0.3 0.4
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME HARRISON NO. 1-R API 3004529533 LOCATION SEC. 31, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 980514	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	82.3 9.1 3.7 1.1 0.7 0.2 0.4
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME HARRISON NO. 1-R API 3004529533 LOCATION SEC. 31, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 980514 SAMPLED 011002 FORMATION CRET-MESAVERDE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	82.3 9.1 3.7 1.1 0.7 0.3 0.4 0.4
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME HARRISON NO. 1-R API 3004529533 LOCATION SEC. 31, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 980514 SAMPLED 011002 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	82.3 9.1 3.7 1.1 0.7 0.3 0.4 0.4 0.1
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	82.3 9.1 3.7 1.1 0.7 0.3 0.4
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME HARRISON NO. 1-R API 3004529533 LOCATION SEC. 31, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 980514 SAMPLED 011002 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 5786 MEASURED DEPTH	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	82.3 9.1 3.7 1.1 0.7 0.4 0.4 0.1 0.0 TRACE
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME HARRISON NO. 1-R API 3004529533 LOCATION SEC. 31, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 980514 SAMPLED 011002 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 5786 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 317	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	82.3 9.1 3.7 1.1 0.7 0.3 0.4 0.1 0.0 TRACE
STATE NEW MEXICO COUNTY SAN JUAN FIELD BLANCO WELL NAME HARRISON NO. 1-R API 3004529533 LOCATION SEC. 31, T32N, R10W OWNER BURLINGTON RESOURCES OIL & GAS CO. COMPLETED 980514 SAMPLED 011002 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 5786 MEASURED DEPTH	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	82.3 9.1 3.7 1.1 0.7 0.3 0.4 0.1 0.0 TRACE 0.0 1.9

^{*} 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 20651	COMPONENT, MOLE PCT
STATENEW MEXIC	METHANE79,
COUNTY SAN JUL	FTHANE 10:
	PROPANE 51
	N-BUTANE1.4
WELL NAMEFLORANCE NO.	ISOBUTANE0.
API	N-PENTANE0.
LOCATION SEC. 21, T29N, RS	ISOPENTANEU
OWNERCONOCO, IN	CYCLOPENTANE
COMPLETED5108	HEXANES PLUS
SAMPLED0104	NITROGEN 0.
FORMATIONCRET-MESAVER	DE OXYGEN 0.0
GEOLOGIC PROVINCE CODE5	80 ARGON 0.0
TRUE VERTICAL DEPTH (FT)	94 HYDROGEN 0.
MEASURED DEPTH	HYDROGEN SULFIDE**0.
WELLHEAD PRESSURE, PSIG10	CARBON DIOXIDE1
OPEN FLOW, MCFD31	HELIUM0.0
	HEATING VALUE*1,24
SAMPLE 20670	COMPONENT MOLE PCT
SAMPLE 20670	COMPONENT, MOLE PCT
STATE NEW MEXIC	CO. METHANE 86.
STATE NEW MEXIC	CO. METHANE
STATE NEW MEXIC COUNTY SAN JUL	CO. METHANE 86. AN. ETHANE 7. CO. PROPANE 2.
STATE NEW MEXIC COUNTY SAN JU FIELD BLANC	CO METHANE 86. AN PROPANE 2. CO N-BUTANE 0.
STATE NEW MEXIC COUNTY SAN JU FIELD BLANC WELL NAME WOODRIVER NO	CO. METHANE 86. AN. ETHANE 7. PROPANE 2. CO. N-BUTANE 0. 1.2 ISOBUTANE 0.
STATE NEW MEXIC COUNTY SAN JUL FIELD BLANG WELL NAME WOODRIVER NO API 30045132	CO METHANE 86. AN. PROPANE 2. CO N-BUTANE 0. 1.2 ISOBUTANE 0. 226. N-PENTANE 0.
STATE NEW MEXIS COUNTY SAN JU. FIELD BLANG WELL NAME WOODRIVER NO API 30045132 LOCATION SEC. 9, T30N, R8	CO. METHANE 86. AN. ETHANE 7. AN. PROPANE 2. CO. N-BUTANE 0. 0.2 ISOBUTANE 0. 226. N-PENTANE 0. BW. ISOPENTANE 0.
STATE	CO. METHANE 86. AN. ETHANE 7. AN. PROPANE 2. CO. N-BUTANE 0. D.2. ISOBUTANE 0. BW. ISOPENTANE 0. CO. CYCLOPENTANE -
STATE	CO. METHANE 86. ETHANE 7. AN. PROPANE 2. CO. N-BUTANE 0. 0.2. ISOBUTANE 0. 226. N-PENTANE 0. SW. ISOPENTANE 0. CO. CYCLOPENTANE 0. LIZT. HEXANES PLUS 0.
SAMPLE 20670 STATE	METHANE
STATE NEW MEXIS COUNTY SAN JU FIELD BLANG WELL NAME WOODRIVER NO API 30045132 LOCATION SEC. 9, T30N, R8 OWNER BURLINGTON RESOURCES OIL & GAS CO COMPLETED 5602 SAMPLED 0104	METHANE
STATE NEW MEXIS COUNTY SAN JU FIELD BLANG WELL NAME WOODRIVER NO API 30045132 LOCATION SEC. 9. T30N, R6 OWNER BURLINGTON RESOURCES OIL & GAS CO COMPLETED 5602 SAMPLED 0104 FORMATION CRET-MESAVERDE, MANCE	METHANE
STATE NEW MEXIS COUNTY SAN JUL FIELD BLANG WELL NAME WOODRIVER NO API 30045132 LOCATION SEC. 9, T30N, R8 OWNER BURLINGTON RESOURCES OIL & GAS CO COMPLETED 5602 SAMPLED D104 FORMATION CRET-MESAVERDE, MANCE GEOLOGIC PROVINCE CODE 5	METHANE
STATE NEW MEXIS COUNTY SAN JU FIELD BLANG WELL NAME WOODRIVER NO API 30045132 LOCATION SEC. 9. T30N, R6 OWNER BURLINGTON RESOURCES OIL & GAS CO COMPLETED 5602 SAMPLED 0104 FORMATION CRET-MESAVERDE, MANCE GEOLOGIC PROVINCE CODE 5 TRUE VERTICAL DEPTH (FT) 48 MEASURED DEPTH	METHANE
STATE	METHANE
STATE NEW MEXIS COUNTY SAN JU FIELD BLANG WELL NAME WOODRIVER NO API 30045132 LOCATION SEC. 9, T30N, R6 OWNER BURLINGTON RESOURCES OIL & GAS CO COMPLETED 5602 SAMPLED D104 FORMATION CRET-MESAVERDE, MANCG GEOLOGIC PROVINCE CODE 5 TRUE VERTICAL DEPTH (FT) 48	METHANE

^{*} 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	20868	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	78.0
	SAN JUAN	ETHANE	8.7
		PROPANE	3.5
FIELD	TOCITO DOME	N-BUTANE	1.1
WELL NAME		ISOBUTANE	0.6
API		N-PENTANE	0.3
LOCATION		ISOPENTANE	0.3
OWNER	ROBERT L. BAYLESS	CYCLOPENTANE	
COMPLETED	700130	HEXANES PLUS	0.5
SAMPLED	011003	NITROGEN	5.4
FORMATION	PENN-PARADOX	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	580	ARGON	0.0
TRUE VERTICAL DEPTH (FT) _	6390	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	1.1
OPEN FLOW, MCFD		HELIUM	_ :
OI EIVI EOVI, WOI D		HEATING VALUE*	1,137
		SPECIFIC GRAVITY	0.71
SAMPLE	20867	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	89.5
COUNTY		ETHANE	5.5
		PROPANE	1.6
FIELD	••••	N-BUTANE	0.4
WELL NAME	SAN JUAN NO. 39		
		ISOBUTANE	0.3
	3004511286	N-PENTANE	
	3004511286		0.1
LOCATION	3004511286 SEC. 26, T32N, R10W	N-PENTANE	0.1
LOCATIONBURLINGTON	3004511286 SEC. 26, T32N, R10W I RESOURCES OIL & GAS CO.	N-PENTANE	0.1
LOCATIONBURLINGTON COMPLETED	3004511286 SEC. 26, T32N, R10W I RESOURCES OIL & GAS CO. 561017	N-PENTANE ISOPENTANE CYCLOPENTANE	0.1
LOCATIONBURLINGTON COMPLETED SAMPLED	3004511286 SEC. 26, T32N, R10W IRESOURCES OIL & GAS CO. 561017 011003	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.2 0.3 0.1
LOCATIONBURLINGTON COMPLETED SAMPLED FORMATION	3004511286 SEC. 26, T32N, R10W I RESOURCES OIL & GAS CO. 561017 011003 CRET-PICTURED CLIFES	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.2 0.3 0.1
LOCATION	3004511286. SEC. 26, T32N, R10W. LRESOURCES OIL & GAS CO. 561017. 011003. CRET-PICTURED CLIFFS. 580.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.2 0.3 0.3 0.0 0.0
LOCATION	3004511286 SEC. 26, T32N, R10W I RESOURCES OIL & GAS CO. 561017 011003 CRET-PICTURED CLIFFS 580 6197	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 0.2 0.3 0.1 0.0 TRACE
LOCATION	3004511286. SEC. 26, T32N, R10W. I RESOURCES OIL & GAS CO. 561017. 011003. CRET-PICTURED CLIFFS. 580. 6197.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.5 0.5 0.5 0.0 0.0 TRACE
API LOCATION OWNER	3004511286. SEC. 26, T32N, R10W. LRESOURCES OIL & GAS CO. 561017. 011003. CRET-PICTURED CLIFFS. 580. 6197.	N-PENTANE	0.1 0.2 0.3 0.1 0.0 0.0 TRACE
LOCATION	3004511286. SEC. 26, T32N, R10W. LRESOURCES OIL & GAS CO. 561017. 011003. CRET-PICTURED CLIFFS. 580. 6197.	N-PENTANE	0.1 0.2 0.3 0.1 0.0 TRACE 0.0 2.0

 $^{^{\}star}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\star\prime}$ 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	
STATENEW MEX	ICO METHANE	89.6
COUNTYSAN JL	ETHANE	5.5
FIELDBLAN	PROPANE	2.0
WELL NAME SCOTT NO	N-BUTANE	0.5
	150B01ANE	0.3
API	N-PENTANE	0.1
LOCATION SEC. 3, T31N, R1	1501 LIVIANE	0.1
OWNER BURLINGTON RESOURCES OIL & GAS	CO. CYCLOPENTANE	
COMPLETED	1925 HEXANES PLUS	0.2
SAMPLED011		
FORMATION CRET-PICTURED CLIF	FFS OXYGEN	0.0
GEOLOGIC PROVINCE CODE	580 ARGON	
TRUE VERTICAL DEPTH (FT)2		
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 20862	COMPONENT, MOLE PCT	
ONVII EE 20002	·	20.0
STATENEW MEX	SICO. METHANE	88.8 6.2
COUNTYSAN JL		
FIELDBLAN	N-BUTANE	
WELL NAMESAN JUAN NO		
ADI		
API	N-PENTANE	
	N-PENTANE	
LOCATION SEC. 23, T32N, R1	10W ISOPENTANE	0.2
LOCATION SEC. 23, T32N, R1 OWNER BURLINGTON RESOURCES OIL & GAS	10W ISOPENTANE	0.2
LOCATIONSEC. 23, T32N, R1 OWNERBURLINGTON RESOURCES OIL & GAS COMPLETED551	10W ISOPENTANE CO. CYCLOPENTANE HEXANES PLUS	0.2
LOCATION SEC. 23, T32N, R1 OWNER BURLINGTON RESOURCES OIL & GAS COMPLETED 551 SAMPLED 011	10W	0.2 0.3 0.1
FORMATIONCRET-PICTURED CLII	10W	0.2 0.3 0.1
LOCATION SEC. 23, T32N, R1 OWNER BURLINGTON RESOURCES OIL & GAS COMPLETED 551 SAMPLED 011 FORMATION CRET-PICTURED CLIF GEOLOGIC PROVINCE CODE	10W	0.2 0.3 0.1 0.0 0.0
LOCATION SEC. 23, T32N, R1 OWNER BURLINGTON RESOURCES OIL & GAS COMPLETED 551 SAMPLED 011 FORMATION CRET-PICTURED CLII GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) 6	10W	0.2 0.3 0.1 0.0 0.0 TRACE
LOCATION SEC. 23, T32N, R1 OWNER BURLINGTON RESOURCES OIL & GAS COMPLETED 551 SAMPLED 011 FORMATION CRET-PICTURED CLII GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) 6 MEASURED DEPTH	10W ISOPENTANE	0.2 0.3 0.1 0.0 0.0 TRACE
LOCATION SEC. 23, T32N, R1 OWNER BURLINGTON RESOURCES OIL & GAS COMPLETED 551 SAMPLED 011 FORMATION CRET-PICTURED CLIF GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) 6 MEASURED DEPTH WELLHEAD PRESSURE, PSIG	10W ISOPENTANE	0.2 0.3 0.1 0.0 0.0 TRACE 0.0
LOCATION SEC. 23, T32N, R1 OWNER BURLINGTON RESOURCES OIL & GAS COMPLETED 551 SAMPLED 011 FORMATION CRET-PICTURED CLII GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) 6 MEASURED DEPTH	10W ISOPENTANE	0.2 0.3 0.1 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	20927	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	0.0
	SOCORRO	ETHANE	0.0
		PROPANE	0.0
FIELD	WILDCAT	N-BUTANE	0.0
	DULCE DRAW STATE NO. 1	ISOBUTANE	0.0
API		N-PENTANE	0.0
LOCATION	SEC. 2, T4S, R9E	ISOPENTANE	0.0
OWNER	PRIMERO OPERATING, INC.	CYCLOPENTANE	
COMPLETED	010431	HEXANES PLUS	0.0
SAMPLED	010808	NITROGEN	8.3
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	465	ARGON	0.2
TRUE VERTICAL DEPTH (FT) _	2846	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	91.4
, , , , , , , , , , , , , , , , , , , ,		HELIUM	0.09
OPEN FLOW, MICFO		HEATING VALUE*	
		SPECIFIC GRAVITY	1.472
SAMPLE	20873	COMPONENT, MOLE PCT	
CTATE	NEWLAND	METHANE	3.0
	NEW MEXICO	ETHANE	0.0
	SOCORRO	PROPANE	0.0
FIELD			
		N-BUTANE	0.0
WELL NAME	DULCE DRAW STATE NO. 1	N-BUTANE	
· · · · · · · · · · · · · · · · · · ·			0.0
API	DULCE DRAW STATE NO. 1	ISOBUTANE	0.0
API	DULCE DRAW STATE NO. 1 3005320014	ISOBUTANE	0.0
API LOCATION OWNER	DULCE DRAW STATE NO. 1 3005320014 SEC. 2, T4S, R9E PRIMERO OPERATING, INC.	ISOBUTANE N-PENTANE ISOPENTANE	0.0 0.0 0.0
API LOCATION OWNER COMPLETED	DULCE DRAW STATE NO. 1 3005320014 SEC. 2, T4S, R9E PRIMERO OPERATING, INC.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.0
API LOCATION OWNER COMPLETED SAMPLED	DULCE DRAW STATE NO. 1 3005320014 SEC. 2, T4S, R9E PRIMERO OPERATING, INC. 010431	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.0 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION	DULCE DRAW STATE NO. 1 3005320014 SEC. 2, T4S, R9E PRIMERO OPERATING, INC. 010431 010808	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.0 0.0 0.0 0.0 65.6
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	DUI CE DRAW STATE NO. 1 3005320014 SEC. 2, T4S, R9E PRIMERO OPERATING, INC. 010431 010808 PERM-ABO 465	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.0 0.0 0.0 0.0 65.6 0.0
API	DULCE DRAW STATE NO. 1 3005320014 SEC. 2, T4S, R9E PRIMERO OPERATING, INC. 010431 010808 PERM-ABO 465	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.0 0.0 0.0 0.0 65.6 0.0 TRACE
API	DUI CE DRAW STATE NO. 1 3005320014 SEC. 2, T4S, R9E PRIMERO OPERATING, INC. 010431 010808 PERM-ABO 465	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.0 0.0 0.0 0.0 65.6 0.0 TRACE
API	DUI CE DRAW STATE NO. 1 3005320014 SEC. 2, T4S, R9E PRIMERO OPERATING, INC. 010431 010808 PERM-ABO 465 2650	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.0 0.0 0.0 0.0 65.6 0.0 0.4 TRACE
API	DUI CE DRAW STATE NO. 1 3005320014 SEC. 2, T4S, R9E PRIMERO OPERATING, INC. 010431 010808 PERM-ABO 465 2650	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.0 65.6 0.0 0.4 TRACE 0.0 31.1

^{*} 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

*· ···· == = = *** · *	COMPONENT, MOLE PCT	
STATE OHIO	METHANE	83.6
COUNTY HOCKING	ETHANE	4.5
FIELD HAYNES	PROPANE	1.9
	N-BUTANE	0.6
WELL NAMEAZBELL NO. 2	ISOBUTANE	0.3
API3407323485_	N-PENTANE	0.1
LOCATION SEC. 5N, SALT CREEK TWP	ISOPENTANE	0.1
OWNERCOLUMBIA NATURAL RESOURCES, INC.	CYCLOPENTANE	~~
COMPLETED	HEXANES PLUS	TRACE
SAMPLED981210_	NITROGEN	8.2
FORMATION ORDO-ROSE RUN	OXYGEN	0.4
GEOLOGIC PROVINCE CODE	ARGON	0.1
TRUE VERTICAL DEPTH (FT)3530.	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG1330	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD 5700	HELIUM	
01 211 2011, 1101 0	HEATING VALUE*	
	SPECIFIC GRAVITY	0.649
SAMPLE 20046	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT METHANE	88.5
STATE OHIO		
STATE OHIO COUNTY PORTAGE	METHANE	6.6
STATEOHIO_ COUNTYPORTAGE_ FIELDRAVENNA	METHANE	6.6
STATEOHIO_ COUNTYPORTAGE FIELDRAVENNA WELL NAMESHEWELL UNIT NO. P-11	METHANE ETHANE PROPANE	6.6 2.7 0.8
STATEOHIO_ COUNTYPORTAGE_ FIELDRAVENNA WELL NAMESHEWELL UNIT NO. P-11	METHANE ETHANE PROPANE N-BUTANE	6.6 2.7 0.8 0.3
STATE OHIO COUNTY PORTAGE FIELD RAVENNA WELL NAME SHEWELL UNIT NO. P-11 API 3413324209	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	6.6 2.7 0.8 0.3 0.1
STATE OHIO COUNTY PORTAGE FIELD RAVENNA WELL NAME SHEWELL UNIT NO. P-11 API 3413324209 LOCATION EDINBURG TWP, ATWATER QUAD, LOT 4SW	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	6.6 2.7 0.8 0.3 0.1
STATEOHIO_ COUNTYPORTAGE FIELDRAVENNA WELL NAMESHEWELL UNIT NO. P-11 API3413324209 LOCATIONEDINBURG TWP, ATWATER QUAD, LOT 4SW OWNEREASTERN STATES OIL & GAS, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	6.6 2.7 0.8 0.3 0.1 0.2
STATEOHIO_ COUNTYPORTAGE FIELDRAVENNA. WELL NAMESHEWELL UNIT NO. P-11 API3413324209 LOCATIONEDINBURG TWP, ATWATER QUAD, LOT 4SW. OWNEREASTERN STATES OIL & GAS, INC. COMPLETED980924	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	6.6 2.7 0.8 0.3 0.1 0.2
STATEOHIO COUNTYPORTAGE FIELDRAVENNA WELL NAMESHEWELL UNIT NO. P-11 API3413324209 LOCATIONEDINBURG TWP, ATWATER QUAD, LOT 4SW. OWNEREASTERN STATES OIL & GAS, INC. COMPLETED980924 SAMPLED000211	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	6.6 2.7 0.8 0.3 0.1 0.2
STATEOHIO_ COUNTYPORTAGE FIELDRAVENNA WELL NAMESHEWELL UNIT NO. P-11 API3413324209 LOCATIONEDINBURG TWP, ATWATER QUAD, LOT 4SW. OWNEREASTERN STATES OIL & GAS, INC. COMPLETED980924 SAMPLED000211 FORMATIONORDO-ROSE RUN, KNOX	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	6.6 2.7 0.8 0.3 0.1 0.2 0.1 0.7
STATE OHIO COUNTY PORTAGE FIELD RAVENNA WELL NAME SHEWELL UNIT NO. P-11 API 3413324209 LOCATION FDINBURG TWP, ATWATER QUAD, LOT 4SW OWNER EASTERN STATES OIL & GAS, INC. COMPLETED 980924 SAMPLED 000211 FORMATION ORDO-ROSE RUN, KNOX GEOLOGIC PROVINCE CODE 160	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.6 0.3 0.1 0.2 0.1 0.7 0.0 0.0
STATE OHIO COUNTY PORTAGE FIELD RAVENNA WELL NAME SHEWELL UNIT NO. P-11 API 3413324209 LOCATION FDINBURG TWP, ATWATER QUAD, LOT 4SW OWNER FASTERN STATES OIL & GAS, INC. COMPLETED 980924 SAMPLED 000211 FORMATION ORDO-ROSE RUN, KNOX GEOLOGIC PROVINCE CODE 160 TRUE VERTICAL DEPTH (FT) 7376	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	6.6 2.7 0.8 0.3 0.1 0.2
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	6.6 2.7 0.8 0.3 0.1 0.2 0.1 0.7 0.0 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	6.6 2.7 0.8 0.3 0.1 0.2 0.1 0.7 0.0 0.0 0.0 TRACE
STATE OHIO COUNTY PORTAGE FIELD RAVENNA WELL NAME SHEWELL UNIT NO. P-11 API 3413324209 LOCATION FDINBURG TWP, ATWATER QUAD, LOT 4SW OWNER EASTERN STATES OIL & GAS, INC. COMPLETED 980924	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	6.6 2.7 0.8 0.3 0.1 0.2 0.1 0.7 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	20726	COMPONENT, MOLE PCT	
QTATE	OKLAHOMA	METHANE	75.6
	CUSTER	ETHANE	13.4
		PROPANE	6.3
	WEATHEREORD	N-BUTANE	1.4
	CRALL NO. 12-1	ISOBUTANE	8.0
	3503920567	N-PENTANE	0.4
	SEC. 12, T13N, R15W	ISOPENTANE	0.4
OWNER	CHESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	820322	HEXANES PLUS	0.6
SAMPLED	010711	NITROGEN	0.5
FORMATION	PENN-ATOKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODI	E360_	ARGON	0.0
TRUE VERTICAL DEPTH (FT	12246	HYDROGEN	0.0
, ,		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSI		CARBON DIOXIDE	0.6
•		HELIUM	0.05
OPEN FLOW, MICFO	950	HEATING VALUE*	1,291
		SPECIFIC GRAVITY	0.748
SAMPLE	20732	COMPONENT, MOLE PCT	
~~.~			
	OKI VHUMA	METHANE	83.2
	OKLAHOMA	METHANE	
COUNTY	CUSTER		6.0
COUNTY	GUSTER FAY E	ETHANE	6.0 2.1
COUNTY FIELD WELL NAME	CUSTER FAY E MILTON NO. 1-25	ETHANE	6.0 2.1 0.4
COUNTY FIELD WELL NAMEAPI	CUSTER FAY E MILTON NO. 1-25 3503921581	ETHANEPROPANEN-BUTANE	6.0 2.1 0.4 0.3
COUNTY FIELD WELL NAMEAPI	CUSTER FAY E MILTON NO. 1-25	ETHANEPROPANEN-BUTANEISOBUTANE	6.0 2.5 0.4 0.3
COUNTY FIELD WELL NAME API LOCATION	CUSTER FAY E MILTON NO. 1-25 3503921581	ETHANE	6.0 2.1 0.4 0.3 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER	CUSTER FAY E MILTON NO. 1-25 3503921581 SEC. 25. T15N, R14W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	6.0 2.1 0.4 0.3 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	CUSTER FAY E MILTON NO. 1-25 3503921581 SEC. 25. T15N, R14W MARSHALL OIL CORP.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	6.0 2.1 0.4 0.3 0.1 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	CUSTER FAY E MILTON NO. 1-25 3503921581 SEC. 25. T15N, R14W MARSHALL OIL CORP. 940904	ETHANEPROPANEISOBUTANEISOPENTANEISOPENTANECYCLOPENTANE	6.0 2.1 0.4 0.3 0.1 0.1 0.3
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	CUSTER FAY F MILTON NO. 1-25 3503921581 SEC. 25. T15N, R14W MARSHALL OIL CORP. 940904 010711	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	6.0 2.1 0.4 0.3 0.1 0.1 0.3 5.5
COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODI	CUSTER FAY E MILTON NO. 1-25 3503921581 SEC. 25. T15N, R14W MARSHALL OIL CORP. 940904 010711 PENN-ATOKA, MORROW	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	6.0 2.1 0.4 0.3 0.1 0.1 0.5 5.5
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODITION TRUE VERTICAL DEPTH (FT	CUSTER FAY F MILTON NO. 1-25 3503921581 SEC. 25. T15N, R14W MARSHALL OIL CORP. 940904 010711 PENN-ATOKA, MORROW E 360 10756	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	6.0 2.1 0.4 0.3 0.1 0.1 0.5 5.5 5.5 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODI TRUE VERTICAL DEPTH (FT	CUSTER FAY E MILTON NO. 1-25 3503921581 SEC. 25. T15N, R14W MARSHALL OIL CORP. 940904 010711 PENN-ATOKA, MORROW E 360 10766	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.0 0.1 0.3 0.1 0.1 0.3 0.3 5.5 1.2 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODI TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSI	CUSTER FAY E MILTON NO. 1-25 3503921581 SEC. 25. T15N, R14W MARSHALL OIL CORP. 940904 010711 PENN-ATOKA, MORROW E 360 10766.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.3 0.3 0.1 0.1 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODI TRUE VERTICAL DEPTH (FT	CUSTER FAY E MILTON NO. 1-25 3503921581 SEC. 25. T15N, R14W MARSHALL OIL CORP. 940904 010711 PENN-ATOKA, MORROW E 360 10766	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	6.0 2.1 9.4 9.3 9.1 9.1 9.3 5.5 1.2 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0

^{*} CALCULATED GROSS 8TU 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	20705	COMPONENT, MOLE PCT	
STATE	OKI VHOWY	METHANE	88.8
		ETHANE	6.0
	CUSTER	PROPANE	2.5
	HAMMON E	N-BUTANE	0.4
WELL NAME	_	ISOBUTANE	0.4
	3503921437	N-PENTANE	0.
LOCATION	SEC. 13, T13N, R20W	ISOPENTANE	0.3
OWNER	APACHE CORP.	CYCLOPENTANE	
COMPLETED	920928	HEXANES PLUS	0.4
SAMPLED	010709	NITROGEN	0.3
FORMATION	PENN-CHEROKEE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.6
TRUE VERTICAL DEPTH (FT)	13000	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _	4633	CARBON DIOXIDE	1.
OPEN FLOW, MCFD		HELIUM	0.04
OPEN FLOW, MOPU	765	HEATING VALUE*	1,12
		SPECIFIC GRAVITY	0.64
SAMPLE	20707	COMPONENT, MOLE PCT	
STATE	UKI VHUMV	METHANE	79.
COUNTY		ETHANE	10.5
		PROPANE	5.0
FIELD		N-BUTANE	1.
WELL NAME		ISOBUTANE	0.6
API		N-PENTANE	0
LOCATION	SEC. 21, T14N, R20W	ISOPENTANE	0.
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	900409	HEXANES PLUS	0.
SAMPLED	010709	NITROGEN	0.4
FORMATION	PENN-CHEROKEE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	12242	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	1.0
OPEN FLOW, MCFD		HELIUM	0.0
J. 2.11 LOTT, 11101 D	700	HEATING VALUE*	1,23

^{*} 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	20725	COMPONENT, MOLE PCT	
CTATE	OKLAHOMA	METHANE	78.4
	CUSTER	ETHANE	10.4
		PROPANE	6.1
	WEATHERFORD	N-BUTANE	1.5
WELL NAME	HORSE CREEK NO. 13-1	ISOBUTANE	0.7
API	3503921652	N-PENTANE	0.5
LOCATION	SEC. 13, T13N, R15W	ISOPENTANE	0.4
OWNER <u>BURLINGTO</u>	N RESOURCES OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	960805	HEXANES PLUS	0.6
SAMPLED	010711	NITROGEN	3.0
FORMATION	PENN-CHEROKEE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
	11330	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.6
	3900	HELIUM	0.06
OPEN FLOW, MCFD	3822	HEATING VALUE*	1,267
		SPECIFIC GRAVITY	0.736
SAMPLE	20734	COMPONENT, MOLE PCT	
CTATE	OKLAHOMA	METHANE	95.8
		ETHANE	2.2
	CUSTER	PROPANE	0.3
	CLINTON S	N-BUTANE	TRACE
WELL NAME	CLINTON NO. 13-31	ISOBUTANE	TRACE
API	3503920825	N-PENTANE	TRACE
LOCATION	SEC, 31, T12N, R16W	ISOPENTANE	TRACE
OWNER	PETRO ENGINEERING, INC.	CYCLOPENTANE	ā
COMPLETED	821108	HEXANES PLUS	TRACE
	821108 010711	HEXANES PLUS NITROGEN	
SAMPLED			0.3
SAMPLED	010711 PENN-MORROW	NITROGEN	0.0
SAMPLEDFORMATIONGEOLOGIC PROVINCE CODE	010711 PENN-MORROW 360	NITROGEN	0.0
SAMPLED	010711 PENN-MORROW 360 15472	NITROGENOXYGENARGON	0.0 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	010711 PENN-MORROW 360 15472	NITROGEN OXYGEN ARGON HYDROGEN	0.3 0.0 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	010711 PENN-MORROW 360 15472	NITROGEN	0.3 0.4 0.6 0.6 0.6
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	010711 PENN-MORROW 360 15472	NITROGEN	0.3 0.0 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	20728	COMPONENT, MOLE PCT	
QTATE:	OKLAHOMA	METHANE	87.9
	CUSTER	ETHANE	6.7
COUNTY		PROPANE	2.4
FIELD	CUSTER CITY E	N-BUTANE	0.5
	DECKER NO. 1-23	ISOBUTANE	0.5
API	3503920338	N-PENTANE	0.1
LOCATION	SEC. 23, T14N, R15W	ISOPENTANE	0.2
OWNER	WARREN AMERICAN OIL CO.	CYCLOPENTANE	
COMPLETED	800709	HEXANES PLUS	0.4
SAMPLED	010711	NITROGEN	0.5
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CO	DDE360_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)12708	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	PSIG	CARBON DIOXIDE	0.8
•		HELIUM	0.04
OPEN FLOW, MOPD	1150	HEATING VALUE*	1,132
		SPECIFIC GRAVITY	0.649
SAMPLE	20727	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	91.8
	CUSTER	ETHANE	4.8
		PROPANE	1.2
	CUSTER CITY E	N-BUTANE	0.3
	BLACK WOLF NO. 1-25	ISOBUTANE	0.2
API	3503920485	N-PENTANE	0,1
LOCATION	SEC. 25, T14N, R15W	ISOPENTANE	0.1
OWNER	WARREN AMERICAN OIL CO.	CYCLOPENTANE	
COMPLETED	811101	HEXANES PLUS	0.2
SAMPLED	010711	NITROGEN	0.4
FORMATION	PENN-MORROW, SPRINGER	OXYGEN	0.0
GEOLOGIC PROVINCE CO	DDE360_	ARGON	0.0
OFOFOGIO LIVOAIMOF OF	FT)13016	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (•	HTDROGEN SOLFIDE	
TRUE VERTICAL DEPTH (CARBON DIOXIDE	1.0
TRUE VERTICAL DEPTH (MEASURED DEPTH WELLHEAD PRESSURE, F	PSIG		
TRUE VERTICAL DEPTH (MEASURED DEPTH WELLHEAD PRESSURE, F		CARBON DIOXIDE	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	20730	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	83.1
COUNTY	CUSTER	ETHANE	8.6
FIELD	FAYE	PROPANE	4.1
		N-BUTANE	1.1
	CATTLE 4-D NO. 1-24	ISOBUTANE	0.7
API	3503920156	N-PENTANE	0.2
LOCATION	SEC. 24, T15N, R14W	ISOPENTANE	0.4
OWNER	APACHE CORP.	CYCLOPENTANE	
COMPLETED	770616	HEXANES PLUS	0.5
SAMPLED	010711	NITROGEN	0.4
FORMATION	PENN-MORROW, SPRINGER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	E360_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	10897	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSI		CARBON DIOXIDE	0.8
OPEN FLOW, MCFD		HELIUM	0.05
OPEN FLOW, MICFD	0/2	HEATING VALUE*	1,204
		SPECIFIC GRAVITY	0.694
SAMPLE	20729	COMPONENT, MOLE PCT	
QTATE	OKLAHOMA	METHANE	87.3
	CUSTER	ETHANE	6.8
		PROPANE	2.7
FIELD	_	N-BUTANE	0.7
	HALLE NO. 1-7	ISOBUTANE	0.4
API	3503920956	N-PENTANE	0.2
LOCATION	SEC. 7, T14N, R14W	ISOPENTANE	0.2
OWNER	UNIT PETROLEUM CO.	CYCLOPENTANE	
COMPLETED	831004	HEXANES PLUS	0.5
SAMPLED	010711	NITROGEN	0.5
FORMATION	PENN-RED FORK	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	E360_	ARGON	0.0
	10885	HYDROGEN	TRACE
TRUE VERTICAL DEPTH (FT)			0.0
TRUE VERTICAL DEPTH (FT)		HYDROGEN SULFIDE**	<u> </u>
MEASURED DEPTH		CARBON DIOXIDE	
MEASURED DEPTH WELLHEAD PRESSURE, PSH	G350_		0.7
` '	G350_	CARBON DIOXIDE	0.7

^{*} 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	20731	COMPONENT, MOLE PCT	
STATE	OKLAHOMA.	METHANE	83.7
	CUSTER	ETHANE	8.3
	FAY E	PROPANE	4.0
FIELD		N-BUTANE	1.0
	KENT NO. 1-24	ISOBUTANE	0.7
API	3503921461	N-PENTANE	0.2
LOCATION	SEC. 24. T15N, R14W	ISOPENTANE	0.4
OWNER	MARSHALL OIL CORP.	CYCLOPENTANE	
COMPLETED	920821	HEXANES PLUS	0.5
SAMPLED	010711	NITROGEN	0.4
FORMATION	PENN-SPRINGER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	10990	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	4600	CARBON DIOXIDE	0.8
•	1750	HELIUM	0.05
OI EIVI EOW, MOI D		HEATING VALUE*	1,19
		SPECIFIC GRAVITY	0.69
SAMPLE	20721	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	84.1
	DEWEY	ETHANE	8.8
		PROPANE	3.3
	PUTNAM	N-BUTANE	0.8
	SHIRLEY NO. 1-22	ISOBUTANE	0.5
API	3504321704	N-PENTANE	0.2
LOCATION	SEC. 22, T17N, R18W	ISOPENTANE	0.3
OWNER	EXOK, INC.	CYCLOPENTANE	
COMPLETED	830802	HEXANES PLUS	0.5
SAMPLED	010710	NITROGEN	0.5
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	10750	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	3020	CARBON DIOXIDE	1.0
, , , ,		HELIUM	0.04
OPEN FLOW, MCFD		HEATING VALUE*	1,175

 $^{^{\}star}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\star\prime}$ 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	93.6
COUNTY DEWEY	ETHANE	3.5
FIELD NOBSCOT NW	PROPANE	0.9
	N-BUTANE	0.2
WELL NAME FRANS USA NO. 1	ISOBUTANE	0.4
API3504321760	N-PENTANE	0.1
OCATION SEC. 10, T16N, R15W	ISOPENTANE	0.1
OWNERVERNON E, FAULCONER, INC.	CYCLOPENTANE	
COMPLETED830823	HEXANES PLUS	
SAMPLED010710	NITROGEN	0.3
FORMATION PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE360_	ARGON	
TRUE VERTICAL DEPTH (FT)10243	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD1297	7.2.0	0.0
	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 20720	COMPONENT, MOLE PCT	
SAIMPLE 20720	***************************************	
	METHANE	79.9
STATEOKLAHOMA_	METHANE	
STATEOKLAHOMA_ COUNTYDEWEY_	METHANE	10.
STATEOKLAHOMA_ COUNTYDEWEY_ FIELDPUTNAM_	METHANE	10.1 4.1 1.1
COUNTY DEWEY FIELD PUTNAM WELL NAME SHIRLEY NO. 4-22	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	10. 4. 1. 0.
STATE OKLAHOMA COUNTY DEWEY FIELD PUTNAM WELL NAME SHIRLEY NO. 4-22 API 3504322517	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	10.0 4.1 0.0 0.0
STATE OKLAHOMA COUNTY DEWEY FIELD PUTNAM WELL NAME SHIRLEY NO. 4-22 API 3504322517 LOCATION SEC. 22, T17N, R18W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	10. 4. 1. 0. 0.
STATE OKLAHOMA COUNTY DEWEY FIELD PUTNAM WELL NAME SHIRLEY NO. 4-22 API 3504322517 LOCATION SEC. 22, T17N, R18W OWNER EXOK, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	10.4 4.2 0.1 0.0 0.0
STATE OKLAHOMA COUNTY DEWEY FIELD PUTNAM WELL NAME SHIRLEY NO. 4-22 API 3504322517 LOCATION SEC. 22, T17N, R18W OWNER EXOK, INC. COMPLETED 960121	METHANE ETHANE PROPANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS	10.1 4.1 0.1 0.4 0.4 0.4
STATE OKLAHOMA COUNTY DEWEY FIELD PUTNAM WELL NAME SHIRLEY NO. 4-22 API 3504322517 LOCATION SEC. 22, T17N, R18W OWNER EXOK, INC. COMPLETED 960121 SAMPLED 010710	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	10.1 4.1 1.1 0.0 0.4 0.4
STATE OKLAHOMA COUNTY DEWEY FIELD PUTNAM WELL NAME SHIRLEY NO. 4-22 API 3504322517 LOCATION SEC. 22, T17N, R18W OWNER EXOK, INC. COMPLETED 960121 SAMPLED 010710 FORMATION PENN-MORROW	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	10.1 4.1 0.0 0.0 0.1 0.1 0.1 0.1
STATE OKLAHOMA COUNTY DEWEY FIELD PUTNAM WELL NAME SHIRLEY NO. 4-22 API 3504322517 LOCATION SEC. 22, T17N, R18W OWNER EXOK, INC. COMPLETED 960121 SAMPLED 010710 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 360	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	10.1 4.1 0.0 0.1 0.1 0.1 0.1 0.1 0.1
STATE OKLAHOMA COUNTY DEWEY FIELD PUTNAM WELL NAME SHIRLEY NO. 4-22 API 3504322517 LOCATION SEC. 22, T17N, R18W OWNER EXOK, INC. COMPLETED 960121 SAMPLED 010710 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 360	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	10.1 4.1 0.3 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4
STATE OKLAHOMA COUNTY DEWEY FIELD PUTNAM WELL NAME SHIRLEY NO. 4-22 API 3504322517 LOCATION SEC. 22, T17N, R18W OWNER EXOK, INC. COMPLETED 960121 SAMPLED 010710 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 10786	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	10.0
STATE OKLAHOMA COUNTY DEWEY FIELD PUTNAM WELL NAME SHIRLEY NO. 4-22 API 3504322517 LOCATION SEC. 22, T17N, R18W OWNER EXOK, INC. COMPLETED 960121 SAMPLED 010710 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 10786 MEASURED DEPTH	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	10.0 4.1 1.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
STATE OKLAHOMA COUNTY DEWEY FIELD PUTNAM WELL NAME SHIRLEY NO. 4-22 API 3504322517 LOCATION SEC. 22, T17N, R18W OWNER EXOK, INC. COMPLETED 960121 SAMPLED 010710	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	10.0 4.1 1.2 0.2 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 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	20718	COMPONENT, MOLE PCT	
STATE	OKI VHOMV	METHANE	80.6
		ETHANE	10.4
COUNTY		PROPANE	4.5
FIELD		N-BUTANE	1.2
WELL NAME		ISOBUTANE	0.6
	3504320618	N-PENTANE	0.4
LOCATION	SEC. 23, T17N, R18W	ISOPENTANE	0.4
OWNERCC	INTINENTAL OPERATING CO.	CYCLOPENTANE	
COMPLETED	750923	HEXANES PLUS	3.0
SAMPLED	010710	NITROGEN	0.5
FORMATION	PENN-OSWEGO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT) _	9248	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.7
OPEN FLOW, MCFD		HELIUM	0.05
OPENTEOW, MOI D	1230	HEATING VALUE*	1.239
		SPECIFIC GRAVITY	0.716
SAMPLE	20722	COMPONENT, MOLE PCT	
CTATE		METHANE	71.1
STATE		ETHANE	14.5
COUNTY		PROPANE	7.9
FIELD		N-BUTANE	2.
WELL NAME	FAIRCHILD A NO. 1.	ISOBUTANE	1.0
API	3504350100	N-PENTANE	0.6
LOCATION	SEC. 8, T17N, R19W	ISOPENTANE	0.6
OWNERCH	ESAPEAKE OPERATING, INC.	CYCLOPENTANE	-
COMPLETED	640116	HEXANES PLUS	0.3
SAMPLED	010710	NITROGEN	0.3
FORMATION	PENN-OSWEGO	OXYGEN	0.0
		ARGON	0.0
GEOLOGIC PROVINCE CODE	360	711.0011	
GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _		HYDROGEN	0.0
TRUE VERTICAL DEPTH (FT) _	9494	HYDROGEN HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	9494	HYDROGEN	0.0
TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG .	9494	HYDROGEN HYDROGEN SULFIDE**	0.9
TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	9494	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 2.0 20.0

^{*} 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 OKLAHOMA	METHANE	76.5
	ETHANE	11.9
COUNTY DEWEY	PROPANE	5.9
FIELD PUTNAM	N-BUTANE	1.7
WELL NAMEGOVERNMENT-SPAID NO. 1-5.	ISOBUTANE	0.8
API3504350098	N-PENTANE	0.5
LOCATION SEC. 5, T17N, R19W	ISOPENTANE	0.5
OWNERCHESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.8
SAMPLED010710	NITROGEN	0.6
FORMATION PENN-OSWEGO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)9436	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG4372	CARBON DIOXIDE	8.0
OPEN FLOW, MCFD 5500	HELIUM	
OF LINT LOW, MICFO	HEATING VALUE*	1,292
	SPECIFIC GRAVITY	0.753
SAMPLE 20719	COMPONENT, MOLE PCT	
STATE OKI AHOMA	METHANE	78.7
STATE OKLAHOMA	METHANE	
COUNTYDEWEY		10.7
COUNTY	ETHANE	10.7 5.2
COUNTY DEWEY FIELD PUTNAM WELL NAME COLLIER ESTATE NO. 1	ETHANE	10.7 5.2 1.4
COUNTY DEWEY FIELD PUTNAM WELL NAME COLLIER ESTATE NO. 1 API 3504320543	ETHANE PROPANE N-BUTANE	10.7 5.2 1.4 0.7
COUNTY DEWEY FIELD PUTNAM WELL NAME COLLIER ESTATE NO. 1 API 3504320543	ETHANE PROPANE N-BUTANE ISOBUTANE	10.7 5.2 1.4 0.7 0.4
COUNTY DEWEY FIELD PUTNAM WELL NAME COLLIER ESTATE NO. 1 API 3504320543 LOCATION SEC. 21, T17N, R18W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	10.7 5.2 1.4 0.7 0.4
COUNTY DEWEY FIELD PUTNAM WELL NAME COLLIER ESTATE NO. 1 API 3504320543 LOCATION SEC. 21, T17N, R18W OWNER VERNON E. FAULCONER, INC.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	10.7 5.2 1.4 0.7 0.4
COUNTY DEWEY FIELD PUTNAM WELL NAME COLLIER ESTATE NO. 1 API 3504320543 LOCATION SEC. 21, T17N, R18W OWNER VERNON E. FAULCONER. INC. COMPLETED 741117.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE	10.7 5.2 1.4 0.7 0.4 0.4
COUNTY DEWEY FIELD PUTNAM WELL NAME COLLIER ESTATE NO. 1 API 3504320543 LOCATION SEC. 21, T17N, R18W OWNER VERNON E. FAULCONER. INC. COMPLETED 741117 SAMPLED 010710	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	10.7 5.2 1.4 0.7 0.4 0.4 0.8
COUNTY DEWEY FIELD PUTNAM WELL NAME COLLIER ESTATE NO. 1 API 3504320543 LOCATION SEC. 21, T17N, R18W OWNER VERNON E. FAULCONER. INC. COMPLETED 741117 SAMPLED 010710 FORMATION PENN-TONKAWA	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	10.7 5.2 1.4 0.7 0.4 0.4 0.8 1.2
COUNTY DEWEY FIELD PUTNAM WELL NAME COLLIER ESTATE NO. 1 API 3504320543 LOCATION SEC. 21, T17N, R18W OWNER VERNON E. FAULCONER. INC. COMPLETED 741117. SAMPLED 010710. FORMATION PENN-TONKAWA GEOLOGIC PROVINCE CODE 360.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	10.7 5.2 1.4 0.7 0.4 0.4 0.8 1.2 0.0
COUNTY DEWEY FIELD PUTNAM WELL NAME COLLIER ESTATE NO. 1 API 3504320543 LOCATION SEC. 21, T17N, R18W OWNER VERNON E. FAULCONER. INC. COMPLETED 741117 SAMPLED 010710 FORMATION PENN-TONKAWA	ETHANE	10.7 5.2 1.4 0.7 0.4 0.8 1.2 0.0 0.0
COUNTY DEWEY FIELD PUTNAM WELL NAME COLLIER ESTATE NO. 1 API 3504320543 LOCATION SEC. 21, T17N, R18W OWNER VERNON E. FAULCONER. INC. COMPLETED 741117 SAMPLED 010710 FORMATION PENN-TONKAWA GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 7826 MEASURED DEPTH	ETHANE	10.7 5.2 1.4 0.7 0.4 0.4 0.8 1.2 0.0 0.0 TRACE
COUNTY DEWEY FIELD PUTNAM WELL NAME COLLIER ESTATE NO. 1 API 3504320543 LOCATION SEC. 21, T17N, R18W OWNER VERNON E. FAULCONER. INC. COMPLETED 741117. SAMPLED 010710. FORMATION PENN-TONKAWA GEOLOGIC PROVINCE CODE 360. TRUE VERTICAL DEPTH (FT) 7826. MEASURED DEPTH WELLHEAD PRESSURE, PSIG 1585.	ETHANE	10.7 5.2 1.4 0.7 0.4 0.4 0.8 1.2 0.0 0.0 TRACE
COUNTY DEWEY FIELD PUTNAM WELL NAME COLLIER ESTATE NO. 1 API 3504320543 LOCATION SEC. 21, T17N, R18W OWNER VERNON E. FAULCONER. INC. COMPLETED 741117 SAMPLED 010710 FORMATION PENN-TONKAWA GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 7826 MEASURED DEPTH	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	10.7 5.2 1.4 0.7 0.4 0.4 0.8 1.2 0.0 0.0 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	20022	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	98.3
	KIOWA	ETHANE	1.0
		PROPANE	0.2
FIELD		N-BUTANE	TRACE
WELL NAME		ISOBUTANE	TRACE
	3507521917	N-PENTANE	0.0
LOCATION		ISOPENTANE	TRACE
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	980616	HEXANES PLUS	TRACE
SAMPLED	990111	NITROGEN	0.2
FORMATION PENN	-SPRINGER (OVERTURNED)	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	350	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	11391	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.3
OPEN FLOW, MCFD		HELIUM	
OI LIVI LOVY, MOI D	31000	HEATING VALUE*	1,020
		SPECIFIC GRAVITY	0.565
SAMPLE	20874	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	94.4
STATE		ETHANE	0.6
COUNTY		PROPANE	TRACE
FIELD		N-BUTANE	0.0
WELL NAME	YOURMAN NO. 7-15	ISOBUTANE	0.0
API	3507721167	N-PENTANE	0.0
LOCATION	SEC. 15, T5N, R18E	ISOPENTANE	0.0
OWNERBP	AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	001003	HEXANES PLUS	0.0
SAMPLED	011011	NITROGEN	0.3
FORMATION	PENN-CROMWELL 2	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	345	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
MEASURED DEPTH		CARBON DIOXIDE	4.6
MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	1770	CARBON DIOXIDE	
MEASURED DEPTH WELLHEAD PRESSURE, PSIG _ OPEN FLOW, MCFD	1770		0.04

^{*} 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	20788	COMPONENT, MOLE PCT	
STATE		METHANE	72.6
	•	ETHANE	10.3
COUNTY	_	PROPANE	5.4
FIELD		N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.1
LOCATION	SEC. 3, T15N, R2E	ISOPENTANE	0.1
OWNER	MARJO OPERATING CO., INC.	CYCLOPENTANE	
COMPLETED	001115	HEXANES PLUS	TRACE
SAMPLED	010813	NITROGEN	9.2
FORMATION	DEVO-HUNTON	OXYGEN	0.8
GEOLOGIC PROVINCE CODE _	355	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	· · · · · · · · · · · · · · · · · · ·	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _	_	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	0.09
OPEN FLOW, MICFD	1170	HEATING VALUE*	1,104
		SPECIFIC GRAVITY	0.722
SAMPLE	20409	COMPONENT, MOLE PCT	
STATE	OKI VHOWV	METHANE	81.8
		ETHANE	8.6
COUNTY		PROPANE	3.8
FIELD		N-BUTANE	1.4
WELL NAME	FISHER NO. 6	ISOBUTANE	0.5
API	3509323677	N-PENTANE	0.5
LOCATION	SEC. 3, T20N, R10W	ISOPENTANE	0.4
			_
OWNER	ONEOK RESOURCES CO.	CYCLOPENTANE	
OWNER		CYCLOPENTANE	
	920625		1.0
COMPLETED	920625 001023	HEXANES PLUS	1.0
COMPLETED	920625 001023 CAMO-ARBUCKLE	HEXANES PLUS	1.0 1.2 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	920625 001023 CAMO-ARBUCKLE 360	HEXANES PLUS NITROGEN OXYGEN	1.0 1.2 0.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _	920625 001023 CAMO-ARBUCKLE 360 9291	HEXANES PLUS NITROGEN OXYGEN ARGON	1.0 1.2 0.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	920625 001023 CAMO-ARBUCKLE 360 9291	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	1.0 1.2 0.0 TRACE TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	920625 001023 CAMO-ARBUCKLE 360 9291	HEXANES PLUS	1.0 1.2 0.0 TRACE TRACE 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	920625 001023 CAMO-ARBUCKLE 360 9291	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	1.0 1.2 0.0 TRACE TRACE 0.0 0.8

 $^{^{\}circ}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\circ\circ}$ 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	20410	COMPONENT, MOLE PCT	
STATE	OKI VHOWA	METHANE	73.6
	MAJOR	ETHANE	11.7
COUNTY		PROPANE	5.8
FIELD		N-BUTANE	2.5
WELL NAME		ISOBUTANE	0.8
API	3509320854	N-PENTANE	1.2
LOCATION	SEC. 3, T20N, R10W	ISOPENTANE	0.7
OWNER	ONEOK RESOURCES CO.	CYCLOPENTANE	
COMPLETED	740321	HEXANES PLUS	1.9
SAMPLED	001023	NITROGEN	1.3
FORMATION	DEVO-HUNTON	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	8086	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _	·	CARBON DIOXIDE	0.4
OPEN FLOW, MCFD		HELIUM	0.06
OPEN FLOW, WIGHD	4000	HEATING VALUE*	1,372
		SPECIFIC GRAVITY	0.811
SAMPLE	20411	COMPONENT, MOLE PCT	
STATE	OKI VHOMA	METHANE	60.7
	MAJOR	ETHANE	16.8
COUNTY		PROPANE	10.1
FIELD		N-BUTANE	4.0
WELL NAME		ISOBUTANE	1.3
API		N-PENTANE	1.6
LOCATION	SEC. 10, T20N, R10W	ISOPENTANE	0.9
OWNED	ONEOK RESOURCES CO.	CYCLOPENTANE	
OWNER	ONLOK NEGOCINGES CO.	CICLOPENIANE	
COMPLETED		HEXANES PLUS	
	710917		3.2
COMPLETED	710917 001023	HEXANES PLUS	3.2 1.1
COMPLETED	710917 001023 DEVO-HUNTON	HEXANES PLUS	3.2 1.1 0.0
COMPLETEDSAMPLEDFORMATION GEOLOGIC PROVINCE CODE	710917 001023 DEVO-HUNTON 360	HEXANES PLUS NITROGEN OXYGEN	3.2 1.1 0.0 0.0
COMPLETEDSAMPLEDFORMATION	710917 001023 DEVO-HUNTON 360	HEXANES PLUS NITROGEN OXYGEN ARGON	3.2 1.1 0.0 0.0 0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	710917 901023 DEVO-HUNTON 360 8344	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	3.2 1.1 0.0 0.0 0.1 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	710917 001023 DEVO-HUNTON 360 8344	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	3.2 1.1 0.0 0.0 0.1 0.0 0.3
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	710917 001023 DEVO-HUNTON 360 8344	HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	3.2 1.1 0.0 0.0 0.1 0.0 0.3

 $^{^{\}circ}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\prime\prime}$ 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	20412	COMPONENT, MOLE PCT	
STATE	UKI VHUMV	METHANE	83.2
COUNTY	MAJOR	ETHANE	8.1
FIELD	RINGWOOD	PROPANE	3.7
		N-BUTANE	1.4
WELL NAME		ISOBUTANE	0.6
API		N-PENTANE	0.5
LOCATION		ISOPENTANE	0.4
OWNER	ONEOK RESOURCES CO.	CYCLOPENTANE	
COMPLETED	800508	HEXANES PLUS	
SAMPLED	001023	NITROGEN	
FORMATION	MISS-MISSISSIPPIAN LIME	OXYGEN	
GEOLOGIC PROVINCE CODE _	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT) _	7748_	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG.		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.705
SAMPLE	20451	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	74.9
COUNTY	TEXAS	ETHANE	6.7
FIELD		PROPANE	3.6
		N-BUTANE	1.1
WELL NAME	· ·	ISOBUTANE	0.4
	3513900489	N-PENTANE	0.3
LOCATION		ISOPENTANE	0.2
OWNER	CONOCO, INC.	CYCLOPENTANE	
COMPLETED	460425	HEXANES PLUS	0.3
COMPLETED		HEXANES PLUS	
SAMPLED			12.1
SAMPLED	.001108 PERM-CHASE GROUP	NITROGEN	12.1 0.0
SAMPLED	.001108 PERM-CHASE GROUP. .360	NITROGENOXYGENARGONHYDROGEN	12.1 0.0 TRACE 0.0
SAMPLED	.001108 PERM-CHASE GROUP. .360	NITROGEN OXYGEN ARGON	12.1 0.0 TRACE 0.0
SAMPLED	.001108. PERM-CHASE GROUP	NITROGENOXYGENARGONHYDROGEN	12.1 0.0 TRACE 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _		NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	12.1 0.0 TRACE 0.0 0.0 0.1 0.36
SAMPLED		NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	12.1 0.0 TRACE 0.0 0.0 0.1 0.36

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 80 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	20450	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	74.8
COUNTY		ETHANE	6.7
	GUYMON-HUGOTON	PROPANE	3.7
		N-BUTANÉ	1.1
WELL NAME		ISOBUTANE	0.4
API	3513900488	N-PENTANE	0.3
LOCATION		ISOPENTANE	0.2
OWNER	CONOCO, INC.	CYCLOPENTANE	
COMPLETED	451130	HEXANES PLUS	0.3
SAMPLED	001108	NITROGEN	12.1
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	2775	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _	383	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	31909	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.713
SAMPLE	20740	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	73.8
COUNTY		ETHANE	6.6
FIELD		PROPANE	3.7
		N-BUTANE	1.1
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.3
LOCATION	SEC. 28, T1N, R13E.	ISOPENTANE	0.2
OWNER	XTO ENERGY, INC.	CYCLOPENTANE	
COMPLETED	480520	HEXANES PLUS	0.3
SAMPLED	010730	NITROGEN	13.0
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	2888	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
	37	CARBON DIOXIDE	
WELLHEAD PRESSURE, PSIG		HELIUM	0.46
WELLHEAD PRESSURE, PSIG OPEN FLOW MCFD	23		
WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	23	HEATING VALUE* SPECIFIC GRAVITY	1,041

^{*} 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 20741	COMPONENT, MOLE PCT	
STATE OKLAHOMA	METHANE	72.8
	ETHANE	6.4
COUNTYTEXAS	PROPANE	3.6
FIELDGUYMON-HUGOTON	N-BUTANE	1.1
WELL NAME BURROWS GAS UNIT NO. D-1	ISOBUTANE	0.5
API351390056000_	N-PENTANE	0.3
LOCATION SEC. 20, T1N, R13E	ISOPENTANE	0.2
OWNERXTO ENERGY, INC.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.3
SAMPLED010730_	NITROGEN	14.2
FORMATION PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0,0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG36	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	HELIUM	0.49
OF ENT LOW, MICH D	HEATING VALUE*	1.025
	SPECIFIC GRAVITY	0.716
SAMPLE 20882	COMPONENT, MOLE PCT	·
STATEOKLAHOMA	METHANE	71.2
COUNTY TEXAS	ETHANE	6.3
FIELD GUYMON-HUGOTON	PROPANE	3.6
	N-BUTANE	1.1
WELL NAMESTATE NO. 1-36	ISOBUTANE	0.5
API	N-PENTANE	0.2
LOCATION SEC. 36, T1N, R12E	ISOPENTANE	0.2
OWNER CRAWLEY PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED 781022	HEXANES PLUS	0.2
	NITROGEN	16.0
SAMPLED		
SAMPLED	OXYGEN	0.0
FORMATIONPERM-CHASE GROUP		
	OXYGEN	
FORMATIONPERM-CHASE GROUP GEOLOGIC PROVINCE CODE360	OXYGEN	0.1
FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2955 MEASURED DEPTH	OXYGEN ARGON HYDROGEN	0.1 0.0 0.0
FORMATIONPERM-CHASE GROUP GEOLOGIC PROVINCE CODE360 TRUE VERTICAL DEPTH (FT)2955 MEASURED DEPTH WELLHEAD PRESSURE, PSIG	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	0.1 0.0 0.0 0.1
FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2955 MEASURED DEPTH	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.0 0.0 0.1 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	20673	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	62.1
COUNTY	TEXAS	ETHANE	5.4
FIELD		PROPANE	3.5
		N-BUTANE	1.1
WELL NAME		ISOBUTANE	0.4
API	3513901074	N-PENTANE	0.2
LOCATION	SEC. 20, T4N, R12E	ISOPENTANE	0.3
OWNER	DONALD W. JACKSON	CYCLOPENTANE	
COMPLETED	521106	HEXANES PLUS	0.1
SAMPLED	010511	NITROGEN	26.1
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	360_	ARGON	0.1
TRUE VERTICAL DEPTH (FT) _	2479	HYDROGEN	0.0
MEASURED DEPTH	_	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG.	324	CARBON DIOXIDE	0.
OPEN FLOW, MCFD		HELIUM	0.68
OPEN FLOVV, WICHD	2020	HEATING VALUE*	88
		SPECIFIC GRAVITY	0.75
SAMPLE	20015	COMPONENT, MOLE PCT	
STATE	OKI VHOMV	METHANE	78.
		ETHANE	5.0
COUNTY		PROPANE	1.
FIELD		N-BUTANE	0.4
WELL NAME	ALEX HILL NO. 34A	ISOBUTANE	0.:
API	3513922835	N-PENTANE	TRACE
LOCATION	SEC. 34, T6N, R17ECM	ISOPENTANE	0.
OWNER	RICKS EXPLORATION, INC.	CYCLOPENTANE	-
COMPLETED	980207	HEXANES PLUS	TRACE
SAMPLED	981201	NITROGEN	13.4
FORMATION	PERM-COUNCIL GROVE	OXYGEN	0.5
GEOLOGIC PROVINCE CODE _	360	ARGON	0.
TRUE VERTICAL DEPTH (FT) _		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	0.1
WELLHEAD PRESSURE, PSIG		HELIUM	0.34
	1600	HEATING VALUE*	05'
OPEN FEOW, MICHE		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

20752	COMPONENT, MOLE PCT	
OKI AHOMA	METHANE	94.4
	ETHANE	2.8
	PROPANE	1.1
	N-BUTANE	0.3
	ISOBUTANE	0.1
	N-PENTANE	0.1
	ISOPENTANE	0.1
XTO ENERGY, INC.	CYCLOPENTANE	
790723	HEXANES PLUS	
010731	NITROGEN	0.6
PENN-MORROW	OXYGEN	0.0
360	ARGON	0.0
7069	HYDROGEN	0.0
	HYDROGEN SULFIDE**	0.0
150_	CARBON DIOXIDE	
	HELIUM	
	HEATING VALUE*	1.062
	SPECIFIC GRAVITY	0,596
20749	COMPONENT, MOLE PCT	
OKI AHOMA	METHANE	77.8
-	ETHANE	8.1
	PROPANE	6.7
<u> </u>	N-BUTANE	2.3
	ISOBUTANE	0.7
	N-PENTANE	0.7
	ISOPENTANE	
	CYCLOPENTANE	
560111	HEXANES PLUS	
010730	NITROGEN	
PENN-MORROW	OXYGEN	
360	ARGON	
6542	HYDROGEN	0.0
	HYDROGEN SULFIDE**	0.0
1430	CARBON DIOXIDE	
		0.16
	OKLAHOMA TEXAS RANGE SW STEFFEN UNIT NO. 2 3513921220 SEC. 19. T1N. R18E XTO ENERGY, INC. 790723 010731 PENN-MORROW 360 7069	OKLAHOMA TEXAS RANGE SW STEFFEN UNIT NO. 2 3513921220 N-PENTANE SEC. 19. T1N. R18E STO ENERGY, INC. CYCLOPENTANE T90723 HEXANES PLUS OXYGEN ARGON HYDROGEN HYDROGEN HYDROGEN SULFIDE** SPECIFIC GRAVITY OKLAHOMA TEXAS CAMRICK JOE MORRIS NO. 1-B 3513935526 N-PENTANE SAPEAKE OPERATING, INC. CYCLOPENTANE STORMAN METHANE STORMAN METHANE SOBUTANE SOBUTANE SOBUTANE STORMAN METHANE SOBUTANE SOBUT

 $^{^{\}star}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\star\prime}$ 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	20756	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	80.7
COUNTY	TEXAS	ETHANE	6.9
FIELD	CAMRICK	PROPANE	5.1
		N-BUTANE	1.8
WELL NAME	GRAVES NO. B-1	ISOBUTANE	0.6
API		N-PENTANE	0.7
LOCATION	<u> </u>	ISOPENTANE	0.2
OWNERCH	ESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	551214	HEXANES PLUS	1.0
SAMPLED	010731	NITROGEN	2.1
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT) _	6457	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
OI EIVI EOW, MOI D	1000	HEATING VALUE*	1,231
		SPECIFIC GRAVITY	0.727
SAMPLE	20883	COMPONENT, MOLE PCT	
STATE	OKI VHOMV	METHANE	78.9
		ETHANE	
COUNTY			8.0
	TEXAS	PROPANE	
	TEXHOMA N		4.2
	TEXHOMA N	PROPANE	4.2
WELL NAME	TEXHOMA N SERIGHT NO. 1-36	PROPANE	4.2 1.5 0.5
WELL NAME	TEXHOMA N SERIGHT NO. 1-36. 3513921971	PROPANE N-BUTANE ISOBUTANE	4.2 1.5 0.5
WELL NAMEAPI	TEXHOMA N. SERIGHT NO. 1-36. 3513921971. SEC. 36, T1N, R12E.	PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.2 1.5 0.5 0.6 0.3
WELL NAME API LOCATION OWNER	TEXHOMA N SERIGHT NO. 1-36. 3513921971 SEC. 36, T1N, R12E H & L OPERATING CO., LLP	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.2 1.5 0.5 0.6
WELL NAME API LOCATION OWNER COMPLETED	TEXHOMA N. SERIGHT NO. 1-36. 3513921971 SEC. 36, T1N, R12E H & L OPERATING CO., LLP. 850221	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	4.2 1.5 0.6 0.6 0.3
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	TEXHOMA N. SFRIGHT NO. 1-36 3513921971 SEC. 36, T1N, R12E H & L OPERATING CO., LLP 850221 011030	PROPANE	4.2 1.5 0.6 0.6 0.3
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	TEXHOMA N SERIGHT NO. 1-36. 3513921971 SEC. 36, T1N, R12E H & L OPERATING CO., LLP 850221 011030 PENN-MORROW	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.2 1.5 0.5 0.6 0.3 0.7 5.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	TEXHOMA N. SERIGHT NO. 1-36. 3513921971 SEC. 36, T1N, R12E H & L OPERATING CO., LLP. 850221 011030 PENN-MORROW 360	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.2 1.5 0.5 0.6 0.3
WELL NAME	TEXHOMA N. SFRIGHT NO. 1-36 3513921971 SEC. 36, T1N, R12E H & L OPERATING CO., LLP 850221 011030 PENN-MORROW 360 6743	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.2 0.5 0.6 0.3
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	TEXHOMA N. SERIGHT NO. 1-36. 3513921971 SEC. 36, T1N, R12E H & L OPERATING CO., LLP 850221 011030 PENN-MORROW 360 6743	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.2 0.5 0.6 0.3 0.7 5.0 0.0 TRACE
WELL NAME	TEXHOMA N. SERIGHT NO. 1-36. 3513921971 SEC. 36, T1N, R12E. H & L OPERATING CO., LLP. 850221 011030 PENN-MORROW. 360 6743	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN ARGON HYDROGEN SULFIDE**	4.2 1.5 0.5 0.3 0.7 5.0 0.0 TRACE
FIELD	TEXHOMA N. SERIGHT NO. 1-36. 3513921971 SEC. 36, T1N, R12E. H & L OPERATING CO., LLP. 850221 011030 PENN-MORROW. 360 6743	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE*** CARBON DIOXIDE	4.2 1.5 0.5 0.6 0.3 0.7 5.0 0.0 TRACE

 $^{^{\}bullet}$ CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY $^{\bullet}$ 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	20753	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	91.0
COUNTY		ETHANE	2.6
	_	PROPANE	1.1
FIELD	_	N-BUTANE	0.2
WELL NAME		ISOBUTANE	0.1
API	3513921400	N-PENTANE	TRACE
LOCATION	SEC. 34, T1N, R18E	ISOPENTANE	TRACE
OWNER	SPESS OIL CO.	CYCLOPENTANE	
COMPLETED	801030	HEXANES PLUS	TRACE
SAMPLED	010731	NITROGEN	4.1
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	6690	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _	825	CARBON DIOXIDE	0.5
OPEN FLOW, MCFD		HELIUM	0.31
OPENT LOW, MOI D	1100	HEATING VALUE*	1,006
		SPECIFIC GRAVITY	0.603
SAMPLE	50583	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	67.3
COUNTY		ETHANE	7.7
FIELD		PROPANE	4.9
		N-BUTANE	1.5
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.5
LOCATION		ISOPENTANE	0.3
OWNER	REPUBLIC ENERGY, INC.	CYCLOPENTANE	
COMPLETED	000114	HEXANES PLUS	3.0
	000447	NITROGEN	16.2
SAMPLED	000117		
SAMPLEDFORMATION		OXYGEN	0.0
	PENN-TORONTO	ARGON	
FORMATION	PENN-TORONTO 360	ARGON	0.0
FORMATION	PENN-TORONTO 360 4332	ARGON	0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PENN-TORONTO 360 4332	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	PENN-TORONTO. 360 4332	ARGONHYDROGENHYDROGEN SULFIDE**	0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PENN-TORONTO. 360 4332	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.1 0.26

^{*} 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	50584	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	69.4
	TEXAS	ETHANE	7.4
FIELD	TEXHOMA N	PROPANE	4.4
WELL NAME		N-BUTANE	1.4
-		ISOBUTANE	
API	3513923078	N-PENTANE	0.4
LOCATION		ISOPENTANE	0.3
OWNER	EOG RESOURCES, INC.	CYCLOPENTANE	
COMPLETED	991213	HEXANES PLUS	
SAMPLED	991229	NITROGEN	15.5
FORMATION	PENN-TORONTO	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	_
TRUE VERTICAL DEPTH (FT)	4414	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	1,052
		SPECIFIC GRAVITY	0.75
SAMPLE	20027	COMPONENT, MOLE PCT	
STATE	OPECON	METHANE	42.8
COUNTY		ETHANE	0.0
		PROPANE	TRACE
FIELD		N-BUTANE	0.0
WELL NAME <u>LONGVIEW FIBRI</u>		ISOBUTANE	0.0
API	3600900338	N-PENTANE	0.0
LOCATION	SEC 22, T7N, R5W	ISOPENTANE	0.0
OWNER	ENERFIN RESOURCES	CYCLOPENTANE	_
COMPLETED	990210	HEXANES PLUS	0.0
SAMPLED	990422	NITROGEN	57.0
FORMATION	EOCE-CLARK, WILSON	OXYGEN	0.2
GEOLOGIC PROVINCE CODE	710	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	3011	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
MEASURED DEPTH		CARBON DIOXIDE	TRACE
	662		
WELLHEAD PRESSURE, PSIG		HELIUM	
MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD		HELIUM	

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

SAMPLE 20702	COMPONENT, MOLE PCT	
STATEPENNSYLVANIA	METHANE	94.0
	ETHANE	3.0
COUNTYINDIANA	PROPANE	0.5
FIELDCHERRY HILL	N-BUTANE	
WELL NAME TRACT 67 (ENGLE) NO. 2	ISOBUTANE	0.1
API	N-PENTANE	TRACE
LOCATION SEC B,BRUSH VALLEY 7.5QUAD,CHRY HILL TWP	ISOPENTANE	TRACE
OWNERSK OPERATING, INC.	CYCLOPENTANE	-
COMPLETED	HEXANES PLUS	TRACE
SAMPLED010700	NITROGEN	2.0
FORMATIONDEVO-WRRN,SPCL_BLTN.BRFD	OXYGEN	0.0
GEOLOGIC PROVINCE CODE160	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 3085	HYDROGEN	0.2
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG990	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	HELIUM	0.0
OPEN FLOW, WIGHD	HEATING VALUE*	1,020
	SPECIFIC GRAVITY	0.58
SAMPLE 20028	COMPONENT, MOLE PCT	
STATEPENNSYLVANIA	METHANE	92.
COUNTY LAWRENCE	ETHANE	2.9
	PROPANE	0.3
FIELD MERCER	N-BUTANE	0.
WELL NAMEBYLER NO. 24_	ISOBUTANE	TRACE
API3707320183	N-PENTANE	0.0
LOCATIONSEC B NEW CASTLE NORTH 7.5 QUAD	ISOPENTANE	0.
OWNER ATLAS RESOURCES, INC.	CYCLOPENTANE	
COMPLETED980308_	HEXANES PLUS	0.0
SAMPLED990419	NITROGEN	3.5
FORMATION SILU-MEDINA, WHIRLPOOL	OXYGEN	0.4
GEOLOGIC PROVINCE CODE	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
, ,	HYDROGEN SULFIDE**	0.0.
MEASURED DEPTH	CARBON DIOXIDE	TRACE
	CARBON BIORIDE	
WELLHEAD PRESSURE, PSIG	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	20029	COMPONENT, MOLE PCT	
STATE	TENNESSEE	METHANE	79.4
COUNTY	CAMPBELL	ETHANE	8.3
		PROPANE	4.2
FIELD	JELLICO MOUNTAIN	N-BUTANE	1.3
	ROBERT SHARP NO. 1	ISOBUTANE	0.4
API	4101320178	N-PENTANE	0.2
LOCATION		ISOPENTANE	0.2
OWNER	MILLER PETROLEUM INC.	CYCLOPENTANE	
COMPLETED	981019	HEXANES PLUS	0.3
SAMPLED	990511	NITROGEN	5.0
FORMATION	MISS-MONTEAGLE	OXYGEN	TRACE
GEOLOGIC PROVINCE CODE	160	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	1824	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSI	G300_	CARBON DIOXIDE	0.1
,	300	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.698
SAMPLE	50577	COMPONENT, MOLE PCT	
STATE	TEXAS	METHANE	54.4
	CLAY	ETHANE	1.8
		PROPANE	1.1
	BARBARA M	N-BUTANE	0.6
	MCCORMICK ED GRAF NO. 1	ISOBUTANE	0.3
	4207733802	N-PENTANE	0.1
LOCATION	BLK 64, PCSL SUR, A-374	ISOPENTANE	0.2
OWNER PRO	DUCERS OPERATING CO., INC.	CYCLOPENTANE	
COMPLETED	970731	HEXANES PLUS	0.1
	981030	NITROGEN	40.1
SAMPLED			
	PENN-CISCO	OXYGEN	***
FORMATION		OXYGEN	
FORMATION	PENN-CISCO		
FORMATION	PENN-CISCO 420 1519	ARGON	
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PENN-CISCO 420 1519	ARGON	0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	PENN-CISCO 420 1519 G 400	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.0 0.1 1.29
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PENN-CISCO 420 1519 G 400	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.1 1.29

^{*} 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 20013	COMPONENT, MOLE PCT	
STATETEXAS	METHANE	95.0
COUNTY CROCKETT	ETHANE	1.5
FIELD OZONA SW.	PROPANE	0.3
	N-BUTANE	0.1
WELL NAME	ISOBUTANE	0.1
API4210537930_	N-PENTANE	TRACE
LOCATION SEC. 14. BLK M, GC&SF SUR, A-4607.	ISOPENTANE	TRACE
OWNER HARRISON INTERESTS LIMITED	CYCLOPENTANE	
COMPLETED980212	HEXANES PLUS	TRACE
SAMPLED980928	NITROGEN	0.9
FORMATIONDEVO-DEVONIAN, PENN-STRAWN	OXYGEN	
GEOLOGIC PROVINCE CODE430_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)9444_	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD4300	HELIUM	
J. 211. 2011, 1101.0	HEATING VALUE*	
	SPECIFIC GRAVITY	0.592
SAMPLE 20919	COMPONENT, MOLE PCT	
STATE TEXAS	METHANE	96.3
COUNTY CULBERSON	ETHANE	2.1
	PROPANE	0.3
FIELDFORD_	N-BUTANE	0.1
WELL NAME TEXAS PACIFIC LAND TRUST 23-1	ISOBUTANE	0.1
API	N-PENTANE	TRACE
LOCATION SEC. 23, BLK 58, T1, T&PRR SUR, A-2650	ISOPENTANE	TRACE
OWNER CONOCO, INC.	CYCLOPENTANE	
COMPLETED001012	HEXANES PLUS	TRACE
	NITROCCEN	3.0
SAMPLED011101	NITROGEN	
	OXYGEN	0.0
SAMPLED011101		
SAMPLED011101_ FORMATIONPERM-WOLFCAMP M_	OXYGEN ARGONHYDROGEN	0.0
SAMPLED	OXYGEN	0.0
### SAMPLED	OXYGEN ARGONHYDROGEN	0.0
SAMPLED 011101 FORMATION PERM-WOLFCAMP M GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 12052 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 3800	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.0 0.3
### SAMPLED	OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 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

	COMPONENT, MOLE PCT	
STATE TEXAS	METHANE	
COUNTY HEMPHILL	ETHANE	
FIELD MENDOTA SE	PROPANE	
WELL NAMEROSS AA No. 9-71	N-BUTANE	
API 4221132431	ISOBUTANE	
LOCATION SEC. 71. BLK A-2. H&GN SUR. A-122	N-PENTANE	
OWNER CHEVRON U.S.A. INC.	ISOPENTANE	
COMPLETED 001121	CYCLOPENTANE	
	HEXANES PLUS NITROGEN	
SAMPLED010814_	OXYGEN	
FORMATION PENN-MORROW U	ARGON	
GEOLOGIC PROVINCE CODE	HYDROGEN	
TRUE VERTICAL DEPTH (FT)13277_	HYDROGEN SULFIDE**	
MEASURED DEPTH	CARBON DIOXIDE	
WELLHEAD PRESSURE, PSIG4225_	HELIUM	0.03
OPEN FLOW, MCFD6714	HEATING VALUE*	
	SPECIFIC GRAVITY	
STATETEXAS	METHANE	45.5
COUNTY LOVING	ETHANE	0.0
FIELD VERMEJO	PROPANE	0.0
	N-BUTANE	0.0
WELL NAME GRAYLING GAS UNIT NO. 1	ISOBUTANE	0.0
API	N-PENTANE	0.0
LOCATIONSEC. 68, BLK 1, W&NW SUR, A-920	ISOPENTANE	0.0
OWNERFOREST OIL CORP.	CYCLOPENTANE	
COMPLETED980204	HEXANES PLUS	0.0
SAMPLED	NITROGEN	
	OXYGEN	
FORMATION ORDO-ELLENBURGER	ARGON	
FORMATION ORDO-ELLENBURGER GEOLOGIC PROVINCE CODE 430		
	HYDROGEN	
GEOLOGIC PROVINCE CODE430	HYDROGEN SULFIDE**	0.0
GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 21004	HYDROGEN SULFIDE** CARBON DIOXIDE	53.2
GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 21004 MEASURED DEPTH	HYDROGEN SULFIDE**	0.0 53.2 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 20772	COMPONENT, MOLE PCT	
STATE TEXAS	METHANE	71.6
	ETHANE	5.3
COUNTY POTTER	PROPANE	3.0
FIELDTECOVAS CREEK	N-BUTANE	1.0
WELL NAME MARSH RANCH 13-14, SEPARATOR, 2 INCH OF	ISOBUTANE	0.5
API 4237531630	N-PENTANE	0.3
LOCATION SEC. 14. BLK 21W, EL&RR SUR	ISOPENTANE	0.3
OWNER SUNLIGHT EXPLORATION, INC.	CYCLOPENTANE	
COMPLETED010523	HEXANES PLUS	0.6
SAMPLED010808	NITROGEN	14.8
FORMATION PERM-BROWN DOLOMITE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE440	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	HYDROGEN	TRACE
MEASURED DEPTH 4991	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	1.8
OPEN FLOW, MCFD	HELIUM	0.92
OF EIVI EOV, IVIOI D	HEATING VALUE*	990
	SPECIFIC GRAVITY	0.729
SAMPLE 20737	COMPONENT, MOLE PCT	
5.5 <u>-</u>	4	
STATETEXAS	COMPONENT, MOLE PCT	71.5
STATETEXAS_ COUNTYPOTTER	COMPONENT, MOLE PCT METHANE	71.5 4.9
STATETEXAS_ COUNTYPOTTER_ FIELDTECOVAS CREEK_	COMPONENT, MOLE PCT METHANE ETHANE	71.5 4.9 2.6
STATETEXAS_ COUNTYPOTTER FIELDTECOVAS CREEK WELL NAMEMARSH RANCH NO. 13-14, SEPARATOR GAS_	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	71.5 4.9 2.6
STATETEXAS_ COUNTYPOTTER FIELDTECOVAS CREEK WELL NAMEMARSH RANCH NO. 13-14, SEPARATOR GAS_	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	71.5 4.9 2.6 1.0
STATE TEXAS_ COUNTY POTTER. FIELD TECOVAS CREEK. WELL NAMEMARSH RANCH NO. 13-14, SEPARATOR GAS_ API 4237531630.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	71.5 4.9 2.6 1.0 0.4
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	71.5 4.9 2.6 1.0 0.4 0.3
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	71.5 4.9 2.6 1.0 0.4 0.3
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	71.5 4.9 2.6 1.0 0.4 0.3 0.3
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	71.5 4.9 2.6 1.0 0.4 0.3 0.3 0.5
STATETEXAS_ COUNTYPOTTER_ FIELDTECOVAS CREEK_	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	71.5 4.9 2.6 1.0 0.4 0.3 0.3 0.3 15.7
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	71.5 4.9 2.6 1.0 0.4 0.3 0.3 0.3
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	71.5 4.9 2.6 1.0 0.4 0.3 0.3 0.5 15.7 0.0
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	71.5 4.9 2.6 1.0 0.4 0.3 0.3 0.5 15.7 0.0 0.1 TRACE
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	71.5 4.9 2.6 1.0 0.4 0.3 0.3 0.5 15.7 0.0 1.7 TRACE
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	71.5 4.9 2.6 1.0 0.4 0.3 0.3 0.5 15.7 0.0 1.6 1.60

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

SAMPLE 20773	COMPONENT, MOLE PCT	
STATE TEXAS	METHANE	71.9
COUNTY POTTER	ETHANE	5.0
FIELD TECOVAS CREEK	PROPANE	2.7
	N-BUTANE	1.0
WELL NAMEMARSH RANCH 13-14, CASING ANULUS	ISOBUTANE	0.4
API	N-PENTANE	0.3
LOCATION SEC. 14, BLK 21W, EL&RR SUR	ISOPENTANE	0.3
OWNER SUNLIGHT EXPLORATION, INC.	CYCLOPENTANE	
COMPLETED 010523	HEXANES PLUS	0.2
SAMPLED010808_	NITROGEN	15.3
FORMATION PERM-BROWN DOLOMITE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE440	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	HYDROGEN	TRACE
MEASURED DEPTH 4991	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE. PSIG	CARBON DIOXIDE	1.7
OPEN FLOW, MCFD	HELIUM	
OI ENT EOW, MOI D	HEATING VALUE*	969
	SPECIFIC GRAVITY	0.72
SAMPLE 20672	COMPONENT, MOLE PCT	
STATE TEYAS	METHANE	72.0
	METHANE	
COUNTY POTTER		4.7
COUNTY POTTER FIELD TECOVAS CREEK	ETHANE	4.7 2.4
FIELD	PROPANE	4.7 2.4 0.8
COUNTY POTTER FIELD TECOVAS CREEK WELL NAME MARSH RANCH NO. 13-14 API 4237531630	ETHANE PROPANE N-BUTANE	4.7 2.4 0.8 0.4
COUNTY POTTER FIELD TECOVAS CREEK WELL NAME MARSH RANCH NO. 13-14 API 4237531630	PROPANEN-BUTANE	4.7 2.4 0.8 0.4 0.2
COUNTY POTTER FIELD TECOVAS CREEK WELL NAME MARSH RANCH NO. 13-14 API 4237531630 LOCATION SEC. 14, BLK 21W, EL&RR SUR	ETHANE PROPANE N-BUTANE ISOBUTANE	4.7 2.4 0.8 0.4 0.2 0.2
COUNTY POTTER FIELD TECOVAS CREEK WELL NAME MARSH RANCH NO. 13-14 API 4237531630 LOCATION SEC. 14, BLK 21W, EL&RR SUR OWNER SUNLIGHT EXPLORATION, INC.	ETHANEPROPANEISOBUTANEN-PENTANEISOPENTANE	4.7 2.4 0.8 0.4 0.2 0.2
COUNTY POTTER FIELD TECOVAS CREEK WELL NAME MARSH RANCH NO. 13-14 API 4237531630 LOCATION SEC. 14, BLK 21W, FL&RR SUR OWNER SUNLIGHT EXPLORATION, INC. COMPLETED 001025	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.7 2.4 0.8 0.4 0.2 0.2
STATE TEXAS COUNTY POTTER FIELD TECOVAS CREEK WELL NAME MARSH RANCH NO. 13-14 API 4237531630 LOCATION SEC. 14, BLK 21W, FL&RR SUR OWNER SUNLIGHT EXPLORATION, INC. COMPLETED 001025 SAMPLED 010424 FORMATION PERM-BROWN DOLOMITE	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.7 2.4 0.8 0.4 0.2 0.2 0.2
COUNTY POTTER FIELD TECOVAS CREEK WELL NAME MARSH RANCH NO. 13-14 API 4237531630 LOCATION SEC. 14, BLK 21W, FL&RR SUR OWNER SUNLIGHT EXPLORATION, INC. COMPLETED 001025 SAMPLED 010424	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.7 2.4 0.8 0.4 0.2 0.2 0.2 0.4 15.7
FIELD TECOVAS CREEK WELL NAME MARSH RANCH NO. 13-14 API 4237531630 LOCATION SFC. 14, BLK 21W, FL&RR SUR OWNER SUNLIGHT EXPLORATION, INC. COMPLETED 001025 SAMPLED 010424 FORMATION PERM-BROWN DOLOMITE GEOLOGIC PROVINCE CODE 440	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.7 2.4 0.8 0.4 0.2 0.2 0.2
COUNTY POTTER FIELD TECOVAS CREEK WELL NAME MARSH RANCH NO. 13-14 API 4237531630 LOCATION SEC. 14, BLK 21W, FL&RR SUR OWNER SUNLIGHT EXPLORATION, INC. COMPLETED 001025 SAMPLED 010424 FORMATION PERM-BROWN DOLOMITE GEOLOGIC PROVINCE CODE 440 TRUE VERTICAL DEPTH (FT) 3602	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.7 2.4 0.8 0.4 0.2 0.2 0.2
DOTTER	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	4.7 2.4 0.8 0.4 0.2 0.2 0.4 15.7 0.0 TRACE TRACE
DOTTER	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	4.7 2.4 0.8 0.4 0.2 0.2 0.4 15.7 0.0 TRACE TRACE
COUNTY POTTER FIELD TECOVAS CREEK WELL NAME MARSH RANCH NO. 13-14 API 4237531630 LOCATION SEC. 14, BLK 21W, EL&RR SUR OWNER SUNLIGHT EXPLORATION, INC. COMPLETED 001025 SAMPLED 010424 FORMATION PERM-BROWN DOLOMITE	ETHANE	4.7 2.4 0.8 0.4 0.2 0.2 0.4 15.7 0.0 TRACE TRACE 0.0 2.0

^{*} 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 20790	COMPONENT, MOLE PCT	
STATE TEXAS	METHANE	73.1
COUNTY POTTER	ETHANE	4.8
	PROPANE	2.4
	N-BUTANE	8.0
WELL NAMEMARSH.RANCH 13-14, GAS SEPARATOR.	ISOBUTANE	0.4
API4237531630_	N-PENTANE	0.2
LOCATION SEC. 14, BLK 21W, EL&RR SUR	ISOPENTANE	0.2
OWNER SUNLIGHT EXPLORATION, INC.	CYCLOPENTANE	
COMPLETED010523	HEXANES PLUS	0.2
SAMPLED	NITROGEN	15.7
FORMATIONPERM-BROWN DOLOMITE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE440	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	HYDROGEN	TRACE
MEASURED DEPTH4991	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	1.1
OPEN FLOW, MCFD	HELIUM	
OFEN FLOW, INIOFD	HEATING VALUE*	949
	SPECIFIC GRAVITY	0.702
SAMPLE 20610	COMPONENT, MOLE PCT	
STATETEXAS	METHANE	64.3
	ETHANE	3.6
COUNTY POTTER	PROPANE	1.4
FIELDBIVINS RANCH_	N-BUTANE	0.4
WELL NAME BIVINS RANCH 1-212	ISOBUTANE	0.2
API4237531359	N-PENTANE	0.1
LOCATIONSEC. 212, BLK 2, AB&M SUR	ISOPENTANE	0.1
OWNERSAND RIVER O & E, LLC	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.1
SAMPLED	NITROGEN	24.4
FORMATION PERM-BROWN DOLOMITE	OXYGEN	0.0
	ARGON	0.1
GEOLOGIC PROVINCE CODE440	LIVERGOEN	0.0
	HYDROGEN	
TRUE VERTICAL DEPTH (FT)3467	HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (FT)3467 MEASURED DEPTH		
TRUE VERTICAL DEPTH (FT) 3467 MEASURED DEPTH WELLHEAD PRESSURE, PSIG	HYDROGEN SULFIDE**	3.9
GEOLOGIC PROVINCE CODE	HYDROGEN SULFIDE** CARBON DIOXIDE	3.9 1.49

^{*} 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	20841	COMPONENT, MOLE PCT	
STATE	TEYAR	METHANE	64.2
		ETHANE	3.6
COUNTY		PROPANE	1.4
FIELD		N-BUTANE	0.4
WELL NAME		ISOBUTANE	0.2
API		N-PENTANE	0.1
LOCATION	SEC, 212, BLK 2, AB&M SUR	ISOPENTANE	0.1
OWNER	SAND RIVER O & F. LLC.	CYCLOPENTANE	
COMPLETED	900615	HEXANES PLUS	0.1
SAMPLED	010913	NITROGEN	24.5
FORMATION	PERM-BROWN DOLOMITE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	440	ARGON	0.2
TRUE VERTICAL DEPTH (FT) _	3467	HYDROGEN	0.0
MEASURED DEPTH	`	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	3.7
OPEN FLOW, MCFD		HELIUM	
O(12)41 LOV4, 18(O(1)		HEATING VALUE*	783
		SPECIFIC GRAVITY	0.733
SAMPLE	20842	COMPONENT, MOLE PCT	
STATE	TEXAS	METHANE	62.5
COUNTY		ETHANE	3.9
FIELD		PROPANE	1.8
		N-BUTANE	0.5
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.1
LOCATION		ISOPENTANE	0.1
OWNER	SAND RIVER O & E. LLC.	CYCLOPENTANE	
COMPLETED	010103	HEXANES PLUS	0.1
SAMPLED	010913	NITROGEN	
FORMATION	PERM-BROWN DOLOMITE	OXYGEN	
		ARGON	0.2
GEOLOGIC PROVINCE CODE	440	A113011	
		HYDROGEN	
GEOLOGIC PROVINCE CODE		HYDROGEN HYDROGEN SULFIDE**	0.0
GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _	5170	HYDROGENHYDROGEN SULFIDE**CARBON DIOXIDE	0.0
GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	5170 18	HYDROGEN HYDROGEN SULFIDE**	0.5 1.83

^{*} 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	20609	COMPONENT, MOLE PCT	
STATE	TEXAS	METHANE	62.5
-	POTTER	ETHANE	3.9
	BIVINS RANCH	PROPANE	1.8
		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	0.1
SAMPLED	010404	NITROGEN	28.4
FORMATION	PERM-BROWN DOLOMITE	OXYGEN	0.0
GEOLOGIC PROVINCE COI	DE440_	ARGON	0.1
TRUE VERTICAL DEPTH (F	T)	HYDROGEN	
MEASURED DEPTH	5170	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, P.	SIG583	CARBON DIOXIDE	0.4
•	43	HELIUM	1.87
O, E, () E O () () () () () ()		HEATING VALUE*	785
		SPECIFIC GRAVITY	0.722
SAMPLE	20523	COMPONENT, MOLE PCT	***************************************
STATE	TEXAS	METHANE	62.0
		ETHANE	3.9
	POTTER	PROPANE	4.0
		1 I/OI AIIL	1.8
	BIVINS RANCH	N-BUTANE	
WELL NAME	BIVINS RANCH 1A-212		0.5
WELL NAME		N-BUTANE	0.5 0.3
WELL NAME	BIVINS RANCH 1A-212	N-BUTANE	0.5 0.3 0.1
WELL NAME API LOCATION	BIVINS RANCH 1A-212 4237531628	N-BUTANEISOBUTANE	0.5 0.3 0.1 0.1
WELL NAME API LOCATION OWNER	BIVINS RANCH 1A-212 4237531628 SEC. 212, BLK 2, AB&M SUR	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.5 0.3 0.1 0.1
WELL NAME API LOCATION OWNER COMPLETED	BIVINS RANCH 1A-212 4237531628 SEC. 212 BLK 2, AB&M SUR SAND RIVER O & E, LLC	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.5 0.3 0.1 0.1
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	BIVINS RANCH 1A-212 4237531628 SEC. 212, BLK 2, AB&M SUR SAND RIVER O & E, LLC 001128	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANE	0.5 0.3 0.1 0.1
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	BIVINS RANCH 1A-212 4237531628 SEC. 212, BLK 2, AB&M SUR SAND RIVER O & E, LLC 001128 001219	N-BUTANEISOBUTANEISOBUTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.5 0.3 0.1 0.1
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COI	BIVINS RANCH 1A-212 4237531628 SEC. 212, BLK 2, AB&M SUR SAND RIVER O & E, LLC 001128 001219 PERM-BROWN DOLOMITE DE 440	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.5 0.3 0.1 0.1
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COI TRUE VERTICAL DEPTH (F	BIVINS RANCH 1A-212 4237531628 SEC. 212. BLK 2. AB&M SUR SAND RIVER 0 & E. LLC 001128 001219 PERM-BROWN DOLOMITE DE 440 T) 3585	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.5 0.3 0.1 0.1 0.1 28.7 0.0 0.2 TRACE
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COI TRUE VERTICAL DEPTH (F	BIVINS RANCH 1A-212 4237531628 SEC. 212 BLK 2 AB&M SUR SAND RIVER O & E, LLC 001128 001219 PERM-BROWN DOLOMITE DE 440 T) 3585	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.5 0.3 0.1 0.1
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COI TRUE VERTICAL DEPTH (F MEASURED DEPTH WELLHEAD PRESSURE, PS	BIVINS RANCH 1A-212 4237531628 SEC. 212, BLK 2, AB&M SUR SAND RIVER 0 & E, LLC 001128 001219 PERM-BROWN DOLOMITE DE 440 T) 3585	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.5 0.3 0.1 0.1
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COI TRUE VERTICAL DEPTH (F MEASURED DEPTH WELLHEAD PRESSURE, PS	BIVINS RANCH 1A-212 4237531628 SEC. 212 BLK 2 AB&M SUR SAND RIVER O & E, LLC 001128 001219 PERM-BROWN DOLOMITE DE 440 T) 3585	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 28.7 0.0 0.2 TRACE 0.0 0.5

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 80 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 TEXAS	METHANE	97.8
COUNTY REEVES	ETHANE	0.6
	PROPANE	0.1
FIELD MI VIDA	N-BUTANE	TRACE
WELL NAME HUMPHREY UNIT NO. 2	ISOBUTANE	0.0
API 4238932137	N-PENTANE	TRACE
LOCATION SEC. 4, BLK 4, H&GN SUR, A-5273	ISOPENTANE	0.0
OWNERTITAN RESOURCES I, INC.	CYCLOPENTANE	
COMPLETED980605	HEXANES PLUS	0.0
SAMPLED	NITROGEN	0.2
FORMATION PENN-ATOKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG9300	CARBON DIOXIDE	1.3
· · · · · · · · · · · · · · · · · · ·	HELIUM	TRACE
OPEN FLOW, MCFD6969	HEATING VALUE*	1,004
	SPECIFIC GRAVITY	0.572
SAMPLE 20002	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT METHANE	90.:
STATETEXAS	,	
STATE	METHANE	0.9
STATETEXAS. COUNTYREEVES. FIELDNINE MILE DRAW.	METHANE	0.9
STATETEXAS. COUNTYREEVES. FIELDNINE MILE DRAW.	METHANE ETHANE PROPANE	0.9
STATE TEXAS. COUNTY REEVES. FIELD NINE MILE DRAW. WELL NAME NINE MILE DRAW 135507 NO. 1	METHANE ETHANE PROPANE N-BUTANE	0.5 0.6 TRACE
STATE TEXAS COUNTY REEVES FIELD NINE MILE DRAW WELL NAME NINE MILE DRAW 135507 NO. 1 API 4238932104	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	0.9 0.1 0.1 TRACE
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	0.9 0.0 TRACE 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.9 0.0 TRACE 0.0
TEXAS COUNTY REEVES	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.9 0.6 TRACE 0.0 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.9 0.6 TRACE 0.0 0.0 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.9 0.0 TRACE 0.0 0.0 0.0 0.0 TRACE
TEXAS	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.9 TRACE
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.9 0.6 TRACE 0.0 0.0 0.0 0.0 TRACE 0.0 0.0 TRACE
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN	0.9 0.6 TRACE 0.0 0.0 0.0 TRACE 0.0 TRACE TRACE
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE**	0.9 0.0 TRACE 0.0 0.0 TRACE 0.0 TRACE 0.0 TRACE 0.0 TRACE
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON HYDROGEN SULFIDE*** CARBON DIOXIDE	0.0 TRACE 0.0 0.0 TRACE 0.0 TRACE 0.0 TRACE 0.0 TRACE 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 20	009	COMPONENT, MOLE PCT	
STATE	TEYAS	METHANE	72.2
COUNTY	STEPHENS	ETHANE	7.6
FIELD		PROPANE	4.8
	WINSLOW	N-BUTANE	1.2
	GREEN NO. 1	ISOBUTANE	0.4
API		N-PENTANE	0.3
LOCATION P.		ISOPENTANE	0.3
OWNERTEXAS UNITED G	EOPRODUCTION, INC.	CYCLOPENTANE	
COMPLETED	970917	HEXANES PLUS	0.3
SAMPLED	980525	NITROGEN	12.4
FORMATION	PENN-CADDO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	425	ARGON	0.2
TRUE VERTICAL DEPTH (FT)	3448	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	1280	CARBON DIOXIDE	0.3
OPEN FLOW, MCFD		HELIUM	
or Envisor D	3000	HEATING VALUE*	1,08
		SPECIFIC GRAVITY	0.736
STATE	TEXAS	METHANE	
COUNTY		ETHANE	8.8
FIELD		PROPANE	4.8
WELL NAMEMIT		N-BUTANE	1.6
		ISOBUTANE	0.6
API		N-PENTANE	
LOCATION SEC. 10, BLK 1,CC		ISOPENTANE	0.4
OWNER	ENRON OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	980712	HEXANES PLUS	0.8
SAMPLED		NITROGEN	0.8
	990206		
FORMATION	990206 PERM-WOLFCAMP	OXYGEN	0.2
FORMATION GEOLOGIC PROVINCE CODE	PERM-WOLFCAMP	ARGON	0.0
	PERM-WOLFCAMP 430	ARGON	0.0
GEOLOGIC PROVINCE CODE	PERM-WOLFCAMP 430	ARGON HYDROGEN HYDROGEN SULFIDE**	0.0 0.0
GEOLOGIC PROVINCE CODETRUE VERTICAL DEPTH (FT)	PERM-WOLFCAMP 430 11462	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PERM-WQLFCAMP 430 11462 4800	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.0 0.0 0.0 1.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	PERM-WQLFCAMP 430 11462 4800	ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.6 0.6 0.5 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	20023	COMPONENT, MOLE PCT	
STATE	TEXAS	METHANE	78.5
	WHEELER	ETHANE	11.9
FIELD	MILLS RANCH	PROPANE	5.4
-	BRYANT NO. 2-44	N-BUTANE	1.3
API	4248331513	ISOBUTANE	0.6
	EC. 44. BLK A-7. H&GN SUR. A-738.	N-PENTANE	
		ISOPENTANE	
	CHEVRON USA, INC.	CYCLOPENTANE	
COMPLETED	980505	HEXANES PLUS	
SAMPLED	990127	NITROGEN	1.0
FORMATION	PENN-GRANITE WASH	OXYGEN	
GEOLOGIC PROVINCE CO	DDE360_	ARGON	
TRUE VERTICAL DEPTH (F	FT)12094	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, P	PSIG1200	CARBON DIOXIDE	
OPEN FLOW, MCFD	1200	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20836	COMPONENT, MOLE PCT	
SAMPLE	20636	·	
STATE	UTAH	METHANE	
COUNTY	SAN JUAN	ETHANE	
FIELD	HOOK AND LADDER	PROPANE	
WELL NAME	HUSKY FEDERAL NO. 15-25	N-BUTANE	0.4
API	4303730317	N-PENTANE	
LOCATION	SEC. 25, T29S, R23E	ISOPENTANE	
	TOM BROWN, INC.	CYCLOPENTANE	
OWNER		OTOLO: LITTING	
		HEXANES PLUS	0.3
COMPLETED	770412	HEXANES PLUS	
COMPLETED	770412 010829		36.4
COMPLETEDSAMPLEDFORMATION	770412 010829 MISS-LEADVILLE	NITROGEN	.36.4 0.0
COMPLETEDSAMPLEDFORMATIONGEOLOGIC PROVINCE CO	770412 010829 MISS-LEADVILLE DDE585.	NITROGEN	.36.4 0.0
COMPLETEDSAMPLED FORMATION GEOLOGIC PROVINCE CO	770412. 010829. MISS-LEADVILLE. DDE585. FT)9080.	NITROGEN OXYGEN ARGON HYDROGEN	36.4 0.0 0.2
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO TRUE VERTICAL DEPTH (F	770412 010829 MISS-LEADVILLE DDE585 FT)9080	NITROGEN OXYGEN ARGON	36.4 0.0 0.2 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO TRUE VERTICAL DEPTH (F	770412 010829 MISS-LEADVILLE DDE 585 FT) 9080	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	36.4 0.0 0.2 0.0 0.2 20.9
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO TRUE VERTICAL DEPTH (I MEASURED DEPTH WELLHEAD PRESSURE, P	770412 010829 MISS-LEADVILLE DDE585 FT)9080	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	36.4 0.0 0.2 0.0 0.2 20.5

^{*} 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	50578	COMPONENT, MOLE PCT	
STATE	LITALI	METHANE	91.4
		ETHANE	3.9
COUNTY		PROPANE	1.3
	WONSITS VALLEY	N-BUTANE	0.4
WELL NAMEWO		ISOBUTANE	0.3
API	4304733070	N-PENTANE	0.2
LOCATION	SEC. 12, T8S, R21E	ISOPENTANE	0.2
OWNER	CHEVERON USA	CYCLOPENTANE	
COMPLETED	980518	HEXANES PLUS	1.6
SAMPLED	990120	NITROGEN	0.7
FORMATION	EOCE-WASATCH	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	575	ARGON	
TRUE VERTICAL DEPTH (FT)	7600	HYDROGEN	- the
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	273	CARBON DIOXIDE	0.2
OPEN FLOW, MCFD		HELIUM	
Of ENT LOVE, MOI D		HEATING VALUE*	1,148
		SPECIFIC GRAVITY	0.646
SAMPLE	20020	COMPONENT, MOLE PCT	
STATE	WANTE	METHANE	79.9
COUNTY		ETHANE	12.0
		PROPANE	4.3
FIELD		N-BUTANE	0.7
WELL NAME		ISOBUTANE	0.6
API		N-PENTANE	0.1
LOCATION	SEC. 19, T23N, R111W	ISOPENTANE	0.2
OWNER	MARATHON OIL CO.	CYCLOPENTANE	
COMPLETED	981229	HEXANES PLUS	0.5
SAMPLED	980126	NITROGEN	1.0
FORMATION	CRET-FRONTIER	OXYGEN	0.1
GEOLOGIC PROVINCE CODE	535	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	10496	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
MEASURED DEPTH		CARBON DIOXIDE	0.6
MEASURED DEPTH WELLHEAD PRESSURE, PSIG	640		
WELLHEAD PRESSURE, PSIG _		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	20010	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	89.8
COUNTY		ETHANE	5.3
FIELD		PROPANE	1.8
WELL NAME		N-BUTANE	0.5
	4902905708	ISOBUTANE	
API		N-PENTANE	
	SEC. 5, T51N, R100W	ISOPENTANE	
OWNER		CYCLOPENTANE	
COMPLETED	970728	HEXANES PLUS	
SAMPLED	980610	NITROGEN	
FORMATION	TRIA-CHUGWATER	OXYGEN	
GEOLOGIC PROVINCE CODE	520	ARGON	
TRUE VERTICAL DEPTH (FT)	2408	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	850	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.629
SAMPLE	20011	COMPONENT, MOLE PCT	
STATE	WYONING	METHANE	90.0
		ETHANE	4.7
COUNTY		PROPANE	1.4
FIELD		N-BUTANE	0.4
WELL NAME	LADY NO. 24	ISOBUTANE	0.2
API	4902906866	N-PENTANE	. 0.1
LOCATION	SEC. 31, T51N, R100W	ISOPENTANE	0.1
OWNER	MARATHON OIL CO.	CYCLOPENTANE	_
COMPLETED	970321	HEXANES PLUS	0.2
		HEXANES PLUS NITROGEN	
SAMPLED	980610		2.7
SAMPLED	980610 TRIA-CHUGWATER	NITROGEN	2.7
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	980610 TRIA-CHUGWATER 520	NITROGEN	2.7 0.0 0.1
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	980610 TRIA-CHUGWATER 520 2868	NITROGEN OXYGEN ARGON	0.0 0.1 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	980610 TRIA-CHUGWATER 520 2868	NITROGEN OXYGEN ARGON HYDROGEN	2.7 0.0 0.1 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	980610 TRIA-CHUGWATER 520 2868 450	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE**	2.7 0.0 0.1 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	980610 TRIA-CHUGWATER 520 2868 450	NITROGEN OXYGEN ARGON HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	2.7 0.0 0.1 0.0 0.0 0.1

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 80 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	20006	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	98.9
SIMIE	COLORADO	ETHANE	0.0
COUNTY	LAS ANIMAS	PROPANE	0.0
EIEI D	FIELD SPANISH PEAK		0.0
FIELD	SPANISH PEAR	ISOBUTANE	0.0
PLANT	EVERGREEN COMP. STATION	N-PENTANE	0.0
LOCATION	24" INLET	ISOPENTANE	0.0
LUCATION	24 IIV.E1	CYCLOPENTANE	<u></u>
OWNER	EVERGREEN OPERATING CORP.	HEXANES PLUS	0.0
CAMDIED	980317	NITROGEN	0.4
SAMIFICO	980377	OXYGEN	0.0
FORMATION	TERT-RATON.CRET-VERMEJO	ARGON	TRACE
GEOLOGIC PROVINCE CODE455		HYDROGEN	0.0
		HYDROGEN SULFIDE	0.0
PRESSURE, PSIG	20_	CARBON DIOXIDE	8.0
ELOW MCED	28000	HELIUM	TRACE
FLOVY, INIOFD	28000	HEATING VALUE*	1,002
		SPECIFIC GRAVITY	0.563

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

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