## Analyses of Natural Gases, 2005–2007

D.L. Driskill December 2008

**Technical Note 427** 





BLM/NM/ST-08/007+3700

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Technical Note 427



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#### **Abstract**

Technical Note 427 contains analyses and related source data for 361 natural gas samples from 11 States. Of the total samples, 231 were collected during calendar years 2005 through 2007. The analyses were done using gas chromatography. None of the analyses have been published previously in other analyses reports. All samples were obtained and analyzed as part of the United

States Department of the Interior's Bureau of Land Management investigations of the occurrences of helium in natural gases of countries with 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 427, Analyses of Natural Gases, 2005–2007, contains analyses and related source data for 361 natural gas samples from 11 States. Of the total samples, 231 were collected during calendar years 2005 through 2007. The remaining 130 were collected earlier or later, but releases granting permission to publish them were received during preparation of this document. None of these analyses have been published previously in other analyses reports.

The analyses were done using gas chromatography. All samples were obtained and analyzed as part of the Bureau of Land Management investigations of the occurrences of helium in natural gases of countries with free-market economies. This helium survey program has been conducted since 1917. The results are published periodically to make the information available to members of the helium and petroleum industries and to the general public.

Forty-four publications have presented the results of 16,820 gas analyses performed through 2004. 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, 38–44) containing 11,602 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

<sup>&</sup>lt;sup>1</sup>The numbers in parentheses refer to items in the list of previous publications at the end of this report.

all analyses published from 1986 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 2004 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 PB2006-500037. The update to this CD-ROM, which will include the 2005–2007

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 for 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)
California	12	1	New Mexico	74	1,2
Colorado	58	1	Oklahoma	69	1
Kansas	77	1	Texas	23	1
Louisiana	2	1	Utah	11	1
Montana	9	1	Wyoming	20	1
Nebraska	6	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 1.<sup>2</sup>

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.

<sup>&</sup>lt;sup>2</sup>The 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 Florida Gulf of Mexico offshore-State 943 944 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 Oregon Pacific offshore-Federal 962 963 Washington Pacific offshore–general 964 Washington Pacific offshore–State 965 Washington Pacific offshore–Federal 972 Alaska Arctic offshore-general Alaska Arctic offshore-State 973 Alaska Arctic offshore-Federal 974 975 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

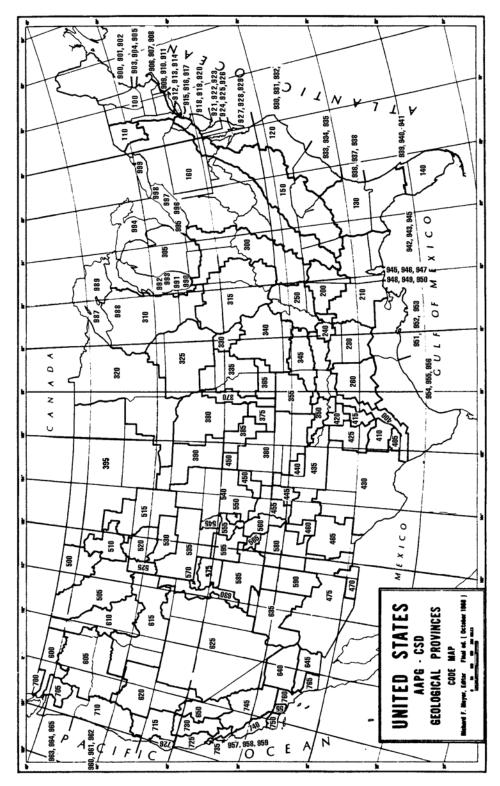


Figure 1. Geologic Provinces of the United States.

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 21329		COMPONENT, MOLE PCT	
STATECALL		METHANE	86.3
COUNTYS		ETHANE	3.4
		PROPANE	1.4
FIELDE		N-BUTANE	0.3
WELL NAMEHORIGAN RAY	N NO. 1	ISOBUTANE	0.3
API0409	<u>9521166</u>	N-PENTANE	0.1
LOCATION SEC 13, T	6N, R1E	ISOPENTANE	0.1
OWNER ABA ENERGY	CORP.	CYCLOPENTANE	
COMPLETED	020712	HEXANES PLUS	0.2
SAMPLED	040527	NITROGEN	7.5
FORMATIONCRET-W	INTERS	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	730	ARGON	0.1
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	1500_	HELIUM	
		HEATING VALUE*	,
		SPECIFIC GRAVITY	0.637
SAMPLE 21554		COMPONENT, MOLE PCT	
STATE CALI	FORNIA	METHANE	76.3
COUNTY		ETHANE	9.8
FIELD CAL		PROPANE	
		N-BUTANE	1.8
WELL NAMECHEVRON-USTAN-U.S.L		ISOBUTANE	0.9
API0402			
		N-PENTANE	
LOCATION SEC 4, T29		ISOPENTANE	0.5
LOCATIONSEC 4, T29 OWNERSAN JOAQUIN FACILITIES MANAGEME	S, R22E	ISOPENTANE	0.5
	S, R22E NT, INC.	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.5
OWNER SAN JOAQUIN FACILITIES MANAGEME	S, R22E NT, INC. 790217	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.5  0.6 0.1
OWNERSAN JOAQUIN FACILITIES MANAGEME COMPLETED	S, R22E NT, INC. 790217 060630	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.5  0.6 0.1
OWNERSAN JOAQUIN FACILITIES MANAGEME COMPLETED SAMPLED	S, R22E NT, INC. 790217 060630 TEVENS	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.5  0.6 0.1 
OWNERSAN JOAQUIN FACILITIES MANAGEME COMPLETED SAMPLED FORMATIONMIOC-S	S, R22E NT, INC. 790217 .060630 EVENS 	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.5  0.6   TRACE
OWNERSAN JOAQUIN FACILITIES MANAGEME  COMPLETED  SAMPLED  FORMATIONMIOC-ST  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)	S, R22E NT, INC. 790217 060630 EVENS 745 11897	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.5  0.6 0.1   TRACE 0.0
OWNERSAN JOAQUIN FACILITIES MANAGEME COMPLETED SAMPLED FORMATIONMIOC-ST GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	S, R22E. NT, INC. 790217 060630 EVENS. 745 11897	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.5  0.6 0.1  TRACE 0.0
OWNERSAN JOAQUIN FACILITIES MANAGEME COMPLETED SAMPLED FORMATIONMIOC-ST GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	S, R22E NT, INC. 790217 060630 EVENS 745 11897	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.5  0.6 0.1  TRACE 0.0 0.0 4.5
OWNERSAN JOAQUIN FACILITIES MANAGEME  COMPLETED  SAMPLED  FORMATIONMIOC-ST  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)	S, R22E NT, INC. 790217 060630 EVENS 745 11897	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.5  0.6 0.1  TRACE 0.0 0.0 4.5 0.00

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

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

SAMPLE	21562	COMPONENT, MOLE PCT	
STATE	CALIFORNIA	METHANE	71.1
	KERN	ETHANE	11.0
		PROPANE	9.0
	CANAL	N-BUTANE	3.1
	PIONEER CANAL 18R-3	ISOBUTANE	1.4_
API	0402984059	N-PENTANE	0.7
LOCATION	SEC 3, T30S, R25E	ISOPENTANE	0.7
OWNER <u>SAN JOAQUIN F</u>	FACILITIES MANAGEMENT, INC.	CYCLOPENTANE	
COMPLETED	890421	HEXANES PLUS	1.0
SAMPLED	060700	NITROGEN	0.8
FORMATION	MIOC-FRUITVALE	OXYGEN	
GEOLOGIC PROVINCE CODE	745	ARGON	
	8966	ARGON + OXYGEN	0.1_
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
	32200_	CARBON DIOXIDE	
OPEN FLOW, MCFD	10_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21567	COMPONENT, MOLE PCT	
OAWII EE	21007	METHANE	67.0
STATE	CALIFORNIA	ETHANE	
COUNTY	KERN	PROPANE	
FIELD	CARNEROS CREEK	N-BUTANE	
WELL NAME	SANTA FE 11	ISOBUTANE	
API	0403001479	N-PENTANE	0.9
LOCATION	SEC 30, T28S, R20E	ISOPENTANE	1.1
OWNER	PYRAMID OIL CO.	CYCLOPENTANE	
COMPLETED	931015	HEXANES PLUS	1.6
·	060831	NITROGEN	4.7
	OF ROCKS, MIOC-PHACOIDES	OXYGEN	
<u>-                                    </u>	745	ARGON	
		ARGON + OXYGEN	0.5
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIC	§	CARBON DIOXIDE	0.6
OPEN FLOW, MCFD	18_	HELIUM	0.00
		HEATING VALUE*	1 389
		112/11/10 1/1202	1,000

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

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

SAMPLE 21400	COMPONENT, MOLE PCT	
STATECALIFORNIA	METHANE	75.4
	ETHANE	2.0
COUNTY KERN	PROPANE	0.9
FIELDCYMRIC_	N-BUTANE	0.3
WELL NAME MCKITTRICK DEEP 104	ISOBUTANE	0.1
API0403003951_	N-PENTANE	0.1
LOCATION SEC 6, T30S, R22E	ISOPENTANE	0.1
OWNERPLAINS EXPLORATION & PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.3
SAMPLED	NITROGEN	2.1
FORMATIONMIOC-ANTELOPE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 745	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)4740_	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
WELLHEAD PRESSURE. PSIG 220	HYDROGEN SULFIDE**	
	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 21401	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT  METHANE	82.7
STATECALIFORNIA		
STATE CALIFORNIA COUNTY KERN_	METHANE	5.1
STATE CALIFORNIA.  COUNTY KERN.  FIELD CYMRIC.	METHANE	5.1 2.0
STATECALIFORNIA_ COUNTYKERN_ FIELDCYMRIC_ WELL NAMER.H. ANDERSON TWO 100H	METHANE ETHANE PROPANE	5.1 2.0 0.3
STATECALIFORNIA_ COUNTYKERN_ FIELDCYMRIC_ WELL NAMER.H. ANDERSON TWO 100H	METHANE ETHANE PROPANE N-BUTANE	5.1 2.0 0.3 0.3
STATE CALIFORNIA.  COUNTY KERN.  FIELD CYMRIC.  WELL NAME R.H. ANDERSON TWO 100H.  API 0403004641	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	5.1 2.0 0.3 0.3 TRACE
SAMPLE 21401  STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	5.1 2.0 0.3 0.3 TRACE 0.1
STATE CALIFORNIA.  COUNTY KERN.  FIELD CYMRIC.  WELL NAME R.H. ANDERSON TWO 100H.  API 0403004641  LOCATION SEC 20, T29S, R21E.  OWNER PLAINS EXPLORATION & PRODUCTION CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	5.1 2.0 0.3 0.3 TRACE 0.1
STATE	METHANE ETHANE PROPANE N-BUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	5.1 2.0 0.3 0.3 TRACE 0.1
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	5.1 2.0 0.3 0.3 TRACE 0.1  0.4 2.5
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	5.1 2.0 0.3 0.3 TRACE 0.1  0.4 2.5 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	5.1 2.0 0.3 0.3 TRACE 0.1  0.4 2.5 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	5.1 2.0 0.3 0.3 TRACE 0.1  0.4 2.5 0.0 0.1
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	5.1 2.0 0.3 0.3 TRACE 0.1  0.4 2.5 0.0 0.1
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE*** CARBON DIOXIDE	5.1 2.0 0.3 0.3 TRACE 0.1  0.4 2.5 0.0 0.1  0.0 0.0 6.6
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	5.1 2.0 0.3 0.3 TRACE 0.1  0.4 2.5 0.0 0.1  0.0 0.0 6.6

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE 21571	COMPONENT, MOLE PCT	
STATECALIFORNIA	METHANE	73.3
COUNTY LOS ANGELES	ETHANE	5.4
	PROPANE	6.3
FIELD DEL VALLE_	N-BUTANE	3.2
WELL NAMENL&F 12-20_	ISOBUTANE	1.4
API0403722746_	N-PENTANE	1.3
LOCATION SEC 20, T4N, R17W	ISOPENTANE	1.3
OWNERLBTH, INC.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	2.5
SAMPLED	NITROGEN	2.0
FORMATION	OXYGEN	
GEOLOGIC PROVINCE CODE 760	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
WELLHEAD PRESSURE, PSIG	HYDROGEN SULFIDE**	
· ————————————————————————————————————	CARBON DIOXIDE	
OPEN FLOW, MCFD5	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
STATECALIFORNIA	METHANE	
STATE CALIFORNIA	METHANE	55.8
COUNTY SAN JOAQUIN	ETHANE	
FIELD FRENCH CAMP	PROPANE	
WELL NAMEPAGNUCCI 1-34_	N-BUTANE ISOBUTANE	
API0407720667	N-PENTANE	
LOCATION SEC 34. T1N. R6E	ISOPENTANE	
OWNER VINTAGE PRODUCTION OF CA. LLC	CYCLOPENTANE	
COMPLETED031112	HEXANES PLUS	
SAMPLED	NITROGEN	
FORMATION CRET-LATHROP	OXYGEN	
GEOLOGIC PROVINCE CODE	ARGON	
	ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH 9414	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG3200	CARBON DIOXIDE	0.2
OPEN FLOW, MCFD 4415	HELIUM	0.01
	HEATING VALUE* SPECIFIC GRAVITY	

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

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

SAMPLE	21533	COMPONENT, MOLE PCT	
CTATE	CALIFORNIA.	METHANE	69.9
		ETHANE	3.7
	KERN	PROPANE	1.5
	LOST HILLS	N-BUTANE	1.5
WELL NAME	33F-1-11D	ISOBUTANE	1.2
API	0403023204	N-PENTANE	0.7
LOCATION	SEC 33, T26S, R21E	ISOPENTANE	0.9
OWNER	CHEVRON USA, INC.	CYCLOPENTANE	
COMPLETED	030930	HEXANES PLUS	1.0
SAMPLED	060526	NITROGEN	0.2
FORMATION	MIOC-BELRIDGE DIATOMITE	OXYGEN	
GEOLOGIC PROVINCE CODE	745_	ARGON	
	2319	ARGON + OXYGEN	0.1
, ,		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
	<u> </u>	CARBON DIOXIDE	19.3
OPEN FLOW, MCFD	4_	HELIUM	
		HEATING VALUE*	1,010
0.11515		SPECIFIC GRAVITY	0.000
SAMPLE	21458	COMPONENT, MOLE PCT	
STATE	CALIFORNIA	METHANE	
COUNTY	GLENN	ETHANE PROPANE	
FIELD	WILLOWS-BEEHIVE BEND	N-BUTANE	
WELL NAME	SECTION 60 NO. 12	ISOBUTANE	
API	0402120818	N-PENTANE	
	SEC 4. T19N. R2W	ISOPENTANE	
	VENOCO. INC.	CYCLOPENTANE	
	021209	HEXANES PLUS	
· ·	050000	NITROGEN	
		OXYGEN	
	CRET-KIONE	ARGON	
GEOLOGIC PROVINCE CODE		ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)		HYDROGEN	
MEASURED DEPTH	3948	HYDROGEN SULFIDE**	0.0
			TD 4 OF
WELLHEAD PRESSURE, PSIG	§	CARBON DIOXIDE	TRACE
•	1200	CARBON DIOXIDE HELIUM	
•			TRACE

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21404	COMPONENT, MOLE PCT	
STATE	CALIEODNIA	METHANE	91.0
COUNTY		ETHANE	0.8
-	_	PROPANE	0.0
FIELD		N-BUTANE	TRACE
WELL NAME		ISOBUTANE	TRACE
API	0423720344	N-PENTANE	0.0
LOCATION	SEC 7, T5S, R12W	ISOPENTANE	0.0
OWNER	THUMS LONG BEACH CO.	CYCLOPENTANE	
COMPLETED	000904	HEXANES PLUS	0.0
SAMPLED	041117	NITROGEN	2.8
FORMATION	MIOC-PUENTE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	760	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	39_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21403	COMPONENT, MOLE PCT	
STATE	CALIFORNIA	METHANE	90.8
COUNTY		ETHANE	1.7
FIELD	_	PROPANE	1.0
WELL NAME		N-BUTANE	0.5
•	_	ISOBUTANE	
API	_	N-PENTANE	
LOCATION		ICODENITANIE	
	, , , , , , , , , , , , , , , , , , ,	ISOPENTANE	
OWNER	THUMS LONG BEACH CO.	CYCLOPENTANE	
	THUMS LONG BEACH CO.	CYCLOPENTANE	0.1
COMPLETED	THUMS LONG BEACH CO. 030913	CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 2.9
COMPLETEDSAMPLED	THUMS LONG BEACH CO. 030913 041117	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 2.9 0.0
COMPLETEDSAMPLEDFORMATION	THUMS LONG BEACH CO. 030913 041117 PLIO-REPETTO	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 2.9 0.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	THUMS LONG BEACH CO.  030913  041117  PLIO-REPETTO  760	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN	0.1 2.9 0.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	THUMS LONG BEACH CO.  030913  041117  PLIO-REPETTO  760	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.1 2.9 0.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	THUMS LONG BEACH CO.  030913  041117  PLIO-REPETTO  760  6444	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	 0.1 2.9 0.0 TRACE  0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	THUMS LONG BEACH CO.  030913  041117  PLIO-REPETTO  760  6444	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**  CARBON DIOXIDE	0.1 2.9 0.0 TRACE  0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	THUMS LONG BEACH CO.  030913  041117  PLIO-REPETTO  760  6444	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	0.1 2.9 0.0 TRACE  0.0 0.0 2.2

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

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

	481	COMPONENT, MOLE PCT	
STATE	COLODADO	METHANE	94.2
		ETHANE	0.9
COUNTY	_	PROPANE	0.5
FIELD	_	N-BUTANE	0.2
WELL NAME	CHRISTIANSON 2-12	ISOBUTANE	0.1
API	0512109479	N-PENTANE	TRACE
LOCATION	SEC 12, T3S, R49W	ISOPENTANE	0.1
OWNER	SAND HILLS SOCIETY	CYCLOPENTANE	
COMPLETED	791021	HEXANES PLUS	0.1
SAMPLED	050629	NITROGEN	3.5
FORMATION	CRET-NIOBRARA	OXYGEN	
GEOLOGIC PROVINCE CODE	540	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
	_	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	1388	HELIUM	
		HEATING VALUE*	•
_		SPECIFIC GRAVITY	0.59
SAMPLE 214	490	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	75.3
		METHANE	
COUNTY	WELD	PROPANE	7.1 6.8
COUNTY	WELD ARISTOCRAT	ETHANE PROPANE N-BUTANE	7.1 6.8 2.6
COUNTY FIELD WELL NAME	WELD ARISTOCRAT ARISTOCRAT 41-10C	ETHANE PROPANE N-BUTANE ISOBUTANE	7.1 6.8 2.6 1.5
COUNTY  FIELD  WELL NAME  API	WELD ARISTOCRAT ARISTOCRAT 41-10C 0512312806	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	7.1 6.8 2.6 1.5 0.9
COUNTY  FIELD  WELL NAME  API  LOCATION	WELD  ARISTOCRAT  ARISTOCRAT 41-10C  0512312806  SEC 10, T3N, R65W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	7.1 6.8 2.6 1.5 0.9
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNERENCANA	WELD ARISTOCRAT ARISTOCRAT 41-10C 0512312806 SEC 10, T3N, R65W OIL & GAS (USA), INC.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	7.1 6.8 2.6 1.5 0.9 0.8
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER ENCANA  COMPLETED	WELD  ARISTOCRAT  ARISTOCRAT 41-10C  0512312806  SEC 10, T3N, R65W  OIL & GAS (USA), INC.  040129	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	7.1 6.8 2.6 1.5 0.9 0.8
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNERENCANA	WELD  ARISTOCRAT  ARISTOCRAT 41-10C  0512312806  SEC 10, T3N, R65W  OIL & GAS (USA), INC.  040129	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	7.1 6.8 2.6 1.5 0.9 0.8  1.3 3.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER ENCANA  COMPLETED	WELD  ARISTOCRAT  ARISTOCRAT 41-10C  0512312806  SEC 10, T3N, R65W  OIL & GAS (USA), INC.  040129  050630	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	7.1 6.8 2.6 1.5 0.9 0.8  1.3 3.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER ENCANA  COMPLETED  SAMPLED	WELD  ARISTOCRAT  ARISTOCRAT 41-10C  0512312806  SEC 10, T3N, R65W  OIL & GAS (USA), INC.  040129  050630  T-CODELL, NIOBRARA	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	7.1 6.8 2.6 1.5 0.9 0.8  1.3 3.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER ENCANA  COMPLETED  SAMPLED  FORMATION CRE	WELD  ARISTOCRAT  ARISTOCRAT 41-10C  0512312806  SEC 10, T3N, R65W  OIL & GAS (USA), INC.  040129  050630  T-CODELL, NIOBRARA	ETHANE	7.1 6.8 2.6 1.5 0.9 0.8  1.3 3.0  TRACE
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER ENCANA  COMPLETED  SAMPLED  FORMATION CRE  GEOLOGIC PROVINCE CODE	WELD ARISTOCRAT ARISTOCRAT 41-10C 0512312806 SEC 10, T3N, R65W OIL & GAS (USA), INC. 040129 050630 T-CODELL, NIOBRARA 540 7094	ETHANE	7.1 6.8 2.6 1.5 0.9 0.8  1.3 3.0  TRACE
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER ENCANA  COMPLETED  SAMPLED  FORMATION CRE  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)	WELD  ARISTOCRAT  ARISTOCRAT 41-10C  0512312806  SEC 10, T3N, R65W  OIL & GAS (USA), INC.  040129  050630  T-CODELL, NIOBRARA  540  7094	ETHANE	7.1 6.8 2.6 1.5 0.9 0.8  1.3 3.0  TRACE 0.1
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER ENCANA  COMPLETED  SAMPLED  FORMATION CRE  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	WELD  ARISTOCRAT  ARISTOCRAT 41-10C  0512312806  SEC 10, T3N, R65W  OIL & GAS (USA), INC.  040129  050630  T-CODELL, NIOBRARA  540  7094	ETHANE	7.1 6.8 2.6 1.5 0.9 0.8  1.3 3.0  TRACE 0.1 0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER ENCANA  COMPLETED  SAMPLED  FORMATION CRE  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH	WELD  ARISTOCRAT  ARISTOCRAT 41-10C  0512312806  SEC 10, T3N, R65W  OIL & GAS (USA), INC.  040129  050630  T-CODELL, NIOBRARA  540  7094	ETHANE	7.1 6.8 2.6 1.5 0.9 0.8  1.3 3.0  TRACE 0.1 0.0 0.3

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21459	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	76.3
		ETHANE	7.3
	WELD	PROPANE	6.2
•	ARISTOCRAT NE	N-BUTANE	1.6
	OCOMA 31-19	ISOBUTANE	0.8
API	0512314917_	N-PENTANE	0.4
LOCATION	SEC 31, T4N, R64W	ISOPENTANE	0.4
OWNER	MERIT ENERGY CO.	CYCLOPENTANE	
COMPLETED	910306	HEXANES PLUS	0.6
SAMPLED	050610	NITROGEN	5.8
FORMATION	CRET-SUSSEX	OXYGEN	
GEOLOGIC PROVINCE CODE	540	ARGON	
	4518	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
· ·		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.5
OPEN FLOW, MCFD	585	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.743
SAMPLE	21469	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	48.4
COUNTY	KIOWA	ETHANE	6.2
		PROPANE	6.2 4.5
FIELD	AZTECAN	PROPANE	6.2 4.5 1.6
FIELD	AZTECAN BLACKHOLE 24-4 #2	PROPANEN-BUTANEISOBUTANE	6.2 4.5 1.6 0.7
FIELD WELL NAME API	AZTECAN BLACKHOLE 24-4 #2 0506106751	PROPANE  N-BUTANE ISOBUTANE N-PENTANE	6.2 4.5 1.6 0.7 0.5
FIELD WELL NAME API LOCATION	AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	6.2 4.5 1.6 0.7 0.5 0.4
FIELD WELL NAME API LOCATION	AZTECAN BLACKHOLE 24-4 #2 0506106751	PROPANE  N-BUTANE ISOBUTANE  N-PENTANE ISOPENTANE CYCLOPENTANE	6.2 4.5 1.6 0.7 0.5 0.4
FIELD	AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	6.2 4.5 1.6 0.7 0.5 0.4 
FIELD	AZTECAN  BLACKHOLE 24-4 #2  0506106751  SEC 4, T17S, R45W  CITATION OIL & GAS CORP.	PROPANE	6.2 4.5 1.6 0.7 0.5 0.4  0.8 33.9
FIELD	AZTECAN  BLACKHOLE 24-4 #2  0506106751  SEC 4, T17S, R45W  CITATION OIL & GAS CORP.  980407  050628	PROPANE	6.2 4.5 1.6 0.7 0.5 0.4  0.8 33.9
FIELD	AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W CITATION OIL & GAS CORP. 980407 050628 PENN-MORROW	PROPANE	6.2 4.5 1.6 0.7 0.5 0.4  0.8 33.9
FIELD	AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W CITATION OIL & GAS CORP. 980407 050628 PENN-MORROW	PROPANE	6.2 4.5 1.6 0.7 0.5 0.4  0.8 33.9
WELL NAME	AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W CITATION OIL & GAS CORP. 980407 050628 PENN-MORROW 450	PROPANE	6.2 4.5 1.6 0.7 0.5 0.4  0.8 33.9  0.1
FIELD	AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W CITATION OIL & GAS CORP. 980407 050628 PENN-MORROW 450 4964	PROPANE	6.2 4.5 1.6 0.7 0.5 0.4  0.8 33.9  0.1 0.0
WELL NAME	AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W CITATION OIL & GAS CORP. 980407 050628 PENN-MORROW 450 4964	PROPANE	6.2 4.5 1.6 0.7 0.5 0.4  0.8 33.9  0.1 0.0 0.0
FIELD	AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W CITATION OIL & GAS CORP. 980407 050628 PENN-MORROW 450 4964	PROPANE	6.2 4.5 1.6 0.7 0.5 0.4  0.8 33.9  0.1 0.0 0.0 0.8 2.12

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21656	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	92.0
		ETHANE	1.1
COUNTY		PROPANE	0.5
FIELD		N-BUTANE	0.1
WELL NAME		ISOBUTANE	0.1
API	0512509954	N-PENTANE	TRACE
LOCATION	SEC 30, T5N, R44W	ISOPENTANE	TRACE
OWNER	FOREST OIL CORP.	CYCLOPENTANE	
COMPLETED	060703	HEXANES PLUS	TRACE
SAMPLED	070814	NITROGEN	5.5
FORMATION	CRET-NIOBRARA	OXYGEN	
GEOLOGIC PROVINCE CODE _	540	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG _		HYDROGEN SULFIDE**	
,		CARBON DIOXIDE	
OPEN FLOW, MCFD	58	HELIUM	
		HEATING VALUE*	
CAMPLE	04544	SPECIFIC GRAVITY	0.000
SAMPLE	21541	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	
COUNTY	ADAMS_	ETHANE	
FIELD	BARREL RANCH	PROPANE	
WELL NAME	LINNEBUR 6-23	N-BUTANE	
API	0500109373	ISOBUTANE N-PENTANE	
LOCATION		ISOPENTANE	
OWNER	, ,	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	
		NITROGEN	
SAMPLED	_	OXYGEN	
FORMATION	CRET-DAKOTA D, J	ARGON	
GEOLOGIC PROVINCE CODE _	540	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT) _	6559	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	190_	HELIUM	
		LIEATING MALLIET	4 440
		HEATING VALUE*	1,418

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

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

SAMPLE 21534	COMPONENT, MOLE PCT	
STATECOLORADO	METHANE	73.7
	ETHANE	10.8
COUNTYADAMS_	PROPANE	6.1
FIELD BASELINE	N-BUTANE	2.0
WELL NAMEABBOTT LANDS 32-7-4_	ISOBUTANE	0.8
API	N-PENTANE	0.7
LOCATION SEC 7, T1S, R63W	ISOPENTANE	0.7
OWNER ENERVEST OPERATING, LLC	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	1.4
SAMPLED	NITROGEN	1.8
FORMATIONCRET-DAKOTA J	OXYGEN	
GEOLOGIC PROVINCE CODE 540	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	0.1
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	1.9
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.793
SAMPLE 21550	COMPONENT, MOLE PCT	
	,	
STATECOLORADO	METHANE	64.0
	,	
COUNTY WELD	METHANE ETHANE PROPANE	14.3 10.2
COUNTY WELD FIELD BIRD HAVEN	METHANE ETHANE PROPANE N-BUTANE	14.3 10.2 3.0
COUNTY WELD  FIELD BIRD HAVEN  WELL NAME SHOWERS 5-4, 32-12-10,32-5-7, COMPOSITE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	14.3 10.2 3.0 0.9
COUNTY WELD_ FIELD BIRD HAVEN WELL NAMESHOWERS 5-4, 32-12-10,32-5-7, COMPOSITE API 0512319939	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	14.3 10.2 3.0 0.9 0.7
COUNTY	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	14.3 10.2 3.0 0.9 0.7 0.5
COUNTY WELD_ FIELD BIRD HAVEN WELL NAMESHOWERS 5-4, 32-12-10,32-5-7, COMPOSITE API 0512319939	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	14.3 10.2 3.0 0.9 0.7 0.5
COUNTY	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE HEXANES PLUS	14.3 10.2 3.0 0.9 0.7 0.5
COUNTY	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	14.3 10.2 3.0 0.9 0.7 0.5  1.0
COUNTY	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	14.3 10.2 3.0 0.9 0.7 0.5  1.0 0.8
COUNTY	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	14.3 10.2 3.0 0.9 0.7 0.5  1.0 0.8
COUNTY	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	14.3 10.2 3.0 0.9 0.7 0.5  1.0 0.8
COUNTY	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	14.3 10.2 3.0 0.9 0.7 0.5  1.0 0.8  TRACE
COUNTY	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	14.3 10.2 3.0 0.9 0.7 0.5  1.0 0.8  TRACE TRACE
COUNTY	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	14.3 10.2 3.0 0.9 0.7 0.5  1.0 0.8  TRACE TRACE 0.0
COUNTY	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	14.3 10.2 3.0 0.9 0.7 0.5  1.0 0.8  TRACE TRACE 0.0 4.5

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21487	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	48.5
		ETHANE	8.3
·	CHEYENNE	PROPANE	7.7
	BLEDSOE RANCH	N-BUTANE	3.1
	E 5 (INJECTION,BLDSO RNCH & CSTLF PK GAS)	ISOBUTANE	1.0
	CSTLE PK GAS) 0501706717	N-PENTANE	0.7
LOCATION	SEC 36, T12S, R51W	ISOPENTANE	0.6
OWNER	CITATION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	880202	HEXANES PLUS	1.0
SAMPLED	050630	NITROGEN	26.2
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE	450_	ARGON	
	6206	ARGON + OXYGEN	
,	0200	HYDROGEN	TRACE
	_	HYDROGEN SULFIDE**	0.0
	G	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21486	COMPONENT. MOLE PCT	
		METHANE	46.4
STATE	<u>COLORADO</u>	ETHANE	
COUNTY	CHEYENNE	PROPANE	
FIELD	BLEDSOE RANCH	N-BUTANE	3.3
WELL NAME	GRAY STATE 1, 3, & 7	ISOBUTANE	1.0
API		N-PENTANE	1.0
LOCATION	SEC 36, T12S, R51W	ISOPENTANE	0.8
OWNER	CITATION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	1.7
SAMPI FD	050630	NITROGEN	26.8
	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE	_	ARGON	
		ARGON + OXYGEN	0.1
,		HYDROGEN	TRACE
		11VDD0.0EN 0111 EIDE##	
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSI	3	CARBON DIOXIDE	
WELLHEAD PRESSURE, PSI			1.9
WELLHEAD PRESSURE, PSI	3	CARBON DIOXIDE	1.9 1.07

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21475	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	23.4
	CHEYENNE	ETHANE	3.0
		PROPANE	3.4
	BROKEN BOW	N-BUTANE	2.1
	PFEIFER 41-5-2	ISOBUTANE	0.8
	0501707567	N-PENTANE	0.9
LOCATION	SEC 5, T13S, R44W	ISOPENTANE	0.7
OWNER	CITATION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	971215	HEXANES PLUS	1.6
SAMPLED	050628	NITROGEN	
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE	450	ARGON	
	5292	ARGON + OXYGEN	0.2
` ,	<u> </u>	HYDROGEN	
		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	1701	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21485	COMPONENT, MOLE PCT	
OAWII EE	21400	METHANE	47.0
STATE	COLORADO	ETHANE	
COUNTY	CHEYENNE	PROPANE	
FIELD	CASTLE PEAK	N-BUTANE	
WELL NAME	WECO-WILLIAM BATTERY	ISOBUTANE	
API	0501706676	N-PENTANE	
LOCATION	SEC 11, T13S, R51W	ISOPENTANE	
OWNER	CITATION OIL & GAS CORP.	CYCLOPENTANE	
	870901	HEXANES PLUS	
	050630	NITROGEN	29.3
·	PENN-MORROW	OXYGEN	
		ARGON	
	450	ARGON + OXYGEN	0.1
TRUE VERTICAL DEPTH (FT) _		HYDROGEN	TRACE
	_	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	1.8
OPEN FLOW, MCFD	442	HELIUM	1.20
		HEATING VALUE*	1,012
		SPECIFIC GRAVITY	

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

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

SAMPLE	21536	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	36.1
COUNTY		ETHANE	6.2
·		PROPANE	6.7
FIELD		N-BUTANE	3.7
WELL NAME		ISOBUTANE	1.4
API	0501707420	N-PENTANE	1.1
LOCATION	SEC 29, T13S, R43W	ISOPENTANE	1.0
OWNER	CITATION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	940428	HEXANES PLUS	1.7
SAMPLED	060626	NITROGEN	38.3
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE	450	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	207	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21552	COMPONENT, MOLE PCT	
		METHANE	50.9
STATE	COLORADO	ETHANE	
COUNTY	WELD.	PROPANE	
FIELD	CROW	N-BUTANE	5.2
WELL NAME	FEDERAL OSPREY 35-3	ISOBUTANE	1.7
API	0512320272	N-PENTANE	1.6
LOCATION	SEC 35, T8N, R60W	ISOPENTANE	1.2
OWNERDIVE	RSIFIED OPERATING CORP.	CYCLOPENTANE	
COMPLETED	021201	HEXANES PLUS	2.5
SAMPLED	060628	NITROGEN	0.6
FORMATION	CRET-DAKOTA D	OXYGEN	
GEOLOGIC PROVINCE CODE		ARGON	
		ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT)		HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	160	HELIUM	
		HEATING VALUE*	,
		SPECIFIC GRAVITY	

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21542	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	71.5
COUNTY		ETHANE	9.4
		PROPANE	7.3
FIELD		N-BUTANE	3.2
WELL NAME		ISOBUTANE	1.1
API		N-PENTANE	0.8
LOCATION	SEC 3, T2S, R60W	ISOPENTANE	0.9
OWNER	SOVEREIGN ENERGY, LLC.	CYCLOPENTANE	
COMPLETED	990211	HEXANES PLUS	1.6
SAMPLED	060627	NITROGEN	2.8
FORMATION	CRET-DAKOTA J	OXYGEN	
GEOLOGIC PROVINCE CODE _	540	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	TRACE
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	315_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.828
SAMPLE	21560	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	63.5
COUNTY	ELBERT	ETHANE	10.8
FIELD	DEADEYE	PROPANE	
WELL NAME	_	N-BUTANE	
API	<u> </u>	ISOBUTANE	1.1
	0303900030	N-PENTANE	
	050.0 700 50014		
	SEC 9, T6S, R62W	ISOPENTANE	1.0
OWNER	HILCORP ENERGY CO.	ISOPENTANE	1.0
OWNER	HILCORP ENERGY CO. 950725	ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.0  2.3
OWNER	HILCORP ENERGY CO. 950725	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.0  2.3 2.2
OWNER	HILCORP ENERGY CO. 950725 060712	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.0  2.3 2.2
OWNER COMPLETED SAMPLED	HILCORP ENERGY CO. 950725 060712 CRET-DAKOTA D	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.0  2.3 2.2 
OWNER COMPLETED SAMPLED FORMATION	HILCORP ENERGY CO. 950725 060712 CRET-DAKOTA D. 540	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	1.0  2.3 2.2  TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	HILCORP ENERGY CO.  950725  060712  CRET-DAKOTA D  540  7405	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	1.0  2.3 2.2  TRACE TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _	HILCORP ENERGY CO.  950725  060712  CRET-DAKOTA D.  540  7405	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	1.0  2.3 2.2  TRACE TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	HILCORP ENERGY CO. 950725 060712 CRET-DAKOTA D 540 7405	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	1.0  2.3 2.2  TRACE TRACE 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	HILCORP ENERGY CO. 950725 060712 CRET-DAKOTA D 540 7405	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	1.0  2.3 2.2  TRACE TRACE 0.0 2.2

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

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

SAMPLE	21561	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	63.4
	_	ETHANE	10.8
	ELBERT	PROPANE	11.7
	<u>DEADEYE</u>	N-BUTANE	4.1
WELL NAME	HSR-WHITEHEAD 14-9	ISOBUTANE	1.1
API	0503906630	N-PENTANE	1.2
LOCATION	SEC 9, T6S, R62W	ISOPENTANE	0.9
OWNER	HILCORP ENERGY CO.	CYCLOPENTANE	
COMPLETED	950725	HEXANES PLUS	2.3
SAMPLED	060712	NITROGEN	2.2
FORMATION	CRET-DAKOTA D	OXYGEN	
GEOLOGIC PROVINCE CODE	540	ARGON	
· · · · · · · · · · · · · · · · · · ·	7405	ARGON + OXYGEN	
` ,	7100	HYDROGEN	TRACE
		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21535	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	23.9
		ETHANE	12.8
	CHEYENNE	PROPANE	21.6
	DINO	N-BUTANE	6.4
WELL NAME	DART 22-22 NO.1	ISOBUTANE	3.9
API	0501707261	N-PENTANE	2.0
LOCATION	SEC 22, T15S, R45W	ISOPENTANE	1.9
OWNER	CITATION OIL & GAS CORP	CYCLOPENTANE	
	CHITCH CIE & ONC CON .		
	911121	HEXANES PLUS	
COMPLETED			3.0
COMPLETED	911121_	HEXANES PLUS	3.0 19.9
COMPLETED	911121 060626 MISS-SPERGEN	HEXANES PLUS NITROGEN OXYGEN ARGON	3.0 19.9 
COMPLETEDSAMPLEDFORMATIONGEOLOGIC PROVINCE CODE _	911121 060626 MISS-SPERGEN 450	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	3.0 19.9   0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _	911121 060626 MISS-SPERGEN 450 5512	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	3.0 19.9   0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	911121 060626 MISS-SPERGEN 450 5512	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	3.0 19.9  0.1 0.1 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG	911121 060626 MISS-SPERGEN 450 5512	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**  CARBON DIOXIDE	3.0 19.9  0.1 0.1 0.0 3.7
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG	911121 060626 MISS-SPERGEN 450 5512	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	3.0 19.9  0.1 0.1 0.0 3.7 0.69

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

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

SAMPLE	21549	COMPONENT, MOLE PCT	
STATE	COLORADO.	METHANE	57.7
	WELD	ETHANE	15.6
		PROPANE	12.8
	DOLLEY	N-BUTANE	4.4
	KETTL 23-3	ISOBUTANE	1.5
API	0512321025	N-PENTANE	1.3_
LOCATION	SEC 23, T6N, R61W	ISOPENTANE	1.0
OWNER	DIVERSIFIED OPERATING CORP.	CYCLOPENTANE	
COMPLETED	020905	HEXANES PLUS	2.1
SAMPLED	060628	NITROGEN	0.7
FORMATION	CRET-DAKOTA D	OXYGEN	
GEOLOGIC PROVINCE	CODE540_	ARGON	
	H (FT)6756_	ARGON + OXYGEN	TRACE
	0730	HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	175	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21539	COMPONENT, MOLE PCT	
	00100100	METHANE	41.6
	COLORADO	ETHANE	13.3
COUNTY	LINCOLN	PROPANE	16.1
FIELD	FALLOW	N-BUTANE	4.8
WELL NAME	FALLOW 32-18 NO. 1	ISOBUTANE	2.3
API	0507306262	N-PENTANE	1.2
LOCATION	SEC 18, T10S, R54W	ISOPENTANE	1.3
OWNER	CITATION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	921009	HEXANES PLUS	2.0
SAMPLED	060627	NITROGEN	16.7_
FORMATION	PENN-MARMATON	OXYGEN	
	CODE 540	ARGON	
	H (FT)	ARGON + OXYGEN	
	1(F1)	HYDROGEN	TRACE
		HYDROGEN SULFIDE**	
	, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	43.	HELIUM	
		HEATING VALUE*	,
		SPECIFIC GRAVITY	1.045

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

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

SAMPLE	21466	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	33.8
		ETHANE	1.1
COUNTY		PROPANE	0.7
FIELD		N-BUTANE	0.3
WELL NAME		ISOBUTANE	0.1
API	0500906584	N-PENTANE	0.1
LOCATION	SEC 13, T33S, R44W	ISOPENTANE	0.1
OWNER	ENERGY ALLIANCE CO., INC.	CYCLOPENTANE	
COMPLETED	981029	HEXANES PLUS	0.2
SAMPLED	050627	NITROGEN	61.4
FORMATION	PERM-RED CAVE	OXYGEN	
GEOLOGIC PROVINCE CODE _	360	ARGON	
TRUE VERTICAL DEPTH (FT) _	1654	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG .		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	580_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21472	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	34.0
COUNTY	CHEYENNE	ETHANE	
FIELD	FRONTERA	PROPANE	
WELL NAME		N-BUTANE	
API		ISOBUTANE	
		N-PENTANE	
LOCATION	SEC 18, 1155, R41W	ISOPENTANE	0.6
		OVOLODENITANE	
	MULL DRILLING CO., INC.	CYCLOPENTANE	
	MULL DRILLING CO., INC. 871106	HEXANES PLUS	1.3
	871106	HEXANES PLUS	1.3 50.8
COMPLETED	871106 050628	HEXANES PLUS NITROGEN OXYGEN	1.3 50.8
COMPLETED	871106 050628 PENN-MORROW	HEXANES PLUS NITROGEN OXYGEN ARGON	1.3 50.8
COMPLETEDSAMPLEDFORMATION	871106 050628 PENN-MORROW 450	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	1.3 50.8   0.1
COMPLETEDSAMPLEDFORMATIONGEOLOGIC PROVINCE CODE _	871106 050628 PENN-MORROW 450 5164	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	1.3 50.8   0.1 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _	871106 050628 PENN-MORROW 450 5164	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	1.3 50.8   0.1 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	871106. 050628 PENN-MORROW. 450. 5164.	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**  CARBON DIOXIDE	 1.3 50.8   0.1 0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	871106. 050628 PENN-MORROW. 450. 5164.	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	1.3 50.8  0.1 0.0 0.0 1.1

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21473	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	27.3
	CHEYENNE	ETHANE	3.7
		PROPANE	4.5
	FRONTERA	N-BUTANE	2.8
` <u> </u>	FRONTERA UNIT 7	ISOBUTANE	1.0_
API	0501706831	N-PENTANE	0.9
LOCATION	SEC 13, T15S, R42W	ISOPENTANE	8.0
OWNER	CITATION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	880523	HEXANES PLUS	1.6_
SAMPLED	050628	NITROGEN	53.3
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE	450_	ARGON	
	5202	ARGON + OXYGEN	0.1
` '	0202	HYDROGEN	
		HYDROGEN SULFIDE**	
	·	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21445	COMPONENT, MOLE PCT	
		METHANE	95.7
	COLORADO	ETHANE	0.0
	LAS ANIMAS	PROPANE	0.0
FIELD	HILL RANCH	N-BUTANE	0.0
WELL NAME	HILL RANCH 4-14R	ISOBUTANE	0.0
API	0507107175	N-PENTANE	0.0
LOCATION	SEC 4, T35S, R67W	ISOPENTANE	0.0
OWNER	XTO ENERGY, INC.	CYCLOPENTANE	
COMPLETED	011023	HEXANES PLUS	0.0
SAMPLED	050412	NITROGEN	4.0
FORMATION	TERT-RATON	OXYGEN	0.0
	455	ARGON	0.1
		ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
	50	CARBON DIOXIDE	0.2
OPEN FLOW, MCFD	380	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.573

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

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

SAMPLE 21470	COMPONENT, MOLE PCT	
CTATE	METHANE	52.4
STATECOLORADO	ETHANE	10.9
COUNTY KIOWA	PROPANE	8.3
FIELD	N-BUTANE	2.4
WELL NAMETUTTLE 33-35-1	ISOBUTANE	0.8
API0506106621_	N-PENTANE	0.6
LOCATION SEC 35, T17S, R42W	ISOPENTANE	0.5
OWNERCITATION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED 920119	HEXANES PLUS	0.9
SAMPLED	NITROGEN	21.5
FORMATION PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE450_	ARGON	
TRUE VERTICAL DEPTH (FT)5056	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	0.0
WELLHEAD PRESSURE. PSIG	HYDROGEN SULFIDE**	
	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	•
SAMPLE 21599	COMPONENT, MOLE PCT	
O/NVII EE 21000	METHANE	96.4
STATECOLORADO	ETHANE	
COUNTY GARFIELD	PROPANE	
FIELD KOKOPELLI	N-BUTANE	
WELL NAME JOLLEY 17-6	ISOBUTANE	
API	N-PENTANE	
LOCATIONSEC 17, T6S, R91W	ISOPENTANE	
OWNER ENCANA OIL & GAS (USA), INC.	CYCLOPENTANE	
COMPLETED 000523	HEXANES PLUS	0.4
SAMPLED 070523	NITROGEN	0.4
FORMATION CRET-WILLIAMS FORK	OXYGEN	
	ARGON	
GEOLOGIC PROVINCE CODE	ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	HELIUM	0.01
	HEATING VALUE*	1 170
	HEATING VALUE	1,170

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21594	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	47.4
	ADAMS	ETHANE	19.8
		PROPANE	9.6
	KRAUTHEAD	N-BUTANE	6.3
	ARNOLD ELEANOR 1	ISOBUTANE	3.1
API	0500107751	N-PENTANE	3.9
LOCATION	SEC. 2, T1S, R64W	ISOPENTANE	2.9
OWNER	ENERVEST OPERATING, LLC	CYCLOPENTANE	
COMPLETED	820128	HEXANES PLUS	3.3
SAMPLED	070423	NITROGEN	0.8
FORMATION	CRET-DAKOTA D	OXYGEN	
GEOLOGIC PROVINCE CODE	540	ARGON	
	7616	ARGON + OXYGEN	0.7
` '	7010	HYDROGEN	
		HYDROGEN SULFIDE**	
	·	CARBON DIOXIDE	
OPEN FLOW, MCFD	800	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21543	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	72.7
OI/(IE			12.1
COLINTY		ETHANE	
	ADAMS.		10.7
FIELD	ADAMS_ LIDO_	ETHANE	10.7 6.8
FIELD	ADAMS. LIDO. MCLENNAN ST. A-1.	ETHANEPROPANE	10.7 6.8 2.3
FIELD WELL NAMEAPI	ADAMS. LIDO. MCLENNAN ST. A-1. 0500106616.	ETHANE PROPANE N-BUTANE	10.7 6.8 2.3 0.9
FIELD WELL NAMEAPI	ADAMS. LIDO. MCLENNAN ST. A-1.	ETHANE PROPANE N-BUTANE ISOBUTANE	10.7 6.8 2.3 0.9 0.7
FIELD WELL NAME API LOCATION	ADAMS. LIDO. MCLENNAN ST. A-1. 0500106616.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	10.7 6.8 2.3 0.9 0.7 0.7
FIELD WELL NAME API LOCATION OWNER	ADAMS. LIDO. MCLENNAN ST. A-1. 0500106616. SEC 36, T1S, R60W.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	10.7 6.8 2.3 0.9 0.7 0.7 
FIELD WELL NAME API LOCATION OWNER COMPLETED	ADAMS. LIDO. MCLENNAN ST. A-1. 0500106616. SEC 36, T1S, R60W. SOVEREIGN ENERGY, LLC.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	10.7 6.8 2.3 0.9 0.7 0.7 
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	ADAMS. LIDO. MCLENNAN ST. A-1. 0500106616. SEC 36, T1S, R60W. SOVEREIGN ENERGY, LLC. 730108.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	10.7 6.8 2.3 0.9 0.7 0.7  1.4 2.3
FIELD	ADAMS. LIDO. MCLENNAN ST. A-1. 0500106616 SEC 36, T1S, R60W. SOVEREIGN ENERGY, LLC. 730108. 060627.	ETHANE	10.7 6.8 2.3 0.9 0.7 0.7  1.4 2.3
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	ADAMS. LIDO. MCLENNAN ST. A-1. 0500106616. SEC 36, T1S, R60W. SOVEREIGN ENERGY, LLC. 730108. 060627. CRET-DAKOTA J. 540.	ETHANE	10.7 6.8 2.3 0.9 0.7 0.7  1.4 2.3  TRACE
WELL NAME	ADAMS. LIDO.  MCLENNAN ST. A-1  0500106616  SEC 36, T1S, R60W  SOVEREIGN ENERGY, LLC.  730108.  060627  CRET-DAKOTA J  540  6284	ETHANE	10.7 6.8 2.3 0.9 0.7 0.7  1.4 2.3  TRACE 0.0
FIELD	ADAMS. LIDO.  MCLENNAN ST. A-1  0500106616  SEC 36, T1S, R60W.  SOVEREIGN ENERGY, LLC.  730108  060627  CRET-DAKOTA J.  540  6284	ETHANE	10.7 6.8 2.3 0.9 0.7 0.7 1.4 2.3 TRACE 0.0
WELL NAME	ADAMS. LIDO.  MCLENNAN ST. A-1  0500106616  SEC 36, T1S, R60W  SOVEREIGN ENERGY, LLC.  730108.  060627  CRET-DAKOTA J  540  6284	ETHANE	10.7 6.8 2.3 0.9 0.7 0.7 1.4 2.3 TRACE 0.0 0.0
WELL NAME	ADAMS. LIDO.  MCLENNAN ST. A-1  0500106616  SEC 36, T1S, R60W.  SOVEREIGN ENERGY, LLC.  730108  060627  CRET-DAKOTA J.  540  6284	ETHANE	10.7 6.8 2.3 0.9 0.7 0.7  1.4 2.3  TRACE 0.0 0.0 1.4

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

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

SAMPLE	21471	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	25.2
	_	ETHANE	1.9
	CHEYENNE	PROPANE	1.6
·	LONGHORN GULCH	N-BUTANE	0.8
WELL NAME	TED 11-3-1	ISOBUTANE	0.4
API	0501706857	N-PENTANE	0.3
LOCATION	SEC 3, T15S, R42W	ISOPENTANE	0.3
OWNER	CITATION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	930126	HEXANES PLUS	0.4
SAMPLED	050628	NITROGEN	64.8
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE	450_	ARGON	
	5080	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	1659	HELIUM	
		HEATING VALUE*	
	_	SPECIFIC GRAVITY	<u>U.882</u>
SAMPLE	21478	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	92.8
COUNTY	WASHINGTON	ETHANE	1.1
	LONGKNIFE	PROPANE	0.7
MELL NAME		N-BUTANE	
·	BURNS 1	ISOBUTANE	0.2
API	BURNS 1 0512109772	ISOBUTANEN-PENTANE	0.2 0.1
API	BURNS 1 0512109772 SEC 29, T2S, R50W	ISOBUTANE N-PENTANE ISOPENTANE	0.2 0.1 0.1
APILOCATION	BURNS 1 0512109772 SEC 29, T2S, R50W SAND HILLS SOCIETY	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.2 0.1 0.1 
API LOCATION OWNER COMPLETED	BURNS 1 0512109772 SEC 29, T2S, R50W SAND HILLS SOCIETY 820315	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2 0.1 0.1  0.1
API LOCATION OWNER COMPLETED	BURNS 1 0512109772 SEC 29, T2S, R50W SAND HILLS SOCIETY	ISOBUTANE  N-PENTANE ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN	0.2 0.1 0.1  0.1 4.2
API LOCATION OWNER COMPLETED SAMPLED	BURNS 1 0512109772 SEC 29, T2S, R50W SAND HILLS SOCIETY 820315	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.2 0.1 0.1  0.1 4.2
API LOCATION OWNER COMPLETED SAMPLED	BURNS 1 0512109772 SEC 29, T2S, R50W SAND HILLS SOCIETY 820315 050629	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.1 0.1  0.1 4.2
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	BURNS 1  0512109772  SEC 29, T2S, R50W  SAND HILLS SOCIETY  820315  050629  CRET-NIOBRARA	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.2 0.1 0.1  0.1 4.2  TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	BURNS 1  0512109772  SEC 29, T2S, R50W  SAND HILLS SOCIETY  820315  050629  CRET-NIOBRARA  540  3042	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.2 0.1 0.1  0.1 4.2  TRACE 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _	BURNS 1  0512109772  SEC 29, T2S, R50W  SAND HILLS SOCIETY  820315  050629  CRET-NIOBRARA  540  3042	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.2 0.1 0.1  0.1 4.2  TRACE 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG .	BURNS 1  0512109772  SEC 29, T2S, R50W  SAND HILLS SOCIETY  820315  050629  CRET-NIOBRARA  540  3042	ISOBUTANE	0.2 0.1 0.1  0.1 4.2  TRACE 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG .	BURNS 1  0512109772  SEC 29, T2S, R50W  SAND HILLS SOCIETY  820315  050629  CRET-NIOBRARA  540  3042	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.2 0.1 0.1 0.1 4.2  TRACE 0.0 0.0 0.5

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

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

SAMPLE	21544	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	82.3
	WELD	ETHANE	8.6
	-	PROPANE	2.7
	LOST CREEK	N-BUTANE	0.7
	HSR HOBE ST. 2-32	ISOBUTANE	0.5
	0512318355	N-PENTANE	0.2
LOCATION	SEC 32, T3N, R62W	ISOPENTANE	0.3
OWNER	HILCORP ENERGY CO.	CYCLOPENTANE	
COMPLETED	940928	HEXANES PLUS	0.5
SAMPLED	060628	NITROGEN	0.5
FORMATION	CRET-DAKOTA J	OXYGEN	
GEOLOGIC PROVINCE CODE _	540	ARGON	
TRUE VERTICAL DEPTH (FT)	6864	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
,		CARBON DIOXIDE	
OPEN FLOW, MCFD	324	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21474	COMPONENT, MOLE PCT	22.0
STATE	COLORADO	METHANE	32.8
	CHEYENNE	ETHANE	5.6
	MAYFIELD	PROPANE	5.9
	N. MAYFIELD 14-17-1	N-BUTANE	
•	_	ISOBUTANE	
	0501707436	N-PENTANE	
	SEC 17, T13S, R43W	ISOPENTANE	1.1_
-	CITATION OIL & GAS CORP.	CYCLOPENTANE	
-	CITATION OIL & GAS CORP. 940928	HEXANES PLUS	2.1
COMPLETED	<u>'</u>	HEXANES PLUS NITROGEN	2.1 41.8
COMPLETED	940928	HEXANES PLUS NITROGEN OXYGEN	2.1 41.8 
COMPLETED	940928 050628 PENN-MORROW	HEXANES PLUS NITROGEN OXYGEN ARGON	2.1 41.8 
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	940928 050628 PENN-MORROW	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	2.1 41.8   0.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	940928 050628 PENN-MORROW 450 5216	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	2.1 41.8   0.1 0.0
COMPLETED	940928 050628 PENN-MORROW 450 5216	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	2.1 41.8  0.1 0.0 0.0
COMPLETED	940928 050628 PENN-MORROW 450 5216	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**  CARBON DIOXIDE	2.1 41.8  0.1 0.0 0.0 2.1
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	940928 050628 PENN-MORROW 450 5216	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	2.1 41.8  0.1 0.0 0.0 2.1 1.91

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

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

SAMPLE	21476	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	37.6
·	LINCOLN	ETHANE	6.8
		PROPANE	7.3
	METEOR_	N-BUTANE	3.4
•	STATE METEOR 1-16	ISOBUTANE	0.9
API	0507306300	N-PENTANE	1.2
LOCATION	SEC 16, T12S, R52W	ISOPENTANE	0.9
OWNER	MULL DRILLING CO., INC.	CYCLOPENTANE	
COMPLETED	020123	HEXANES PLUS	2.2
SAMPLED	050630	NITROGEN	36.5
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE	540	ARGON	
	6690	ARGON + OXYGEN	0.1
		HYDROGEN	TRACE
		HYDROGEN SULFIDE**	0.0
,	S	CARBON DIOXIDE	
OPEN FLOW, MCFD	981	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.975
SAMPLE	21662	COMPONENT, MOLE PCT	
	21662 COLORADO	COMPONENT, MOLE PCT  METHANE	47.6
STATE		METHANE	19.3
STATE	COLORADO_ WELD_	METHANE	19.3
STATE COUNTY FIELD	COLORADO WELD NORTH RIVERSIDE	METHANE ETHANE PROPANE N-BUTANE	19.3 16.9 5.0
STATE COUNTY FIELD WELL NAME	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	19.3 16.9 5.0 2.1
STATE COUNTY FIELD WELL NAME	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	19.3 16.9 5.0 2.1 1.9
STATE COUNTY FIELD WELL NAMEAPI LOCATION	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8, T5N, R61W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	19.3 16.9 5.0 2.1 1.9
STATE COUNTY FIELD WELL NAMEAPI LOCATION	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	19.3 16.9 5.0 2.1 1.9 1.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNERBONANZA CREEK	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8, T5N, R61W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE HEXANES PLUS	19.3 16.9 5.0 2.1 1.9 1.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNERBONANZA CREEK COMPLETED	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8, T5N, R61W ENERGY OPERATING CO., LLC	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	19.3 16.9 5.0 2.1 1.9 1.4  2.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNERBONANZA CREEK COMPLETED SAMPLED	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8, T5N, R61W ENERGY OPERATING CO., LLC. 040528	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	19.3 16.9 5.0 2.1 1.9 1.4  2.6 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNERBONANZA CREEK. COMPLETED SAMPLED FORMATION	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8, T5N, R61W ENERGY OPERATING CO., LLC 040528 070816	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	19.3 16.9 5.0 2.1 1.9 1.4  2.6 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNERBONANZA CREEK. COMPLETED SAMPLED FORMATION	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8, T5N, R61W ENERGY OPERATING CO., LLC 040528 070816 CRET-DAKOTA D	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	19.3 16.9 5.0 2.1 1.9 1.4  2.6 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNERBONANZA CREEK COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8, T5N, R61W ENERGY OPERATING CO., LLC 040528 070816 CRET-DAKOTA D 540 6669	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN	19.3 16.9 5.0 2.1 1.9 1.4  2.6 0.3  0.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNERBONANZA CREEK COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8, T5N, R61W ENERGY OPERATING CO., LLC 040528 070816 CRET-DAKOTA D 540 6669	METHANE	19.3 16.9 5.0 2.1 1.9 1.4  2.6 0.3  0.5 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNERBONANZA CREEK COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8, T5N, R61W ENERGY OPERATING CO., LLC 040528 070816 CRET-DAKOTA D 540 6669	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	19.3 16.9 5.0 2.1 1.9 1.4  2.6 0.3  0.5 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNERBONANZA CREEK COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8, T5N, R61W ENERGY OPERATING CO., LLC 040528 070816 CRET-DAKOTA D 540 6669	METHANE	19.3 16.9 5.0 2.1 1.9 1.4  2.6 0.3  0.5 0.0 0.0 2.5

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

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

SAMPLE	21663	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	47.7
·		ETHANE	18.9
	WELD	PROPANE	17.3
FIELD	NORTH RIVERSIDE	N-BUTANE	5.0
WELL NAME	PRONGHORN 14-8	ISOBUTANE	2.2
API	0512323566	N-PENTANE	1.7
LOCATION	SEC 8, T5N, R61W	ISOPENTANE	1.4
OWNER <u>BONANZA CREEK I</u>	ENERGY OPERATING CO., LLC	CYCLOPENTANE	
COMPLETED	061217	HEXANES PLUS	2.6
SAMPLED	070816	NITROGEN	0.3
FORMATION	CRET-NIOBRARA	OXYGEN	
GEOLOGIC PROVINCE CODE	540	ARGON	
	6142	ARGON + OXYGEN	0.5
` '		HYDROGEN	
		HYDROGEN SULFIDE**	TRACE
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	2.4
OPEN FLOW, MCFD	332	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	1.069
SAMPLE	21595	COMPONENT, MOLE PCT	
<u>-</u>	21595 COLORADO	COMPONENT, MOLE PCT METHANE	74.7
STATE		COMPONENT, MOLE PCT  METHANE  ETHANE	74.7 2.8
STATE	COLORADO DOLORES	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	74.7 2.8 1.7
STATE COUNTY FIELD	COLORADO DOLORES PAPOOSE CANYON	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE	74.7 2.8 1.7 0.8
STATE COUNTY FIELD WELL NAME	COLORADO DOLORES PAPOOSE CANYON BREWER FEDERAL 2-17	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	74.7 2.8 1.7 0.8 0.7
STATE COUNTY FIELD WELL NAME	COLORADO DOLORES PAPOOSE CANYON BREWER FEDERAL 2-17 0503306108	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	74.7 2.8 1.7 0.8 0.7 0.3
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO DOLORES PAPOOSE CANYON BREWER FEDERAL 2-17 0503306108 SEC 17, T39N, R19W	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	74.7 2.8 1.7 0.8 0.7 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	COLORADO DOLORES PAPOOSE CANYON BREWER FEDERAL 2-17 0503306108 SEC 17, T39N, R19W D. J. SIMMONS, INC.	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE	74.7 2.8 1.7 0.8 0.7 0.3 0.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	COLORADO DOLORES PAPOOSE CANYON BREWER FEDERAL 2-17 0503306108 SEC 17, T39N, R19W	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS	74.7 2.8 1.7 0.8 0.7 0.3 0.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	COLORADO DOLORES PAPOOSE CANYON BREWER FEDERAL 2-17 0503306108 SEC 17, T39N, R19W D. J. SIMMONS, INC.	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN	74.7 2.8 1.7 0.8 0.7 0.3 0.4  0.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	COLORADO DOLORES PAPOOSE CANYON BREWER FEDERAL 2-17 0503306108 SEC 17, T39N, R19W D. J. SIMMONS, INC.	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	74.7 2.8 1.7 0.8 0.7 0.3 0.4  0.5 17.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	COLORADO DOLORES PAPOOSE CANYON BREWER FEDERAL 2-17 0503306108 SEC 17, T39N, R19W D. J. SIMMONS, INC. 030603 070427 PENN-HONAKER TRAIL	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	74.7 2.8 1.7 0.8 0.7 0.3 0.4  0.5 17.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	COLORADO DOLORES PAPOOSE CANYON BREWER FEDERAL 2-17 0503306108 SEC 17, T39N, R19W D. J. SIMMONS, INC. 030603 070427 PENN-HONAKER TRAIL 585	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	74.7 2.8 1.7 0.8 0.7 0.3 0.4  0.5 17.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE .	COLORADO DOLORES PAPOOSE CANYON BREWER FEDERAL 2-17 0503306108 SEC 17, T39N, R19W D. J. SIMMONS, INC. 030603 070427 PENN-HONAKER TRAIL 585	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	74.7 2.8 1.7 0.8 0.7 0.3 0.4 0.5 17.5 0.3 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLORADO DOLORES PAPOOSE CANYON BREWER FEDERAL 2-17 0503306108 SEC 17, T39N, R19W D. J. SIMMONS, INC. 030603 070427 PENN-HONAKER TRAIL 585	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	74.7 2.8 1.7 0.8 0.7 0.3 0.4 0.5 17.5 0.3 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	COLORADO DOLORES PAPOOSE CANYON BREWER FEDERAL 2-17 0503306108 SEC 17, T39N, R19W D. J. SIMMONS, INC. 030603 070427 PENN-HONAKER TRAIL 585 5344	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	74.7 2.8 1.7 0.8 0.7 0.3 0.4 0.5 17.5 0.3 TRACE 0.0 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLORADO DOLORES PAPOOSE CANYON BREWER FEDERAL 2-17 0503306108 SEC 17, T39N, R19W D. J. SIMMONS, INC. 030603 070427 PENN-HONAKER TRAIL 585 5344	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	74.7 2.8 1.7 0.8 0.7 0.3 0.4 0.5 17.5 0.3 TRACE 0.0 0.1 0.18

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

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

SAMPLE	21600	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	82.1
	WELD	ETHANE	8.5
-	_	PROPANE	2.8
·	PEACOCK	N-BUTANE	0.8
	LOST CREEK 5	ISOBUTANE	0.6
•	0512321441	N-PENTANE	
	SEC 20, T3N, R62W	ISOPENTANE	0.5
OWNER	O'BRIEN ENERGY RESOURCES	CYCLOPENTANE	
COMPLETED	030822	HEXANES PLUS	
SAMPLED	070525	NITROGEN	
FORMATION	CRET-DAKOTA J	OXYGEN	
GEOLOGIC PROVINCE COL	DE540_	ARGON	
TRUE VERTICAL DEPTH (F	Г)6833_	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE PS	300	HYDROGEN SULFIDE**	
,	90	CARBON DIOXIDE HELIUM	
OI LIVI LOW, MOI D		HEATING VALUE*	
		SPECIFIC GRAVITY	,
SAMPLE	21538	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	28.3
COUNTY	KIT CARSON	ETHANE	2.0
	PENNYPACKER	PROPANE	
·	KIRCHOFFNER 21-35 NO. 2	N-BUTANE	
	0506306292	ISOBUTANE	
		N-PENTANE	
	SEC 35, T11S, R45W	ISOPENTANE	
	CITATION OIL & GAS CORP.	CYCLOPENTANE HEXANES PLUS	
	980408	NITROGEN	
-	060627	OXYGEN	
FORMATION	PENN-MORROW	ARGON	
GEOLOGIC PROVINCE COL	DE540_	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (F	Γ)5455	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
	IG 470	CARBON DIOXIDE	
WELLHEAD PRESSURE, PS	10		
, -	1723	HELIUM	
, -		HELIUM HEATING VALUE*	3.01

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21537	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	28.3
		ETHANE	2.0
	KIT CARSON	PROPANE	1.5
	PENNYPACKER.	N-BUTANE	0.6
	ANDERSON 23-35 NO. 1	ISOBUTANE	0.3
API	0506306298	N-PENTANE	0.3
LOCATION	SEC 35, T11S, R45W	ISOPENTANE	0.2
OWNER	CITATION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	980713	HEXANES PLUS	0.5
SAMPLED	060627	NITROGEN	61.7
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE	540_	ARGON	
	5432	ARGON + OXYGEN	
. ,	5 10 <u>L</u>	HYDROGEN	
		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	1622	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
STATE	COLORADO	METHANE	94.0
STATE	COLORADO	METHANE	94.0
COUNTY	YUMA	ETHANE	
FIELD	PONY EXPRESS	PROPANE	
WELL NAME	BLACH 1-24	N-BUTANE	
API	0512506159	N-PENTANE	
LOCATION	SEC 24, T1S, R48W	ISOPENTANE	
	IOUNTAIN PETROLEUM CORP.	CYCLOPENTANE	
-	771221	HEXANES PLUS	
	050629	NITROGEN	3.8
	CRET-NIOBRARA	OXYGEN	
-	540	ARGON	
		ARGON + OXYGEN	TRACE
` '	<u>2576</u>	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
,		CARBON DIOXIDE	0.3
OPEN FLOW, MCFD	572	HELIUM	
		HEATING VALUE*	993
		SPECIFIC GRAVITY	

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

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

SAMPLE	21604	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	73.5
		ETHANE	12.4
	ADAMS	PROPANE	5.8
·	<u>PORTER</u>	N-BUTANE	1.8
	PORTER-UPRR 2	ISOBUTANE	0.9
API	0500108410	N-PENTANE	0.6
LOCATION	SEC 23, T2S, R63W	ISOPENTANE	0.7
OWNER	ENERVEST OPERATING, LLC.	CYCLOPENTANE	
COMPLETED	840803	HEXANES PLUS	1.2
SAMPLED	070619	NITROGEN	1.3
FORMATION	CRET-DAKOTA J	OXYGEN	
GEOLOGIC PROVINCE CODE	540_	ARGON	
	7512	ARGON + OXYGEN	
` '		HYDROGEN	
		HYDROGEN SULFIDE**	
, -		CARBON DIOXIDE	
OPEN FLOW, MCFD	253	HELIUM	
		HEATING VALUE*	
CAMPLE	21551	SPECIFIC GRAVITY	0.700
SAMPLE	21551	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	
COUNTY	ADAMS	ETHANE	
FIELD	QUAIL	PROPANE	
WELL NAME	STATE OF COLORADO NO. 5	N-BUTANE	
API	0500107578	ISOBUTANE N-PENTANE	
	SEC 36, T2S, R63W	ISOPENTANE	
	MATRIX ENERGY, LLC.	CYCLOPENTANE	
•	•	HEXANES PLUS	
	800703	NITROGEN	
	060629	OXYGEN	
	CRET-DAKOTA D, J	ARGON	
GEOLOGIC PROVINCE CODE	540	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	7435	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSI	G	CARBON DIOXIDE	
			0.03
OPEN FLOW, MCFD	3200	HELIUM	0.03
OPEN FLOW, MCFD	3200	HELIUM HEATING VALUE*	

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

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

SAMPLE 21477	COMPONENT, MOLE PCT	
STATECOLORADO	METHANE	94.7
	ETHANE	0.8
COUNTY WASHINGTON	PROPANE	0.4
FIELD RUSH WILLADEL	N-BUTANE	0.1
WELL NAMERUDNIK 1A.	ISOBUTANE	0.1
API	N-PENTANE	TRACE
LOCATION SEC 24, T3S, R51W	ISOPENTANE	TRACE
OWNERCENTRAL OPERATING, INC.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.1
SAMPLED	NITROGEN	3.3
FORMATIONCRET-NIOBRARA	OXYGEN	
GEOLOGIC PROVINCE CODE 540	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	0.0
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.4
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	V.000
SAMPLE 21669	COMPONENT, MOLE PCT	
STATECOLORADO	METHANE	68.0
COUNTY WELD	ETHANE	11.4
COUNTY WELD  FIELD SCABBARD	PROPANE	11.4 7.0
FIELD SCABBARD	PROPANE	11.4 7.0 2.5
FIELDSCABBARD WELL NAME CHAMPLIN 367 AMOCO 1	PROPANE  N-BUTANE  ISOBUTANE	11.4 7.0 2.5 1.0
FIELD         SCABBARD           WELL NAME         CHAMPLIN 367 AMOCO 1           API         0512309072	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	11.4 7.0 2.5 1.0 0.9
FIELD         SCABBARD           WELL NAME         CHAMPLIN 367 AMOCO 1           API         0512309072           LOCATION         SEC 5, T1N, R63W	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	11.4 7.0 2.5 1.0 0.9 0.8
FIELD SCABBARD  WELL NAME CHAMPLIN 367 AMOCO 1  API 0512309072  LOCATION SEC 5, T1N, R63W  OWNER ENERVEST OPERATING, LLC.	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE	11.4 7.0 2.5 1.0 0.9 0.8
FIELD SCABBARD  WELL NAME CHAMPLIN 367 AMOCO 1  API 0512309072  LOCATION SEC 5, T1N, R63W  OWNER ENERVEST OPERATING, LLC.  COMPLETED 770531	PROPANE  N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	11.4 7.0 2.5 1.0 0.9 0.8 
FIELD         SCABBARD           WELL NAME         CHAMPLIN 367 AMOCO 1           API         0512309072           LOCATION         SEC 5, T1N, R63W           OWNER         ENERVEST OPERATING, LLC.           COMPLETED         770531           SAMPLED         070929	PROPANE	11.4 7.0 2.5 1.0 0.9 0.8  1.1 5.4
FIELD SCABBARD  WELL NAME CHAMPLIN 367 AMOCO 1  API 0512309072  LOCATION SEC 5, T1N, R63W  OWNER ENERVEST OPERATING, LLC.  COMPLETED 770531	PROPANE	11.4 7.0 2.5 1.0 0.9 0.8  1.1 5.4
FIELD         SCABBARD           WELL NAME         CHAMPLIN 367 AMOCO 1           API         0512309072           LOCATION         SEC 5, T1N, R63W           OWNER         ENERVEST OPERATING, LLC.           COMPLETED         770531           SAMPLED         070929	PROPANE	11.4 7.0 2.5 1.0 0.9 0.8  1.1 5.4
FIELD         SCABBARD           WELL NAME         CHAMPLIN 367 AMOCO 1           API         0512309072           LOCATION         SEC 5, T1N, R63W           OWNER         ENERVEST OPERATING, LLC.           COMPLETED         770531           SAMPLED         070929           FORMATION         CRET-DAKOTA J	PROPANE	11.4 7.0 2.5 1.0 0.9 0.8  1.1 5.4 
FIELD         SCABBARD           WELL NAME         CHAMPLIN 367 AMOCO 1           API         0512309072           LOCATION         SEC 5, T1N, R63W           OWNER         ENERVEST OPERATING, LLC.           COMPLETED         770531           SAMPLED         070929           FORMATION         CRET-DAKOTA J           GEOLOGIC PROVINCE CODE         540	PROPANE	11.4 7.0 2.5 1.0 0.9 0.8  1.1 5.4  0.2
FIELD         SCABBARD           WELL NAME         CHAMPLIN 367 AMOCO 1           API         0512309072           LOCATION         SEC 5, T1N, R63W           OWNER         ENERVEST OPERATING, LLC.           COMPLETED         770531           SAMPLED         070929           FORMATION         CRET-DAKOTA J           GEOLOGIC PROVINCE CODE         540           TRUE VERTICAL DEPTH (FT)         7282	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN SULFIDE**	11.4 7.0 2.5 1.0 0.9 0.8  1.1 5.4  0.2 0.0
FIELD         SCABBARD           WELL NAME         CHAMPLIN 367 AMOCO 1           API         0512309072           LOCATION         SEC 5, T1N, R63W           OWNER         ENERVEST OPERATING, LLC.           COMPLETED         770531           SAMPLED         070929           FORMATION         CRET-DAKOTA J           GEOLOGIC PROVINCE CODE         540           TRUE VERTICAL DEPTH (FT)         7282           MEASURED DEPTH	PROPANE	11.4 7.0 2.5 1.0 0.9 0.8  1.1 5.4  0.2 0.0 0.0
FIELD         SCABBARD           WELL NAME         CHAMPLIN 367 AMOCO 1           API         0512309072           LOCATION         SEC 5, T1N, R63W           OWNER         ENERVEST OPERATING, LLC.           COMPLETED         770531           SAMPLED         070929           FORMATION         CRET-DAKOTA J           GEOLOGIC PROVINCE CODE         540           TRUE VERTICAL DEPTH (FT)         7282           MEASURED DEPTH         WELLHEAD PRESSURE, PSIG	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN SULFIDE**	11.4 7.0 2.5 1.0 0.9 0.8  1.1 5.4  0.2 0.0 0.0 1.7 0.03

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21316	COMPONENT, MOLE PCT	
CTATE	COLOBADO	METHANE	57.7
STATE		ETHANE	11.5
COUNTY	PROWERS_	PROPANE	8.2
FIELD	SIGNAL HILL	N-BUTANE	2.4
WELL NAME	NEU NO. 1-17	ISOBUTANE	0.8
API	0509906328	N-PENTANE	0.5
LOCATION	SEC 17, T24S, R45W	ISOPENTANE	0.5
OWNER	BERRY ENERGY, INC.	CYCLOPENTANE	
COMPLETED	920902	HEXANES PLUS	0.4
SAMPLED	040526	NITROGEN	16.5
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT) _		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	2035	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21488	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT  METHANE	44.0
STATE	COLORADO		
STATE	COLORADO CHEYENNE	METHANE	12.2
STATE COUNTY FIELD	COLORADO CHEYENNE SPEAKER	METHANE	12.2 14.3
STATE	COLORADO CHEYENNE SPEAKER	METHANE ETHANE PROPANE	12.2 14.3 5.5
STATE COUNTY FIELD	COLORADO CHEYENNE SPEAKER. SPEAKER 5-13.	METHANE ETHANE PROPANE N-BUTANE	12.2 14.3 5.5 2.3
STATE COUNTY FIELD WELL NAME	COLORADO CHEYENNE SPEAKER SPEAKER 5-13. 0501707217.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	12.2 14.3 5.5 2.3 2.0
STATE COUNTY FIELD WELL NAME	COLORADO CHEYENNE SPEAKER SPEAKER 5-13 0501707217 SEC 13, T12S, R51W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	12.2 14.3 5.5 2.3 2.0 1.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	COLORADO CHEYENNE SPEAKER SPEAKER 5-13 0501707217 SEC 13, T12S, R51W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	12.2 14.3 5.5 2.3 2.0 1.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	COLORADO CHEYENNE SPEAKER SPEAKER 5-13 0501707217 SEC 13, T12S, R51W CITATION OIL & GAS CORP. 910718	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	12.2 14.3 5.5 2.3 2.0 1.6  3.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	COLORADO CHEYENNE SPEAKER SPEAKER 5-13 0501707217 SEC 13, T12S, R51W CITATION OIL & GAS CORP. 910718 050630	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	12.2 14.3 5.5 2.3 2.0 1.6  3.0 12.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	COLORADO CHEYENNE SPEAKER SPEAKER 5-13 0501707217 SEC 13, T12S, R51W CITATION OIL & GAS CORP. 910718 050630 PENN-MORROW	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	12.2 14.3 5.5 2.3 2.0 1.6  3.0 12.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	COLORADO CHEYENNE SPEAKER SPEAKER 5-13 0501707217 SEC 13, T12S, R51W CITATION OIL & GAS CORP. 910718 050630 PENN-MORROW	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	12.2 14.3 5.5 2.3 2.0 1.6  3.0 12.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT)	COLORADO CHEYENNE SPEAKER SPEAKER 5-13 0501707217 SEC 13, T12S, R51W CITATION OIL & GAS CORP. 910718 050630 PENN-MORROW 450 6470	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	12.2 14.3 5.5 2.3 2.0 1.6  3.0 12.1  0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLORADO CHEYENNE SPEAKER SPEAKER 5-13 0501707217 SEC 13, T12S, R51W CITATION OIL & GAS CORP. 910718 050630 PENN-MORROW 450 6470	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	12.2 14.3 5.5 2.3 2.0 1.6  3.0 12.1  0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG .	COLORADO CHEYENNE SPEAKER SPEAKER 5-13 0501707217 SEC 13, T12S, R51W CITATION OIL & GAS CORP. 910718 050630 PENN-MORROW 450 6470	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	12.2 14.3 5.5 2.3 2.0 1.6  3.0 12.1  0.1 TRACE 0.0 2.7
STATE	COLORADO CHEYENNE SPEAKER SPEAKER 5-13 0501707217 SEC 13, T12S, R51W CITATION OIL & GAS CORP. 910718 050630 PENN-MORROW 450 6470	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	12.2 14.3 5.5 2.3 2.0 1.6  3.0 12.1  0.1 TRACE 0.0 2.7 0.30

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21545	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	41.2
-		ETHANE	14.4
	WELD	PROPANE	19.8
	<u>SPENSON</u>	N-BUTANE	6.2
·	HSR R HUGHES 15-13	ISOBUTANE	2.8
API	0512319358	N-PENTANE	3.6
LOCATION	SEC 13, T1N, R63W	ISOPENTANE	2.8
OWNER KERR-MCG	GEE ROCKY MOUNTAIN CORP.	CYCLOPENTANE	
COMPLETED	970531	HEXANES PLUS	6.6
SAMPLED	060628	NITROGEN	0.4
FORMATION	CRET-DAKOTA D	OXYGEN	
GEOLOGIC PROVINCE CODE	540_	ARGON	
	7084	ARGON + OXYGEN	
		HYDROGEN	
	0.50	HYDROGEN SULFIDE**	0.0
,	950	CARBON DIOXIDE	2.3
OPEN FLOW, MCFD	468_	HELIUM	0.00
		HEATING VALUE*	
		SDECIEIC CDAVITY	1 252
		SPECIFIC GRAVITY	1.200
SAMPLE	21480	COMPONENT, MOLE PCT	1.200
STATE	COLORADO	COMPONENT, MOLE PCT	95.5
STATE	COLORADO WASHINGTON	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	95.5 0.6 0.4
STATECOUNTY	COLORADO WASHINGTON SPOTTED DOG	COMPONENT, MOLE PCT  METHANE  ETHANE	95.5 0.6 0.4
STATE COUNTY FIELD WELL NAME	COLORADO WASHINGTON SPOTTED DOG CHRISTIANSON 31-12	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	95.5 0.6 0.4 0.1
STATE COUNTY FIELD WELL NAME	COLORADO WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE	95.5 0.6 0.4 0.1
STATE COUNTY FIELD WELL NAME	COLORADO WASHINGTON SPOTTED DOG CHRISTIANSON 31-12	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	95.5 0.6 0.4 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	95.5 0.6 0.4 0.1 0.1 TRACE 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	COLORADO WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	95.5 0.6 0.4 0.1 0.1 TRACE 0.1
STATE COUNTY  FIELD WELL NAME API LOCATION OWNER COMPLETED	COLORADO WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W VISTA RESOURCES, INC.	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN	95.5 0.6 0.4 0.1 0.1 TRACE 0.1  0.1 2.7
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	COLORADO WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W VISTA RESOURCES, INC. 020426	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	95.5 0.6 0.4 0.1 0.1 TRACE 0.1  0.1 2.7
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	COLORADO WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W VISTA RESOURCES, INC. 020426 050629 CRET-NIOBRARA	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	95.5 0.6 0.4 0.1 0.1 TRACE 0.1  0.1 2.7
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE .	COLORADO WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W VISTA RESOURCES, INC. 020426 050629 CRET-NIOBRARA	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	95.5 0.6 0.4 0.1 0.1 TRACE 0.1  0.1 2.7  TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) _	COLORADO WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W VISTA RESOURCES, INC. 020426 050629 CRET-NIOBRARA 540 2905	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	95.5 0.6 0.4 0.1 0.1 TRACE 0.1  0.1 2.7  TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLORADO WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W VISTA RESOURCES, INC. 020426 050629 CRET-NIOBRARA 540 2905	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	95.5 0.6 0.4 0.1 0.1 TRACE 0.1  0.1 2.7  TRACE 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	COLORADO WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W VISTA RESOURCES, INC. 020426 050629 CRET-NIOBRARA 540 2905	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	95.5 0.6 0.4 0.1 0.1 TRACE 0.1  0.1 2.7  TRACE 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	COLORADO WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W VISTA RESOURCES, INC. 020426 050629 CRET-NIOBRARA 540 2905	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	95.5 0.6 0.4 0.1 TRACE 0.1  0.1 2.7  TRACE 0.0 0.0 0.4 0.04

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21479	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	95.9
	<u> </u>	ETHANE	0.6
COUNTY	_	PROPANE	0.2
FIELD	<u>'</u>	N-BUTANE	0.1
WELL NAME		ISOBUTANE	0.1
API	0512110694	N-PENTANE	TRACE
LOCATION	SEC 12, T3S, R50W	ISOPENTANE	0.1
OWNER	VISTA RESOURCES, INC.	CYCLOPENTANE	
COMPLETED	030628	HEXANES PLUS	0.1
SAMPLED	050629	NITROGEN	2.5
FORMATION	CRET-SMOKY HILL	OXYGEN	
GEOLOGIC PROVINCE CODE	540	ARGON	
TRUE VERTICAL DEPTH (FT)	2903	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE. PSIG		HYDROGEN SULFIDE**	
,	<u> </u>	CARBON DIOXIDE	
OPEN FLOW, MCFD	225_	HELIUM	
		HEATING VALUE*	
CAMPLE	04404	SPECIFIC GRAVITY	0.379
SAMPLE	21484	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	
COUNTY	YUMA	ETHANE	
FIELD	TIERRA PLANO	PROPANE	
WELL NAME	HARRIS 26-2-3	N-BUTANE	
API	<u>'</u>	ISOBUTANE	
LOCATION		N-PENTANE	
OWNER	,	CYCLOPENTANE	
·		HEXANES PLUS	
COMPLETED		NITROGEN	
SAMPLED		OXYGEN	
FORMATION	CRET-NIOBRARA	ARGON	
GEOLOGIC PROVINCE CODE	540	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	2070	HYDROGEN	
MEASURED DEPTH	_	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
005115101111050	050	HELIUM	0.05
OPEN FLOW, MCFD	258	TELIUW	0.03
OPEN FLOW, MCFD		HEATING VALUE*	

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

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

SAMPLE	21483	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	94.8
		ETHANE	0.9
	YUMA	PROPANE	0.5
	TIERRA PLANO	N-BUTANE	0.1
	WINGFIELD 18-17	ISOBUTANE	0.1
API	0512508335	N-PENTANE	TRACE
LOCATION	SEC 17, T2S, R45W	ISOPENTANE	TRACE
OWNER	BERRY PETROLEUM CO.	CYCLOPENTANE	
COMPLETED	010926	HEXANES PLUS	TRACE
SAMPLED	050629	NITROGEN	2.9
FORMATION	CRET-NIOBRARA	OXYGEN	
GEOLOGIC PROVINCE CODE	540	ARGON	
	2254	ARGON + OXYGEN	TRACE
	2237	HYDROGEN	0.0
		HYDROGEN SULFIDE**	
•	265	CARBON DIOXIDE	
OPEN FLOW, MCFD	836	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.585
SAMPLE	21654	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT  METHANE	93.9
STATE	COLORADO		
STATE	COLORADO_ YUMA_	METHANE	1.0
STATE COUNTY FIELD	COLORADO YUMA VERNON	METHANE ETHANE PROPANE N-BUTANE	1.0 0.5 0.1
STATE COUNTY FIELD WELL NAME	COLORADO YUMA VERNON LAWVER 1-5	METHANE ETHANE PROPANE	1.0 0.5 0.1
STATE COUNTY FIELD WELL NAME	COLORADO YUMA VERNON LAWVER 1-5 0512506806	METHANE ETHANE PROPANE N-BUTANE	1.0 0.5 0.1 0.1
STATE COUNTY FIELD WELL NAME	COLORADO YUMA VERNON LAWVER 1-5	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	1.0 0.5 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO YUMA VERNON LAWVER 1-5 0512506806	METHANE ETHANE PROPANE N-BUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.0 0.5 0.1 0.1 TRACE TRACE
STATE COUNTY  FIELD WELL NAME API LOCATION OWNER	COLORADO YUMA VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.0 0.5 0.1 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	COLORADO YUMA VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W MOUNTAIN PETROLEUM CORP.	METHANE ETHANE PROPANE N-BUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.0 0.5 0.1 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	COLORADO YUMA VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W MOUNTAIN PETROLEUM CORP. 820724	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.0 0.5 0.1 0.1 TRACE TRACE  0.1 3.8
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	COLORADO YUMA VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W MOUNTAIN PETROLEUM CORP. 820724 070814 CRET-NIOBRARA	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.0 0.5 0.1 0.1 TRACE TRACE  0.1 3.8
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	COLORADO YUMA VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W MOUNTAIN PETROLEUM CORP. 820724 070814 CRET-NIOBRARA 540	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	1.0. 0.5 0.1 TRACE TRACE 0.1 3.8 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	COLORADO YUMA VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W MOUNTAIN PETROLEUM CORP. 820724 070814 CRET-NIOBRARA 540 2164	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	1.0 0.5 0.1 0.1 TRACE TRACE  0.1 3.8  TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) . MEASURED DEPTH	COLORADO  YUMA  VERNON  LAWVER 1-5  0512506806  SEC 5, T2S, R44W  MOUNTAIN PETROLEUM CORP.  820724  070814  CRET-NIOBRARA  540  2164	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	1.0 0.5 0.1 0.1 TRACE TRACE  0.1 3.8  TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	COLORADO YUMA VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W MOUNTAIN PETROLEUM CORP. 820724 070814 CRET-NIOBRARA 540 2164	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	1.0 0.5 0.1 0.1 TRACE TRACE  0.1 3.8  TRACE 0.0 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	COLORADO  YUMA  VERNON  LAWVER 1-5  0512506806  SEC 5, T2S, R44W  MOUNTAIN PETROLEUM CORP.  820724  070814  CRET-NIOBRARA  540  2164	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	1.0 0.5 0.1 TRACE TRACE 0.1 3.8  TRACE 0.0 TRACE 0.0

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21548	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	67.8
·		ETHANE	11.5
COUNTY		PROPANE	9.5
FIELD		N-BUTANE	3.5
WELL NAME	VERA NO. 1	ISOBUTANE	1.0
API		N-PENTANE	1.1
LOCATION	SEC 5, T3N, R61W	ISOPENTANE	0.8
OWNER	HILCORP ENERGY CO.	CYCLOPENTANE	
COMPLETED	990201	HEXANES PLUS	1.8
SAMPLED	060628	NITROGEN	0.5
FORMATION	CRET-DAKOTA D	OXYGEN	
GEOLOGIC PROVINCE CODE	540_	ARGON	
TRUE VERTICAL DEPTH (FT)	6630	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE**	
, –		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21547	COMPONENT, MOLE PCT	
OAWII EE	21041	,	00.4
STATE	COLORADO	METHANE	
COUNTY	WELD	ETHANE PROPANE	
FIELD	WAITE LAKE	N-BUTANE	
WELL NAME	GORDON NO. 1	ISOBUTANE	
API	0512313656	N-PENTANE	
LOCATION	SEC 5. T3N. R61W	ISOPENTANE	
OWNER	, ,	CYCLOPENTANE	
COMPLETED	_	HEXANES PLUS	
SAMPLED		NITROGEN	0.7
FORMATION		OXYGEN	
		ARGON	
GEOLOGIC PROVINCE CODE	540	ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	2.5
OPEN FLOW, MCFD	218	HELIUM	0.03
OPEN FLOW, MCFD	218	HELIUM HEATING VALUE*	

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

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

SAMPLE	21467	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	41.4
COUNTY		ETHANE	2.6
-		PROPANE	2.9
FIELD	_	N-BUTANE	1.4
WELL NAME	_	ISOBUTANE	0.5
API	0500906302	N-PENTANE	0.4
LOCATION	SEC 27, T32S, R43W	ISOPENTANE	0.4
OWNER	SANDLIN OIL CORP.	CYCLOPENTANE	
COMPLETED	020423	HEXANES PLUS	0.7
SAMPLED	050627	NITROGEN	48.4
FORMATION	PERM-WOLFCAMP	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	0.1
MEASURED DEPTH		HYDROGEN	0.0
·		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	1070	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21468	COMPONENT, MOLE PCT	
07475	001.00400	METHANE	41.2
STATE		ETHANE	2.5
COUNTY		PROPANE	2.8
FIELD		N-BUTANE	1.3
WELL NAME	FRAZEE 1	ISOBUTANE	0.5
API	0500906622	N-PENTANE	0.4
LOCATION	SEC 28, T32S, R43W	ISOPENTANE	0.4
OWNER	SANDLIN OIL CORP	CYCLOPENTANE	
	ONINDERIN OIL COINT.		
COMPLETED	_	HEXANES PLUS	0.7
COMPLETED	040209		
•	040209 050627	HEXANES PLUS	48.8
SAMPLED	040209 050627 PERM-WOLFCAMP	HEXANES PLUS	48.8
SAMPLED FORMATION GEOLOGIC PROVINCE CODE	040209 050627 PERM-WOLFCAMP 360	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	48.8   0.1
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	040209 050627 PERM-WOLFCAMP 360 2934	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN	48.8   0.1 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	040209 050627 PERM-WOLFCAMP 360 2934	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	48.8  0.1 0.0 0.0
SAMPLED FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	040209 050627 PERM-WOLFCAMP 360 2934	HEXANES PLUS	48.8  0.1 0.0 0.0 0.2
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	040209 050627 PERM-WOLFCAMP 360 2934	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	48.8  0.1 0.0 0.0 0.2 1.13

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

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

SAMPLE	21546	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	80.3
		ETHANE	7.5
	WELD	PROPANE	5.4
	WATTENBERG.	N-BUTANE	1.6
WELL NAME	KRAUSE 2	ISOBUTANE	1.1
	0512313719	N-PENTANE	0.3
LOCATION	SEC 28, T4N, R65W	ISOPENTANE	0.4
OWNER KER	RR-MCGEE ROCKY MOUNTAIN CORP.	CYCLOPENTANE	
COMPLETED	880130_	HEXANES PLUS	0.7
SAMPLED	060628	NITROGEN	1.1
FORMATION	CRET-SUSSEX, NIOBRARA, FT HAYS	OXYGEN	
GEOLOGIC PROVINCE	CODE 540	ARGON	
	H (FT)	ARGON + OXYGEN	
	1(11)	HYDROGEN	
		HYDROGEN SULFIDE**	
	, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	260	HELIUM	
		HEATING VALUE*	1.230
SAMDI E	21655	SPECIFIC GRAVITY	0.732
SAMPLE	21655		0.732
	21655 COLORADO	SPECIFIC GRAVITY	
STATE	COLORADO	SPECIFIC GRAVITY COMPONENT, MOLE PCT	90.5
STATE	COLORADO. YUMA.	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE	90.5 1.2
STATE COUNTY FIELD	COLORADO YUMA WAUNETA	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE  ETHANE	90.5 1.2 0.5
STATE COUNTY FIELD WELL NAME	COLORADO YUMA WAUNETA BLEDSOE 13-6-3-43	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	90.5 1.2 0.5 0.1
STATE COUNTY FIELD WELL NAME API	COLORADO YUMA WAUNETA BLEDSOE 13-6-3-43 0512509319	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	90.5 1.2 0.5 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO YUMA WAUNETA BLEDSOE 13-6-3-43 0512509319 SEC 6, T3N, R43W	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	90.5 1.2 0.5 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO YUMA WAUNETA BLEDSOE 13-6-3-43 0512509319	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	90.5 1.2 0.5 0.1 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	COLORADO YUMA WAUNETA BLEDSOE 13-6-3-43 0512509319 SEC 6, T3N, R43W	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	90.5 1.2 0.5 0.1 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	COLORADO YUMA WAUNETA BLEDSOE 13-6-3-43 0512509319 SEC 6, T3N, R43W FOREST OIL CORP.	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN	90.5 1.2 0.5 0.1 0.1 TRACE TRACE  TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	COLORADO YUMA WAUNETA BLEDSOE 13-6-3-43 0512509319 SEC 6, T3N, R43W FOREST OIL CORP. 050812	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	90.5 1.2 0.5 0.1 0.1 TRACE TRACE  TRACE 7.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	COLORADO YUMA WAUNETA BLEDSOE 13-6-3-43 0512509319 SEC 6, T3N, R43W FOREST OIL CORP. 050812 070814 CRET-NIOBRARA	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	90.5 1.2 0.5 0.1 0.1 TRACE TRACE  TRACE 7.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE	COLORADO YUMA WAUNETA BLEDSOE 13-6-3-43 0512509319 SEC 6, T3N, R43W FOREST OIL CORP. 050812 070814 CRET-NIOBRARA	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON ARGON + OXYGEN	90.5 1.2 0.5 0.1 1.2 0.1 TRACE TRACE TRACE 7.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPTH	COLORADO YUMA WAUNETA BLEDSOE 13-6-3-43 0512509319 SEC 6, T3N, R43W FOREST OIL CORP. 050812 070814 CRET-NIOBRARA	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	90.5 1.2 0.5 0.1 0.1 TRACE TRACE TRACE 7.1 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPTH	COLORADO YUMA WAUNETA BLEDSOE 13-6-3-43 0512509319 SEC 6, T3N, R43W FOREST OIL CORP. 050812 070814 CRET-NIOBRARA CODE540 H (FT)2288	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN SULFIDE**	90.5 1.2 0.5 0.1 1.2 0.1 TRACE TRACE TRACE 7.1 TRACE 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED FORMATION GEOLOGIC PROVINCE GEOLOGIC PROVINCE TRUE VERTICAL DEPTH WELLHEAD PRESSURE	COLORADO YUMA WAUNETA BLEDSOE 13-6-3-43 0512509319 SEC 6, T3N, R43W FOREST OIL CORP. 050812 070814 CRET-NIOBRARA CODE 540 H (FT) 2288	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN SULFIDE**  CARBON DIOXIDE	90.5 1.2 0.5 0.1 0.1 TRACE TRACE TRACE 7.1 TRACE 0.0 TRACE 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED FORMATION GEOLOGIC PROVINCE GEOLOGIC PROVINCE TRUE VERTICAL DEPTH WELLHEAD PRESSURE	COLORADO YUMA WAUNETA BLEDSOE 13-6-3-43 0512509319 SEC 6, T3N, R43W FOREST OIL CORP. 050812 070814 CRET-NIOBRARA CODE540 H (FT)2288	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN SULFIDE**	90.5 1.2 0.5 0.1 0.1 TRACE TRACE TRACE 7.1 TRACE 0.0 TRACE 0.3 0.13

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

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

SAMPLE	21582	COMPONENT, MOLE PCT	
QTATE	KANSAS.	METHANE	84.4
		ETHANE	3.5
	BARBER.	PROPANE	2.1
`	AETNA.	N-BUTANE	0.8
·	SPRIGGS E-1	ISOBUTANE	0.3
	1500722501	N-PENTANE	0.3
LOCATION	SEC. 33, T33S, R13W	ISOPENTANE	0.2
OWNER	WOOLSEY PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	980313	HEXANES PLUS	0.6
SAMPLED	061215	NITROGEN	7.1
FORMATION	PENN-SNYDERVILLE	OXYGEN	
GEOLOGIC PROVINCE CC	DDE375	ARGON	
TRUE VERTICAL DEPTH (F	FT)3941_	ARGON + OXYGEN	
		HYDROGEN	
		HYDROGEN SULFIDE**	
	PSIG60_	CARBON DIOXIDE	
OPEN FLOW, MCFD	33_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	50614	COMPONENT, MOLE PCT	04.5
		METHANE	64 5
	KANSAS.	ETHANE	7.4
	STAFFORD.	PROPANE	3.8
FIELD	AJT.	N-BUTANE	1.1
WELL NAME	THOMAS 1	ISOBUTANE	0.4
API	1518522904	N-PENTANE	0.4
LOCATION	SEC 29, T25S, R11W	ISOPENTANE	0.2
OWNER	RAYMOND OIL CO, INC.	CYCLOPENTANE	
COMPLETED	940707	HEXANES PLUS	1.5
SAMPLED	930428	NITROGEN	19.2
FORMATION	ORDO-VIOLA	OXYGEN	0.0
GEOLOGIC PROVINCE CC		ARGON	
	FT)	ARGON + OXYGEN	
,	4000	HYDROGEN	
		HYDROGEN SULFIDE**	
•	PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	1,026

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

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

SAMPLE	21578	COMPONENT, MOLE PCT	
STATE	KVVIGVG	METHANE	83.5
		ETHANE	4.3
COUNTY		PROPANE	3.3
FIELD		N-BUTANE	1.2
WELL NAME	TAVES 3-20	ISOBUTANE	0.5
API	1509721538	N-PENTANE	0.3
LOCATION	SEC 20, T30S, R18W	ISOPENTANE	0.3
OWNER	BEREXCO, INC.	CYCLOPENTANE	
COMPLETED	040524	HEXANES PLUS	0.5
SAMPLED	061214	NITROGEN	5.9
FORMATION	PENN-CHEROKEE	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.679
SAMPLE	50612	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	89.9
COUNTY	KIOWA	ETHANE	
FIELD	·	PROPANE	
WELL NAME		N-BUTANE	
API		ISOBUTANE	
		N-PENTANE	
LOCATION	, , ,	ISOPENTANE	
OWNER		CYCLOPENTANE	
COMPLETED	011022	HEXANES PLUS	
SAMPLED	011004	NITROGEN	
FORMATION	ORDO-VIOLA	OXYGEN	
GEOLOGIC PROVINCE CODE	360_	ARGON + OVVCEN	
TRUE VERTICAL DEPTH (FT)	4798	ARGON + OXYGEN HYDROGEN	
MEASURED DEPTH		HYDROGEN	
		HIDROGEN SULFIDE	
WELLHEAD PRESSURE, PSIG _	1430	CARRON DIOYIDE	TDACE
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
WELLHEAD PRESSURE, PSIGOPEN FLOW, MCFD		CARBON DIOXIDE HELIUM HEATING VALUE*	0.23

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

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

SAMPLE	21511	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	76.0
COUNTY		ETHANE	6.6
-		PROPANE	5.4
FIELD		N-BUTANE	2.8
WELL NAME		ISOBUTANE	1.6
API		N-PENTANE	1.0
LOCATION	SEC 7, T32S, R33W	ISOPENTANE	1.3
OWNER	CABOT PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	940112	HEXANES PLUS	2.0
SAMPLED	051100	NITROGEN	2.9
FORMATION	MISS-ST. LOUIS	OXYGEN	
GEOLOGIC PROVINCE CODE _	360	ARGON	
TRUE VERTICAL DEPTH (FT) _		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE. PSIG		HYDROGEN SULFIDE**	
, <u></u>		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	,
CTATE	KANCAC	METHANE	83.9
STATE	KANSAS	METHANE	
COUNTY	HARPER_	PROPANE	
FIELD	ANTHONY	N-BUTANE	
WELL NAME	STEWARD 1-31	ISOBUTANE	
API	1507721459	N-PENTANE	
LOCATION	SEC 31, T33S, R6W	ISOPENTANE	
OWNERUNION	VALLEY PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	031107	HEXANES PLUS	0.6
SAMPLED		NITROGEN	3.9
FORMATION		OXYGEN	
GEOLOGIC PROVINCE CODE _		ARGON	
		ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT) _		HYDROGEN	0.0
		LIVEROCEN OUR FIREST	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
MEASURED DEPTH WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
			0.2
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.2

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

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

SAMPLE 21682	COMPONENT, MOLE PCT
STATE KANSAS	METHANE
	ETHANE5.4
COUNTY SEWARD	PROPANE3.1
FIELD ARKALON	N-BUTANE0.9
WELL NAMECOLBURN 1-16_	ISOBUTANE0.4
API	N-PENTANE0.2
LOCATION SEC 16, T33S, R32W	ISOPENTANE0.2
OWNERMIDWESTERN EXPLORATION CO.	CYCLOPENTANE
COMPLETED	HEXANES PLUS
SAMPLED	NITROGEN16.3
FORMATIONPERM-CHASE GROUP	OXYGEN
GEOLOGIC PROVINCE CODE	ARGON
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN0.1
MEASURED DEPTH	HYDROGEN0.0
	HYDROGEN SULFIDE**0.0
WELLHEAD PRESSURE, PSIG130_	CARBON DIOXIDE0.1
OPEN FLOW, MCFD	HELIUM0.48
	HEATING VALUE*         980           SPECIFIC GRAVITY         0.71
SAMPLE 21676	COMPONENT, MOLE PCT
SAIVIFLE 21070	METHANE 73.5.
STATE KANSAS	ETHANE
COUNTYSEWARD	PROPANE
FIELDARKALON_	N-BUTANE
WELL NAME COLBURN 1A-21	ISOBUTANE 0.4
API	N-PENTANE
LOCATION SEC 21, T33S, R32W	ISOPENTANE0.2
OWNER OIL PRODUCERS INC. OF KANSAS	CYCLOPENTANE
COMPLETED	HEXANES PLUS0.2
SAMPLED 080116	NITROGEN15.9
	OXYGEN
FORMATIONPERM-KRIDER	ARGON
GEOLOGIC PROVINCE CODE360_	ADCON LOVVCEN 0.4
	ARGON + OXYGEN
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN
TRUE VERTICAL DEPTH (FT)	HYDROGEN0.0
TRUE VERTICAL DEPTH (FT)	HYDROGEN
TRUE VERTICAL DEPTH (FT) 2597  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	HYDROGEN

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

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

SAMPLE 21678	COMPONENT, MOLE PCT	
CTATE VANCAC	METHANE	73.6
STATE KANSAS	ETHANE	5.3
COUNTY SEWARD	PROPANE	3.1
FIELDARKALON N	N-BUTANE	0.8
WELL NAMECOLBURN 13-91	ISOBUTANE	0.4
API1517520328_	N-PENTANE	
LOCATION SEC 17, T33S, R32W	ISOPENTANE	0.2
OWNER OIL PRODUCERS INC. OF KANSAS	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.2
SAMPLED	NITROGEN	15.5
FORMATION PERM-HERRINGTON, KRIDER	OXYGEN	
GEOLOGIC PROVINCE CODE360_	ARGON	
TRUE VERTICAL DEPTH (FT)2468_	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
WELLHEAD PRESSURE, PSIG	HYDROGEN SULFIDE**	
,	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 50628	COMPONENT, MOLE PCT	
STATEKANSAS	METHANE	60.7
COUNTY HASKELL	ETHANE	8.8
FIELD ATKINS	PROPANE	5.5
	N-BUTANE	1.4
WELL NAMEATKINS N 1&2	ISOBUTANE	
170	.0020	1.1
API1508121531	N-PENTANE	0.4
LOCATION SEC 4, T27S, R33W	N-PENTANE	0.4 0.4
LOCATION SEC 4, T27S, R33W	N-PENTANEISOPENTANECYCLOPENTANE	0.4 0.4 
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.4 0.4  1.0
LOCATION         SEC 4, T27S, R33W           OWNER         OXY USA, INC.	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.4 0.4  1.0 19.9
LOCATION         SEC 4, T27S, R33W           OWNER         OXY USA, INC.           COMPLETED         040717           SAMPLED         071217	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.4 0.4  1.0 19.9
LOCATION         SEC 4, T27S, R33W           OWNER         OXY USA, INC.           COMPLETED         040717           SAMPLED         071217	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.4 0.4  1.0 19.9 
LOCATION         SEC 4, T27S, R33W           OWNER         OXY USA, INC.           COMPLETED         040717           SAMPLED         071217           FORMATION         PENN-MORROW           GEOLOGIC PROVINCE CODE         360	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.4 0.4  1.0 19.9 
LOCATION         SEC 4, T27S, R33W           OWNER         OXY USA, INC.           COMPLETED         040717           SAMPLED         071217           FORMATION         PENN-MORROW           GEOLOGIC PROVINCE CODE         360	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.4 0.4  1.0 19.9 
LOCATION         SEC 4, T27S, R33W           OWNER         OXY USA, INC.           COMPLETED         040717           SAMPLED         071217           FORMATION         PENN-MORROW           GEOLOGIC PROVINCE CODE         360           TRUE VERTICAL DEPTH (FT)         5108           MEASURED DEPTH	N-PENTANE	0.4 0.4  1.0 19.9   0.0
LOCATION         SEC 4, T27S, R33W           OWNER         OXY USA, INC.           COMPLETED         040717           SAMPLED         071217           FORMATION         PENN-MORROW           GEOLOGIC PROVINCE CODE         360           TRUE VERTICAL DEPTH (FT)         5108	N-PENTANE	0.4 0.4  1.0 19.9   0.0
LOCATION         SEC 4, T27S, R33W           OWNER         OXY USA, INC.           COMPLETED         040717           SAMPLED         071217           FORMATION         PENN-MORROW           GEOLOGIC PROVINCE CODE         360           TRUE VERTICAL DEPTH (FT)         5108           MEASURED DEPTH         WELLHEAD PRESSURE, PSIG	N-PENTANE	0.4 0.4  1.0 19.9   0.0 0.4 0.33

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21640	COMPONENT, MOLE PCT	
STATE	KVNGVG	METHANE	61.6
COUNTY		ETHANE	0.5
		PROPANE	0.1
FIELD		N-BUTANE	0.0
WELL NAME		ISOBUTANE	0.0
API	<u>1508321463</u>	N-PENTANE	0.0
LOCATION	SEC 4, T21S, R21W	ISOPENTANE	0.0
OWNER	BECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	000816	HEXANES PLUS	0.0
SAMPLED	070719	NITROGEN	36.7
FORMATION	PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	TRACE
MEASURED DEPTH		HYDROGEN	
-	_	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	335_	HELIUM	
		HEATING VALUE*	
SAMPLE	21641	SPECIFIC GRAVITY  COMPONENT, MOLE PCT	0.704
SAWIFLE	21041	•	22.2
STATE	KANSAS	METHANE	
COUNTY	HODGEMAN	ETHANE PROPANE	
FIELD	BARRICKLOW SE	N-BUTANE	
WELL NAME	COX 1	ISOBUTANE	
API	1508321473	N-PENTANE	
LOCATION		ISOPENTANE	
	<u> </u>	1001 EN17111E	110.00
	BECKER OIL CORP	CYCLOPENTANE	
COMPLETED	BECKER OIL CORP.	CYCLOPENTANE HEXANES PLUS	
COMPLETED	020701	HEXANES PLUS	TRACE
SAMPLED	020701 070719		TRACE 37.2
SAMPLED	020701 070719 PERM-CHASE GROUP	HEXANES PLUS	TRACE37.2
SAMPLED	020701 070719 PERM-CHASE GROUP 360	HEXANES PLUS NITROGEN OXYGEN	TRACE 37.2 
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	020701 070719 PERM-CHASE GROUP 360 2382	HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE 37.2 TRACE
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	020701 070719 PERM-CHASE GROUP 360 2382	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	TRACE 37.2
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	020701 070719 PERM-CHASE GROUP 360 2382	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	TRACE 37.2
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	020701 070719 PERM-CHASE GROUP 360 2382	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	TRACE 37.2
SAMPLED FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	020701 070719 PERM-CHASE GROUP 360 2382	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**  CARBON DIOXIDE	TRACE 37.2 TRACE 0.0 0.0 TRACE 1.17

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

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

SAMPLE 2161	5	COMPONENT, MOLE PCT	
STATE	KVNCVC	METHANE	74.0
	_	ETHANE	8.0
COUNTY		PROPANE	0.0
FIELD		N-BUTANE	1.4
WELL NAME	HELMER 1	ISOBUTANE	0.5
API		N-PENTANE	0.5
LOCATION	SEC 33, T25S, R11W	ISOPENTANE	0.3
OWNERPRATER OI	L & GAS OPERATING	CYCLOPENTANE	
COMPLETED	930916	HEXANES PLUS	0.7
SAMPLED	070717	NITROGEN	13.2
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	
GEOLOGIC PROVINCE CODE	385	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	0.1
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	200_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 2163	20	COMPONENT, MOLE PCT	
SAIVIF LL 2100	00		
STATE	KANSAS	METHANE	
COUNTY	EDWARDS_	ETHANE	
FIELD	BORDEWICK	PROPANE	
WELL NAME	FOX A1-25	N-BUTANE ISOBUTANE	
API		N-PENTANE	
LOCATION		ISOPENTANE	
OWNER MCCOY	•	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	
-	_	NITROGEN	
SAMPLED		OXYGEN	
FORMATION		ARGON	
GEOLOGIC PROVINCE CODE	360	ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT)		HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
		CARRON DIOVIDE	0.1
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD		HELIUM	0.29

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

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

SAMPLE	21617	COMPONENT, MOLE PCT	
STATE	KANSAS_	METHANE	77.7
·		ETHANE	4.2
	PRATT.	PROPANE	2.1
•	BYERS ROAD	N-BUTANE	0.7
WELL NAME	CURTIS 1	ISOBUTANE	0.3
API	1515121539	N-PENTANE	0.3
LOCATION	SEC 15, T26S, R14W	ISOPENTANE	0.2
OWNER	GIANT HOLDING, LLC	CYCLOPENTANE	
COMPLETED	970512	HEXANES PLUS	0.5
SAMPLED	070717	NITROGEN	12.3
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	
GEOLOGIC PROVINCE	CODE 385	ARGON	
	1 (FT) 4282	ARGON + OXYGEN	
	7202	HYDROGEN	TRACE
		HYDROGEN SULFIDE**	
	, PSIG	CARBON DIOXIDE	0.2
OPEN FLOW, MCFD	1491_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21616	COMPONENT, MOLE PCT	
<del>-</del>	2.0.0	METHANE	87.0
STATE	KANSAS	ETHANE	
COUNTY	PRATT_	PROPANE	
FIELD	CARVER-ROBBINS	N-BUTANE	0.6
WELL NAME	WARD 2-12	ISOBUTANE	0.3
API	1515120721	N-PENTANE	0.2
LOCATION	SEC 12, T27S, R15W	ISOPENTANE	0.1
OWNER	PRATER OIL & GAS OPERATING	CYCLOPENTANE	
COMPLETED	800325	HEXANES PLUS	0.3
SAMPLED	070717	NITROGEN	4.8
·	MISS-MISSISSIPPIAN	OXYGEN	
GEOLOGIC PROVINCE		ARGON	-
0_0_0_0.0.1.10110_		ARGON + OXYGEN	TRACE
	H (FT)4408_	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE	, PSIG	CARBON DIOXIDE	0.1
WEELINE AB T REGOORE			
	1000_	HELIUM	0.67
	1000	HELIUM HEATING VALUE*	

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE 21619	COMPONENT, MOLE PCT	
STATE KANSAS	METHANE	83.7
	ETHANE	4.7
COUNTY PRATT	PROPANE	2.4
FIELDCARVER-ROBBINS W	N-BUTANE	0.8
WELL NAMEFISH & GAME 3-6_	ISOBUTANE	0.4
API	N-PENTANE	0.3
LOCATIONSEC 6, T27S, R15W	ISOPENTANE	0.2
OWNERBEREN CORP.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.6
SAMPLED	NITROGEN	6.0
FORMATIONMISS-MISSISSIPPIAN_	OXYGEN	
GEOLOGIC PROVINCE CODE385_	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
( )	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.2
OPEN FLOW, MCFD500_	HELIUM	0.69
	HEATING VALUE*	1,078
	SPECIFIC GRAVITY	0.665
SAMPLE 20840	COMPONENT, MOLE PCT	
STATE KANSAS	METHANE	89.5
COUNTY STEVENS	ETHANE	3.4
FIELDCHRISTOPHER.	PROPANE	1.4
	N-BUTANE	0.5
WELL NAMEHJV CHRISTOPHER NO. A-1	ISOBUTANE	
API1518922345_	N-PENTANE	0.2
LOCATION SEC. 3, T33S, R39W	ISOPENTANE	0.1
OWNERANADARKO PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	
SAMPLED	NITROGEN	
FORMATION PENN-MORROW L	OXYGEN	
GEOLOGIC PROVINCE CODE	ARGON	
TRUE VERTICAL DEPTH (FT) 6315	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
WELLHEAD PRESSURE. PSIG	HYDROGEN SULFIDE**	
	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	,
	SPECIFIC GRAVITY	0.627

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21645	COMPONENT, MOLE PCT	
STATE	KANCAC	METHANE	67.8
·		ETHANE	0.5
COUNTY		PROPANE	0.1
FIELD	DON_	N-BUTANE	TRACE
WELL NAME	<del></del>	ISOBUTANE	TRACE
API	1508321513	N-PENTANE	0.0
LOCATION	SEC 26, T23S, R24W	ISOPENTANE	TRACE
OWNER	BECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	060711	HEXANES PLUS	TRACE
SAMPLED	070719	NITROGEN	30.4
FORMATION	PERM-KRIDER, FORT RILEY	OXYGEN	
GEOLOGIC PROVINCE CODE _	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	110_	HELIUM	1.01
		HEATING VALUE*	700
		SPECIFIC GRAVITY	0.68
SAMPLE	21639	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	64.7
COUNTY		ETHANE	0.5
FIELD	_	PROPANE	0.1
·	EANININE	N-BUTANE	
WELL NAME	01115555	IN BOTAINE	
	CHAFFEE 1	ISOBUTANE	TRACE 0.0
API	1508321467		TRACE 0.0
API	1508321467	ISOBUTANE	TRACE 0.0 0.0
	1508321467 SEC 13, T21S, R21W	ISOBUTANE	TRACE 0.0 0.0 0.0
LOCATION	1508321467 SEC 13, T21S, R21W BECKER OIL CORP.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	TRACE 0.0 0.0 0.0  TRACE
LOCATION	1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	TRACE 0.0 0.0 0.0 TRACE 33.5
LOCATIONOWNERCOMPLETED	1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508 070718	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	TRACE 0.0 0.0 0.0 TRACE 33.5
LOCATION OWNER COMPLETED SAMPLED	1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508 070718 PERM-CHASE GROUP	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE 0.0 0.0 0.0 TRACE 33.5
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508 070718 PERM-CHASE GROUP 360	ISOBUTANE	TRACE 0.0 0.0 0.0 TRACE 33.5 TRACE
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508 070718 PERM-CHASE GROUP 360 2206	ISOBUTANE	TRACE 0.0 0.0 0.0 TRACE 33.5 TRACE 0.0
LOCATION	1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508 070718 PERM-CHASE GROUP 360 2206	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	TRACE  0.0  0.0  0.0  TRACE  33.5   TRACE  0.0  0.0
LOCATION	1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508 070718 PERM-CHASE GROUP 360 2206	ISOBUTANE	TRACE  0.0  0.0  1.0  TRACE  33.5  TRACE  0.0  0.0  0.0
LOCATION	1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508 070718 PERM-CHASE GROUP 360 2206	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	TRACE 0.0 0.0 0.0 TRACE 33.5 TRACE 0.0 0.0 1.17

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE 21098	COMPONENT, MOLE PCT	
STATEKANSAS	METHANE	70.9
	ETHANE	5.3
COUNTY MORTON	PROPANE	4.4
FIELD <u>ELKHART W</u>	N-BUTANE	1.7
WELL NAME PENICK NO. 1-9	ISOBUTANE	0.7
API1512910541_	N-PENTANE	0.5
LOCATION SEC. 9, T35S, R43W	ISOPENTANE	0.4
OWNERANADARKO PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.8
SAMPLED021120_	NITROGEN	13.4
FORMATIONPENN-WABAUNSEE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD8090	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	,
		0.732
SAMPLE 21626	COMPONENT, MOLE PCT	0.732
STATEKANSAS_	COMPONENT, MOLE PCT	84.8
STATE KANSAS COUNTY STAFFORD	COMPONENT, MOLE PCT METHANE	84.8 2.4
STATE KANSAS  COUNTY STAFFORD  FIELD FARMINGTON	COMPONENT, MOLE PCT  METHANE  ETHANE	84.8 2.4 0.8
STATE KANSAS COUNTY STAFFORD FIELD FARMINGTON WELL NAME SEIBERT 2-5	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	84.8 2.4 0.8 0.2
STATE KANSAS_ COUNTY STAFFORD_ FIELD FARMINGTON_ WELL NAME SEIBERT 2-5_ API 1518523167_	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	84.8 2.4 0.8 0.2 0.1
STATE         KANSAS           COUNTY         STAFFORD           FIELD         FARMINGTON           WELL NAME         SEIBERT 2-5           API         1518523167           LOCATION         SEC 5, T25S, R15W	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	84.8 2.4 0.8 0.2 0.1 0.1
STATE KANSAS  COUNTY STAFFORD  FIELD FARMINGTON	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE	84.8 2.4 0.8 0.2 0.1 0.1
STATE KANSAS  COUNTY STAFFORD  FIELD FARMINGTON  WELL NAME SEIBERT 2-5  API 1518523167  LOCATION SEC 5, T25S, R15W  OWNER CASTELLI EXPLORATION, INC.	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS	84.8 2.4 0.8 0.2 0.1 0.1 0.1
STATE KANSAS  COUNTY STAFFORD  FIELD FARMINGTON  WELL NAME SEIBERT 2-5  API 1518523167  LOCATION SEC 5, T25S, R15W  OWNER CASTELLI EXPLORATION, INC.  COMPLETED 021026	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	84.8 2.4 0.8 0.2 0.1 0.1 0.1  0.1
STATE         KANSAS           COUNTY         STAFFORD           FIELD         FARMINGTON           WELL NAME         SEIBERT 2-5           API         1518523167           LOCATION         SEC 5, T25S, R15W	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN	84.8 2.4 0.8 0.2 0.1 0.1  0.1 10.9
STATE KANSAS COUNTY STAFFORD FIELD FARMINGTON WELL NAME SEIBERT 2-5 API 1518523167 LOCATION SEC 5, T25S, R15W OWNER CASTELLI EXPLORATION, INC. COMPLETED 021026 SAMPLED 070718 FORMATION PERM-HERINGTON	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON	84.8 2.4 0.8 0.2 0.1 0.1  0.1 10.9
STATE         KANSAS           COUNTY         STAFFORD           FIELD         FARMINGTON           WELL NAME         SEIBERT 2-5           API         1518523167           LOCATION         SEC 5, T25S, R15W           OWNER         CASTELLI EXPLORATION, INC.           COMPLETED         021026           SAMPLED         070718           FORMATION         PERM-HERINGTON           GEOLOGIC PROVINCE CODE         385	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	84.8 2.4 0.8 0.2 0.1 0.1 0.1 10.9 TRACE
STATE KANSAS COUNTY STAFFORD FIELD FARMINGTON WELL NAME SEIBERT 2-5 API 1518523167 LOCATION SEC 5, T25S, R15W OWNER CASTELLI EXPLORATION, INC. COMPLETED 021026 SAMPLED 070718 FORMATION PERM-HERINGTON	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	84.8 2.4 0.8 0.2 0.1 0.1 0.1 10.9 TRACE 0.0
STATE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	84.8 2.4 0.8 0.2 0.1 0.1 0.1 10.9 TRACE 0.0 0.0
STATE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	84.8 2.4 0.8 0.2 0.1 0.1 0.1 10.9 TRACE 0.0 0.0 TRACE
STATE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	84.8 2.4 0.8 0.2 0.1 0.1 0.1 10.9 TRACE 0.0 TRACE 0.52

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

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

STATE KANSAS COUNTY STAFFORD	METHANE	84.3
· · · · · · · · · · · · · · · · · · ·		
COUNTY STALLOND	ETHANE	1.9
FIELD FARMINGTON	PROPANE	0.5
	N-BUTANE	0.1
WELL NAMEAIKEN 3_	ISOBUTANE	
API1518523145_	N-PENTANE	
LOCATION SEC 6, T25S, R15W	ISOPENTANE	TRACE
OWNER CASTELLI EXPLORATION, INC.	CYCLOPENTANE	
COMPLETED020103	HEXANES PLUS	TRACE
SAMPLED	NITROGEN	12.5
FORMATION PENN-HOWARD	OXYGEN	
GEOLOGIC PROVINCE CODE385	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 21628	COMPONENT, MOLE PCT	
OTATE KANDAD	METHANE	84.6
STATE KANSAS	ETHANE	2.5
COUNTYSTAFFORD	PROPANE	0.8
FIELDFARMINGTON W_	N-BUTANE	0.2
WELL NAME SEIBERT 3-31	ISOBUTANE	0.1
API1518523154	N-PENTANE	0.1
LOCATIONSEC 31, T24S, R15W	ISOPENTANE	0.1
OWNERCASTELLI EXPLORATION, INC.	CYCLOPENTANE	
COMPLETED020425_	HEXANES PLUS	0.1
SAMPLED	NITROGEN	11.0
FORMATIONPERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE385	ARGON	
TRUE VERTICAL DEPTH (FT) 2277	ARGON + OXYGEN	
` '	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
MEASURED DEPTH		
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
	CARBON DIOXIDE HELIUM HEATING VALUE*	0.52

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	50592	COMPONENT, MOLE PCT	
STATE	KVNCVC	METHANE	87.2
	KINGMAN	ETHANE	5.4
-		PROPANE	2.5
	GARLISCH SW	N-BUTANE	0.9
	WUNSCH NO. 1	ISOBUTANE	0.3
API	1509521773	N-PENTANE	0.3
LOCATION	SEC. 26, T28S, R8W	ISOPENTANE	0.2
OWNER	MIDCO EXPLORATION, INC.	CYCLOPENTANE	
COMPLETED	001119	HEXANES PLUS	0.3
SAMPLED	010103	NITROGEN	2.8
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	375	ARGON	
	4130	ARGON + OXYGEN	
, ,		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
,	1203	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	2776_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.651
SAMPLE	21632	COMPONENT, MOLE PCT	
STATE	KANSAS_	METHANE	74.4
COUNTY	_	ETHANE	0.8
	GATTERMAN	PROPANE	0.1
		N-BUTANE	TRACE
	GREEN 1	ISOBUTANE	TRACE
	1514521484	N-PENTANE	
LOCATION	SEC 35, T23S, R18W	ISOPENTANE	TRACE
OWNER	BECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	030324	HEXANES PLUS	TRACE
SAMPLED	070718	NITROGEN	
FORMATION	DEBM KBIDEB	OXYGEN	
	FERIVI-RRIDER		
GEOLOGIC PROVINCE CODE _	385_	ARGON	
	385	ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT)	385 2261	ARGON + OXYGEN	TRACE 0.0
TRUE VERTICAL DEPTH (FT) _	385. 2261.	ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	TRACE 0.0 0.0
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	385 2261	ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE 0.0 0.0 TRACE
TRUE VERTICAL DEPTH (FT)	385 2261	ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	TRACE 0.0 0.0 TRACE 0.99
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	385 2261	ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE 0.0 0.0 TRACE 0.99

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

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

SAMPLE 21638	COMPONENT, MOLE PCT	
STATEKANSAS	METHANE	69.3
	ETHANE	0.7
COUNTY PAWNEE	PROPANE	0.1
FIELD GIVENS	N-BUTANE	TRACE
WELL NAME PRICE 2	ISOBUTANE	TRACE
API	N-PENTANE	TRACE
LOCATION SEC 19, T22S, R19W	ISOPENTANE	TRACE
OWNERBECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	TRACE
SAMPLED	NITROGEN	28.8
FORMATIONPERM-KRIDER	OXYGEN	
GEOLOGIC PROVINCE CODE 385	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	TRACE
MEASURED DEPTH	HYDROGEN	
<del></del>	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD130_	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 20759	COMPONENT, MOLE PCT	
STATEKANSAS_	METHANE	61.4
COUNTY MORTON	ETHANE	6.1
CREENWOOD	PROPANE	
	N-BUTANE	3.9 1.3
WELL NAMEINTERSTATE 2-20_	N-BUTANE	3.9 1.3 0.4
WELL NAME	N-BUTANE ISOBUTANE N-PENTANE	3.9 1.3 0.4 0.4
WELL NAME	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.9 1.3 0.4 0.4 0.1
WELL NAME         INTERSTATE 2-20           API         1512920358           LOCATION         SEC. 20, T34S, R45W           OWNER         ANADARKO PETROLEUM CORP.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.9 1.3 0.4 0.4 0.1
FIELD         GREENWOOD           WELL NAME         INTERSTATE 2-20           API         1512920358           LOCATION         SEC. 20, T34S, R45W           OWNER         ANADARKO PETROLEUM CORP.           COMPLETED         970410	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.9 1.3 0.4 0.4 0.1 
WELL NAME         INTERSTATE 2-20           API         1512920358           LOCATION         SEC. 20, T34S, R45W           OWNER         ANADARKO PETROLEUM CORP.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.9 1.3 0.4 0.4 0.1  0.4 25.3
WELL NAME         INTERSTATE 2-20           API         1512920358           LOCATION         SEC. 20, T34S, R45W           OWNER         ANADARKO PETROLEUM CORP.           COMPLETED         970410           SAMPLED         010731	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.9 1.3 0.4 0.4 0.1  0.4 25.3
WELL NAME	N-BUTANE	3.9 1.3 0.4 0.4 0.1  0.4 25.3 0.0
WELL NAME         INTERSTATE 2-20           API         1512920358           LOCATION         SEC. 20, T34S, R45W           OWNER         ANADARKO PETROLEUM CORP.           COMPLETED         970410           SAMPLED         010731           FORMATION         PENN-WABAUNSEE & TOPEKA	N-BUTANE	3.9 1.3 0.4 0.4 0.1 0.4 25.3 0.0 TRACE
WELL NAME	N-BUTANE	3.9 1.3 0.4 0.4 0.1 0.4 25.3 0.0 TRACE
WELL NAME	N-BUTANE	3.9 1.3 0.4 0.4 0.1  0.4 25.3 0.0 TRACE  TRACE
WELL NAME	N-BUTANE	3.9 1.3 0.4 0.4 0.1 0.4 25.3 0.0 TRACE TRACE 0.0 0.2
WELL NAME	N-BUTANE	3.9 1.3 0.4 0.1  0.4 25.3 0.0 TRACE  TRACE 0.0 0.2

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

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

SAMPLE	21637	COMPONENT, MOLE PCT	
STATE	KANCAC	METHANE	69.3
		ETHANE	0.8
COUNTY		PROPANE	0.2
FIELD		N-BUTANE	TRACE
WELL NAME		ISOBUTANE	TRACE
API	1508321509	N-PENTANE	TRACE
LOCATION	SEC 1, T23S, R21W	ISOPENTANE	TRACE
OWNER	BECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	051109	HEXANES PLUS	TRACE
SAMPLED	070718	NITROGEN	28.4
FORMATION	PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE		ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	TRACE
		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	400	HELIUM	1.04
		HEATING VALUE*	726
		SPECIFIC GRAVITY	0.676
SAMPLE	21635	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	69.7
COUNTY		ETHANE	0.8
		PROPANE	0.2
FIELD		N-BUTANE	TRACE
WELL NAME		ISOBUTANE	TRACE
API	1504721462	N-PENTANE	TRACE
LOCATION	SEC 6, T23S, R20W	ISOPENTANE	TRACE
OWNER	BECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	020207	HEXANES PLUS	TRACE
SAMPLED	070718	NITROGEN	28.1
FORMATION	PERM-TOWANDA	OXYGEN	
0501 0010 5501 (1)105 0055		ARGON	
GEOLOGIC PROVINCE CODE	360		
	<u>360</u> 2544	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	2544	HYDROGEN	0.0
MEASURED DEPTH	2544	HYDROGEN HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	2544	HYDROGEN	0.0
TRUE VERTICAL DEPTH (FT)	2544	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.0 0.0 TRACE 1.01
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	2544	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 TRACE 1.01 728

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21644	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	66.2
		ETHANE	0.7
COUNTY		PROPANE	0.1
FIELD		N-BUTANE	TRACE
WELL NAME		ISOBUTANE	TRACE
API	1508321510	N-PENTANE	0.0
LOCATION	SEC 19, T22S, R22W	ISOPENTANE	TRACE
OWNER	BECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	051215	HEXANES PLUS	TRACE
SAMPLED	070719	NITROGEN	31.8
FORMATION	PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	TRACE
, ,		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	687
SAMPLE	20771	COMPONENT, MOLE PCT	
07475		METHANE	74.2
STATE		ETHANE	6.8
COUNTY		PROPANE	3.6
FIELD	<u>HUGOTON</u>	N-BUTANE	1.0
WELL NAME	MILLEMON 1-27	ISOBUTANE	0.4
API	1512900389	N-PENTANE	0.2
LOCATION	SEC. 27, T34S, R40W	ISOPENTANE	0.2
OWNERANA	DARKO PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	500712	HEXANES PLUS	0.2
SAMPLED	010801	NITROGEN	12.9
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE		ARGON	TRACE
		ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	13241	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	

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

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

SAMPLE	20766	COMPONENT, MOLE PCT	
STATE	KANIGAG	METHANE	73.4
·		ETHANE	6.7
COUNTY		PROPANE	3.7
FIELD	<u> </u>	N-BUTANE	1.1
WELL NAME	PARKER B-2	ISOBUTANE	0.4
API	1512921425	N-PENTANE	0.3
LOCATION	SEC. 29, T34S, R40W	ISOPENTANE	0.2
OWNER	OXY USA, INC.	CYCLOPENTANE	
COMPLETED	960222	HEXANES PLUS	0.2
SAMPLED	010801	NITROGEN	13.5
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	2585	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
	<del>-</del>	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	350_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	•
SAMPLE	20768	COMPONENT, MOLE PCT	70.0
		METHANE	73.2
STATE		ETHANE	6.6
COUNTY		PROPANE	3.7
FIELD	<u>HUGOTON</u>	N-BUTANE	1.1
WELL NAME	MILLER M-1	ISOBUTANE	0.4
API	1512900380	N-PENTANE	0.3
LOCATION	SEC. 20, T34S, R40W	ISOPENTANE	0.2
OWNER	OXY USA, INC.	CYCLOPENTANE	
OWNER	<del> </del>	CYCLOPENTANE HEXANES PLUS	
	510629		0.3
COMPLETED	510629 010801	HEXANES PLUS	0.3 13.8
COMPLETEDSAMPLEDFORMATION	510629 010801 PERM-CHASE GROUP	HEXANES PLUS NITROGEN OXYGEN ARGON	0.3 13.8 0.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	510629 010801 PERM-CHASE GROUP 360	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.3 13.8 0.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	510629 010801 PERM-CHASE GROUP 360 2620	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.3 13.8 0.0 TRACE 
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	510629 010801 PERM-CHASE GROUP 360 2620	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	0.3 13.8 0.0 TRACE  0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	510629 010801 PERM-CHASE GROUP 360 2620	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**  CARBON DIOXIDE	0.3 13.8 0.0 TRACE  0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	510629 010801 PERM-CHASE GROUP 360 2620	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	0.3 13.8 0.0 TRACE  0.0 0.0 0.1

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

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

SAMPLE	20751	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	73.7
COUNTY		ETHANE	6.7
		PROPANE	3.7
FIELD	<u> </u>	N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
API	1512921431	N-PENTANE	0.2
LOCATION	SEC. 5, T35S, R40W	ISOPENTANE	0.2
OWNER	OXY USA, INC.	CYCLOPENTANE	
COMPLETED	960422	HEXANES PLUS	0.3
SAMPLED	010801	NITROGEN	13.2
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
·	_	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	251_	HELIUM	
		HEATING VALUE*	1,034
0.1151.5		SPECIFIC GRAVITY	0.711
SAMPLE	20769	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	73.5
COLINITY			
COUNTY	MORTON	ETHANE	
		PROPANE	3.6
FIELD	HUGOTON	PROPANE N-BUTANE	3.6 1.0
FIELD	HUGOTON MILLER M-2	PROPANE N-BUTANE ISOBUTANE	3.6 1.0 0.4
FIELD WELL NAME API	HUGOTON MILLER M-2 1512921423	PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.6 1.0 0.4 0.2
FIELD WELL NAME API LOCATION	HUGOTON MILLER M-2 1512921423 SEC. 20, T34S, R40W	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE	3.6 1.0 0.4 0.2 0.2
FIELD WELL NAME API LOCATION OWNER	HUGOTON MILLER M-2. 1512921423 SEC. 20, T34S, R40W OXY USA, INC.	PROPANE  N-BUTANE ISOBUTANE  N-PENTANE ISOPENTANE CYCLOPENTANE	3.6 1.0 0.4 0.2 0.2
FIELD	HUGOTON MILLER M-2 1512921423 SEC. 20, T34S, R40W OXY USA, INC. 960222	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.6 1.0 0.4 0.2 0.2 
FIELD	HUGOTON MILLER M-2 1512921423 SEC. 20, T34S, R40W OXY USA, INC. 960222 010801	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.6 1.0 0.4 0.2 0.2  0.2 13.7
FIELD	HUGOTON MILLER M-2 1512921423 SEC. 20, T34S, R40W OXY USA, INC. 960222 010801	PROPANE	3.6 1.0 0.4 0.2 0.2  0.2 13.7 0.0
FIELD	HUGOTON MILLER M-2 1512921423 SEC. 20, T34S, R40W OXY USA, INC. 960222 010801 PERM-CHASE GROUP	PROPANE	3.6 1.0 0.4 0.2 0.2  0.2 13.7 0.0 TRACE
FIELD	HUGOTON MILLER M-2 1512921423 SEC. 20, T34S, R40W OXY USA, INC. 960222 010801 PERM-CHASE GROUP 360	PROPANE	3.6 1.0 0.4 0.2 0.2  0.2 13.7 0.0 TRACE
WELL NAME	HUGOTON  MILLER M-2  1512921423  SEC. 20, T34S, R40W  OXY USA, INC.  960222  010801  PERM-CHASE GROUP  360  2564	PROPANE	3.6 1.0 0.4 0.2 0.2  0.2 13.7 0.0 TRACE
WELL NAME	HUGOTON MILLER M-2 1512921423 SEC. 20, T34S, R40W OXY USA, INC. 960222 010801 PERM-CHASE GROUP 360 2564	PROPANE	3.6 1.0 0.4 0.2 0.2  0.2 13.7 0.0 TRACE
WELL NAME	HUGOTON MILLER M-2 1512921423 SEC. 20, T34S, R40W OXY USA, INC. 960222 010801 PERM-CHASE GROUP 360 2564	PROPANE	3.6 1.0 0.4 0.2 0.2  0.2 13.7 0.0 TRACE  0.0 0.0
FIELD	HUGOTON MILLER M-2 1512921423 SEC. 20, T34S, R40W OXY USA, INC. 960222 010801 PERM-CHASE GROUP 360 2564	PROPANE	3.6 1.0 0.4 0.2 0.2 13.7 0.0 TRACE  0.0 0.1

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

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

SAMPLE	20767	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	73.4
COUNTY		ETHANE	6.7
FIELD		PROPANE	3.7
		N-BUTANE	1.1
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.3
LOCATION	SEC. 21, T34S, R40W	ISOPENTANE	0.2
OWNER	OXY USA, INC.	CYCLOPENTANE	
COMPLETED	510530	HEXANES PLUS	
SAMPLED	010801	NITROGEN	13.4
FORMATION	PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)	2626	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	15800	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20770	COMPONENT, MOLE PCT	
OTATE	KANIOAO	METHANE	73.2
STATE		ETHANE	6.7
COUNTY	_	PROPANE	3.7
FIELD		N-BUTANE	1.1
WELL NAME	EDWARDS C-2	ISOBUTANE	0.4
API	1512921424	NI DENITANIE	
		N-PENTANE	0.3
LOCATION	SEC. 17, T34S, R40W	ISOPENTANE	
OWNER	, , ,		0.2
-	OXY USA, INC.	ISOPENTANE	0.2
OWNER	OXY USA, INC. 960229	ISOPENTANE	0.2
OWNER	OXY USA, INC. 960229 010801	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2  0.3 13.7
OWNER COMPLETED SAMPLED	OXY USA, INC. 960229 010801 PERM-CHASE GROUP	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.2  0.3 13.7 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	OXY USA, INC. 960229 010801 PERM-CHASE GROUP 360	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.2  0.3 13.7 0.0 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	OXY USA, INC. 960229 010801 PERM-CHASE GROUP 360 2581	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.2  0.3 13.7 0.0 TRACE  0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	OXY USA, INC. 960229 010801 PERM-CHASE GROUP 360 2581	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.2  0.3 13.7 0.0 TRACE  0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	OXY USA, INC. 960229 010801 PERM-CHASE GROUP 360 2581	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.2  0.3 13.7 0.0 TRACE  0.0 0.0 0.1
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	OXY USA, INC. 960229 010801 PERM-CHASE GROUP 360 2581	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.2  0.3 13.7 0.0 TRACE  0.0 0.0 0.1 0.41

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	20765	COMPONENT, MOLE PCT	
STATE	KVVICVC	METHANE	73.5
		ETHANE	6.7
COUNTY		PROPANE	3.7
FIELD		N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.4
API	1512900392	N-PENTANE	0.3
LOCATION	SEC. 29, T34S, R40W	ISOPENTANE	0.2
OWNER	OXY USA, INC.	CYCLOPENTANE	
COMPLETED	510523	HEXANES PLUS	0.2
SAMPLED	010801	NITROGEN	13.6
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
-		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	12100_	HELIUM	0.41
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.712
SAMPLE	20764	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	72.3
STATE		METHANE	
COUNTY	MORTON.		6.2
COUNTY	MORTON_ HUGOTON_	ETHANEPROPANEN-BUTANE	6.2 3.5 1.0
COUNTY FIELD WELL NAME	MORTON HUGOTON MATERN A-3	ETHANE PROPANE N-BUTANE ISOBUTANE	6.2 3.5 1.0 0.4
COUNTY FIELD WELL NAME API	MORTON HUGOTON MATERN A-3 1512921465	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	6.2 3.5 1.0 0.4 0.3
COUNTY FIELD WELL NAME	MORTON HUGOTON MATERN A-3 1512921465	ETHANE PROPANE N-BUTANE ISOBUTANE	6.2 3.5 1.0 0.4 0.3
COUNTY FIELD WELL NAME API	MORTON HUGOTON MATERN A-3. 1512921465 SEC. 34, T34S, R41W	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	6.2 3.5 1.0 0.4 0.3 0.2
COUNTY  FIELD  WELL NAME  API  LOCATION	MORTON HUGOTON MATERN A-3 1512921465 SEC. 34, T34S, R41W OXY USA, INC.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	6.2 3.5 1.0 0.4 0.3 0.2 
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER	MORTON HUGOTON MATERN A-3. 1512921465 SEC. 34, T34S, R41W OXY USA, INC. 970129	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	6.2 3.5 1.0 0.4 0.3 0.2  0.3 15.4
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	MORTON HUGOTON MATERN A-3 1512921465 SEC. 34, T34S, R41W OXY USA, INC. 970129 010801	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	6.2 3.5 1.0 0.4 0.3 0.2  0.3 15.4
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION	MORTON. HUGOTON  MATERN A-3. 1512921465. SEC. 34, T34S, R41W. OXY USA, INC. 970129 010801. PERM-CHASE GROUP.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	6.2 3.5 1.0 0.4 0.3 0.2  0.3 15.4 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	MORTON  HUGOTON  MATERN A-3  1512921465  SEC. 34, T34S, R41W  OXY USA, INC.  970129  010801  PERM-CHASE GROUP  360	ETHANE	6.2 3.5 1.0 0.4 0.3 0.2  0.3 15.4 0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)	MORTON. HUGOTON. MATERN A-3 1512921465 SEC. 34, T34S, R41W. OXY USA, INC. 970129 010801 PERM-CHASE GROUP. 360. 2356	ETHANE	6.2 3.5 1.0 0.4 0.3 0.2  0.3 15.4 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	MORTON. HUGOTON  MATERN A-3. 1512921465. SEC. 34, T34S, R41W. OXY USA, INC. 970129 010801. PERM-CHASE GROUP 360. 2356.	ETHANE	6.2 3.5 1.0 0.4 0.3 0.2  0.3 15.4 0.0 0.1
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	MORTON  HUGOTON  MATERN A-3  1512921465  SEC. 34, T34S, R41W  OXY USA, INC.  970129  010801  PERM-CHASE GROUP  360  2356	ETHANE	6.2 3.5 1.0 0.4 0.3 0.2  0.3 15.4 0.0 0.1  0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	MORTON  HUGOTON  MATERN A-3  1512921465  SEC. 34, T34S, R41W  OXY USA, INC.  970129  010801  PERM-CHASE GROUP  360  2356	ETHANE	6.2 3.5 1.0 0.4 0.3 0.2  0.3 15.4 0.0 0.1  0.0 0.0 0.1
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	MORTON  HUGOTON  MATERN A-3  1512921465  SEC. 34, T34S, R41W  OXY USA, INC.  970129  010801  PERM-CHASE GROUP  360  2356	ETHANE	6.2 3.5 1.0 0.4 0.3 0.2  0.3 15.4 0.0 0.1  0.0 0.0 0.1 0.45 1,005

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	20763	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	71.8
-		ETHANE	5.9
	MORTON	PROPANE	3.3
	HUGOTON	N-BUTANE	1.0
·	MATERN A-1	ISOBUTANE	0.4
API	1512900429	N-PENTANE	0.2
LOCATION	SEC. 34, T34S, R41W	ISOPENTANE	0.2
OWNER	OXY USA, INC.	CYCLOPENTANE	
COMPLETED	520430	HEXANES PLUS	0.3
SAMPLED	010801	NITROGEN	16.3
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (ET)	2374	ARGON + OXYGEN	
		HYDROGEN	
		HYDROGEN SULFIDE**	
	425	CARBON DIOXIDE	
OPEN FLOW, MCFD	11400	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21095	COMPONENT, MOLE PCT	0.710
SAMDI E	21005		0.710
<del>-</del> <u>-</u> -			
STATE	KANSAS	COMPONENT, MOLE PCT	65.3
STATE		COMPONENT, MOLE PCT METHANE	65.3 3.1
STATE COUNTY FIELD	KANSAS FINNEY HUGOTON	COMPONENT, MOLE PCT  METHANE  ETHANE	65.3 3.1 1.7
STATE COUNTY FIELD	KANSAS FINNEY	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	65.3 3.1 1.7 0.4
STATE COUNTY FIELD WELL NAME	KANSAS FINNEY HUGOTON	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE	65.3 3.1 1.7 0.4
STATE COUNTY FIELD WELL NAME	KANSAS FINNEY HUGOTON NUSSER GAS UNIT A 2HL	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	65.3 3.1 1.7 0.4 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS FINNEY HUGOTON NUSSER GAS UNIT A 2HI 1505521290	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	65.3 3.1 1.7 0.4 0.2 0.1
STATE COUNTY  FIELD WELL NAME API LOCATION OWNERB	KANSAS FINNEY HUGOTON NUSSER GAS UNIT A 2HI 1505521290 SEC. 27, T25S, R32W	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	65.3 3.1 1.7 0.4 0.2 0.1
STATE COUNTY  FIELD WELL NAME API LOCATION OWNERBI COMPLETED	KANSAS. FINNEY HUGOTON. NUSSER GAS UNIT A 2HI. 1505521290 SEC. 27, T25S, R32W P AMERICA PRODUCTION CO.	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE	65.3 3.1 1.7 0.4 0.2 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNERBI COMPLETED SAMPLED	KANSAS FINNEY HUGOTON NUSSER GAS UNIT A 2HI 1505521290 SEC. 27, T25S, R32W P AMERICA PRODUCTION CO. 940701	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS	65.3 3.1 1.7 0.4 0.2 0.1 0.1  0.1 28.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNERBI COMPLETED SAMPLED	KANSAS FINNEY HUGOTON NUSSER GAS UNIT A 2HI 1505521290 SEC. 27, T25S, R32W P AMERICA PRODUCTION CO. 940701 021120 PERM-CHASE GROUP	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	65.3 3.1 1.7 0.4 0.2 0.1 0.1 0.1 28.3 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNERB COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	KANSAS FINNEY HUGOTON NUSSER GAS UNIT A 2HI 1505521290 SEC. 27, T25S, R32W P AMERICA PRODUCTION CO. 940701 021120 PERM-CHASE GROUP	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN	65.3 3.1 1.7 0.4 0.2 0.1 0.1 28.3 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNERBI COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	KANSAS FINNEY HUGOTON NUSSER GAS UNIT A 2HI 1505521290 SEC. 27, T25S, R32W P AMERICA PRODUCTION CO. 940701 021120 PERM-CHASE GROUP 360 2560	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	65.3 3.1 1.7 0.4 0.2 0.1 0.1 28.3 0.0 TRACE
STATE	KANSAS FINNEY HUGOTON NUSSER GAS UNIT A 2HI 1505521290 SEC. 27, T25S, R32W P AMERICA PRODUCTION CO. 940701 021120 PERM-CHASE GROUP 360 2560	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	65.3 3.1 1.7 0.4 0.2 0.1 0.1 28.3 0.0 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	KANSAS FINNEY HUGOTON NUSSER GAS UNIT A 2HL 1505521290 SEC. 27, T25S, R32W P AMERICA PRODUCTION CO. 940701 021120 PERM-CHASE GROUP 360 2560	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	65.3 3.1 1.7 0.4 0.2 0.1 0.1 28.3 0.0 TRACE 0.0 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	KANSAS FINNEY HUGOTON NUSSER GAS UNIT A 2HI 1505521290 SEC. 27, T25S, R32W P AMERICA PRODUCTION CO. 940701 021120 PERM-CHASE GROUP 360 2560	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	65.3 3.1 1.7 0.4 0.2 0.1 0.1 28.3 0.0 TRACE 0.0 TRACE 0.67

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

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

SAMPLE	21092	COMPONENT, MOLE PCT	
STATE	KVVICVC	METHANE	65.0
	_	ETHANE	2.6
COUNTY		PROPANE	1.3
FIELD	HUGOTON	N-BUTANE	0.3
WELL NAME	BEACH NO. 1-32	ISOBUTANE	0.1
API	1505500517	N-PENTANE	TRACE
LOCATION	SEC. 32, T25S, R31W	ISOPENTANE	0.1
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	560509	HEXANES PLUS	0.1
SAMPLED	021120	NITROGEN	29.8
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE		ARGON	TRACE
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
, ,		HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	8983	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.708
SAMPLE	21094	COMPONENT, MOLE PCT	
SAMPLE		METHANE	
<del></del>	KANSAS	METHANE	2.7
STATE	KANSAS_ FINNEY_	METHANE ETHANE PROPANE	2.7 1.4
STATE COUNTY FIELD	KANSAS FINNEY HUGOTON	METHANE ETHANE PROPANE N-BUTANE	2.7 1.4 0.3
STATE COUNTY FIELD WELL NAME	KANSAS FINNEY HUGOTON BEACH NO. 2-2	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	2.7 1.4 0.3 0.1
STATE COUNTY FIELD WELL NAME	KANSAS FINNEY HUGOTON BEACH NO. 2-2 1505521716	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	2.7 1.4 0.3 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS FINNEY HUGOTON BEACH NO. 2-2 1505521716 SEC. 33, T25S, R31W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	2.7 1.4 0.3 0.1 TRACE 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	KANSAS FINNEY HUGOTON BEACH NO. 2-2 1505521716 SEC. 33, T25S, R31W CIMAREX ENERGY CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE	2.7 1.4 0.3 0.1 TRACE 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS FINNEY HUGOTON BEACH NO. 2-2 1505521716 SEC. 33, T25S, R31W CIMAREX ENERGY CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.7 1.4 0.3 0.1 TRACE 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	KANSAS FINNEY HUGOTON BEACH NO. 2-2 1505521716 SEC. 33, T25S, R31W CIMAREX ENERGY CO. 010320	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	2.7 1.4 0.3 0.1 TRACE 0.1  TRACE 28.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	KANSAS FINNEY HUGOTON BEACH NO. 2-2 1505521716 SEC. 33, T25S, R31W CIMAREX ENERGY CO. 010320 021120	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	2.7 1.4 0.3 0.1 TRACE 0.1  TRACE 28.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	KANSAS FINNEY HUGOTON BEACH NO. 2-2 1505521716 SEC. 33, T25S, R31W CIMAREX ENERGY CO. 010320 021120	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	2.7 1.4 0.3 0.1 TRACE 0.1  TRACE 28.9 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	KANSAS FINNEY HUGOTON BEACH NO. 2-2 1505521716 SEC. 33, T25S, R31W CIMAREX ENERGY CO. 010320 021120 PERM-CHASE GROUP 360	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	2.7 1.4 0.3 0.1 TRACE 0.1  TRACE 28.9 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	KANSAS FINNEY HUGOTON BEACH NO. 2-2 1505521716 SEC. 33, T25S, R31W CIMAREX ENERGY CO. 010320 021120 PERM-CHASE GROUP 360 2641	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	2.7 1.4 0.3 0.1 TRACE 0.1  TRACE 28.9 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	KANSAS FINNEY HUGOTON BEACH NO. 2-2 1505521716 SEC. 33, T25S, R31W CIMAREX ENERGY CO. 010320 021120 PERM-CHASE GROUP 360 2641	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	2.7 1.4 0.3 0.1 TRACE 0.1  TRACE 28.9 0.0 TRACE
STATE	KANSAS FINNEY HUGOTON BEACH NO. 2-2 1505521716 SEC. 33, T25S, R31W CIMAREX ENERGY CO. 010320 021120 PERM-CHASE GROUP 360 2641	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	2.7 1.4 0.3 0.1 TRACE 0.1  TRACE 28.9 0.0 TRACE  0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KANSAS FINNEY HUGOTON BEACH NO. 2-2 1505521716 SEC. 33, T25S, R31W CIMAREX ENERGY CO. 010320 021120 PERM-CHASE GROUP 360 2641	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	2.7 1.4 0.3 0.1 TRACE 0.1  TRACE 28.9 0.0 TRACE  0.0 0.0

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

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

	20760	COMPONENT, MOLE PCT	
CTATE	KANSAS	METHANE	52.4
	_	ETHANE	2.5
	MORTON	PROPANE	1.7
	INTERSTATE	N-BUTANE	0.9
	INTERSTATE F-4	ISOBUTANE	0.3
API	1512920455	N-PENTANE	0.4
LOCATION	SEC. 20, T34S, R43W	ISOPENTANE	0.3
OWNER	ANADARKO PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	801214	HEXANES PLUS	0.4
SAMPLED	010731	NITROGEN	39.4
FORMATION	PERM-RED CAVE	OXYGEN	0.0
	DDE 360	ARGON	0.1
	FT)1236_	ARGON + OXYGEN	
	•	HYDROGEN	0.5
	-	HYDROGEN SULFIDE**	0.0
	PSIG	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	240	HELIUM	0.98
		HEATING VALUE*	707
		SPECIFIC GRAVITY	0.782
SAMPLE	21647	COMPONENT, MOLE PCT	
	21647 KANSAS	METHANE	
STATE	_,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	METHANE	0.7
STATE	KANSAS HODGEMAN	METHANE ETHANE PROPANE	0.7 0.1
STATE COUNTY FIELD	KANSAS HODGEMAN JETPORT	METHANE ETHANE PROPANE N-BUTANE	0.7 0.1 TRACE
STATE COUNTY FIELD WELL NAME	KANSAS HODGEMAN JETPORT JETMORE-BRADEORD 1	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	0.7 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME	KANSAS. HODGEMAN. JETPORT. JETMORE-BRADFORD 1. 1508321486.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.7 0.1 TRACE TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS HODGEMAN JETPORT JETMORE-BRADFORD 1 1508321486 SEC 18, T24S, R23W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.7 0.1 TRACE TRACE 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	KANSAS  HODGEMAN  JETPORT  JETMORE-BRADFORD 1  1508321486  SEC 18, T24S, R23W  BECKER OIL CORP.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	0.7 0.1 TRACE TRACE 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	KANSAS HODGEMAN JETPORT JETMORE-BRADFORD 1 1508321486 SEC 18, T24S, R23W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.7 0.1 TRACE TRACE 0.0 TRACE
STATE COUNTY  FIELD WELL NAME API LOCATION OWNER COMPLETED	KANSAS  HODGEMAN  JETPORT  JETMORE-BRADFORD 1  1508321486  SEC 18, T24S, R23W  BECKER OIL CORP.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.7 0.1 TRACE TRACE 0.0 TRACE TRACE 27.8
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	KANSAS  HODGEMAN  JETPORT  JETMORE-BRADFORD 1  1508321486  SEC 18, T24S, R23W  BECKER OIL CORP.  040501	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.7 0.1 TRACE TRACE 0.0 TRACE  TRACE 27.8
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	KANSAS  HODGEMAN  JETPORT  JETMORE-BRADFORD 1  1508321486  SEC 18, T24S, R23W  BECKER OIL CORP.  040501  070719  PERM-CHASE GROUP	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.7 0.1 TRACE TRACE 0.0 TRACE  TRACE 27.8
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO	KANSAS  HODGEMAN  JETPORT  JETMORE-BRADFORD 1  1508321486  SEC 18, T24S, R23W  BECKER OIL CORP.  040501  070719  PERM-CHASE GROUP	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.7 0.1 TRACE TRACE 0.0 TRACE TRACE 27.8 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO	KANSAS  HODGEMAN  JETPORT  JETMORE-BRADEORD 1  1508321486  SEC 18, T24S, R23W  BECKER OIL CORP  040501  070719  PERM-CHASE GROUP	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.7 0.1 TRACE TRACE 0.0 TRACE  TRACE 27.8  TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO TRUE VERTICAL DEPTH (F	KANSAS  HODGEMAN  JETPORT  JETMORE-BRADEORD 1  1508321486  SEC 18, T24S, R23W  BECKER OIL CORP.  040501  070719  PERM-CHASE GROUP  DDE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.7 0.1 TRACE TRACE 0.0 TRACE  TRACE 27.8  TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO TRUE VERTICAL DEPTH (F MEASURED DEPTH WELLHEAD PRESSURE, P	KANSAS  HODGEMAN  JETPORT  JETMORE-BRADEORD 1  1508321486  SEC 18, T24S, R23W  BECKER OIL CORP.  040501  070719  PERM-CHASE GROUP  DDE 360  FT)	METHANE	0.7 0.1 TRACE TRACE 0.0 TRACE 27.8  TRACE 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO TRUE VERTICAL DEPTH (F MEASURED DEPTH WELLHEAD PRESSURE, P	KANSAS  HODGEMAN  JETPORT  JETMORE-BRADEORD 1  1508321486  SEC 18, T24S, R23W  BECKER OIL CORP.  040501  070719  PERM-CHASE GROUP  DDE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.7 0.1 TRACE TRACE 0.0 TRACE 27.8  TRACE 0.0 TRACE 0.0

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21634	COMPONENT, MOLE PCT	
STATE	KANIGAG	METHANE	69.9
COUNTY		ETHANE	0.6
	_	PROPANE	0.1
FIELD		N-BUTANE	TRACE
WELL NAME		ISOBUTANE	TRACE
API	1508321504	N-PENTANE	0.0
LOCATION	SEC 10, T23S, R21W	ISOPENTANE	TRACE
OWNER	BECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	060101	HEXANES PLUS	TRACE
SAMPLED	070718	NITROGEN	28.2
FORMATION	PERM-TOWANDA	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)	_	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
-		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21614	COMPONENT, MOLE PCT	
	21614	,	
STATE		METHANE	
STATE		METHANE	1.9
STATE	KANSAS_ STAFFORD_	METHANE ETHANE PROPANE	1.9 0.6
STATE	KANSAS STAFFORD LEESBURGH	METHANE ETHANE PROPANE N-BUTANE	1.9 0.6 0.1
STATE COUNTY FIELD	KANSAS STAFFORD LEESBURGH MCCUNE 1A.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	1.9 0.6 0.1 0.1
STATE COUNTY FIELD WELL NAME API	KANSAS STAFFORD LEESBURGH MCCUNE 1A 1518523174	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	1.9 0.6 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS STAFFORD LEESBURGH MCCUNE 1A 1518523174 SEC 12, T25S, R13W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.9 0.6 0.1 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	KANSAS STAFFORD LEESBURGH MCCUNE 1A 1518523174 SEC 12, T25S, R13W BECKER OIL CORP.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	1.9 0.6 0.1 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	KANSAS STAFFORD LEESBURGH MCCUNE 1A 1518523174 SEC 12, T25S, R13W BECKER OIL CORP. 030324	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	1.9 0.6 0.1 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	KANSAS STAFFORD LEESBURGH MCCUNE 1A. 1518523174 SEC 12, T25S, R13W BECKER OIL CORP. 030324	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE HEXANES PLUS	1.9 0.6 0.1 0.1 TRACE TRACE  TRACE 23.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	KANSAS STAFFORD LEESBURGH MCCUNE 1A 1518523174 SEC 12, T25S, R13W BECKER OIL CORP. 030324 070717 PENN-BERN	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.9 0.6 0.1 0.1 TRACE TRACE  TRACE 23.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	KANSAS STAFFORD LEESBURGH MCCUNE 1A. 1518523174 SEC 12, T25S, R13W BECKER OIL CORP. 030324 070717 PENN-BERN. 385	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	1.9 0.6 0.1 0.1 TRACE TRACE  TRACE 23.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	KANSAS  STAFFORD  LEESBURGH  MCCUNE 1A  1518523174  SEC 12, T25S, R13W  BECKER OIL CORP.  030324  070717  PENN-BERN  385  2892	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN	1.9 0.6 0.1 0.1 TRACE TRACE  TRACE 23.9  TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KANSAS STAFFORD LEESBURGH MCCUNE 1A 1518523174 SEC 12, T25S, R13W BECKER OIL CORP. 030324 070717 PENN-BERN 385	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	1.9 0.6 0.1 0.1 TRACE TRACE  TRACE 23.9  TRACE TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	KANSAS STAFFORD LEESBURGH MCCUNE 1A. 1518523174 SEC 12, T25S, R13W BECKER OIL CORP. 030324 070717 PENN-BERN 385 2892	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN ARGONARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	1.9 0.6 0.1 0.1 TRACE TRACE  TRACE 23.9  TRACE TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KANSAS STAFFORD LEESBURGH MCCUNE 1A. 1518523174 SEC 12, T25S, R13W BECKER OIL CORP. 030324 070717 PENN-BERN 385 2892	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	1.9 0.6 0.1 0.1 TRACE TRACE 23.9  TRACE TRACE 0.0 TRACE 0.90

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

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

SAMPLE	21613	COMPONENT, MOLE PCT	
STATE	KANCAC	METHANE	71.4
		ETHANE	1.8
COUNTY		PROPANE	0.6
FIELD	_	N-BUTANE	0.1
WELL NAME		ISOBUTANE	0.1
API	1518523175	N-PENTANE	TRACE
LOCATION	SEC 13, T25S, R13W	ISOPENTANE	TRACE
OWNER	BECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	030321	HEXANES PLUS	TRACE
SAMPLED	070717	NITROGEN	24.9
FORMATION	PERM-KRIDER, TOWANDA	OXYGEN	
GEOLOGIC PROVINCE CODE	•	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	TRACE
, ,		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	360_	HELIUM	0.95
		HEATING VALUE*	780
		SPECIFIC GRAVITY	0.672
SAMPLE	21651	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	58.9
COUNTY		ETHANE	4.0
FIELD		PROPANE	2.8
		N-BUTANE	0.9
WELL NAME		ISOBUTANE	0.4
API	1520320034	N-PENTANE	0.2
LOCATION	SEC 27, T18S, R38W	ISOPENTANE	0.2
OWNER	MULL DRILLING CO. INC.	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	0.3
	761103		
SAMPLED		NITROGEN	31.6
	070813	NITROGEN	
FORMATION	070813 PERM-CHASE GROUP	OXYGEN	
FORMATION GEOLOGIC PROVINCE CODE _	070813 PERM-CHASE GROUP 360	OXYGENARGON + OXYGEN	  0.1
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	070813 PERM-CHASE GROUP 360 2808	OXYGENARGONARGON + OXYGEN HYDROGEN	0.1 0.0
FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH	070813 PERM-CHASE GROUP 360 2808	OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.1 0.0 0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	070813 PERM-CHASE GROUP 360 2808	OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.0 0.0 TRACE
FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH	070813 PERM-CHASE GROUP 360 2808	OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.1 0.0 0.0 0.0 TRACE
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	070813 PERM-CHASE GROUP 360 2808	OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.0 0.0 TRACE 0.71 809

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21625	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	81.1
	STAFFORD	ETHANE	3.5
		PROPANE	1.8
·	MACKSVILLE	N-BUTANE	0.7
	CRS TK NAGEL 1B	ISOBUTANE	0.3
API	1518510481	N-PENTANE	0.3
LOCATION	SEC 3, T24S, R15W	ISOPENTANE	0.2
OWNERC	HESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	610328	HEXANES PLUS	
SAMPLED	070718	NITROGEN	10.3
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	
GEOLOGIC PROVINCE CODE	385	ARGON	
		ARGON + OXYGEN	TRACE
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
•		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	
SAMPLE	24052	SPECIFIC GRAVITY	
SAMPLE	21653	COMPONENT, MOLE PCT  METHANE	04.0
STATE	KANSAS	ETHANE	
COUNTY	SCOTT	PROPANE	
FIELD	MANNING SW	N-BUTANE	
WELL NAME	WEISENBERGER K 1	ISOBUTANE	
API	1517120580	N-PENTANE	
LOCATION	SEC 10, T18S, R31W	ISOPENTANE	
	SLAWSON EXPLORATION CO.	CYCLOPENTANE	
	060519	HEXANES PLUS	
	070814	NITROGEN	
		OXYGEN	
	PERM-CHASE GROUP	ARGON	
CEULUCIC PROVINCE CODE		AROON	
	360		
TRUE VERTICAL DEPTH (FT) _	2746	ARGON + OXYGEN	0.1
TRUE VERTICAL DEPTH (FT) _		ARGON + OXYGEN	0.1
TRUE VERTICAL DEPTH (FT) _	2746	ARGON + OXYGEN	0.1 0.0 0.0
TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	2746	ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.1 0.0 0.0 0.0
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	2746	ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.0 0.0 0.0 1.38

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

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

SAMPLE	21611	COMPONENT, MOLE PCT	
STATE	KVVIGVG	METHANE	70.8
·		ETHANE	7.4
COUNTY		PROPANE	5.5
FIELD		N-BUTANE	1.8_
WELL NAME		ISOBUTANE	0.9
API	<u> 1515921916</u>	N-PENTANE	0.5
LOCATION	SEC 18, T21S, R8W	ISOPENTANE	0.4
OWNER	JAY FITZPATRICK, JR.	CYCLOPENTANE	
COMPLETED	850105	HEXANES PLUS	0.6
SAMPLED	070716	NITROGEN	11.5_
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	
GEOLOGIC PROVINCE CODE		ARGON	
TRUE VERTICAL DEPTH (FT)	3304	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	4900	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.76
SAMPLE	21091	COMPONENT, MOLE PCT	0.76
57 IIII 22			
STATE	KANSAS.	COMPONENT, MOLE PCT	71.5
STATE	KANSAS_ FINNEY_	COMPONENT, MOLE PCT  METHANE	71.5 5.4
STATE COUNTY FIELD	KANSAS FINNEY PANOMA GAS AREA	COMPONENT, MOLE PCT  METHANE  ETHANE	71.5 5.4 3.2
STATE COUNTY FIELD WELL NAME	KANSAS FINNEY PANOMA GAS AREA JONES NO. M-1	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	71.5 5.4 3.2 0.9
STATE COUNTY FIELD WELL NAME API	KANSAS. FINNEY. PANOMA GAS AREA. JONES NO. M-1. 1505520308.	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE	71.5 5.4 3.2 0.9 0.4
STATE COUNTY FIELD WELL NAME	KANSAS. FINNEY. PANOMA GAS AREA. JONES NO. M-1. 1505520308.	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	71.5 5.4 3.2 0.9 0.4 0.2
STATE COUNTY FIELD WELL NAME API	KANSAS FINNEY PANOMA GAS AREA JONES NO. M-1 1505520308 SEC. 32, T26S, R34W	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	71.5 5.4 3.2 0.9 0.4 0.2
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS FINNEY  PANOMA GAS AREA  JONES NO. M-1  1505520308  SEC. 32, T26S, R34W  CIMAREX ENERGY CO.	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	71.5 5.4 3.2 0.9 0.4 0.2 0.2
STATE COUNTY  FIELD WELL NAME API LOCATION OWNER	KANSAS FINNEY  PANOMA GAS AREA JONES NO. M-1 1505520308 SEC. 32, T26S, R34W CIMAREX ENERGY CO. 780831	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	71.5 5.4 3.2 0.9 0.4 0.2 0.2  0.2
STATE COUNTY  FIELD WELL NAME API LOCATION OWNER COMPLETED	KANSAS FINNEY PANOMA GAS AREA JONES NO. M-1 1505520308 SEC. 32, T26S, R34W CIMAREX ENERGY CO. 780831	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	71.5 5.4 3.2 0.9 0.4 0.2 0.2  0.2 17.6 0.0
STATE	KANSAS FINNEY  PANOMA GAS AREA  JONES NO. M-1  1505520308  SEC. 32, T26S, R34W  CIMAREX ENERGY CO.  780831  021119  PERM-COUNCIL GROVE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	71.5 5.4 3.2 0.9 0.4 0.2  0.2 17.6 0.0
STATE	KANSAS FINNEY PANOMA GAS AREA JONES NO. M-1 1505520308 SEC. 32, T26S, R34W CIMAREX ENERGY CO. 780831 021119 PERM-COUNCIL GROVE 360	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	71.5 5.4 3.2 0.9 0.4 0.2 0.2 17.6 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	KANSAS FINNEY  PANOMA GAS AREA  JONES NO. M-1  1505520308  SEC. 32, T26S, R34W  CIMAREX ENERGY CO.  780831  021119  PERM-COUNCIL GROVE  360  2963	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	71.5 5.4 3.2 0.9 0.4 0.2 0.2 17.6 0.0 TRACE
STATE	KANSAS FINNEY  PANOMA GAS AREA JONES NO. M-1 1505520308 SEC. 32, T26S, R34W CIMAREX ENERGY CO. 780831 021119 PERM-COUNCIL GROVE 360 2963	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	71.5 5.4 3.2 0.9 0.4 0.2  0.2 17.6 0.0 TRACE
STATE	KANSAS FINNEY  PANOMA GAS AREA  JONES NO. M-1  1505520308  SEC. 32, T26S, R34W  CIMAREX ENERGY CO.  780831  021119  PERM-COUNCIL GROVE  360  2963	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	71.5. 5.4 3.2 0.9 0.4 0.2 0.2 17.6 0.0 TRACE 0.0 TRACE
STATE	KANSAS FINNEY  PANOMA GAS AREA  JONES NO. M-1  1505520308  SEC. 32, T26S, R34W  CIMAREX ENERGY CO.  780831  021119  PERM-COUNCIL GROVE  360  2963	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	71.5. 5.4 3.2 0.9 0.4 0.2 0.2 17.6 0.0 TRACE 0.0 TRACE 0.46

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21090	COMPONENT, MOLE PCT	
STATE	KVNGVG	METHANE	71.7
COUNTY		ETHANE	5.3
		PROPANE	3.2
FIELD		N-BUTANE	0.9
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION	SEC. 33, T26S, R34W	ISOPENTANE	0.2
OWNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
COMPLETED	780831	HEXANES PLUS	0.2
SAMPLED	021119	NITROGEN	17.5
FORMATION	PERM-COUNCIL GROVE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
· · · · · · · · · · · · · · · · · · ·		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	2400	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21239	COMPONENT, MOLE PCT	
		METHANE	68.1
STATE	KANSAS.	ETHANE	
COUNTY	RUSH	PROPANE	
FIELD	REICHEL	N-BUTANE	
WELL NAME	HOFFMAN 3	ISOBUTANE	0.3
API	1516520994	N-PENTANE	0.1
LOCATION	SEC. 29, T16S, R17W	ISOPENTANE	0.1
OWNER	BEAR PETROLEUM, INC.	CYCLOPENTANE	
COMPLETED	820714	HEXANES PLUS	0.2
SAMPLED		NITROGEN	25.1
FORMATION		OXYGEN	0.0
GEOLOGIC PROVINCE CODE		ARGON	0.1
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	

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

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

SAMPLE	21238	COMPONENT, MOLE PCT	
STATE	KVNCVC	METHANE	69.3
COUNTY		ETHANE	3.4
		PROPANE	2.0
FIELD		N-BUTANE	1.0
WELL NAME	LIPPERT 3	ISOBUTANE	0.5
API	1516520991	N-PENTANE	0.3
LOCATION	SEC. 19, T16S, R17W	ISOPENTANE	0.3
OWNER	BEAR PETROLEUM, INC.	CYCLOPENTANE	
COMPLETED	820617	HEXANES PLUS	0.5
SAMPLED	030819	NITROGEN	20.8
FORMATION	PERM-COTTONWOOD	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	385	ARGON	0.1
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	889	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.717
SAMPLE	21234	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	61.5
COUNTY	RUSH	ETHANE	
	_	PROPANE	1.3
FIELD	REICHEL E	PROPANEN-BUTANE	1.3 0.8
FIELD	REICHEL E BRACK 3A	PROPANE N-BUTANE ISOBUTANE	1.3 0.8 0.5
FIELDWELL NAMEAPI	REICHEL E.  BRACK 3A.  1516520306.	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	1.3 0.8 0.5 0.5
FIELD WELL NAME API LOCATION	REICHEL E BRACK 3A 1516520306 SEC. 34, T17S, R16W	PROPANE  N-BUTANE ISOBUTANE  N-PENTANE ISOPENTANE	1.3 0.8 0.5 0.5
FIELD	REICHEL E. BRACK 3A. 1516520306. SEC. 34, T17S, R16W. BEAR PETROLEUM, INC.	PROPANE  N-BUTANE ISOBUTANE  N-PENTANE ISOPENTANE CYCLOPENTANE	1.3 0.8 0.5 0.5 0.4
FIELD WELL NAME API LOCATION	REICHEL E. BRACK 3A. 1516520306. SEC. 34, T17S, R16W. BEAR PETROLEUM, INC.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.3 0.8 0.5 0.5 0.4 
FIELD	REICHEL E.  BRACK 3A.  1516520306.  SEC. 34, T17S, R16W.  BEAR PETROLEUM, INC.  700806.  030819	PROPANE	1.3 0.8 0.5 0.5 0.4  0.8 28.7
FIELD	REICHEL E.  BRACK 3A.  1516520306.  SEC. 34, T17S, R16W.  BEAR PETROLEUM, INC.  700806.  030819	PROPANE	1.3 0.8 0.5 0.5 0.4  0.8 28.7 0.0
FIELD	REICHEL E.  BRACK 3A.  1516520306.  SEC. 34, T17S, R16W.  BEAR PETROLEUM, INC.  700806.  030819	PROPANE	1.3 0.8 0.5 0.5 0.4  0.8 28.7 0.0 0.1
FIELD	REICHEL E.  BRACK 3A.  1516520306  SEC. 34, T17S, R16W.  BEAR PETROLEUM, INC.  700806  030819  PENN-GRANITE WASH.  385	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN	1.3 0.8 0.5 0.4  0.8 28.7 0.0 0.1
WELL NAME	REICHEL E.  BRACK 3A.  1516520306.  SEC. 34, T17S, R16W.  BEAR PETROLEUM, INC.  700806.  030819.  PENN-GRANITE WASH.  385.  3525.	PROPANE	1.3 0.8 0.5 0.5 0.4  0.8 28.7 0.0 0.1
WELL NAME	REICHEL E.  BRACK 3A.  1516520306  SEC. 34, T17S, R16W  BEAR PETROLEUM, INC.  700806  030819  PENN-GRANITE WASH  385  3525	PROPANE	1.3 0.8 0.5 0.5 0.4 0.8 28.7 0.0 0.1 TRACE 0.0
FIELD	REICHEL E. BRACK 3A. 1516520306 SEC. 34, T17S, R16W BEAR PETROLEUM, INC. 700806 030819 PENN-GRANITE WASH. 385	PROPANE	1.3 0.8 0.5 0.5 0.4 0.8 28.7 0.0 0.1 TRACE 0.0 0.2
FIELD	REICHEL E. BRACK 3A. 1516520306 SEC. 34, T17S, R16W BEAR PETROLEUM, INC. 700806 030819 PENN-GRANITE WASH. 385	PROPANE	1.3 0.8 0.5 0.5 0.4 0.8 28.7 0.0 0.1 TRACE 0.0 0.2 2.19

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21233	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	63.5
COUNTY		ETHANE	2.8
·		PROPANE	1.8
FIELD		N-BUTANE	1.6
WELL NAME		ISOBUTANE	0.7
API	1516521198	N-PENTANE	0.9
LOCATION	SEC. 35, T17S, R16W	ISOPENTANE	0.6
OWNER	BEAR PETROLEUM, INC.	CYCLOPENTANE	
COMPLETED	840529	HEXANES PLUS	1.7
SAMPLED	030819	NITROGEN	24.3
FORMATION	PENN-LANSING	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	385	ARGON	0.2
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	500	HELIUM	
		HEATING VALUE*	955
		SPECIFIC GRAVITY	0.785
SAMPLE	21235	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	69.2
OOLINITY.			
COUNTY	RUSH	ETHANE	3.1
	_	PROPANE	
FIELD	REICHEL GAS AREA	PROPANEN-BUTANE	1.4 0.6
FIELD	REICHEL GAS AREA	PROPANEN-BUTANEISOBUTANE	1.4 0.6 0.4
FIELD WELL NAME API	REICHEL GAS AREA FOOS 1. 1516502235.	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	1.4 0.6 0.4 0.2
FIELD WELL NAME API LOCATION	REICHEL GAS AREA FOOS 1 1516502235 SEC. 25, T17S, R17W	PROPANE  N-BUTANE ISOBUTANE  N-PENTANE ISOPENTANE	1.4 0.6 0.4 0.2
FIELD WELL NAME API LOCATION OWNER	REICHEL GAS AREA FOOS 1 1516502235 SEC. 25, T17S, R17W BEAR PETROLEUM, INC.	PROPANE  N-BUTANE ISOBUTANE  N-PENTANE ISOPENTANE CYCLOPENTANE	1.4 0.6 0.4 0.2 0.2
FIELD WELL NAME API LOCATION	REICHEL GAS AREA FOOS 1 1516502235 SEC. 25, T17S, R17W BEAR PETROLEUM, INC.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.4 0.6 0.4 0.2 0.2
FIELD WELL NAME API LOCATION OWNER	REICHEL GAS AREA FOOS 1 1516502235 SEC. 25, T17S, R17W BEAR PETROLEUM, INC. 620605	PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.4 0.6 0.4 0.2 0.2  1.0 21.9
FIELD	REICHEL GAS AREA FOOS 1 1516502235 SEC. 25, T17S, R17W BEAR PETROLEUM, INC. 620605 030819	PROPANE	1.4 0.6 0.4 0.2 0.2  1.0 21.9
FIELD	REICHEL GAS AREA FOOS 1 1516502235 SEC. 25, T17S, R17W BEAR PETROLEUM, INC. 620605 030819 PENN-LANSING	PROPANE	1.4 0.6 0.4 0.2 0.2  1.0 21.9 0.0 0.1
FIELD	REICHEL GAS AREA FOOS 1 1516502235 SEC. 25, T17S, R17W BEAR PETROLEUM, INC. 620605 030819 PENN-LANSING	PROPANE	1.4 0.6 0.4 0.2 0.2  1.0 21.9 0.0
WELL NAME	REICHEL GAS AREA FOOS 1 1516502235 SEC. 25, T17S, R17W BEAR PETROLEUM, INC. 620605 030819 PENN-LANSING 385 3503	PROPANE	1.4 0.6 0.4 0.2 0.2  1.0 21.9 0.0 0.1
WELL NAME	REICHEL GAS AREA FOOS 1 1516502235 SEC. 25, T17S, R17W BEAR PETROLEUM, INC. 620605 030819 PENN-LANSING 385 3503	PROPANE	1.4 0.6 0.4 0.2  1.0 21.9 0.0 0.1  TRACE 0.0
WELL NAME	REICHEL GAS AREA FOOS 1 1516502235 SEC. 25, T17S, R17W BEAR PETROLEUM, INC. 620605 030819 PENN-LANSING 385 3503	PROPANE	1.4 0.6 0.4 0.2  1.0 21.9 0.0 0.1  TRACE 0.0
WELL NAME	REICHEL GAS AREA FOOS 1 1516502235 SEC. 25, T17S, R17W BEAR PETROLEUM, INC. 620605 030819 PENN-LANSING 385 3503	PROPANE	1.4 0.6 0.4 0.2  1.0 21.9 0.0 0.1  TRACE 0.0 0.1 1.75

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

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

SAMPLE	21236	COMPONENT, MOLE PCT	
STATE	KVVICVC	METHANE	64.0
		ETHANE	2.0
COUNTY		PROPANE	0.9
FIELD		N-BUTANE	0.3
WELL NAME		ISOBUTANE	0.2
API	1516521019	N-PENTANE	0.1
LOCATION	SEC. 11, T17S, R18W	ISOPENTANE	0.1
OWNER	BEAR PETROLEUM, INC.	CYCLOPENTANE	
COMPLETED	830701	HEXANES PLUS	0.1
SAMPLED	030819	NITROGEN	30.4
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
` ,		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.0
OPEN FLOW, MCFD		HELIUM	1.94
		HEATING VALUE*	735
		SPECIFIC GRAVITY	0.704
SAMPLE	21237	COMPONENT, MOLE PCT	
STATE			
	KANSAS	METHANE	64.4
	KANSAS.	METHANE	
COUNTY	RUSH		2.3
COUNTY	RUSH_ REICHEL W	ETHANE	2.3
COUNTY FIELD WELL NAME	RUSH REICHEL W MUTH 1	ETHANEPROPANE	2.3 1.0 0.4
COUNTY FIELD WELL NAME API	RUSH_ REICHEL W_ MUTH 1_ 1516521146_	ETHANE PROPANE N-BUTANE	2.3 1.0 0.4 0.3
COUNTY FIELD WELL NAME	RUSH_ REICHEL W_ MUTH 1_ 1516521146_	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	2.3 1.0 0.4 0.3 0.1 0.1
COUNTY FIELD WELL NAME API	RUSH.  REICHEL W.  MUTH 1.  1516521146.  SEC. 1, T17S, R18W.	ETHANE	2.3 1.0 0.4 0.3 0.1 0.1
COUNTY  FIELD  WELL NAME  API  LOCATION	RUSH. REICHEL W MUTH 1. 1516521146 SEC. 1, T17S, R18W. BEAR PETROLEUM, INC.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.3 1.0 0.4 0.3 0.1 0.1 
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER	RUSH. REICHEL W. MUTH 1. 1516521146. SEC. 1, T17S, R18W. BEAR PETROLEUM, INC. 840713.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	2.3 1.0 0.4 0.3 0.1 0.1  0.4 28.9
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED	RUSH.  REICHEL W.  MUTH 1.  1516521146.  SEC. 1, T17S, R18W.  BEAR PETROLEUM, INC.  840713.  030819.	ETHANE	2.3 1.0 0.4 0.3 0.1 0.1  0.4 28.9
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	RUSH. REICHEL W MUTH 1. 1516521146. SEC. 1, T17S, R18W. BEAR PETROLEUM, INC. 840713 030819. PERM-CHASE GROUP	ETHANE	2.3 1.0 0.4 0.3 0.1 0.1  0.4 28.9 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	RUSH.  REICHEL W.  MUTH 1.  1516521146.  SEC. 1, T17S, R18W.  BEAR PETROLEUM, INC.  840713.  030819.  PERM-CHASE GROUP.  385.	ETHANE	2.3 1.0 0.4 0.3 0.1 0.1  0.4 28.9 0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)	RUSH REICHEL W MUTH 1 1516521146 SEC. 1, T17S, R18W BEAR PETROLEUM, INC. 840713 030819 PERM-CHASE GROUP 385. 2044	ETHANE	2.3 1.0 0.4 0.3 0.1 0.1  0.4 28.9 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	RUSH REICHEL W MUTH 1 1516521146 SEC. 1, T17S, R18W BEAR PETROLEUM, INC. 840713 030819 PERM-CHASE GROUP 385. 2044	ETHANE	2.3 1.0 0.4 0.3 0.1 0.1  0.4 28.9 0.0 0.1  0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	RUSH.  REICHEL W.  MUTH 1.  1516521146.  SEC. 1, T17S, R18W.  BEAR PETROLEUM, INC.  840713.  030819.  PERM-CHASE GROUP.  385.  2044.	ETHANE	2.3 1.0 0.4 0.3 0.1 0.1  0.4 28.9 0.0 0.1  0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	RUSH.  REICHEL W.  MUTH 1.  1516521146.  SEC. 1, T17S, R18W.  BEAR PETROLEUM, INC.  840713.  030819.  PERM-CHASE GROUP.  385.  2044.	ETHANE	2.3 1.0 0.4 0.3 0.1 0.1  0.4 28.9 0.0 0.1  0.0 0.0 0.0 2.00
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	RUSH.  REICHEL W.  MUTH 1.  1516521146.  SEC. 1, T17S, R18W.  BEAR PETROLEUM, INC.  840713.  030819.  PERM-CHASE GROUP.  385.  2044.	ETHANE	2.3 1.0 0.4 0.3 0.1 0.1  0.4 28.9 0.0 0.1  0.0 0.0 2.00 767

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21648	COMPONENT, MOLE PCT	
STATE	KVVICVC	METHANE	71.6
		ETHANE	0.6
COUNTY		PROPANE	0.1
FIELD		N-BUTANE	TRACE
WELL NAME	<u> </u>	ISOBUTANE	TRACE
API	1508321514	N-PENTANE	0.0
LOCATION	SEC 4, T24S, R22W	ISOPENTANE	0.0
OWNER	BECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	060710	HEXANES PLUS	TRACE
SAMPLED	070719	NITROGEN	26.6
FORMATION	PERM-KRIDER U	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	TRACE
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	120	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.004
SAMPLE	21633	COMPONENT, MOLE PCT	
STATE			
SIAIE	KANSAS	METHANE	
COUNTY		ETHANE	0.7
	HODGEMAN	PROPANE	0.7 0.1
COUNTY	HODGEMAN SAW LOG CREEK	ETHANE PROPANE N-BUTANE	0.7 0.1 TRACE
COUNTY FIELD WELL NAME	HODGEMAN SAW LOG CREEK GLEASON 1	ETHANE PROPANE N-BUTANE ISOBUTANE	0.7 0.1 TRACE TRACE
COUNTY FIELD WELL NAME API	HODGEMAN SAW LOG CREEK GLEASON 1 1508321508	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.7 0.1 TRACE TRACE TRACE
COUNTY  FIELD  WELL NAME  API  LOCATION	HODGEMAN SAW LOG CREEK. GLEASON 1. 1508321508. SEC 32, T23S, R21W.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.7 0.1 TRACE TRACE TRACE
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER	HODGEMAN. SAW LOG CREEK. GLEASON 1. 1508321508 SEC 32, T23S, R21W. BECKER OIL CORP.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	0.7 0.1 TRACE TRACE TRACE TRACE
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED	HODGEMAN SAW LOG CREEK GLEASON 1 1508321508 SEC 32, T23S, R21W BECKER OIL CORP. 060101	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.7 0.1 TRACE TRACE TRACE TRACE TRACE TRACE
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED	HODGEMAN. SAW LOG CREEK. GLEASON 1. 1508321508 SEC 32, T23S, R21W BECKER OIL CORP. 060101. 070718.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.7 0.1 TRACE TRACE TRACE TRACE TRACE TRACE 25.7
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED	HODGEMAN. SAW LOG CREEK. GLEASON 1. 1508321508 SEC 32, T23S, R21W BECKER OIL CORP. 060101. 070718.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.7 0.1 TRACE TRACE TRACE TRACE TRACE TRACE 25.7
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED	HODGEMAN. SAW LOG CREEK. GLEASON 1. 1508321508 SEC 32, T23S, R21W. BECKER OIL CORP. 060101. 070718. PERM-CHASE GROUP.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS OXYGEN ARGON	0.7 0.1 TRACE TRACE TRACE TRACE TRACE TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	HODGEMAN SAW LOG CREEK GLEASON 1 1508321508 SEC 32, T23S, R21W BECKER OIL CORP. 060101 070718 PERM-CHASE GROUP 360	ETHANE	0.7 0.1 TRACE TRACE TRACE TRACE TRACE TRACE 25.7 TRACE
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE	HODGEMAN SAW LOG CREEK GLEASON 1 1508321508 SEC 32, T23S, R21W BECKER OIL CORP. 060101 070718 PERM-CHASE GROUP 360. 2669	ETHANE	0.7 0.1 TRACE TRACE TRACE TRACE TRACE TRACE 25.7 TRACE 0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)	HODGEMAN SAW LOG CREEK GLEASON 1 1508321508 SEC 32, T23S, R21W BECKER OIL CORP. 060101 070718 PERM-CHASE GROUP 360 2669	ETHANE	0.7 0.1 TRACE TRACE TRACE TRACE  TRACE 25.7  TRACE 0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	HODGEMAN. SAW LOG CREEK. GLEASON 1. 1508321508 SEC 32, T23S, R21W BECKER OIL CORP. 060101. 070718 PERM-CHASE GROUP 360. 2669	ETHANE	0.7
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	HODGEMAN. SAW LOG CREEK. GLEASON 1. 1508321508 SEC 32, T23S, R21W BECKER OIL CORP. 060101. 070718 PERM-CHASE GROUP 360. 2669	ETHANE	0.7

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

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

SAMPLE	21652	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	56.2
	SCOTT	ETHANE	4.1
		PROPANE	2.9
FIELD		N-BUTANE	1.0
WELL NAMEBUC		ISOBUTANE	0.4
API	1517120400	N-PENTANE	0.3
LOCATION	SEC 16, T20S, R33W	ISOPENTANE	0.2
OWNER	BEREXCO, INC.	CYCLOPENTANE	
COMPLETED	900113	HEXANES PLUS	0.4
SAMPLED	070813	NITROGEN	33.6
FORMATION	PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE _	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	0.1
` '		HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	190_	HELIUM	0.85
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.776
SAMPLE	21612	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	67.4
COUNTY		ETHANE	4.1
FIELD	_	PROPANE	3.0
	SUDENE		
	EANIQUED 4 OF	N-BUTANE	1.2
	FANSHIER 1-25	N-BUTANE	1.2
API	1518523224		1.2
API		ISOBUTANE	1.2 0.6 0.4
API	1518523224 SEC 25, T23S, R13W	ISOBUTANE	1.2 0.6 0.4 0.3
API LOCATION OWNER	1518523224 SEC 25, T23S, R13W	ISOBUTANE N-PENTANE ISOPENTANE	1.2 0.6 0.4 0.3
API LOCATION OWNER COMPLETED	1518523224 SEC 25, T23S, R13W AMERICAN WARRIOR, INC. 040502	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.2 0.6 0.4 0.3 - 0.7 21.3
API LOCATION OWNER COMPLETED SAMPLED	1518523224 SEC 25, T23S, R13W AMERICAN WARRIOR, INC. 040502 070717	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.2 0.6 0.4 0.3  0.7 21.3
API	1518523224 SEC 25, T23S, R13W AMERICAN WARRIOR, INC. 040502 070717 PENN-LANSING-KANSAS CITY	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.2 0.6 0.4 0.3  0.7 21.3
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	1518523224 SEC 25, T23S, R13W AMERICAN WARRIOR, INC. 040502 070717 PENN-LANSING-KANSAS CITY 385	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	1.2 0.6 0.4 0.3  0.7 21.3  TRACE
API	1518523224 SEC 25, T23S, R13W AMERICAN WARRIOR, INC. 040502 070717 PENN-LANSING-KANSAS CITY 385. 3590	ISOBUTANE	1.2 0.6 0.4 0.3  0.7 21.3  TRACE 0.0
API	1518523224 SEC 25, T23S, R13W AMERICAN WARRIOR, INC. 040502 070717 PENN-LANSING-KANSAS CITY 385 3590	ISOBUTANE	1.2 0.6 0.4 0.3  0.7 21.3  TRACE 0.0 0.0
API	1518523224 SEC 25, T23S, R13W AMERICAN WARRIOR, INC. 040502 070717 PENN-LANSING-KANSAS CITY 385 3590	ISOBUTANE	1.2 0.6 0.4 0.3  0.7 21.3  TRACE 0.0 0.0
API	1518523224 SEC 25, T23S, R13W AMERICAN WARRIOR, INC. 040502 070717 PENN-LANSING-KANSAS CITY 385 3590	ISOBUTANE	1.2 0.6 0.4 0.3  0.7 21.3  TRACE 0.0 0.0 0.2 0.86

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

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

SAMPLE	21646	COMPONENT, MOLE PCT	
STATE	KVVICVC	METHANE	70.5
		ETHANE	0.7
COUNTY		PROPANE	0.1
FIELD		N-BUTANE	TRACE
WELL NAME	<u> </u>	ISOBUTANE	TRACE
API	1508321488	N-PENTANE	0.0
LOCATION	SEC 9, T24S, R24W	ISOPENTANE	TRACE
OWNER	BECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	060314	HEXANES PLUS	0.0
SAMPLED	070719	NITROGEN	27.6
FORMATION	PERM-KRIDER	OXYGEN	
GEOLOGIC PROVINCE CODE		ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	TRACE
MEASURED DEPTH		HYDROGEN	
·	_	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	145_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21240	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	68.5
COUNTY		ETHANE	2.2
FIELD		PROPANE	1.0
•		N-BUTANE	0.4
WELL NAME	<u> </u>	ISOBUTANE	
API	1516530158	N-PENTANE	0.1
LOCATION			
	SEC. 30, T16S, R16W	ISOPENTANE	0.1
OWNER		ISOPENTANE	<u>0.1</u> 
OWNER	BEAR PETROLEUM, INC.	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1  0.2
	BEAR PETROLEUM, INC. 670201	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1  0.2 25.1
OWNER COMPLETED SAMPLED	BEAR PETROLEUM, INC. 670201 030819	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1  0.2 25.1 0.0
OWNER	BEAR PETROLEUM, INC. 670201 030819 PENN-SHAWNEE	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1  0.2 25.1 0.0 0.1
OWNER COMPLETED SAMPLED FORMATION	BEAR PETROLEUM, INC. 670201 030819 PENN-SHAWNEE 385	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.1  0.2 25.1 0.0 0.1
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	BEAR PETROLEUM, INC. 670201 030819 PENN-SHAWNEE 385 3003	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.1  0.2 25.1 0.0 0.1 
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	BEAR PETROLEUM, INC. 670201 030819 PENN-SHAWNEE 385 3003	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.1  0.2 25.1 0.0 0.1  0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	BEAR PETROLEUM, INC. 670201 030819 PENN-SHAWNEE 385 3003	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1  0.2 25.1 0.0 0.1  0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	BEAR PETROLEUM, INC. 670201 030819 PENN-SHAWNEE 385 3003	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.1  0.2 25.1 0.0 0.1  0.0 0.0 0.1 1.80

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

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

SAMPLE	≘ 21618	COMPONENT, MOLE PCT	
QTATE	KANSAS_	METHANE	89.0
		ETHANE	4.2
	EDWARDS.	PROPANE	1.9
•	TROUSDALE NE	N-BUTANE	0.7
WELL NAME	ELLEDGE BATTERY 1	ISOBUTANE	0.3
API	1504720079	N-PENTANE	0.3
LOCATION	SEC 23, T26S, R16W	ISOPENTANE	0.2
OWNER	BEREN CORP.	CYCLOPENTANE	
COMPLETED	701106	HEXANES PLUS	0.5
SAMPLED	070717	NITROGEN	2.6
FORMATION	PENN-WABAUNSEE	OXYGEN	
	E CODE 360	ARGON	
	TH (FT)3260	ARGON + OXYGEN	TRACE
		HYDROGEN	0.0
_		HYDROGEN SULFIDE**	
	RE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD _	280	HELIUM	
		HEATING VALUE*	,
SAMPLE	- 24624	SPECIFIC GRAVITY	0.000
SAMPL	<b>E</b> 21631	COMPONENT, MOLE PCT	04.0
STATE	KANSAS	METHANE	
COUNTY	EDWARDS	ETHANE PROPANE	
FIELD	WAYNE NW		
WELL NAME	GRYBOWSKI-MARTIN 1	N-BUTANE ISOBUTANE	
API	1504720342	N-PENTANE	
	SEC 18. T24S. R17W	ISOPENTANE	
	HOLL, F.G., CO, LLC	CYCLOPENTANE	
	780512	HEXANES PLUS	
	070718	NITROGEN	
	ENN-CHEROKEE. MISS-MISSISSIPPIAN	OXYGEN	
· · · · · · · · · · · · · · · · · · ·		ARGON	
GEOLOGIC PROVINC		ARGON + OXYGEN	
TRUE VERTICAL DEP	TH (FT)4376_	HYDROGEN	
MEASURED DEPTH _		HYDROGEN SULFIDE**	0.0
WELL HEAD DDESCHE	RE, PSIG	CARBON DIOXIDE	0.1
WELLHEAD FRESSOR			
	1550_	HELIUM	1.14
	1550	HELIUM HEATING VALUE*	

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

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

SAMPLE	21642	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	64.2
COUNTY		ETHANE	0.6
		PROPANE	0.1
FIELD		N-BUTANE	TRACE
WELL NAME		ISOBUTANE	TRACE
API	1508321482	N-PENTANE	0.0
LOCATION	SEC 16, T21S, R22W	ISOPENTANE	0.0
OWNER	BECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	030728	HEXANES PLUS	
SAMPLED	070719	NITROGEN	33.9
FORMATION	PERM-WINFIELD	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	TRACE
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	817	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21643	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	63.6
COUNTY		ETHANE	0.6
FIELD		PROPANE	0.1
	_	N-BUTANE	TDACE
WELL NAME			
		ISOBUTANE	TRACE
	1508321485	N-PENTANE	TRACE 0.0
LOCATION	1508321485 SEC 8, T21S, R22W	N-PENTANE	TRACE 0.0 TRACE
	1508321485 SEC 8, T21S, R22W	N-PENTANEISOPENTANECYCLOPENTANE	TRACE 0.0 TRACE
LOCATION	1508321485 SEC 8, T21S, R22W BECKER OIL CORP.	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS	TRACE 0.0 TRACE 0.0
LOCATION	1508321485 SEC 8, T21S, R22W BECKER OIL CORP. 040601	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	TRACE 0.0 TRACE 0.0 34.5
LOCATIONOWNERCOMPLETED	1508321485 SEC 8, T21S, R22W BECKER OIL CORP. 040601 070719	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	TRACE 0.0 TRACE  0.0 34.5
LOCATION OWNER COMPLETED SAMPLED	1508321485 SEC 8, T21S, R22W BECKER OIL CORP. 040601 070719 PERM-KRIDER, WINFIELD.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE 0.0 TRACE 0.0 34.5
LOCATION OWNER COMPLETED SAMPLED FORMATION	1508321485 SEC 8, T21S, R22W BECKER OIL CORP. 040601 070719 PERM-KRIDER, WINFIELD 360	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	TRACE 0.0 TRACE 0.0 34.5 TRACE
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	1508321485 SEC 8, T21S, R22W BECKER OIL CORP. 040601 070719 PERM-KRIDER, WINFIELD 360. 2390	N-PENTANE	TRACE 0.0 TRACE 0.0 34.5 TRACE 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	1508321485 SEC 8, T21S, R22W BECKER OIL CORP. 040601 070719 PERM-KRIDER, WINFIELD 360 2390	N-PENTANE	TRACE 0.0 TRACE 0.0 34.5 TRACE 0.0 0.0
LOCATION	1508321485 SEC 8, T21S, R22W BECKER OIL CORP. 040601 070719 PERM-KRIDER, WINFIELD 360 2390	N-PENTANE	TRACE 0.0 TRACE 0.0 34.5 TRACE 0.0 TRACE 0.0 TRACE
LOCATION	1508321485 SEC 8, T21S, R22W BECKER OIL CORP. 040601 070719 PERM-KRIDER, WINFIELD 360 2390	N-PENTANE	TRACE 0.0 TRACE 0.0 34.5 TRACE 0.0 TRACE 1.14

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

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

	SAMPLE	21620	С	OMPONENT, MOLE PCT	
CTATE		KANSAS		METHANE	85.2
				ETHANE	2.6
COUNTY		EDWARDS	<del></del> '	PROPANE	0.9
		WIL	_	N-BUTANE	0.2
		JULIAN 3-5	_	ISOBUTANE	0.1
		1504721471		N-PENTANE	0.1
LOCATION _		SEC 5, T25S, R16W	L	ISOPENTANE	0.1
OWNER		CASTELLI EXPLORATION, INC	_	CYCLOPENTANE	
COMPLETE	O	021018	<u>}</u>	HEXANES PLUS	0.1
SAMPLED _		070717	<u>7_</u>	NITROGEN	10.2
FORMATION	l	PERM-CHASE GROUP	<u> </u>	OXYGEN	
GEOLOGIC I	PROVINCE CODE	E360	1	ARGON	
		2474		ARGON + OXYGEN	TRACE
	` ′		_	HYDROGEN	
	•		_	HYDROGEN SULFIDE**	
	,	G		CARBON DIOXIDE	
OPEN FLOW	/, MCFD	366		HELIUM	
				IEATING VALUE* IPECIFIC GRAVITY	
	SAMPLE	21622	С	OMPONENT, MOLE PCT	
OTATE		KANDAG		METHANE	85.3
		KANSAS	<del>_</del>	ETHANE	2.6
		EDWARDS	<u>i</u> _	DROBANE	
FIELD				PROPANE	1.0
		WIL		N-BUTANE	
WELL NAME		WIL JULIAN 2-5			0.2
	<u> </u>		<u>.</u>	N-BUTANE	0.2
API	:	JULIAN 2-5	<u>5</u> 4	N-BUTANE	0.2 0.1 0.1
API LOCATION _	:	JULIAN 2-5 1504721464	5. 4. V	N-BUTANEISOBUTANE	0.2 0.1 0.1 0.1
API LOCATION _ OWNER		JULIAN 2-5 1504721464 SEC 5, T25S, R16W	5. 4. V.	N-BUTANEISOBUTANEN-PENTANEISOPENTANE	0.2 0.1 0.1 0.1
API LOCATION _ OWNER COMPLETE	)	JULIAN 2-5 1504721464 SEC 5, T25S, R16W CASTELLI EXPLORATION, INC	5. 4. ½. 5.	N-BUTANEISOBUTANEISOPENTANEISOPENTANECYCLOPENTANE	0.2 0.1 0.1 0.1  0.1
API LOCATION _ OWNER COMPLETED SAMPLED _	)	JULIAN 2-5 1504721464 SEC 5, T25S, R16W CASTELLI EXPLORATION, INC 020420	5. 4. V.  D.	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2 0.1 0.1 0.1  0.1 9.9
API LOCATION _ OWNER COMPLETED SAMPLED _ FORMATION	)	JULIAN 2-5 1504721464 SEC 5, T25S, R16W CASTELLI EXPLORATION, INC 020420 070717	5. 4. 4. 4. 5. 5. 7.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUS NITROGEN	0.2 0.1 0.1 0.1  0.1 9.9
API LOCATION _ OWNER COMPLETED SAMPLED _ FORMATION GEOLOGIC I	D	JULIAN 2-5 1504721464 SEC 5, T25S, R16W CASTELLI EXPLORATION, INC 020420 070717 PERM-CHASE GROUE	5. 4. V. 5. 1. 2. 2.	N-BUTANE	0.2 0.1 0.1 0.1  0.1 9.9  TRACE
API LOCATION _ OWNER COMPLETED SAMPLED _ FORMATION GEOLOGIC I TRUE VERTI	PROVINCE CODE	JULIAN 2-5  1504721464  SEC 5, T25S, R16W  CASTELLI EXPLORATION, INC  020420  070717  PERM-CHASE GROUF  360  2329	5. 4. 4. 2. 2. 2. 2. 2.	N-BUTANE	0.2 0.1 0.1 0.1 0.1 9.9 TRACE 0.0
API LOCATION _ OWNER COMPLETED _ SAMPLED _ FORMATION GEOLOGIC I TRUE VERTI	PROVINCE CODE	JULIAN 2-5 1504721464 SEC 5, T25S, R16W CASTELLI EXPLORATION, INC 020420 070717 PERM-CHASE GROUF = 360 2329	5. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.	N-BUTANE	0.2 0.1 0.1 0.1 0.1 9.9 TRACE 0.0 0.0
API LOCATION _ OWNER COMPLETED SAMPLED _ FORMATION GEOLOGIC I TRUE VERTI MEASURED WELLHEAD	PROVINCE CODE ICAL DEPTH (FT) DEPTH PRESSURE, PSI	JULIAN 2-5 1504721464 SEC 5, T25S, R16W CASTELLI EXPLORATION, INC 020420 070717 PERM-CHASE GROUF E	5. 4. V. 2. 2. 2. 2. 3.	N-BUTANE	0.2 0.1 0.1 0.1  0.1 9.9  TRACE 0.0 0.0
API LOCATION _ OWNER COMPLETED SAMPLED _ FORMATION GEOLOGIC I TRUE VERTI MEASURED WELLHEAD	PROVINCE CODE ICAL DEPTH (FT) DEPTH PRESSURE, PSI	JULIAN 2-5 1504721464 SEC 5, T25S, R16W CASTELLI EXPLORATION, INC 020420 070717 PERM-CHASE GROUF = 360 2329	5. 4. V. C. C. C. C. C.	N-BUTANE	0.2 0.1 0.1 0.1  0.1 9.9  TRACE 0.0 TRACE 0.50

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21623	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	88.8
COUNTY		ETHANE	3.2
		PROPANE	1.1
FIELD		N-BUTANE	0.4
WELL NAME		ISOBUTANE	0.2
API	1504721034	N-PENTANE	0.2
LOCATION	SEC 12, T25S, R17W	ISOPENTANE	0.1
OWNER	HOLL, F.G., CO. LLC	CYCLOPENTANE	
COMPLETED	820712	HEXANES PLUS	0.3
SAMPLED	070717	NITROGEN	4.9
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	TRACE
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	<del></del>	HELIUM	
		HEATING VALUE*	
SAMPLE	20762	SPECIFIC GRAVITY	0.024
SAMPLE	20762	COMPONENT, MOLE PCT	74.0
STATE	KANSAS	METHANE	
COUNTY	MORTON	ETHANE	
FIELD	WILBURTON E	PROPANE	
WELL NAME	BARKER B 1-4	N-BUTANE	
ADI		ICODLITANE	
ACI		ISOBUTANE	0.6
	1512921649	N-PENTANE	0.6 0.5
LOCATION	1512921649 SEC. 36, T34S, R41W	N-PENTANE	0.6 0.5 0.4
LOCATION	1512921649 SEC. 36, T34S, R41W OXY USA, INC.	N-PENTANEISOPENTANECYCLOPENTANE	0.6 0.5 0.4
LOCATION OWNER COMPLETED	1512921649 SEC. 36, T34S, R41W OXY USA, INC. 010930	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS	0.6 0.5 0.4  0.4
LOCATION OWNER COMPLETED SAMPLED	1512921649 SEC. 36, T34S, R41W OXY USA, INC. 010930 010801	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.6 0.5 0.4  0.4 16.6
LOCATION OWNER COMPLETED SAMPLED FORMATION	1512921649 SEC. 36, T34S, R41W OXY USA, INC. 010930 010801 PENN-MORROW U	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS	0.6 0.5 0.4  0.4 16.6
LOCATION OWNER COMPLETED SAMPLED	1512921649 SEC. 36, T34S, R41W OXY USA, INC. 010930 010801 PENN-MORROW U	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.6 0.5 0.4  0.4 16.6 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	1512921649 SEC. 36, T34S, R41W OXY USA, INC. 010930 010801 PENN-MORROW U 360 5494	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.6 0.5 0.4  0.4 16.6 0.0 TRACE
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	1512921649 SEC. 36, T34S, R41W OXY USA, INC. 010930 010801 PENN-MORROW U 360 5494	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.6 0.5 0.4  0.4 16.6 0.0 TRACE
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	1512921649 SEC. 36, T34S, R41W OXY USA, INC. 010930 010801 PENN-MORROW U 360 5494	N-PENTANE	0.6 0.5 0.4  0.4 16.6 0.0 TRACE  TRACE
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	1512921649 SEC. 36, T34S, R41W OXY USA, INC. 010930 010801 PENN-MORROW U 360 5494	N-PENTANE	0.6 0.5 0.4  0.4 16.6 0.0 TRACE  TRACE 0.0
LOCATION	1512921649 SEC. 36, T34S, R41W OXY USA, INC. 010930 010801 PENN-MORROW U 360 5494	N-PENTANE	0.6 0.5 0.4  0.4 16.6 0.0 TRACE  TRACE 0.0 0.4

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

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

SAMPLE	50591	COMPONENT, MOLE PCT	
CTATE	KANSAS.	METHANE	90.5
		ETHANE	4.2
·	BARBER	PROPANE	1.8
	WOLGAMOTT	N-BUTANE	0.6
_	WOLGAMOTT NO. 2-9	ISOBUTANE	0.2
API	1500722680	N-PENTANE	0.2
LOCATION	SEC. 9, T35S, R14W	ISOPENTANE	0.2
OWNER	JACK EXPLORATION, INC.	CYCLOPENTANE	
COMPLETED	011024	HEXANES PLUS	0.5
SAMPLED	020905	NITROGEN	1.7
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	
GEOLOGIC PROVINCE (	CODE375_	ARGON	
	H (FT)4898_	ARGON + OXYGEN	
		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
	, PSIG	CARBON DIOXIDE	0.2
OPEN FLOW, MCFD	1669_	HELIUM	
		HEATING VALUE*	1,105
		SPECIFIC GRAVITY	0.634
SAMPLE	21589	COMPONENT, MOLE PCT	
STATE	LOUISIANA	METHANE	92.4
·	BIENVILLE	ETHANE	3.4
·	ALABAMA BEND	PROPANE	0.7
		N-BUTANE	0.1
	BLACK STONE MINERALS 11-1-1	ISOBUTANE	0.2
API	1701321462	N-PENTANE	TRACE
LOCATION	SEC. 11, T15N, R10W	ISOPENTANE	0.1
OWNER	PETROCHEM OPERATING CO.	CYCLOPENTANE	
COMPLETED	050612	HEXANES PLUS	0.1
SAMPLED	070319	NITROGEN	0.2
FORMATION	JURA-COTTON VALLEY	OXYGEN	
GEOLOGIC PROVINCE	CODE	ARGON	
	H (FT) 10106	ARGON + OXYGEN	TRACE
	10100	HYDROGEN	
		HYDROGEN SULFIDE**	
	, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	1500_	HELIUM	
		HEATING VALUE*	•
		SPECIFIC GRAVITY	

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21590	COMPONENT, MOLE PCT	
STATE	LOUISIANA	METHANE	91.9
·		ETHANE	3.8
	BIENVILLE	PROPANE	0.8
•	ALABAMA BEND	N-BUTANE	0.2
	BLACK STONE MINERALS 3-16-1	ISOBUTANE	0.2
API	1701321463	N-PENTANE	0.1
LOCATION	SEC. 3, T15N, R10W	ISOPENTANE	0.1
OWNER	PETROCHEM OPERATING CO.	CYCLOPENTANE	
COMPLETED	051102	HEXANES PLUS	0.1
SAMPLED	070319	NITROGEN	0.2
FORMATION	JURA-COTTON VALLEY	OXYGEN	
GEOLOGIC PROVINCE COD	DE230_	ARGON	
	Γ)9884_	ARGON + OXYGEN	
•	3004	HYDROGEN	0.0
	IG	HYDROGEN SULFIDE**	
, -		CARBON DIOXIDE	
OPEN FLOW, MCFD	1475	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21453	COMPONENT, MOLE PCT	
STATE	MONTANA_	METHANE	81.6
	WONTANA		
COLINITY	T001 F	ETHANE	5.5
·	TOOLE	ETHANEPROPANE	
FIELD	AMANDA.	•	3.1
FIELD	AMANDA JACOBSON 23-10	PROPANE	3.1 1.1
FIELD	AMANDA.	PROPANE	3.1 1.1 0.5
FIELD WELL NAMEAPI	AMANDA JACOBSON 23-10	PROPANE N-BUTANE ISOBUTANE	3.1 1.1 0.5 0.3
FIELD WELL NAME API LOCATION	AMANDA JACOBSON 23-10 2510123540	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	3.1 1.1 0.5 0.3 0.3
FIELD WELL NAME API LOCATION OWNER	AMANDA JACOBSON 23-10 2510123540 SEC 23, T36N, R4W	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE	3.1 1.1 0.5 0.3 0.3
FIELD WELL NAME API LOCATION OWNER COMPLETED	AMANDA  JACOBSON 23-10  2510123540  SEC 23, T36N, R4W  SOMONT OIL COMPANY, INC.	PROPANE  N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.1 1.1 0.5 0.3 0.3 
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	AMANDA.  JACOBSON 23-10.  2510123540.  SEC 23, T36N, R4W.  SOMONT OIL COMPANY, INC 920811.	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN	3.1 1.1 0.5 0.3 0.3  0.5 5.3
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	AMANDA  JACOBSON 23-10  2510123540  SEC 23, T36N, R4W  SOMONT OIL COMPANY, INC.  920811  050000  JURA-SWIFT	PROPANE	3.1 1.1 0.5 0.3 0.3  0.5 5.3
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD	AMANDA.  JACOBSON 23-10.  2510123540.  SEC 23, T36N, R4W.  SOMONT OIL COMPANY, INC 920811. 050000.  JURA-SWIFT.	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN	3.1 1.1 0.5 0.3 0.3  0.5 5.3 
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT	AMANDA  JACOBSON 23-10  2510123540  SEC 23, T36N, R4W  SOMONT OIL COMPANY, INC.  920811  050000  JURA-SWIFT  DE	PROPANE	3.1 1.1 0.5 0.3 0.3  0.5 5.3  0.1
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT	AMANDA  JACOBSON 23-10  2510123540  SEC 23, T36N, R4W  SOMONT OIL COMPANY, INC.  920811  050000  JURA-SWIFT  DE	PROPANE	3.1 1.1 0.5 0.3 0.3  0.5 5.3  0.1 0.0
FIELD	AMANDA  JACOBSON 23-10  2510123540  SEC 23, T36N, R4W  SOMONT OIL COMPANY, INC.  920811  050000  JURA-SWIFT  DE	PROPANE	3.1 1.1 0.5 0.3 0.3  0.5 5.3  0.1 0.0 0.0
FIELD	AMANDA  JACOBSON 23-10  2510123540  SEC 23, T36N, R4W  SOMONT OIL COMPANY, INC.  920811  050000  JURA-SWIFT  DE	PROPANE	3.1 1.1 0.5 0.3 0.3 0.5 5.3 0.1 0.0 0.0 1.4 0.10

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21532	COMPONENT, MOLE PCT	
STATE	MONITANIA	METHANE	91.7
·		ETHANE	0.5
COUNTY		PROPANE	0.1
FIELD		N-BUTANE	TRACE
WELL NAME	SHOEMAKER 9-22	ISOBUTANE	TRACE
API	2505121732	N-PENTANE	TRACE
LOCATION	SEC 22, T36N, R6E	ISOPENTANE	TRACE
OWNER	CROFT PETROLEUM CO.	CYCLOPENTANE	
COMPLETED	011010	HEXANES PLUS	TRACE
SAMPLED	060608	NITROGEN	7.3
FORMATIONCR	RET-SECOND WHITE SPECKS	OXYGEN	
GEOLOGIC PROVINCE CODE _	500	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	127_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21602	COMPONENT, MOLE PCT	
STATE	MONITANIA	METHANE	
	<u>MONTANA</u>		86.6
COUNTY		ETHANE	2.3
	GLACIER.	PROPANE	2.3 2.2
FIELD	GLACIER LITTLE ROCK	PROPANEN-BUTANE	2.3 2.2 0.9
COUNTY FIELD WELL NAME	GLACIER. LITTLE ROCK. AUGESTAD 2-2.	PROPANEN-BUTANEISOBUTANE	2.3 2.2 0.9 0.6
FIELD WELL NAMEAPI	GLACIER LITTLE ROCK AUGESTAD 2-2 2503522076	PROPANE N-BUTANE ISOBUTANE N-PENTANE	2.3 2.2 0.9 0.6 0.2
FIELD	GLACIER LITTLE ROCK AUGESTAD 2-2 2503522076 SEC 2, T36N, R6W	PROPANE  N-BUTANE ISOBUTANE  N-PENTANE ISOPENTANE	2.3 2.2 0.9 0.6 0.2 0.3
FIELD WELL NAME API LOCATION OWNER	GLACIER. LITTLE ROCK. AUGESTAD 2-2. 2503522076. SEC 2, T36N, R6W. CROFT PETROLEUM CO.	PROPANE  N-BUTANE ISOBUTANE  N-PENTANE ISOPENTANE CYCLOPENTANE	2.3 2.2 0.9 0.6 0.2 0.3
FIELD	GLACIER. LITTLE ROCK. AUGESTAD 2-2. 2503522076. SEC 2, T36N, R6W. CROFT PETROLEUM CO.	PROPANE  N-BUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS	2.3 2.2 0.9 0.6 0.2 0.3 
FIELD WELL NAME API LOCATION OWNER	GLACIER LITTLE ROCK AUGESTAD 2-2 2503522076 SEC 2, T36N, R6W CROFT PETROLEUM CO. 070307	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN	2.3 2.2 0.9 0.6 0.2 0.3  0.3 6.0
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	GLACIER. LITTLE ROCK. AUGESTAD 2-2. 2503522076. SEC 2, T36N, R6W. CROFT PETROLEUM CO. 070307. 070000. CRET-BLACKLEAF.	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN	2.3 2.2 0.9 0.6 0.2 0.3  0.3 6.0
FIELD	GLACIER. LITTLE ROCK. AUGESTAD 2-2 2503522076. SEC 2, T36N, R6W. CROFT PETROLEUM CO. 070307. 070000. CRET-BLACKLEAF.	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON	2.3 2.2 0.9 0.6 0.2 0.3  0.3 6.0
WELL NAME	GLACIER LITTLE ROCK AUGESTAD 2-2 2503522076 SEC 2, T36N, R6W CROFT PETROLEUM CO. 070307 070000 CRET-BLACKLEAE	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN	2.3 2.2 0.9 0.6 0.2 0.3  0.3 6.0
WELL NAME	GLACIER. LITTLE ROCK. AUGESTAD 2-2. 2503522076. SEC 2, T36N, R6W. CROFT PETROLEUM CO. 070307. 070000. CRET-BLACKLEAF. 500. 1996.	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN	2.3 2.2 0.9 0.6 0.2 0.3  0.3 6.0  0.1
FIELD	GLACIER LITTLE ROCK AUGESTAD 2-2 2503522076 SEC 2, T36N, R6W CROFT PETROLEUM CO. 070307 070000 CRET-BLACKLEAF 500 1996	PROPANE	2.3 2.2 0.9 0.6 0.2 0.3  0.3 6.0  0.1 0.2
WELL NAME	GLACIER.  LITTLE ROCK.  AUGESTAD 2-2.  2503522076.  SEC 2, T36N, R6W.  CROFT PETROLEUM CO.  070307.  070000.  CRET-BLACKLEAF.  500.  1996.	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN SULFIDE**  CARBON DIOXIDE	2.3 2.2 0.9 0.6 0.2 0.3 6.0  0.1 0.2 0.0
FIELD	GLACIER.  LITTLE ROCK.  AUGESTAD 2-2.  2503522076.  SEC 2, T36N, R6W.  CROFT PETROLEUM CO.  070307.  070000.  CRET-BLACKLEAF.  500.  1996.	PROPANE	2.3 2.2 0.9 0.6 0.2 0.3 0.3 6.0 0.1 0.2 0.0 0.1 0.37

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21597	COMPONENT, MOLE PCT	
STATE	ΜΟΝΤΛΝΛ	METHANE	93.9
·	_	ETHANE	1.4
COUNTY		PROPANE	0.1
FIELD		N-BUTANE	0.1
WELL NAME		ISOBUTANE	0.1
API	2510122383	N-PENTANE	TRACE
LOCATION	SEC 1, T37N, R2E	ISOPENTANE	TRACE
OWNER	MCR, LLC	CYCLOPENTANE	
COMPLETED	820910	HEXANES PLUS	TRACE
SAMPLED	070515	NITROGEN	1.4
FORMATION	CRET-SUNBURST	OXYGEN	
GEOLOGIC PROVINCE CODE	500_	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE. PSIG	-	HYDROGEN SULFIDE**	
	<del>-</del>	CARBON DIOXIDE	
OPEN FLOW, MCFD	32_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21607	COMPONENT, MOLE PCT	
STATE	MONTANA	METHANE	85.9
COUNTY	TOOLE	ETHANE	
EIELD.		PROPANE	0.5
	POLICE COULEE		
·	POLICE COULEE	N-BUTANE	0.1
WELL NAME	O'LOUGHLIN 29-3	ISOBUTANE	0.1 0.1
WELL NAME	O'LOUGHLIN 29-3 2510121751	ISOBUTANE	0.1 0.1 TRACE
WELL NAMEAPI	O'LOUGHLIN 29-3 2510121751 SEC 29, T37N, R1E	ISOBUTANE N-PENTANE ISOPENTANE	0.1 0.1 TRACE 0.1
WELL NAME	O'L OUGHLIN 29-3 2510121751 SEC 29, T37N, R1E DNR OIL & GAS, INC.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.1 0.1 TRACE 0.1
WELL NAME	O'L OUGHLIN 29-3 2510121751 SEC 29, T37N, R1E DNR OIL & GAS, INC. 781002	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.1 TRACE 0.1  TRACE
WELL NAME	O'LOUGHLIN 29-3 2510121751 SEC 29, T37N, R1E DNR OIL & GAS, INC. 781002 070628	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.1 TRACE 0.1  TRACE 10.0
WELL NAME	O'LOUGHLIN 29-3 2510121751 SEC 29, T37N, R1E DNR OIL & GAS, INC. 781002 070628	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.1 TRACE 0.1  TRACE 10.0
WELL NAME	O'LOUGHLIN 29-3 2510121751 SEC 29, T37N, R1E DNR OIL & GAS, INC. 781002 070628	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 0.1 TRACE 0.1  TRACE 10.0
WELL NAME	O'LOUGHLIN 29-3 2510121751 SEC 29, T37N, R1E DNR OIL & GAS, INC. 781002 070628 CRET-BOW ISLAND	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.1 0.1 TRACE 0.1  TRACE 10.0
WELL NAME	O'L OUGHLIN 29-3 2510121751 SEC 29, T37N, R1E DNR OIL & GAS, INC. 781002 070628 CRET-BOW ISLAND 500 1133	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.1 0.1 TRACE 0.1  TRACE 10.0  0.6
WELL NAME	O'LOUGHLIN 29-3 2510121751 SEC 29, T37N, R1E DNR OIL & GAS, INC. 781002 070628 CRET-BOW ISLAND 500 1133	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.1 0.1 TRACE 0.1  TRACE 10.0  0.6 TRACE 0.0
WELL NAME	O'LOUGHLIN 29-3 2510121751 SEC 29, T37N, R1E DNR OIL & GAS, INC. 781002 070628 CRET-BOW ISLAND 500 1133	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.1 0.1 TRACE 0.1  TRACE 10.0  0.6 TRACE 0.0
WELL NAME	O'LOUGHLIN 29-3 2510121751 SEC 29, T37N, R1E DNR OIL & GAS, INC. 781002 070628 CRET-BOW ISLAND 500 1133	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 TRACE 0.1 TRACE 10.0 0.6 TRACE 0.0 1.3

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21666	COMPONENT, MOLE PCT	
STATE	ΜΟΝΤΛΝΙΛ	METHANE	73.5
COUNTY		ETHANE	7.3
·	_	PROPANE	5.9
FIELD	<del></del>	N-BUTANE	2.1
WELL NAME	_	ISOBUTANE	1.0
API	2503506938	N-PENTANE	0.4
LOCATION	SEC 15, T37N, R7W	ISOPENTANE	0.4
OWNER	OMIMEX CANADA LTD.	CYCLOPENTANE	
COMPLETED	490825	HEXANES PLUS	0.5
SAMPLED	070827	NITROGEN	8.4
FORMATION	CRET-BLACKLEAF	OXYGEN	
GEOLOGIC PROVINCE CODE	500	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
-		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	2245_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21665	COMPONENT, MOLE PCT	
STATE	MONITANIA	METHANE	02.0
			93.9
COUNTY		ETHANE	
COUNTY	LIBERTY	ETHANEPROPANE	0.2
FIELD	LIBERTY SAGE CREEK		0.2
FIELD	LIBERTY SAGE CREEK STATE 14-16	PROPANE	0.2 0.0 0.0
FIELD WELL NAMEAPI	LIBERTY SAGE CREEK STATE 14-16 2505121711	PROPANEN-BUTANE	0.2 0.0 0.0 0.0
FIELD	LIBERTY SAGE CREEK STATE 14-16 2505121711	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.2 0.0 0.0 0.0 0.0 0.0
FIELD WELL NAMEAPI	LIBERTY.  SAGE CREEK.  STATE 14-16.  2505121711.  SEC 16, T37N, R7E.	PROPANE  N-BUTANE ISOBUTANE  N-PENTANE ISOPENTANE CYCLOPENTANE	0.2 0.0 0.0 0.0 0.0 0.0
FIELD	LIBERTY SAGE CREEK STATE 14-16 2505121711 SEC 16, T37N, R7E OMIMEX CANADA LTD	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2 0.0 0.0 0.0 0.0 0.0
FIELD WELL NAME API LOCATION OWNER	LIBERTY  SAGE CREEK.  STATE 14-16  2505121711  SEC 16, T37N, R7E  OMIMEX CANADA LTD.  990809	PROPANE	0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0
FIELD	LIBERTY  SAGE CREEK  STATE 14-16  2505121711  SEC 16, T37N, R7E  OMIMEX CANADA LTD.  990809  070823	PROPANE	0.2 0.0 0.0 0.0 0.0 0.0  0.0 5.5
FIELD	LIBERTY  SAGE CREEK  STATE 14-16  2505121711  SEC 16, T37N, R7E  OMIMEX CANADA LTD.  990809  070823  CRET-WHITE SPECKS 2ND	PROPANE	0.2 0.0 0.0 0.0 0.0 0.0  0.0 5.5
FIELD	LIBERTY  SAGE CREEK  STATE 14-16  2505121711  SEC 16, T37N, R7E  OMIMEX CANADA LTD.  990809  070823  CRET-WHITE SPECKS 2ND  500	PROPANE	0.2 0.0 0.0 0.0 0.0 0.0  0.0 5.5
FIELD	LIBERTY  SAGE CREEK  STATE 14-16  2505121711  SEC 16, T37N, R7E  OMIMEX CANADA LTD.  990809  070823  CRET-WHITE SPECKS 2ND  500  1927	PROPANE	0.2 0.0 0.0 0.0 0.0  0.0 5.5  TRACE 0.0
FIELD	LIBERTY  SAGE CREEK  STATE 14-16  2505121711  SEC 16, T37N, R7E  OMIMEX CANADA LTD.  990809  070823  CRET-WHITE SPECKS 2ND  500  1927	PROPANE	0.2 0.0 0.0 0.0 0.0  0.0 5.5  TRACE 0.0
FIELD	LIBERTY  SAGE CREEK  STATE 14-16  2505121711  SEC 16, T37N, R7E  OMIMEX CANADA LTD.  990809  070823  CRET-WHITE SPECKS 2ND  500  1927	PROPANE	0.2 0.0 0.0 0.0 0.0  0.0 5.5  TRACE 0.0 0.0
FIELD	LIBERTY  SAGE CREEK  STATE 14-16  2505121711  SEC 16, T37N, R7E  OMIMEX CANADA LTD.  990809  070823  CRET-WHITE SPECKS 2ND  500  1927	PROPANE	0.2 0.0 0.0 0.0 0.0  0.0 5.5  TRACE 0.0 0.0

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21670	COMPONENT, MOLE PCT	
STATE	MONTANA	METHANE	89.2
COUNTY	<u> </u>	ETHANE	1.6
		PROPANE	0.6
FIELD		N-BUTANE	0.1
WELL NAME		ISOBUTANE	0.1
API	2500522312	N-PENTANE	TRACE
LOCATION	SEC 31, T28N, R19E	ISOPENTANE	0.2
OWNER	DEVON ENERGY CORP.	CYCLOPENTANE	
COMPLETED	830925	HEXANES PLUS	TRACE
SAMPLED	071004	NITROGEN	7.9
FORMATION	CRET-JUDITH RIVER	OXYGEN	
GEOLOGIC PROVINCE CODE _	395	ARGON	
TRUE VERTICAL DEPTH (FT)	1590	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE. PSIG		HYDROGEN SULFIDE**	
,		CARBON DIOXIDE	
OPEN FLOW, MCFD	34_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21621	COMPONENT, MOLE PCT	
STATE	MONTANA	METHANE	
COUNTY	HILL	ETHANE	
FIELD	ST JOE ROAD	PROPANE	
WELL NAME		N-BUTANE	
		ISOBUTANE	
	2504123215	NUDENTANE	
	2504123215 SEC 28 T36N B16E	N-PENTANE	0.0
LOCATION	SEC 28, T36N, R16E	ISOPENTANE	0.0
LOCATION	SEC 28, T36N, R16E KLABZUBA OIL & GAS, INC.	ISOPENTANE	0.0 0.0 
LOCATIONOWNERCOMPLETED	SEC 28, T36N, R16E KLABZUBA OIL & GAS, INC. 050523	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.0 0.0  0.0
LOCATION OWNER COMPLETED SAMPLED	SEC 28, T36N, R16E KLABZUBA OIL & GAS, INC. 050523 070709	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.0 0.0  0.0 5.0
LOCATION OWNER COMPLETED SAMPLED FORMATION	SEC 28, T36N, R16E KLABZUBA OIL & GAS, INC. 050523 070709 CRET-NIOBRARA	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.0 0.0  0.0 5.0
LOCATION OWNER COMPLETED SAMPLED	SEC 28, T36N, R16E KLABZUBA OIL & GAS, INC. 050523 070709 CRET-NIOBRARA	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.0 0.0  0.0 5.0
LOCATION OWNER COMPLETED SAMPLED FORMATION	SEC 28, T36N, R16E KLABZUBA OIL & GAS, INC. 050523 070709 CRET-NIOBRARA. 500	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.0 0.0  0.0 5.0  TRACE
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	SEC 28, T36N, R16E  KLABZUBA OIL & GAS, INC.  050523  070709  CRET-NIOBRARA  500  1973	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.0 0.0 0.0 5.0  TRACE 0.1
LOCATION	SEC 28, T36N, R16E  KLABZUBA OIL & GAS, INC.  050523  070709  CRET-NIOBRARA  500  1973	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.0 0.0 0.0 5.0  TRACE 0.1
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT)	SEC 28, T36N, R16E. KLABZUBA OIL & GAS, INC. 050523 070709 CRET-NIOBRARA 500 1973	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.0 0.0  0.0 5.0  TRACE 0.1 0.0
LOCATION	SEC 28, T36N, R16E. KLABZUBA OIL & GAS, INC. 050523 070709 CRET-NIOBRARA 500 1973	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.0 5.0  TRACE 0.1 0.0 0.1

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

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

SAMPLE	21657	COMPONENT, MOLE PCT	
STATE	NEDDACKA	METHANE	89.2
		ETHANE	1.4
COUNTY		PROPANE	1.0
FIELD		N-BUTANE	0.3
WELL NAME	POPPEN 8-B	ISOBUTANE	0.2
API	2603322491	N-PENTANE	0.1
LOCATION	SEC 32, T16N, R48W	ISOPENTANE	0.1
OWNER	PATHEX PETROLEUM, INC.	CYCLOPENTANE	
COMPLETED	931106	HEXANES PLUS	0.1
SAMPLED	070815	NITROGEN	6.7
FORMATION	CRET-NIOBRARA	OXYGEN	
GEOLOGIC PROVINCE CODE _		ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	0.1
` ,		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.5
OPEN FLOW, MCFD	494	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.619
SAMPLE	21660	COMPONENT, MOLE PCT	
STATE	NEBRASKA	METHANE	91.0
COUNTY		ETHANE	1.3
	OHE TENTE	PROPANE	
	MCCOLIPT W	TROLINE	
·	MCCOURT W	N-BUTANE	0.9
WELL NAME	TOOF 3-4B.		0.9
WELL NAME	TOOF 3-4B 2603322443	N-BUTANE ISOBUTANE N-PENTANE	0.9 0.3 0.2 0.1
WELL NAME	TOOF 3-4B 2603322443	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.9 0.3 0.2 0.1
WELL NAME	TOOF 3-4B. 2603322443. SEC 3, T16N, R48W.	N-BUTANE ISOBUTANE N-PENTANE	0.9 0.3 0.2 0.1
WELL NAMEAPI	TOOF 3-4B 2603322443 SEC 3, T16N, R48W PATHEX PETROLEUM, INC.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.9 0.3 0.2 0.1 0.1
WELL NAME API LOCATION OWNER	TOOF 3-4B. 2603322443. SEC 3, T16N, R48W. PATHEX PETROLEUM, INC. 930208	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.9 0.3 0.2 0.1 0.1  0.1 5.2
WELL NAME API LOCATION OWNER COMPLETED	TOOF 3-4B. 2603322443 SEC 3, T16N, R48W PATHEX PETROLEUM, INC. 930208 070815	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.9 0.3 0.2 0.1 0.1  0.1 5.2
WELL NAME	TOOF 3-4B. 2603322443 SEC 3, T16N, R48W PATHEX PETROLEUM, INC. 930208 070815	N-BUTANE	0.9 0.3 0.2 0.1 0.1 0.1 5.2
WELL NAME	TOOF 3-4B. 2603322443 SEC 3, T16N, R48W PATHEX PETROLEUM, INC. 930208 070815 CRET-NIOBRARA. 540	N-BUTANE	0.9 0.3 0.2 0.1 0.1  0.1 5.2  0.1
WELL NAME	TOOF 3-4B 2603322443 SEC 3, T16N, R48W PATHEX PETROLEUM, INC. 930208 070815 CRET-NIOBRARA 540 3595	N-BUTANE	0.9 0.3 0.2 0.1 0.1 0.1 5.2 0.1 0.0
WELL NAME	TOOF 3-4B. 2603322443. SEC 3, T16N, R48W. PATHEX PETROL EUM, INC. 930208 070815. CRET-NIOBRARA 540 3595.	N-BUTANE	0.9 0.3 0.2 0.1 0.1 0.1 5.2 0.1 0.0 TRACE
WELL NAME	TOOF 3-4B. 2603322443 SEC 3, T16N, R48W PATHEX PETROLEUM, INC. 930208 070815 CRET-NIOBRARA 540 3595	N-BUTANE	0.9 0.3 0.2 0.1 0.1 0.1 5.2 0.1 0.0 TRACE
WELL NAME	TOOF 3-4B. 2603322443 SEC 3, T16N, R48W PATHEX PETROLEUM, INC. 930208 070815 CRET-NIOBRARA 540 3595	N-BUTANE	0.9 0.3 0.2 0.1 0.1 0.1 5.2 0.1 0.0 TRACE 0.5 0.14

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

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

NEBRASKA   ETI	NENT, MOLE PCT	
COUNTY	THANE	89.6
PR	HANE	1.5
WELL NAME         MILLER FARMS 21-4A         N.E.           API         2603322480         N.F.           LOCATION         SEC 21, T16N, R47W         ISC           OWNER         PATHEX PETROLEUM, INC.         CY           COMPLETED         931016         HE           SAMPLED         070815         NIT           FORMATION         CRET-NIOBRARA         AR           GEOLOGIC PROVINCE CODE         540         AR           TRUE VERTICAL DEPTH (FT)         3414         HY           MEASURED DEPTH         HY         WELLHEAD PRESSURE, PSIG         CA           OPEN FLOW, MCFD         328         HE           HEATIN         SPECIF         SAMPLE         21659         COMPO           STATE         NEBRASKA         ME         ETI         MILLER N         NE           WELL NAME         HYDE 5-2A         ISC         AP         AP         AP           LOCATION         SEC 5, T16N, R47W         ISC         CY           OWNER         PATHEX PETROLEUM, INC.         CY           COMPLETED         930120         HE           SAMPLED         070815         NIT           FORMATION         CRET-NIOBRARA         AR <td>OPANE</td> <td>1.0</td>	OPANE	1.0
API	BUTANE	0.3
DOCATION	OBUTANE	0.2
OWNER	PENTANE	0.1
COMPLETED 931016 HE SAMPLED 070815 NIT FORMATION CRET-NIOBRARA AR GEOLOGIC PROVINCE CODE 540 AR GEOLOGIC PROVINCE CODE 540 AR TRUE VERTICAL DEPTH (FT) 3414 HY MEASURED DEPTH HY WELLHEAD PRESSURE, PSIG CA OPEN FLOW, MCFD 328 HE HEATIN SPECIF  SAMPLE 21659 COMPO  STATE NEBRASKA ETI COUNTY CHEYENNE PRIELD MILLER N. WELL NAME HYDE 5-2A ISC API 2603322438 N.F LOCATION SEC 5, T16N, R47W ISC OWNER PATHEX PETROLEUM, INC. CY COMPLETED 930120 HE SAMPLED 070815 FORMATION CRET-NIOBRARA AR GEOLOGIC PROVINCE CODE 540 AR TRUE VERTICAL DEPTH (FT) 3402 HY MEASURED DEPTH HY  MEASURED DEPTED 1910	OPENTANE	0.1
SAMPLED 070815 NIT FORMATION CRET-NIOBRARA AR GEOLOGIC PROVINCE CODE 540 AR TRUE VERTICAL DEPTH (FT) 3414 HY MEASURED DEPTH HY WELLHEAD PRESSURE, PSIG CA OPEN FLOW, MCFD 328 HE HEATIN SPECIF  SAMPLE 21659 COMPO  STATE NEBRASKA ETI COUNTY CHEYENNE PRESSURE PROCESSED SAMPLE 1603322438 N-F LOCATION SEC 5, T16N, R47W ISC OWNER PATHEX PETROLEUM, INC. CY COMPLETED 930120 HE SAMPLED 070815 FORMATION CRET-NIOBRARA AR GEOLOGIC PROVINCE CODE 540 AR TRUE VERTICAL DEPTH (FT) 3402 HY MEASURED DEPCOUNTE PROCESSED IN TO THE PROCESSED TO THE P	CLOPENTANE	
FORMATION	EXANES PLUS	0.1
GEOLOGIC PROVINCE CODE	TROGEN	6.3
GEOLOGIC PROVINCE CODE         540           TRUE VERTICAL DEPTH (FT)         3414.           MEASURED DEPTH         HY           WELLHEAD PRESSURE, PSIG         CA           OPEN FLOW, MCFD         328.         HE           HEATIN         SPECIF           SAMPLE         21659         COMPO           STATE         NEBRASKA         ETI           COUNTY         CHEYENNE         PR           FIELD         MILLER N         N-E           WELL NAME         HYDE 5-2A         ISC           API         2603322438         N-F           LOCATION         SEC 5, T16N, R47W         ISC           OWNER         PATHEX PETROLEUM, INC.         CY           COMPLETED         930120         HE           SAMPLED         070815         NIT           FORMATION         CRET-NIOBRARA         OX           GEOLOGIC PROVINCE CODE         540         AR           TRUE VERTICAL DEPTH (FT)         3402         HY           MEASURED DEPTH         HY         HY	(YGEN	
TRUE VERTICAL DEPTH (FT)	RGON	
MEASURED DEPTH         HY           WELLHEAD PRESSURE, PSIG         CA           OPEN FLOW, MCFD         328         HE           HEATIN         SPECIF           SAMPLE         21659         COMPO           STATE         NEBRASKA         ME           COUNTY         CHEYENNE         PR           FIELD         MILLER N.         N-E           WELL NAME         HYDE 5-2A         ISC           API         2603322438         N-F           LOCATION         SEC 5, T16N, R47W         ISC           OWNER         PATHEX PETROLEUM, INC.         CY           COMPLETED         930120         HE           SAMPLED         070815         NIT           FORMATION         CRET-NIOBRARA         AR           GEOLOGIC PROVINCE CODE         540         AR           TRUE VERTICAL DEPTH (FT)         3402         HY           MEASURED DEPTH         HY         HY	RGON + OXYGEN	
WELLHEAD PRESSURE, PSIG	DROGEN	
OPEN FLOW, MCFD	'DROGEN SULFIDE** _	
SAMPLE   21659   COMPO	RBON DIOXIDE	
SAMPLE   21659   COMPO	ELIUM	
SAMPLE         21659         COMPO           STATE         NEBRASKA         ME           COUNTY         CHEYENNE         PR           FIELD         MILLER N         N-E           WELL NAME         HYDE 5-2A         ISC           API         2603322438         N-F           LOCATION         SEC 5, T16N, R47W         ISC           OWNER         PATHEX PETROLEUM, INC.         CY           COMPLETED         930120         HE           SAMPLED         070815         OX           FORMATION         CRET-NIOBRARA         AR           GEOLOGIC PROVINCE CODE         540         AR           TRUE VERTICAL DEPTH (FT)         3402         HY           MEASURED DEPTH         HY	IG VALUE*	
NEBRASKA   ETI	ONENT, MOLE PCT	
COUNTY	ETHANE	89.8
PR	HANE	1.4
WELL NAME         HYDE 5-2A         ISC           API         2603322438         N-F           LOCATION         SEC 5, T16N, R47W         ISC           OWNER         PATHEX PETROLEUM, INC.         CY           COMPLETED         930120         HE           SAMPLED         070815         NIT           FORMATION         CRET-NIOBRARA         AR           GEOLOGIC PROVINCE CODE         540         AR           TRUE VERTICAL DEPTH (FT)         3402         HY           MEASURED DEPTH         HY	ROPANE	1.0
API	BUTANE	0.3
LOCATION         SEC 5, T16N, R47W         ISC           OWNER         PATHEX PETROLEUM, INC.         CY           COMPLETED         930120         HE           SAMPLED         070815         NIT           FORMATION         CRET-NIOBRARA         OX           GEOLOGIC PROVINCE CODE         540         AR           TRUE VERTICAL DEPTH (FT)         3402         HY           MEASURED DEPTH         HY	OBUTANE	0.2
OWNER	PENTANE	0.1
COMPLETED         930120         HE           SAMPLED         070815         NIT           FORMATION         CRET-NIOBRARA         OX           GEOLOGIC PROVINCE CODE         540         AR           TRUE VERTICAL DEPTH (FT)         3402         HY           MEASURED DEPTH         HY	OPENTANE	0.1
SAMPLED	CLOPENTANE	
FORMATION	XANES PLUS	0.1
GEOLOGIC PROVINCE CODE AR  TRUE VERTICAL DEPTH (FT) 3402. HY  MEASURED DEPTH HY	TROGEN	6.3
GEOLOGIC PROVINCE CODE	(YGEN	
TRUE VERTICAL DEPTH (FT) 3402 HY MEASURED DEPTH HY	RGON	
MEASURED DEPTH HY	RGON + OXYGEN	
MELLIEAD DECOURE DOLC	DROGEN	
WELLHEAD PRESSURE, PSIG CA	DROGEN SULFIDE** _	0.1
	RBON DIOXIDE	
	ELIUM	
	IG VALUE* FIC GRAVITY	

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21661	COMPONENT, MOLE PCT	
CTATE	NEDDACKA	METHANE	71.1
	NEBRASKA.	ETHANE	6.5
·	KIMBALL	PROPANE	8.9
·	TYSON	N-BUTANE	3.6
·	STATE C-1	ISOBUTANE	1.1
API	2610521731	N-PENTANE	1.0
LOCATION	SEC 16, T13N, R53W	ISOPENTANE	0.8
OWNER	BEREN CORP.	CYCLOPENTANE	
COMPLETED	780906	HEXANES PLUS	1.6
SAMPLED	070815	NITROGEN	2.9
FORMATION	CRET-DAKOTA D	OXYGEN	
GEOLOGIC PROVINCE CC	DDE540_	ARGON	
	=T)5642_	ARGON + OXYGEN	0.3
	00-12	HYDROGEN	0.0
		HYDROGEN SULFIDE**	
,	SIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	2800	HELIUM	
		HEATING VALUE*	•
		SPECIFIC GRAVITY	0.849
SAMPLE	21569	COMPONENT, MOLE PCT	0.849
STATE	NEBRASKA.	COMPONENT, MOLE PCT	15.1
STATE	NEBRASKA KIMBALL	COMPONENT, MOLE PCT METHANE	15.1 1.8
STATE COUNTY FIELD	NEBRASKA. KIMBALL WILDCAT.	COMPONENT, MOLE PCT  METHANE  ETHANE	15.1 1.8 1.0
STATE COUNTY FIELD WELL NAME	NEBRASKA KIMBALL WILDCAT COUSINS NEAR 10-33T	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	15.1 1.8 1.0 0.2 0.1
STATE COUNTY FIELD WELL NAME	NEBRASKA KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	15.1 1.8 1.0 0.2 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION	NEBRASKA KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	15.1 1.8 1.0 0.2 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	NEBRASKA KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W ADVANTAGE RESOURCES, INC.	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	15.1 1.8 1.0 0.2 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	NEBRASKA KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS	15.1 1.8 1.0 0.2 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	NEBRASKA KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W ADVANTAGE RESOURCES, INC.	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN	15.1 1.8 1.0 0.2 0.1 TRACE TRACE  TRACE 78.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	NEBRASKA KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W ADVANTAGE RESOURCES, INC. 050711	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS OXYGEN	15.1 1.8 1.0 0.2 0.1 TRACE TRACE  TRACE 78.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	NEBRASKA KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W ADVANTAGE RESOURCES, INC. 050711 061005 PERM-WYKERT	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	15.1 1.8 1.0 0.2 0.1 TRACE TRACE  TRACE 78.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO	NEBRASKA KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W ADVANTAGE RESOURCES, INC. 050711 061005 PERM-WYKERT	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON ARGON + OXYGEN	15.1 1.8 1.0 0.2 0.1 TRACE TRACE  TRACE 78.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO	NEBRASKA KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W ADVANTAGE RESOURCES, INC. 050711 061005 PERM-WYKERT	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS OXYGEN ARGON ARGON ARGON + OXYGEN HYDROGEN	15.1 1.8 1.0 0.2 0.1 TRACE TRACE  TRACE 78.9  0.1 2.3
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO TRUE VERTICAL DEPTH (F	NEBRASKA  KIMBALL  WILDCAT  COUSINS NEAR 10-33T  2610522596  SEC 33, T14N, R56W  ADVANTAGE RESOURCES, INC.  050711  061005  PERM-WYKERT  DDE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	15.1 1.8 1.0 0.2 0.1 TRACE TRACE  TRACE 78.9  0.1 2.3 0.0
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COUNTY TRUE VERTICAL DEPTH (FOUNTY OF THE PROVINCE COUNTY OF TH	NEBRASKA  KIMBALL  WILDCAT  COUSINS NEAR 10-33T  2610522596  SEC 33, T14N, R56W  ADVANTAGE RESOURCES, INC.  050711  061005  PERM-WYKERT  DDE540  ET)8226	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	15.1 1.8 1.0 0.2 0.1 TRACE TRACE TRACE 78.9 0.1 2.3 0.0 0.1
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COUNTY TRUE VERTICAL DEPTH (FOUNTY OF THE PROVINCE COUNTY OF TH	NEBRASKA  KIMBALL  WILDCAT  COUSINS NEAR 10-33T  2610522596  SEC 33, T14N, R56W  ADVANTAGE RESOURCES, INC.  050711  061005  PERM-WYKERT  DDE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	15.1 1.8 1.0 0.2 0.1 TRACE TRACE 78.9 0.1 2.3 0.0 0.1 0.58

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21522	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	88.7
COUNTY		ETHANE	3.9
		PROPANE	1.5
FIELD		N-BUTANE	0.5
WELL NAME		ISOBUTANE	0.3
API	3000563538	N-PENTANE	0.2
LOCATION	SEC 2, T8S, R27E	ISOPENTANE	0.2
OWNER	ELK OIL CO.	CYCLOPENTANE	
COMPLETED	030224	HEXANES PLUS	0.3
SAMPLED	060309	NITROGEN	3.9
FORMATION	PERM-PERMIAN	OXYGEN	
GEOLOGIC PROVINCE CODE	430	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	0.1
MEASURED DEPTH		HYDROGEN	TRACE
· · · · · · · · · · · · · · · · · · ·	_	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	·	CARBON DIOXIDE	
OPEN FLOW, MCFD	800	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.63
SAMPLE	50609	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	89.6
COUNTY		ETHANE	6.0
FIELD		PROPANE	
WELL NAME		N-BUTANE	
API		ISOBUTANE	
		N-PENTANE	
LOCATION		ISOPENTANE	
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	820113	HEXANES PLUS	
SAMPLED	050427	NITROGEN	
			0.0
FORMATION	CRET-PICTURED CLIFFS	OXYGEN	
	CRET-PICTURED CLIFFS	ARGON	
GEOLOGIC PROVINCE CODE	CRET-PICTURED CLIFFS 580	ARGON	
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	CRET-PICTURED CLIFFS 580 3973	ARGON ARGON + OXYGEN HYDROGEN	  0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CRET-PICTURED CLIFFS 580 3973	ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	CRET-PICTURED CLIFFS 580 3973	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	 0.0  0.8
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CRET-PICTURED CLIFFS 580 3973	ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.0  0.8 0.01

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

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

SAMPLE	21499	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	81.1
	LEA	ETHANE	9.1
-	_	PROPANE	4.7
	ANDERSON RANCH	N-BUTANE	1.4
WELL NAME	ANDERSON RANCH UNIT 201	ISOBUTANE	0.7
API	3002534272	N-PENTANE	0.4
LOCATION	SEC 14E, T16S, R32E	ISOPENTANE	0.4
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	980628	HEXANES PLUS	0.7
SAMPLED	050906	NITROGEN	1.1
FORMATION	PENN-MORROW	OXYGEN	
	430	ARGON	
	12231	ARGON + OXYGEN	TRACE
, ,		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
	<u> </u>	CARBON DIOXIDE	0.3
OPEN FLOW, MCFD	298	HELIUM	0.04
		HEATING VALUE*	1,235
		SPECIFIC GRAVITY	0.714
SAMPLE	50606	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	82.1
	SAN JUAN	ETHANE	8.2
	ANIMAS/BLANCO	PROPANE	3.6
		N-BUTANE	1.0
•	PRIMO 1A	ISOBUTANE	0.6
	3004521827	N-PENTANE	0.3
LOCATION	SEC 6, T31N, R10W	ISOPENTANE	0.4
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	751216	HEXANES PLUS	
SAMPLED	050429	NITROGEN	
FORMATION	CRET-CHACRA, MESAVERDE	OXYGEN	
GEOLOGIC PROVINCE CODE	580	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
	5020	HYDROGEN	TDACE
MEASURED DEPTH		HYDROGEN SULFIDE**	
MEASURED DEPTH WELLHEAD PRESSURE, PSIG	S	HYDROGEN SULFIDE** CARBON DIOXIDE	2.2
MEASURED DEPTH WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	2.2 0.01
MEASURED DEPTH WELLHEAD PRESSURE, PSIG	S	HYDROGEN SULFIDE** CARBON DIOXIDE	2.2 0.01 1,227

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

	21460	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	86.5
·	SAN JUAN	ETHANE	4.4
	_	PROPANE	2.0
	AZTEC N	N-BUTANE	0.5
' <u>'</u>	AZTEC COM 1	ISOBUTANE	0.3
	3004509974	N-PENTANE	0.2
LOCATION	SEC 2, T30N, R11W	ISOPENTANE	0.2
OWNERB	P AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	961108	HEXANES PLUS	0.3
SAMPLED	050613	NITROGEN	5.2
FORMATION	CRET-FRUITLAND	OXYGEN	
GEOLOGIC PROVINCE CODE	580	ARGON	
	2166	ARGON + OXYGEN	0.3
, ,		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	
OPEN FLOW, MCFD	800_	HELIUM	
		HEATING VALUE*	1,058
		SPECIFIC GRAVITY	0.645
SAMPLE	50613	COMPONENT MOLE DOT	
	30013	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	75.3
	NEW MEXICO	METHANE	10.3
COUNTY	NEW MEXICO_ RIO ARRIBA	METHANE	10.3
COUNTY	NEW MEXICO RIO ARRIBA BASIN	METHANE ETHANE PROPANE N-BUTANE	10.3 6.5 2.1
COUNTY FIELD WELL NAME	NEW MEXICO RIO ARRIBA BASIN JICARILLA A-12	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	10.3 6.5 2.1 1.2
COUNTY FIELD WELL NAME API	NEW MEXICO RIO ARRIBA BASIN JICARILLA A-12 3003920396	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	10.3 6.5 2.1 1.2 0.7
COUNTY  FIELD  WELL NAME  API  LOCATION	NEW MEXICO RIO ARRIBA BASIN JICARILLA A-12 3003920396 SEC 24, T26N, R4W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	10.3 6.5 2.1 1.2 0.7 0.9
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER	NEW MEXICO RIO ARRIBA BASIN JICARILLA A-12 3003920396 SEC 24, T26N, R4W CONOCOPHILLIPS CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	10.3 6.5 2.1 1.2 0.7 0.9
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER	NEW MEXICO RIO ARRIBA BASIN JICARILLA A-12 3003920396 SEC 24, T26N, R4W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS	10.3 6.5 2.1 1.2 0.7 0.9 
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED	NEW MEXICO RIO ARRIBA BASIN JICARILLA A-12 3003920396 SEC 24, T26N, R4W CONOCOPHILLIPS CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	10.3 6.5 2.1 1.2 0.7 0.9  1.9
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED	NEW MEXICO RIO ARRIBA BASIN JICARILLA A-12 3003920396 SEC 24, T26N, R4W CONOCOPHILLIPS CO. 711028	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	10.3 6.5 2.1 1.2 0.7 0.9  1.9 0.4
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION	NEW MEXICO RIO ARRIBA BASIN JICARILLA A-12 3003920396 SEC 24, T26N, R4W CONOCOPHILLIPS CO. 711028 051201	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	10.3 6.5 2.1 1.2 0.7 0.9  1.9 0.4
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION	NEW MEXICO RIO ARRIBA BASIN  JICARILLA A-12 3003920396 SEC 24, T26N, R4W CONOCOPHILLIPS CO. 711028 051201 CRET-DAKOTA 580	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN	10.3 6.5 2.1 1.2 0.7 0.9  1.9 0.4 0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE _  TRUE VERTICAL DEPTH (FT) _	NEW MEXICO RIO ARRIBA BASIN  JICARILLA A-12 3003920396 SEC 24, T26N, R4W CONOCOPHILLIPS CO. 711028 051201 CRET-DAKOTA 580 8274	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	10.3 6.5 2.1 1.2 0.7 0.9  1.9 0.4 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	NEW MEXICO RIO ARRIBA BASIN JICARILLA A-12 3003920396 SEC 24, T26N, R4W CONOCOPHILLIPS CO. 711028 051201 CRET-DAKOTA 580 8274	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	10.3 6.5 2.1 1.2 0.7 0.9  1.9 0.4 0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	NEW MEXICO RIO ARRIBA BASIN  JICARILLA A-12 3003920396 SEC 24, T26N, R4W CONOCOPHILLIPS CO. 711028 051201 CRET-DAKOTA 580 8274	METHANE	10.3 6.5 2.1 1.2 0.7 0.9  1.9 0.4 0.0  0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	NEW MEXICO RIO ARRIBA BASIN JICARILLA A-12 3003920396 SEC 24, T26N, R4W CONOCOPHILLIPS CO. 711028 051201 CRET-DAKOTA 580 8274	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	10.3 6.5 2.1 1.2 0.7 0.9  1.9 0.4 0.0  0.0

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

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

SAMPLE 20624	COMPONENT, MOLE PCT	
STATE NEW MEXICO	METHANE	85.5
	ETHANE	8.4
COUNTYSAN_JUAN_	PROPANE	2.5
FIELD BASIN	N-BUTANE	0.6
WELL NAMEGALLEGOS CANYON UNIT 166E.	ISOBUTANE	0.4
API	N-PENTANE	0.2
LOCATION SEC. 34, T28N, R12W	ISOPENTANE	0.2
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.4
SAMPLED	NITROGEN	0.8
FORMATIONCRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE580_	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 6034	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	0.0
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	1.0
OPEN FLOW, MCFD1392_	HELIUM	0.10
	HEATING VALUE*	1,140
	SPECIFIC GRAVITY	0.661
SAMPLE 20646	COMPONENT, MOLE PCT	
STATENEW MEXICO_	METHANE	80.1
COUNTY SAN JUAN	ETHANE	10.8
FIELD BASIN	PROPANE	4.4
	N-BUTANE	1.1
WELL NAMEGALLEGOS CANYON UNIT 216E_	ISOBUTANE	0.6
API3004524271_	N-PENTANE	0.3
LOCATION SEC. 14, T28N, R12W	ISOPENTANE	0.3
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	
SAMPLED010411_	NITROGEN	0.6
FORMATIONCRET-DAKOTA	OXYGEN	0.0
	ARGON	0.0
GEOLOGIC PROVINCE CODE580	ARGON + OXYGEN	
GEOLOGIC PROVINCE CODE 580  TRUE VERTICAL DEPTH (FT) 6144	HYDROGEN	0.0
GEOLOGIC PROVINCE CODE         580           TRUE VERTICAL DEPTH (FT)         6144           MEASURED DEPTH	HYDROGEN HYDROGEN SULFIDE**	0.0
GEOLOGIC PROVINCE CODE	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 1.1
GEOLOGIC PROVINCE CODE 580  TRUE VERTICAL DEPTH (FT) 6144	HYDROGEN HYDROGEN SULFIDE**	0.0 0.0 1.1 0.11

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

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

SAMPLE 20643	COMPONENT, MOLE PCT	
STATENEW MEXICO_	METHANE	75.7
	ETHANE	13.2
COUNTY SAN JUAN	PROPANE	6.0
FIELD BASIN	N-BUTANE	1.3
WELL NAMEGALLEGOS CANYON UNIT 219E	ISOBUTANE	0.7
API	N-PENTANE	0.3
LOCATIONSEC. 23, T28N, R12W	ISOPENTANE	0.3
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.7
SAMPLED	NITROGEN	0.7
FORMATIONCRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 580	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 6114	ARGON + OXYGEN	
` ,	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG964	CARBON DIOXIDE	1.1
OPEN FLOW, MCFD 947	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.745
SAMPLE 20622	COMPONENT, MOLE PCT	
SAMPLE 20622  STATENEW MEXICO_	COMPONENT, MOLE PCT  METHANE	85.6
STATENEW MEXICO_	METHANE	8.4
STATE NEW MEXICO_ COUNTY SAN JUAN_	METHANE	8.4
STATE NEW MEXICO_ COUNTY SAN JUAN_ FIELD BASIN_	METHANE	8.4 2.4
STATENEW MEXICO_ COUNTYSAN JUAN_ FIELDBASIN_ WELL NAMEGALLEGOS CANYON UNIT 178E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	8.4 2.4 0.6 0.4
STATE NEW MEXICO  COUNTY SAN JUAN  FIELD BASIN  WELL NAME GALLEGOS CANYON UNIT 178E  API 3004526206	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	8.4 2.4 0.6 0.4 0.2
STATE         NEW MEXICO           COUNTY         SAN JUAN           FIELD         BASIN           WELL NAME         GALLEGOS CANYON UNIT 178E           API         3004526206           LOCATION         SEC. 4, T27N, R12W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	8.4 2.4 0.6 0.4 0.2
STATE NEW MEXICO  COUNTY SAN JUAN  FIELD BASIN  WELL NAME GALLEGOS CANYON UNIT 178E  API 3004526206	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	8.4 2.4 0.6 0.4 0.2 0.2
STATE         NEW MEXICO           COUNTY         SAN JUAN           FIELD         BASIN           WELL NAME         GALLEGOS CANYON UNIT 178E           API         3004526206           LOCATION         SEC. 4, T27N, R12W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE HEXANES PLUS	8.4 2.4 0.6 0.4 0.2 0.2
STATE	METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN	8.4 2.4 0.6 0.4 0.2 0.2 0.2  0.4 0.8
STATE	METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN	8.4 2.4 0.6 0.4 0.2 0.2  0.4 0.8 0.0
STATE         NEW MEXICO           COUNTY         SAN JUAN           FIELD         BASIN           WELL NAME         GALLEGOS CANYON UNIT 178E           API         3004526206           LOCATION         SEC. 4, T27N, R12W           OWNER         BP AMERICA PRODUCTION CO.           COMPLETED         850701           SAMPLED         010410	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	8.4 2.4 0.6 0.2 0.2  0.4 0.8 0.0
STATE         NEW MEXICO           COUNTY         SAN JUAN           FIELD         BASIN           WELL NAME         GALLEGOS CANYON UNIT 178E           API         3004526206           LOCATION         SEC. 4, T27N, R12W           OWNER         BP AMERICA PRODUCTION CO.           COMPLETED         850701           SAMPLED         010410           FORMATION         CRET-DAKOTA           GEOLOGIC PROVINCE CODE         580	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	8.4 2.4 0.6 0.4 0.2 0.2 0.4 0.8 0.0
STATE         NEW MEXICO           COUNTY         SAN JUAN           FIELD         BASIN           WELL NAME         GALLEGOS CANYON UNIT 178E           API         3004526206           LOCATION         SEC. 4, T27N, R12W           OWNER         BP AMERICA PRODUCTION CO.           COMPLETED         850701           SAMPLED         010410           FORMATION         CRET-DAKOTA           GEOLOGIC PROVINCE CODE         580	METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN	8.4 2.4 0.6 0.2 0.2 0.2  0.4 0.8 0.0 0.0
STATE	METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN SULFIDE**	8.4 2.4 0.6 0.2 0.2 0.2  0.4 0.8 0.0 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	8.4 2.4 0.6 0.4 0.2 0.2 0.4 0.8 0.0 0.0 0.0 0.0 0.0 0.0
STATE	METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN SULFIDE**	8.4 2.4 0.6 0.4 0.2 0.2  0.4 0.8 0.0 0.0 0.0 0.0 0.0 0.8 0.11

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

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

SAMPLE 20634	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	80.5
	ETHANE	11.0
COUNTY SAN JUAN	PROPANE	4.2
FIELD BASIN	N-BUTANE	0.9
WELL NAMEGALLEGOS CANYON UNIT 265E.	ISOBUTANE	0.5
API	N-PENTANE	0.2
LOCATION SEC. 25, T28N, R12W	ISOPENTANE	0.2
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.3
SAMPLED	NITROGEN	1.3
FORMATIONCRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 580	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 6215	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	0.0
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD1771_	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.090
SAMPLE 20635	COMPONENT, MOLE PCT	
STATENEW MEXICO_	METHANE	
COUNTYSAN JUAN	ETHANE	11.0
	5565445	
FIELDBASIN_	PROPANE	
	N-BUTANE	1.2
WELL NAMEGALLEGOS CANYON UNIT 232E.	N-BUTANEISOBUTANE	1.2 0.6
WELL NAME	N-BUTANE ISOBUTANE N-PENTANE	1.2 0.6 0.3
WELL NAME	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	1.2 0.6 0.3 0.3
WELL NAME GALLEGOS CANYON UNIT 232E.  API 3004526338.  LOCATION SEC. 26, T28N, R12W.  OWNER BP AMERICA PRODUCTION CO.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	1.2 0.6 0.3 0.3
FIELD         BASIN           WELL NAME         GALLEGOS CANYON UNIT 232E           API         3004526338           LOCATION         SEC. 26, T28N, R12W           OWNER         BP AMERICA PRODUCTION CO.           COMPLETED         850607	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.2 0.6 0.3 0.3 
WELL NAME         GALLEGOS CANYON UNIT 232E           API         3004526338           LOCATION         SEC. 26, T28N, R12W           OWNER         BP AMERICA PRODUCTION CO.           COMPLETED         850607           SAMPLED         010411	N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.2 0.6 0.3 0.3  0.5 1.1
WELL NAME         GALLEGOS CANYON UNIT 232E           API         3004526338           LOCATION         SEC. 26, T28N, R12W           OWNER         BP AMERICA PRODUCTION CO.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.2 0.6 0.3 0.3  0.5 1.1
WELL NAME	N-BUTANE	1.2 0.6 0.3 0.3  0.5 1.1 0.0
WELL NAME         GALLEGOS CANYON UNIT 232E           API         3004526338           LOCATION         SEC. 26, T28N, R12W           OWNER         BP AMERICA PRODUCTION CO.           COMPLETED         850607           SAMPLED         010411           FORMATION         CRET-DAKOTA	N-BUTANE	1.2 0.6 0.3 0.3  0.5 1.1 0.0 0.0
WELL NAME         GALLEGOS CANYON UNIT 232E           API         3004526338           LOCATION         SEC. 26, T28N, R12W           OWNER         BP AMERICA PRODUCTION CO.           COMPLETED         850607           SAMPLED         010411           FORMATION         CRET-DAKOTA           GEOLOGIC PROVINCE CODE         580           TRUE VERTICAL DEPTH (FT)         6186	N-BUTANE	1.2 0.6 0.3 0.3  0.5 1.1 0.0 0.0
WELL NAME         GALLEGOS CANYON UNIT 232E           API         3004526338.           LOCATION         SEC. 26, T28N, R12W.           OWNER         BP AMERICA PRODUCTION CO.           COMPLETED         850607.           SAMPLED         010411.           FORMATION         CRET-DAKOTA.           GEOLOGIC PROVINCE CODE         580.	N-BUTANE	1.2 0.6 0.3 0.3  0.5 1.1 0.0 0.0  0.0
WELL NAME         GALLEGOS CANYON UNIT 232E           API         3004526338           LOCATION         SEC. 26, T28N, R12W           OWNER         BP AMERICA PRODUCTION CO.           COMPLETED         850607           SAMPLED         010411           FORMATION         CRET-DAKOTA.           GEOLOGIC PROVINCE CODE         580           TRUE VERTICAL DEPTH (FT)         6186           MEASURED DEPTH         WELLHEAD PRESSURE, PSIG         1218	N-BUTANE	1.2 0.6 0.3 0.3  0.5 1.1 0.0 0.0  0.0 0.0
WELL NAME         GALLEGOS CANYON UNIT 232E           API         3004526338.           LOCATION         SEC. 26, T28N, R12W.           OWNER         BP AMERICA PRODUCTION CO.           COMPLETED         850607.           SAMPLED         010411.           FORMATION         CRET-DAKOTA.           GEOLOGIC PROVINCE CODE         580.           TRUE VERTICAL DEPTH (FT)         6186.           MEASURED DEPTH         —	N-BUTANE	1.2 0.6 0.3 0.3  0.5 1.1 0.0 0.0  0.0 0.0 0.8

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE 20626	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	94.5
	ETHANE	2.5
COUNTY SAN JUAN	PROPANE	0.4
FIELD BASIN	N-BUTANE	0.1
WELL NAME GALLEGOS CANYON UNIT 9	ISOBUTANE	0.1
API3004507006	N-PENTANE	TRACE
LOCATIONSEC. 32, T28N, R12W	ISOPENTANE	TRACE
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.1
SAMPLED	NITROGEN	0.2
FORMATIONCRET-FRUITLAND	OXYGEN	0.0
GEOLOGIC PROVINCE CODE580_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
` '	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	2.0
OPEN FLOW, MCFD120_	HELIUM	
	HEATING VALUE*	
0.4401.5	SPECIFIC GRAVITY	0.007
SAMPLE 20628	COMPONENT, MOLE PCT	•••
STATENEW MEXICO_	METHANE	
COUNTYSAN JUAN	ETHANE PROPANE	
FIELD BASIN	PROPANE	0.6
	NI DI ITANIC	0.0
WELL NAMEGALLEGOS CANYON UNIT 41	N-BUTANE	
	ISOBUTANE	0.1
API3004507074	ISOBUTANE	0.1 0.1
API	ISOBUTANE N-PENTANE ISOPENTANE	0.1 0.1 0.1
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.1 0.1 0.1
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.1 0.1  0.1
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.1 0.1  0.1 0.2
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.1 0.1  0.1 0.2 0.0
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 0.1 0.1  0.1 0.2 0.0
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.1 0.1  0.1 0.2 0.0 0.0
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.1 0.1 0.1  0.1 0.2 0.0 0.0
API	ISOBUTANE	0.1 0.1 0.1  0.1 0.2 0.0 0.0  0.0
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.1 0.1 0.1 0.1 0.2 0.0 0.0 0.0 0.0 1.6
TRUE VERTICAL DEPTH (FT)	ISOBUTANE	0.1 0.1 0.1 0.1 0.2 0.0 0.0 0.0 1.6

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

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

SAMPLE 20621	COMPONENT, MOLE PCT	
CTATE NEW MEVICO	METHANE	91.6
STATENEW MEXICO	ETHANE	3.8
COUNTY SAN JUAN	PROPANE	0.7
FIELD BASIN	N-BUTANE	0.2
WELL NAMEGALLEGOS CANYON UNIT 61_	ISOBUTANE	0.1
API	N-PENTANE	0.1
LOCATION SEC. 4, T27N, R12W	ISOPENTANE	0.1
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.1
SAMPLED	NITROGEN	0.2
FORMATIONCRET-FRUITLAND	OXYGEN	0.0
GEOLOGIC PROVINCE CODE580_	ARGON	0.0
TRUE VERTICAL DEPTH (FT)1395_	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	0.0
WELLHEAD PRESSURE. PSIG	HYDROGEN SULFIDE**	
	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.62
SAMPLE 20641	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	
COUNTYSAN JUAN	ETHANE	
FIELD BASIN	PROPANE	
WELL NAME GALLEGOS CANYON UNIT 216	N-BUTANE	
API 3004511621	ISOBUTANE	
AFI	N-PENTANE	
LOCATION OFO 44 TOOM DADW		
, , ,	ISOPENTANE	0.5
OWNERBP AMERICA PRODUCTION CO.	ISOPENTANE	0.5
LOCATION SEC. 14, T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 660215	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.5  0.6
OWNERBP AMERICA PRODUCTION CO.  COMPLETED660215	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.5  0.6 0.7
OWNERBP AMERICA PRODUCTION CO.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.5  0.6 0.7 0.0
OWNERBP AMERICA PRODUCTION CO.  COMPLETED660215  SAMPLED010411  FORMATIONCRET-GRANEROS, DAKOTA	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.5  0.6 0.7 0.0
OWNERBP AMERICA PRODUCTION CO.  COMPLETED660215.  SAMPLED010411.  FORMATIONCRET-GRANEROS, DAKOTA.  GEOLOGIC PROVINCE CODE580	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.5  0.6 0.7 0.0 0.0
OWNERBP AMERICA PRODUCTION CO.  COMPLETED660215  SAMPLED010411  FORMATIONCRET-GRANEROS, DAKOTA  GEOLOGIC PROVINCE CODE580  TRUE VERTICAL DEPTH (FT)6104	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.5  0.6 0.7 0.0 0.0
OWNER	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.5  0.6 0.7 0.0 0.0  0.0
OWNERBP AMERICA PRODUCTION CO.  COMPLETED660215.  SAMPLED010411.  FORMATIONCRET-GRANEROS, DAKOTA.  GEOLOGIC PROVINCE CODE580.  TRUE VERTICAL DEPTH (FT)6104.  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG2448.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.5 
OWNERBP AMERICA PRODUCTION CO.  COMPLETED660215.  SAMPLED010411.  FORMATIONCRET-GRANEROS, DAKOTA.  GEOLOGIC PROVINCE CODE580.  TRUE VERTICAL DEPTH (FT)6104.  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG2448.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.5  0.6 0.7 0.0 0.0  0.0 0.0 1.1

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

0, 22	20645	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	79.1
·		ETHANE	11.2
	SAN JUAN	PROPANE	4.8
	BASIN.	N-BUTANE	1.1
WELL NAME	GALLEGOS CANYON UNIT 208E	ISOBUTANE	0.7
API	3004523898	N-PENTANE	0.3
LOCATION	SEC. 15, T28N, R12W	ISOPENTANE	0.4
OWNER	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	800430_	HEXANES PLUS	0.6
SAMPLED	010411	NITROGEN	0.6
FORMATION	CRET-GRANEROS, DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE	E CODE 580	ARGON	
	ГН (FT)	ARGON + OXYGEN	
		HYDROGEN	0.0
	F P010	HYDROGEN SULFIDE**	
	E, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD _	1344_	HELIUM	
		HEATING VALUE*	•
		SPECIFIC GRAVITY	0.722
SAMPLE	50623	COMPONENT, MOLE PCT	
		,	
STATE	NEW MEXICO	METHANE	94.5
·	NEW MEXICO RIO ARRIBA	METHANE	2.0
COUNTY	RIO ARRIBA	METHANE ETHANE PROPANE	2.0 0.7
COUNTY	RIO ARRIBA BASIN	METHANE ETHANE PROPANE N-BUTANE	2.0 0.7 0.2
COUNTY FIELD WELL NAME	RIO ARRIBA BASIN SAN JUAN 30-5 UNIT 102	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	2.0 0.7 0.2 0.1
COUNTY FIELD WELL NAME API	RIO ARRIBA BASIN SAN JUAN 30-5 UNIT 102 3003923176	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	2.0 0.7 0.2 0.1 0.1
COUNTY  FIELD  WELL NAME  API  LOCATION	RIO ARRIBA BASIN SAN JIJAN 30-5 UNIT 102 3003923176 SEC 34,T30N,R5W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	2.0 0.7 0.2 0.1 0.1
COUNTY  FIELD  WELL NAME  API  LOCATION	RIO ARRIBA BASIN SAN JUAN 30-5 UNIT 102 3003923176	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	2.0 0.7 0.2 0.1 0.1 0.1
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER	RIO ARRIBA BASIN SAN JIJAN 30-5 UNIT 102 3003923176 SEC 34,T30N,R5W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.0 0.7 0.2 0.1 0.1 0.1 
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	RIO ARRIBA. BASIN. SAN JUAN 30-5 UNIT 102. 3003923176. SEC 34,T30N.R5W. CONOCOPHILLIPS CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	2.0 0.7 0.2 0.1 0.1 0.1  0.4
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	RIO ARRIBA BASIN SAN JUAN 30-5 UNIT 102 3003923176 SEC 34,T30N,R5W CONOCOPHILLIPS CO. 840829	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	2.0 0.7 0.2 0.1 0.1 0.1  0.4 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	RIO ARRIBA BASIN SAN JUAN 30-5 UNIT 102 3003923176 SEC 34,T30N,R5W CONOCOPHILLIPS CO. 840829 070311	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	2.0 0.7 0.2 0.1 0.1 0.1  0.4 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE	RIO ARRIBA BASIN SAN JUAN 30-5 UNIT 102 3003923176 SEC 34,T30N,R5W CONOCOPHILLIPS CO. 840829 070311 CRET-MESAVERDE, DAKOTA	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN	2.0 0.7 0.2 0.1 0.1 0.1  0.4 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPT	RIO ARRIBA BASIN  SAN JUAN 30-5 UNIT 102  3003923176  SEC 34,T30N,R5W  CONOCOPHILLIPS CO. 840829  070311  CRET-MESAVERDE, DAKOTA	METHANE	2.0 0.7 0.2 0.1 0.1  0.4 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPT MEASURED DEPTH	RIO ARRIBA BASIN  SAN JUAN 30-5 UNIT 102  3003923176  SEC 34,T30N,R5W  CONOCOPHILLIPS CO.  840829  070311  CRET-MESAVERDE, DAKOTA  E CODE	METHANE	2.0 0.7 0.2 0.1 0.1  0.4 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPT MEASURED DEPTH WELLHEAD PRESSUR	RIO ARRIBA BASIN  SAN JUAN 30-5 UNIT 102 3003923176 SEC 34,T30N,R5W CONOCOPHILLIPS CO. 840829 070311 CRET-MESAVERDE, DAKOTA E CODE 580 TH (FT) 8243	METHANE	2.0 0.7 0.2 0.1 0.1  0.4 0.1   1.9
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPT MEASURED DEPTH WELLHEAD PRESSUR	RIO ARRIBA BASIN  SAN JUAN 30-5 UNIT 102  3003923176  SEC 34,T30N,R5W  CONOCOPHILLIPS CO.  840829  070311  CRET-MESAVERDE, DAKOTA  E CODE	METHANE	2.0 0.7 0.2 0.1 0.1  0.4 0.1    1.9

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

	50624	COMPONENT, MOLE PCT	
CTATE	NEW MEXICO	METHANE	94.1
-	RIO ARRIBA	ETHANE	1.9
		PROPANE	0.7
	BASIN.	N-BUTANE	0.2
	SAN JUAN 30-5 UNIT 102	ISOBUTANE	0.2
API	3003923176	N-PENTANE	0.1
LOCATION	SEC 34,T30N,R5W	ISOPENTANE	0.1
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	840829	HEXANES PLUS	0.6
SAMPLED	070311	NITROGEN	0.1
FORMATION	CRET-MESAVERDE, DAKOTA	OXYGEN	
	CODE580_	ARGON	
	(FT)8243	ARGON + OXYGEN	
	, ,	HYDROGEN	
	D010 454	HYDROGEN SULFIDE**	
	PSIG151_	CARBON DIOXIDE	1.9
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	1,063
OAMBI E	04050	SPECIFIC GRAVITY	
SAMPLE	21650	COMPONENT, MOLE PCT  METHANE	
STATE			04.0
31A1L	NEW MEXICO		
	NEW MEXICO RIO ARRIBA	ETHANE	8.1
COUNTY		PROPANE	8.1 4.0
COUNTY	RIO ARRIBA	ETHANE PROPANE N-BUTANE	8.1 4.0 1.2
COUNTY FIELD WELL NAME	RIO ARRIBA BASIN,ICE CANYON, BLANCO	ETHANE PROPANE N-BUTANE ISOBUTANE	8.1 4.0 1.2 0.8
COUNTY FIELD WELL NAME API	RIO ARRIBA BASIN,ICE CANYON, BLANCO MONA LISA 2	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	8.1 4.0 1.2 0.8 0.4
COUNTY  FIELD  WELL NAME  API  LOCATION	RIO ARRIBA BASIN,ICE CANYON, BLANCO MONA LISA 2 3003925745 SEC 14, T26N, R7W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	8.1 4.0 1.2 0.8 0.4 0.5
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER	RIO ARRIBA.  BASIN,ICE CANYON, BLANCO.  MONA LISA 2.  3003925745.  SEC 14, T26N, R7W.  DUGAN PRODUCTION CORP.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	8.1 4.0 1.2 0.8 0.4 0.5
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED	RIO ARRIBA BASIN,ICE CANYON, BLANCO MONA LISA 2 3003925745 SEC 14, T26N, R7W DUGAN PRODUCTION CORP. 980506	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	8.1 4.0 1.2 0.8 0.4 0.5 
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED	RIO ARRIBA BASIN,ICE CANYON, BLANCO MONA LISA 2 3003925745 SEC 14, T26N, R7W DUGAN PRODUCTION CORP. 980506	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	8.1 4.0 1.2 0.8 0.4 0.5  0.7
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  C	RIO ARRIBA BASIN,ICE CANYON, BLANCO MONA LISA 2 3003925745 SEC 14, T26N, R7W DUGAN PRODUCTION CORP. 980506 070723	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	8.1 4.0 1.2 0.8 0.4 0.5  0.7 1.9
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE C	RIO ARRIBA BASIN,ICE CANYON, BLANCO MONA LISA 2 3003925745 SEC 14, T26N, R7W DUGAN PRODUCTION CORP. 980506 070723 REET-DAKOTA,GALLUP,MESAVERDE	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	8.1 4.0 1.2 0.8 0.4 0.5  0.7 1.9
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE C	RIO ARRIBA BASIN,ICE CANYON, BLANCO MONA LISA 2 3003925745 SEC 14, T26N, R7W DUGAN PRODUCTION CORP. 980506 070723	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	8.1 4.0 1.2 0.8 0.4 0.5  0.7 1.9
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION C  GEOLOGIC PROVINCE C  TRUE VERTICAL DEPTH	RIO ARRIBA BASIN,ICE CANYON, BLANCO MONA LISA 2 3003925745 SEC 14, T26N, R7W DUGAN PRODUCTION CORP. 980506 070723 REET-DAKOTA,GALLUP,MESAVERDE	ETHANE	8.1 4.0 1.2 0.8 0.4 0.5  0.7 1.9  TRACE
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CONTRUE VERTICAL DEPTH	RIO ARRIBA BASIN,ICE CANYON, BLANCO MONA LISA 2 3003925745 SEC 14, T26N, R7W DUGAN PRODUCTION CORP. 980506 070723 RET-DAKOTA,GALLUP,MESAVERDE CODE580. (FT)6770.	ETHANE	8.1 4.0 1.2 0.8 0.4 0.5  0.7 1.9  TRACE 0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH  MEASURED DEPTH  WELLHEAD PRESSURE,	RIO ARRIBA BASIN,ICE CANYON, BLANCO MONA LISA 2 3003925745 SEC 14, T26N, R7W DUGAN PRODUCTION CORP. 980506 070723 RET-DAKOTA,GALLUP,MESAVERDE. CODE580. (FT)6770.	ETHANE	8.1 4.0 1.2 0.8 0.4 0.5  0.7 1.9  TRACE 0.0 0.8
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH  MEASURED DEPTH  WELLHEAD PRESSURE,	RIO ARRIBA  BASIN,ICE CANYON, BLANCO  MONA LISA 2  3003925745  SEC 14, T26N, R7W  DUGAN PRODUCTION CORP.  980506  070723  RET-DAKOTA,GALLUP,MESAVERDE  CODE580  (FT)6770	ETHANE	8.1 4.0 1.2 0.8 0.4 0.5  0.7 1.9  TRACE 0.0 0.0 0.8

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21418	COMPONENT, MOLE PCT	
CTATE	NEW MEXICO	METHANE	85.8
	EDDY	ETHANE	6.8
	_	PROPANE	2.1
	BIG SINKS	N-BUTANE	0.7
	POKER LAKER UNIT 196	ISOBUTANE	0.4
API	3001533164	N-PENTANE	0.2
LOCATION	SEC 29, T24S, R31E	ISOPENTANE	0.2
OWNER BAS	S ENTERPRISES PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	040209_	HEXANES PLUS	0.4
SAMPLED	050214	NITROGEN	2.9
FORMATION	PERM-WOLFCAMP	OXYGEN	0.0
GEOLOGIC PROVINCE C	ODE 430	ARGON	0.1
	(FT) <u>12954</u>	ARGON + OXYGEN	
		HYDROGEN	0.0
	D010	HYDROGEN SULFIDE**	
,	PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	555	HELIUM	0.04
		HEATING VALUE*	,
		SPECIFIC GRAVITY	0.657
SAMPLE	21581	SPECIFIC GRAVITY COMPONENT, MOLE PCT	0.657
STATE	NEW MEXICO	COMPONENT, MOLE PCT	96.2
STATE	NEW MEXICO_	COMPONENT, MOLE PCT METHANE	96.2 1.7
STATE COUNTY FIELD	NEW MEXICO. EDDY. BLACK RIVER NORTH.	COMPONENT, MOLE PCT  METHANE  ETHANE	96.2 1.7 0.2
STATE COUNTY FIELD WELL NAME	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	96.2 1.7 0.2 TRACE
STATE COUNTY FIELD WELL NAME	NEW MEXICO. EDDY. BLACK RIVER NORTH.	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE	96.2 1.7 0.2 TRACE
STATE COUNTY FIELD WELL NAME API	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	96.2 1.7 0.2 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1 3001524740	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	96.2 1.7 0.2 TRACE TRACE TRACE
STATE  COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1 3001524740 SEC 25, T23S, R26E	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	96.2 1.7 0.2 TRACE TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1 3001524740 SEC 25, T23S, R26E VERNON E, FAULCONER, INC.	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	96.2 1.7 0.2 TRACE TRACE TRACE TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1 3001524740 SEC 25, T23S, R26E VERNON E. FAULCONER, INC. 931209	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE HEXANES PLUS	96.2 1.7 0.2 TRACE TRACE TRACE TRACE TRACE TRACE 0.8
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1 3001524740 SEC 25, T23S, R26E VERNON E. FAUL CONER, INC. 931209 070102 PENN-ATOKA	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	96.2 1.7 0.2 TRACE TRACE TRACE TRACE TRACE 0.8
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1 3001524740 SEC 25, T23S, R26E VERNON E. FAUL CONER, INC. 931209 070102 PENN-ATOKA	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	96.2 1.7 0.2 TRACE TRACE TRACE TRACE TRACE 0.8 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1 3001524740 SEC 25, T23S, R26E VERNON E. FAUL CONER, INC. 931209 070102 PENN-ATOKA CODE 430 (FT) 11228	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	96.2 1.7 0.2 TRACE TRACE TRACE TRACE TRACE 0.8 0.1 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C TRUE VERTICAL DEPTH	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1 3001524740 SEC 25, T23S, R26E VERNON E. FAULCONER, INC. 931209 070102 PENN-ATOKA CODE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	96.2 1.7 0.2 TRACE TRACE TRACE TRACE TRACE 0.8 0.1 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C TRUE VERTICAL DEPTH MEASURED DEPTH WELLHEAD PRESSURE,	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1 3001524740 SEC 25, T23S, R26E VERNON E. FAUL CONER, INC. 931209 070102 PENN-ATOKA CODE 430 (FT) 11228	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	96.2 1.7 0.2 TRACE TRACE TRACE TRACE 0.8 0.1 0.0 0.0 1.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C TRUE VERTICAL DEPTH MEASURED DEPTH WELLHEAD PRESSURE,	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1 3001524740 SEC 25, T23S, R26E VERNON E. FAULCONER, INC. 931209 070102 PENN-ATOKA CODE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	96.2 1.7 0.2 TRACE TRACE TRACE TRACE TRACE 0.8 0.1 0.0 0.0 1.0

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

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

SAMPLE	50608	COMPONENT, MOLE PCT	
CTATE	NEW MEXICO	METHANE	96.1
·		ETHANE	1.4
	SAN JUAN	PROPANE	0.1
·	BLANCO	N-BUTANE	TRACE
	SAN JUAN 32-8 UNIT 46	ISOBUTANE	TRACE
API	3004525127	N-PENTANE	0.0
LOCATION	SEC 14, T32N, R8W	ISOPENTANE	0.0
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	820113	HEXANES PLUS	TRACE
SAMPLED	050427	NITROGEN	0.1
FORMATION	CRET-MESAVERDE	OXYGEN	TRACE
GEOLOGIC PROVINCE CODE	580_	ARGON	
	6330	ARGON + OXYGEN	
` '	0000	HYDROGEN	TRACE
		HYDROGEN SULFIDE**	
,	i	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	1,005
		SPECIFIC GRAVITY	0.587
SAMPLE	20671	SPECIFIC GRAVITY COMPONENT, MOLE PCT	0.587
STATE	NEW MEXICO	COMPONENT, MOLE PCT	86.2
STATE	NEW MEXICO SAN JUAN	COMPONENT, MOLE PCT  METHANE	86.2 7.2
STATE COUNTY FIELD	NEW MEXICO SAN JUAN BLANCO	COMPONENT, MOLE PCT  METHANE  ETHANE	86.2 7.2 2.6
STATE COUNTY FIELD WELL NAME	NEW MEXICO SAN JUAN BLANCO DAWSON LS NO. 1	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	86.2 7.2 2.6 0.7
STATE COUNTY FIELD WELL NAME	NEW MEXICO SAN JUAN BLANCO DAWSON LS NO. 1 3004510273	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE	86.2 7.2 2.6 0.7 0.5
STATE COUNTY FIELD WELL NAME	NEW MEXICO SAN JUAN BLANCO DAWSON LS NO. 1	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	86.2 7.2 2.6 0.7 0.5 0.2
STATE COUNTY FIELD WELL NAME API LOCATION	NEW MEXICO SAN JUAN BLANCO DAWSON LS NO. 1 3004510273	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	86.2 7.2 2.6 0.7 0.5 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNERE	NEW MEXICO SAN JUAN BLANCO DAWSON LS NO. 1 3004510273 SEC. 30, T31N, R8W	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	86.2 7.2 2.6 0.7 0.5 0.2 0.3
STATE COUNTY  FIELD WELL NAME API LOCATION OWNERE COMPLETED	NEW MEXICO SAN JUAN BLANCO DAWSON LS NO. 1 3004510273 SEC. 30, T31N, R8W BP AMERICA PRODUCTION CO.	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	86.2 7.2 2.6 0.7 0.5 0.2 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNERE COMPLETED SAMPLED	NEW MEXICO SAN JUAN BLANCO DAWSON LS NO. 1 3004510273 SEC. 30, T31N, R8W BP AMERICA PRODUCTION CO. 530626	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	86.2 7.2 2.6 0.7 0.5 0.2 0.3  0.4 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNERE COMPLETED SAMPLED FORMATION	NEW MEXICO SAN JUAN BLANCO DAWSON LS NO. 1 3004510273 SEC. 30, T31N, R8W BP AMERICA PRODUCTION CO. 530626 010412	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	86.2 7.2 2.6 0.7 0.5 0.2 0.3  0.4 0.3 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNERE COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	NEW MEXICO SAN JUAN BLANCO DAWSON LS NO. 1 3004510273 SEC. 30, T31N, R8W BP AMERICA PRODUCTION CO. 530626 010412 CRET-MESAVERDE 580	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	86.2 7.2 2.6 0.7 0.5 0.2 0.3  0.4 0.3 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER E COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT).	NEW MEXICO SAN JIJAN BLANCO DAWSON LS NO. 1 3004510273 SEC. 30, T31N, R8W BP AMERICA PRODUCTION CO. 530626 010412 CRET-MESAVERDE 580 5196	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	86.2 7.2 2.6 0.7 0.5 0.2 0.3 0.4 0.3 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNERE COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT). MEASURED DEPTH	NEW MEXICO SAN JUAN BLANCO DAWSON LS NO. 1 3004510273 SEC. 30, T31N, R8W BP AMERICA PRODUCTION CO. 530626 010412 CRET-MESAVERDE 580 5196	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	86.2 7.2 2.6 0.7 0.5 0.2 0.3 0.4 0.3 0.0 0.0 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER E COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT). MEASURED DEPTH WELLHEAD PRESSURE, PSIG	NEW MEXICO SAN JIJAN BLANCO DAWSON LS NO. 1 3004510273 SEC. 30, T31N, R8W BP AMERICA PRODUCTION CO. 530626 010412 CRET-MESAVERDE 580 5196	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	86.2 7.2 2.6 0.7 0.5 0.2 0.3 0.4 0.3 0.0 TRACE 0.0 1.7
STATE COUNTY FIELD WELL NAME API LOCATION OWNER E COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT). MEASURED DEPTH WELLHEAD PRESSURE, PSIG	NEW MEXICO SAN JUAN BLANCO DAWSON LS NO. 1 3004510273 SEC. 30, T31N, R8W BP AMERICA PRODUCTION CO. 530626 010412 CRET-MESAVERDE 580 5196	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	86.2 7.2 2.6 0.7 0.5 0.2 0.3 0.4 0.3 0.0 0.0 TRACE 0.0 1.7

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE 20650	COMPONENT, MOLE PCT	
STATENEW MEXICO_	METHANE	80.7
	ETHANE	10.5
COUNTY SAN JUAN	PROPANE	4.7
FIELD BLANCO	N-BUTANE	1.2
WELL NAMESTOREY B LS NO. 4	ISOBUTANE	0.8
API	N-PENTANE	0.3
LOCATION SEC. 11, T30N, R11W	ISOPENTANE	0.4
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.4
SAMPLED	NITROGEN	0.4
FORMATIONCRET-MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE580_	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 3938	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
STATENEW MEXICO_	METHANE	81.8
STATE NEW MEXICO	METHANE	81.8
COUNTYSAN JUAN	ETHANE	
FIELD BLANCO	PROPANE	
WELL NAMEFLORANCE GAS COM E 9A	N-BUTANE	
API	ISOBUTANE	
LOCATION SEC. 13. T30N. R9W	N-PENTANE	
OWNER BP AMERICA PRODUCTION CO.	ISOPENTANE  CYCLOPENTANE	
COMPLETED 790526	HEXANES PLUS	
	NITROGEN	
SAMPLED	OXYGEN	
FORMATIONCRET-MESAVERDE, PICTURED CLIFFS_	ARGON	
GEOLOGIC PROVINCE CODE580_	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	HYDROGEN	
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
,		
MEASURED DEPTH	HYDROGEN SULFIDE**	1.1
MEASURED DEPTH WELLHEAD PRESSURE, PSIG	HYDROGEN SULFIDE** CARBON DIOXIDE	1.1 0.07

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

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

SAMPLE	50607	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	86.5
		ETHANE	6.1
COUNTY		PROPANE	2.5
FIELD		N-BUTANE	0.7
WELL NAME	PRIMO 1A	ISOBUTANE	0.4
API	3004521827	N-PENTANE	0.2
LOCATION	SEC 6, T31N, R10W	ISOPENTANE	0.2
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	751216	HEXANES PLUS	0.5
SAMPLED	050429	NITROGEN	0.1
FORMATION	CRET-PICTURED CLIFFS	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	580	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20666	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	83.2
		ETHANE	9.1
COUNTY		PROPANE	3.8
FIELD		N-BUTANE	1.0
WELL NAME		ISOBUTANE	0.6
API	3004522152	N-PENTANE	0.3
LOCATION	SEC. 24, T30N, R9W	ISOPENTANE	0.3
OWNERBE	PAMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	790601	HEXANES PLUS	0.4
SAMPLED	010412	NITROGEN	0.1
FORMATIONCRET-PIC	TURED CLIFFS, MESAVERDE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	580_	ARGON	
TRUE VERTICAL DEPTH (FT) _		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	,
		SPECIFIC GRAVITY	0.691

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE 20598		COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	89.4
	_	ETHANE	2.5
COUNTY	_	PROPANE	1.0
FIELD CHAVES CO. L		N-BUTANE	0.4
WELL NAMEMACHO FEDER	RAL COM NO. 10	ISOBUTANE	0.1
API	3000561648	N-PENTANE	0.1
LOCATIONSE	C. 7, T7S, R23E	ISOPENTANE	0.1
OWNERLIME ROO	K RESOURCES	CYCLOPENTANE	
COMPLETED	820729	HEXANES PLUS	0.2
SAMPLED	010227	NITROGEN	5.6
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	_	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	1600	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.615
SAMPLE 21521		COMPONENT, MOLE PCT	
SAMPLE 21521	NEW MEXICO	<u> </u>	
		COMPONENT, MOLE PCT  METHANE  ETHANE	87.2 4.7
STATE	CHAVES	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	87.2 4.7 1.7
STATE COUNTY FIELD	CHAVES FOOR RANCH	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE	87.2 4.7 1.7 0.6
STATE COUNTY FIELD WELL NAME	CHAVES FOOR RANCH WR STATE 4	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	87.2 4.7 1.7 0.6 0.3
STATE COUNTY FIELD WELL NAME	CHAVES FOOR RANCH WR STATE 4 3000562652	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	87.2 4.7 1.7 0.6 0.3 0.2
STATE COUNTY FIELD WELL NAME API LOCATIONSE	CHAVES FOOR RANCH WR STATE 4 3000562652 C 24, T9S, R26E	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE	87.2 4.7 1.7 0.6 0.3 0.2
STATE COUNTY FIELD WELL NAME API LOCATION SE OWNER	CHAVES FOOR RANCH WR STATE 4 3000562652 C 24, T9S, R26E ELK OIL CO.	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE	87.2 4.7 1.7 0.6 0.3 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATIONSE	CHAVES FOOR RANCH WR STATE 4 3000562652 C 24, T9S, R26E ELK OIL CO.	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS	87.2 4.7 1.7 0.6 0.3 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION SE OWNER	CHAVES  FOOR RANCH  WR STATE 4  3000562652 C 24, T9S, R26E  ELK OIL CO.  890123	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE ISOPENTANE INTROGEN	87.2 4.7 1.7 0.6 0.3 0.2 0.2  0.4 4.1
STATE	CHAVES FOOR RANCH WR STATE 4 3000562652 C 24, T9S, R26E ELK OIL CO. 890123 060309	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	87.2 4.7 1.7 0.6 0.3 0.2 0.2  0.4 4.1
STATE	CHAVES FOOR RANCH WR STATE 4 3000562652 C 24, T9S, R26E ELK OIL CO. 890123 060309	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	87.2 4.7 1.7 0.6 0.3 0.2 0.2  0.4 4.1
STATE	CHAVES  FOOR RANCH  WR STATE 4  3000562652 C 24, T9S, R26E  ELK OIL CO.  890123  060309 CO-ORDOVICIAN  430	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	87.2 4.7 1.7 0.6 0.3 0.2 0.2  0.4 4.1
STATE	CHAVES FOOR RANCH WR STATE 4 3000562652 C 24, T9S, R26E ELK OIL CO. 890123 060309 O-ORDOVICIAN 430 5938	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	87.2 4.7 1.7 0.6 0.3 0.2 0.2  0.4 4.1  TRACE 0.0
STATE	CHAVES  FOOR RANCH  WR STATE 4  3000562652 C 24, T9S, R26E  FLK OIL CO.  890123  060309 CO-ORDOVICIAN  430  5938	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	87.2 4.7 1.7 0.6 0.3 0.2 0.2  0.4 4.1  TRACE 0.0
STATE	CHAVES FOOR RANCH WR STATE 4 3000562652 C 24, T9S, R26E ELK OIL CO. 890123 060309 O-ORDOVICIAN 430 5938	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN SULFIDE*** CARBON DIOXIDE	87.2 4.7 1.7 0.6 0.3 0.2 0.2  0.4 4.1  TRACE 0.0 0.0
STATE	CHAVES FOOR RANCH WR STATE 4 3000562652 C 24, T9S, R26E ELK OIL CO. 890123 060309 O-ORDOVICIAN 430 5938	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	87.2 4.7 1.7 0.6 0.3 0.2 0.2  0.4 4.1  TRACE 0.0 0.0 0.4 0.19

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

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

SAMPLE	21523	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	88.8
COUNTY		ETHANE	4.3
·		PROPANE	1.6
FIELD	_	N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.3
API	3000563342	N-PENTANE	0.2
LOCATION	SEC 23, T9S, R26E	ISOPENTANE	0.2
OWNER	ELK OIL CO.	CYCLOPENTANE	
COMPLETED	010412	HEXANES PLUS	0.4
SAMPLED	060309	NITROGEN	3.3
FORMATION	PENN-PENNSYLVANIAN	OXYGEN	
GEOLOGIC PROVINCE CODE _	430	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
-	_	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	2000	HELIUM	
		HEATING VALUE*	1,079
		SPECIFIC GRAVITY	0.634
SAMPLE	21425	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	85.8
COUNTY	CHAVES	ETHANE	4.4
·			
FIFI D	FOOR RANCH	PROPANE	
FIELD		N-BUTANE	0.6
WELL NAME	QUINIELA AXQ STATE 3	N-BUTANEISOBUTANE	0.6 0.3
WELL NAME	QUINIELA AXQ STATE 3 3000563618	N-BUTANE ISOBUTANE N-PENTANE	0.6 0.3 0.2
WELL NAME	QUINIELA AXQ STATE 3 3000563618	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.6 0.3 0.2 0.2
WELL NAME	QUINIELA AXQ STATE 3 3000563618 SEC 5, T10S, R26E	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.6 0.3 0.2 0.2
WELL NAMEAPI	QUINIELA AXQ STATE 3 3000563618 SEC 5, T10S, R26E YATES PETROLEUM CORP.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANE	0.6 0.3 0.2 0.2  0.3
WELL NAME API LOCATION OWNER	QUINIELA AXQ STATE 3 3000563618 SEC 5, T10S, R26E YATES PETROLEUM CORP. 040412	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.6 0.3 0.2 0.2  0.3 6.1
WELL NAME API LOCATION OWNER COMPLETED	QUINIELA AXQ STATE 3  3000563618  SEC 5, T10S, R26E  YATES PETROLEUM CORP.  040412  050304	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.6 0.3 0.2 0.2  0.3 6.1 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	QUINIELA AXQ STATE 3 3000563618 SEC 5, T10S, R26E YATES PETROLEUM CORP. 040412 050304 SILU-SILURIAN	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.6 0.3 0.2 0.2  0.3 6.1 0.0
WELL NAME	QUINIELA AXQ STATE 3 3000563618 SEC 5, T10S, R26E YATES PETROLEUM CORP. 040412 050304 SILU-SILURIAN 430	N-BUTANE	0.6 0.3 0.2 0.2  0.3 6.1 0.0
WELL NAME	QUINIELA AXQ STATE 3	N-BUTANE	0.6 0.3 0.2 0.2  0.3 6.1 0.0 0.1
WELL NAME	QUINIELA AXQ STATE 3	N-BUTANE	0.6 0.3 0.2 0.2  0.3 6.1 0.0 0.1  TRACE
WELL NAME	QUINIELA AXQ STATE 3	N-BUTANE	0.6 0.3 0.2 0.2  0.3 6.1 0.0 0.1  TRACE 0.0
WELL NAME	QUINIELA AXQ STATE 3	N-BUTANE	0.6 0.3 0.2 0.2  0.3 6.1 0.0 0.1  TRACE 0.0 0.1

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE 21447	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	88.6
	ETHANE	4.7
COUNTYEDDY	PROPANE	1.6
FIELDINDIAN BASIN_	N-BUTANE	0.6
WELL NAMEFEDERAL 33 GAS COM 3	ISOBUTANE	0.3
API	N-PENTANE	0.2
LOCATION SEC 33, T21S, R23E	ISOPENTANE	0.2
OWNER CHEVRON USA, INC.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.4
SAMPLED	NITROGEN	2.9
FORMATIONPENN-CISCO	OXYGEN	
GEOLOGIC PROVINCE CODE 430	ARGON	
TRUE VERTICAL DEPTH (FT) 7281	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	0.0
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG 340	CARBON DIOXIDE	
OPEN FLOW, MCFD800_	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 20637	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	95.0
	ETHANE	2.4
COUNTY SAN JUAN	PROPANE	0.1
FIELD KUTZ W		
	N-BUTANE	TRACE
WELL NAME GALLEGOS CANYON UNIT 368.	N-BUTANE	
WELL NAMEGALLEGOS CANYON UNIT 368_ API3004526878_		TRACE
API3004526878	ISOBUTANE	TRACE TRACE
API3004526878	ISOBUTANE	TRACE TRACE TRACE
API	ISOBUTANE N-PENTANE ISOPENTANE	TRACE TRACE TRACE
API	ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE	TRACE TRACE TRACE TRACE
API	ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS	TRACE TRACE TRACE TRACE 0.1
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE TRACE TRACE TRACE TRACE 0.1 0.0
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	TRACE TRACE TRACE TRACE 0.1 0.0 0.0
API	ISOBUTANE	TRACE TRACE TRACE TRACE 0.1 0.0 0.0
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	TRACE TRACE TRACE TRACE 0.1 0.0 0.0 0.0 0.0
API	ISOBUTANE	TRACE TRACE TRACE TRACE  TRACE 0.1 0.0 0.0 0.0 0.0 2.2
API	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	TRACE TRACE TRACE  TRACE 0.1 0.0 0.0 0.0 0.0 2.2 0.01

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE 20642	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	94.5
	ETHANE	3.0
COUNTY SAN JUAN	PROPANE	0.2
FIELD KUTZ W	N-BUTANE	0.1
WELL NAME GALLEGOS CANYON UNIT 279	ISOBUTANE	0.1
API	N-PENTANE	TRACE
LOCATION SEC. 23, T28N, R12W	ISOPENTANE	TRACE
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	TRACE
SAMPLED	NITROGEN	0.1
FORMATION CRET-PICTURED CLIFFS	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 580	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	1.9
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.593
SAMPLE 20629	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	95.2
COUNTY SAN JUAN	ETHANE	2.9
	PROPANE	0.4
FIELD KUTZ W	N-BUTANE	0.1
WELL NAMEGALLEGOS CANYON UNIT 315	ISOBUTANE	0.1
API	N-PENTANE	TRACE
LOCATION SEC. 21, T28N, R12W	ISOPENTANE	TRACE
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.1
SAMPLED	NITROGEN	0.2
FORMATIONCRET-PICTURED CLIFFS	OXYGEN	0.0
GEOLOGIC PROVINCE CODE580_	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	1,037
	SPECIFIC GRAVITY	

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	20636	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	95.6
	SAN JUAN	ETHANE	1.7
	KUTZ W	PROPANE	0.1
	GALLEGOS CANYON UNIT 337	N-BUTANE	
•		ISOBUTANE	TRACE
	3004526136	N-PENTANE	TRACE
LOCATION	SEC. 26, T28N, R12W	ISOPENTANE	TRACE
OWNER	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	841230	HEXANES PLUS	
SAMPLED	010411_	NITROGEN	
FORMATION	CRET-PICTURED CLIFFS	OXYGEN	
GEOLOGIC PROVINCE	CODE580_	ARGON	
TRUE VERTICAL DEPT	TH (FT)1697	ARGON + OXYGEN	
		HYDROGEN	
	E, PSIG	HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	415.	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20627	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	93.6
COUNTY	SAN JUAN	ETHANE	
	KUTZ W	PROPANE	
	GALLEGOS CANYON UNIT 354	N-BUTANE	
· ·	3004526471	ISOBUTANE	
		N-PENTANE	
	SEC. 29, T28N, R12W	ISOPENTANE	
	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	850825	HEXANES PLUS NITROGEN	
	010410	OXYGEN	
FORMATION	CRET-PICTURED CLIFFS	ARGON	
GEOLOGIC PROVINCE	CODE	ARGON + OXYGEN	
TDI IE VEDTICAL DEDT	TH (FT)1291_	HYDROGEN	
INOL VENTICAL DEFT		THE NOOLIN	U.U
		HYDROGEN SUI FIDE**	0.0
MEASURED DEPTH	E, PSIG	HYDROGEN SULFIDE**	
MEASURED DEPTH WELLHEAD PRESSUR		CARBON DIOXIDE	1.6
MEASURED DEPTH WELLHEAD PRESSUR	E, PSIG		1.6 0.01

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	20644	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	94.4
	SAN JUAN	ETHANE	3.0
		PROPANE	0.4
·	KUTZ W	N-BUTANE	0.1
	GALLEGOS CANYON UNIT 290	ISOBUTANE	0.1
API	3004523821	N-PENTANE	TRACE
LOCATION	SEC. 15, T28N, R12W	ISOPENTANE	TRACE
OWNER	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	800121	HEXANES PLUS	0.1
SAMPLED	010411	NITROGEN	0.1
FORMATION	CRET-PICTURED CLIFFS	OXYGEN	0.0
GEOLOGIC PROVINCE (	CODE580_	ARGON	0.0
	(FT)1503	ARGON + OXYGEN	
		HYDROGEN	
		HYDROGEN SULFIDE**	
·	PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	522	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.595
SAMPLE	20630	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	89.5
	SAN JUAN	ETHANE	7.0
	KUTZ W	PROPANE	0.6
		N-BUTANE	0.2
	GALLEGOS CANYON UNIT 316	ISOBUTANE	0.1
	3004521865	N-PENTANE	0.1
LOCATION	SEC. 21, T28N, R12W	ISOPENTANE	0.1
OWNER	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
	BP AMERICA PRODUCTION CO. 760316	CYCLOPENTANE	
COMPLETED			0.2
COMPLETED	760316	HEXANES PLUS	0.2
COMPLETEDSAMPLEDFORMATION	760316 010410	HEXANES PLUS	0.2 0.3 0.0
COMPLETEDSAMPLEDFORMATIONGEOLOGIC PROVINCE (	760316 010410 CRET-PICTURED CLIFFS CODE580	HEXANES PLUS NITROGEN OXYGEN	0.2 0.3 0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE ( TRUE VERTICAL DEPTH	760316 010410 CRET-PICTURED CLIFES CODE580 I (FT)1373	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.2 0.3 0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE ( TRUE VERTICAL DEPTH MEASURED DEPTH	760316 010410 CRET-PICTURED CLIFFS CODE580 I (FT)1373	HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	0.2 0.3 0.0 0.0  0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE ( TRUE VERTICAL DEPTH MEASURED DEPTH WELLHEAD PRESSURE,	760316 010410 CRET-PICTURED CLIFES CODE580 I (FT)1373 PSIG190	HEXANES PLUS	0.2 0.3 0.0 0.0  0.0 0.0 2.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE ( TRUE VERTICAL DEPTH MEASURED DEPTH WELLHEAD PRESSURE,	760316 010410 CRET-PICTURED CLIFFS CODE580 I (FT)1373	HEXANES PLUS	0.2 0.3 0.0 0.0  0.0 0.0 2.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE ( TRUE VERTICAL DEPTH MEASURED DEPTH WELLHEAD PRESSURE,	760316 010410 CRET-PICTURED CLIFES CODE580 I (FT)1373 PSIG190	HEXANES PLUS	0.2 0.3 0.0 0.0 0.0 0.0 2.0 0.01 1,069

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

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

SAMPLE 20625	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	92.2
	ETHANE	3.9
COUNTY SAN JUAN	PROPANE	0.8
FIELD KUTZ W	N-BUTANE	0.2
WELL NAMEGALLEGOS CANYON UNIT 268_	ISOBUTANE	0.2
API	N-PENTANE	0.1
LOCATION SEC. 32, T28N, R12W	ISOPENTANE	0.1
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	
SAMPLED	NITROGEN	0.2
FORMATIONCRET-PICTURED CLIFFS	OXYGEN	0.0
GEOLOGIC PROVINCE CODE580_	ARGON	
TRUE VERTICAL DEPTH (FT)1300_	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	•
	SPECIFIC GRAVITY	0.013
SAMPLE 20623	COMPONENT, MOLE PCT	0.013
STATENEW MEXICO_	COMPONENT, MOLE PCT	90.9
STATE NEW MEXICO_ COUNTY SAN JUAN_	COMPONENT, MOLE PCT METHANE	90.9
STATE NEW MEXICO_ COUNTY SAN JUAN_ FIELD KUTZ W_	COMPONENT, MOLE PCT  METHANE  ETHANE	90.9 4.3 0.9
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 318	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	90.9 4.3 0.9 0.3 0.2
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 318 API 3004524799	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE	90.9 4.3 0.9 0.3
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 318 API 3004524799	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE	90.9 4.3 0.9 0.3 0.2 0.1
STATE         NEW MEXICO           COUNTY         SAN JUAN           FIELD         KUTZ W           WELL NAME         GALLEGOS CANYON UNIT 318           API         3004524799           LOCATION         SEC. 28, T28N, R12W	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE	90.9 4.3 0.9 0.3 0.2 0.1
STATE         NEW MEXICO           COUNTY         SAN JUAN           FIELD         KUTZ W           WELL NAME         GALLEGOS CANYON UNIT 318           API         3004524799           LOCATION         SEC. 28, T28N, R12W           OWNER         BP AMERICA PRODUCTION CO.	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS	90.9 4.3 0.9 0.3 0.2 0.1 0.1
STATE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	90.9 4.3 0.9 0.3 0.2 0.1 0.1
STATE         NEW MEXICO           COUNTY         SAN JUAN           FIELD         KUTZ W           WELL NAME         GALLEGOS CANYON UNIT 318           API         3004524799           LOCATION         SEC. 28, T28N, R12W           OWNER         BP AMERICA PRODUCTION CO.           COMPLETED         810408           SAMPLED         010410	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	90.9 4.3 0.9 0.3 0.2 0.1 0.1 0.1 0.2 0.0
STATE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	90.9 4.3 0.9 0.3 0.2 0.1 0.1 0.1 0.2 0.0 0.0
STATE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	90.9 4.3 0.9 0.3 0.2 0.1 0.1 0.1 0.2 0.0 0.0
STATE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	90.9 4.3 0.9 0.3 0.2 0.1 0.1 0.1 0.2 0.0 0.0 0.0
STATE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	90.9 4.3 0.9 0.3 0.1 0.1 0.1 0.2 0.0 0.0 0.0
STATE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	90.9 4.3 0.9 0.3 0.2 0.1 0.1 0.1 0.2 0.0 0.0 0.0 0.0 3.0
STATE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	90.9 4.3 0.9 0.3 0.2 0.1 0.1 0.1 0.2 0.0 0.0 0.0 3.0 0.02

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

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

SAMPLE	20620	COMPONENT, MOLE PCT	
STATE	NEW MEXICO.	METHANE	89.6
	SAN JUAN	ETHANE	4.4
•		PROPANE	1.0
	KUTZ W	N-BUTANE	0.3
<del></del>	GALLEGOS CANYON UNIT 11	ISOBUTANE	0.2
	3004513354	N-PENTANE	0.1
LOCATION	SEC. 34, T28N, R12W	ISOPENTANE	0.1
OWNER	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	521028	HEXANES PLUS	0.2
SAMPLED	010410	NITROGEN	0.2
FORMATION	CRET-PICTURED CLIFFS	OXYGEN	0.0
GEOLOGIC PROVINCE (	CODE580_	ARGON	
TRUE VERTICAL DEPTH	H (FT)1490_	ARGON + OXYGEN	
		HYDROGEN	
		HYDROGEN SULFIDE**	
	, PSIG448_	CARBON DIOXIDE	
OPEN FLOW, MCFD	887	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20639	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	88.7
	NEW MEXICO SAN JUAN	METHANE	
COUNTY	SAN JUAN	·	5.6
COUNTY	SAN JUAN KUTZ W	ETHANE	5.6 1.6
COUNTY FIELD WELL NAME	SAN JUAN KUTZ W GALLEGOS CANYON UNIT 233	ETHANE PROPANE N-BUTANE ISOBUTANE	5.6 1.6 0.5 0.3
COUNTY FIELD WELL NAME API	SAN JUAN KUTZ W GALLEGOS CANYON UNIT 233 3004511686	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	5.6 1.6 0.5 0.3 0.1
COUNTY FIELD WELL NAME API LOCATION	SAN JUAN KUTZ W GALLEGOS CANYON UNIT 233 3004511686 SEC. 27, T28N, R12W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	5.6 1.6 0.5 0.3 0.1 0.2
COUNTY FIELD WELL NAME API LOCATION	SAN JUAN KUTZ W GALLEGOS CANYON UNIT 233 3004511686	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	5.6 1.6 0.5 0.3 0.1 0.2
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER	SAN JUAN KUTZ W GALLEGOS CANYON UNIT 233 3004511686 SEC. 27, T28N, R12W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	5.6 1.6 0.5 0.3 0.1 0.2 
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	SAN JUAN KUTZ W GALLEGOS CANYON UNIT 233 3004511686 SEC. 27, T28N, R12W BP AMERICA PRODUCTION CO.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	5.6. 1.6 0.5 0.3 0.1 0.2 0.3 0.3
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	SAN JUAN KUTZ W GALLEGOS CANYON UNIT 233 3004511686 SEC. 27, T28N, R12W BP AMERICA PRODUCTION CO. 971208	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	5.6 1.6 0.5 0.3 0.1 0.2  0.3 0.3
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION	SAN JUAN KUTZ W GALLEGOS CANYON UNIT 233 3004511686 SEC. 27, T28N, R12W BP AMERICA PRODUCTION CO. 971208 010411	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	5.6 1.6 0.5 0.3 0.1 0.2  0.3 0.3 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE O	SAN JUAN KUTZ W GALLEGOS CANYON UNIT 233 3004511686 SEC. 27, T28N, R12W BP AMERICA PRODUCTION CO. 971208 010411 CRET-PICTURED CLIFFS	ETHANE	5.6 1.6 0.5 0.3 0.1 0.2  0.3 0.3 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH	SAN JUAN KUTZ W  GALLEGOS CANYON UNIT 233 3004511686 SEC. 27, T28N, R12W BP AMERICA PRODUCTION CO. 971208 010411 CRET-PICTURED CLIFES.	ETHANE	5.6 1.6 0.5 0.3 0.1 0.2  0.3 0.3 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH	SAN JUAN  KUTZ W  GALLEGOS CANYON UNIT 233  3004511686  SEC. 27, T28N, R12W  BP AMERICA PRODUCTION CO.  971208  010411  CRET-PICTURED CLIFES  CODE580  H (FT)1439	ETHANE	5.6 1.6 0.5 0.3 0.1 0.2  0.3 0.3 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH MEASURED DEPTH WELLHEAD PRESSURE	SAN JUAN  KUTZ W  GALLEGOS CANYON UNIT 233  3004511686  SEC. 27, T28N, R12W  BP AMERICA PRODUCTION CO.  971208  010411  CRET-PICTURED CLIFFS  CODE 580  4 (FT) 1439	ETHANE	5.6 1.6 0.5 0.3 0.1 0.2  0.3 0.3 0.0 0.0 0.0 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH MEASURED DEPTH WELLHEAD PRESSURE	SAN JUAN  KUTZ W  GALLEGOS CANYON UNIT 233  3004511686  SEC. 27, T28N, R12W  BP AMERICA PRODUCTION CO.  971208  010411  CRET-PICTURED CLIFFS  CODE 580  H (FT) 1439	ETHANE	5.6 1.6 0.5 0.3 0.1 0.2  0.3 0.3 0.0 0.0  0.0 0.0 2.5 0.03

 $<sup>^{\</sup>star}$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	20640	COMPONENT, MOLE PCT	
STATE	NEW MEXICO.	METHANE	91.2
	SAN JUAN	ETHANE	1.7
		PROPANE	0.6
·	KUTZ W	N-BUTANE	0.2
	GALLEGOS CANYON UNIT 267	ISOBUTANE	0.1
API	3004522235	N-PENTANE	0.1
LOCATION	SEC. 23, T28N, R12W	ISOPENTANE	
OWNER	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	770329	HEXANES PLUS	0.1
SAMPLED	010411	NITROGEN	3.5
FORMATION	CRET-PICTURED CLIFFS	OXYGEN	0.8
GEOLOGIC PROVINCE	E CODE580_	ARGON	0.0
	TH (FT)1630_	ARGON + OXYGEN	
	1000	HYDROGEN	
	_	HYDROGEN SULFIDE**	
	E, PSIG375_	CARBON DIOXIDE	
OPEN FLOW, MCFD	337	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21606	COMPONENT, MOLE PCT  METHANE	90.4
STATE	NEW MEXICO	METHANE	90.4
COUNTY	SAN JUAN	ETHANE	
FIFI D	KUTZ W. PINON N	PROPANE	
	GALLEGOS CANYON UNIT 517	N-BUTANE	
	3004528156	ISOBUTANE	
		N-PENTANE	
	SEC 18, T28N, R11W	ISOPENTANE	
	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	020920_	HEXANES PLUS	
SAMPLED	070626	NITROGEN	0.9
	070020	OVVCEN	
<u> </u>	CRET-PICTURED CLIFFS, FRUITLAND	OXYGEN	
FORMATION		ARGON	
FORMATION	CRET-PICTURED CLIFFS, FRUITLAND	ARGON - ARGON + OXYGEN	TRACE
FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPT	CRET-PICTURED CLIFFS, FRUITLAND  CODE580	ARGON ARGON + OXYGEN HYDROGEN	TRACE0.0
FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPT MEASURED DEPTH	CRET-PICTURED CLIFFS, FRUITLAND  CODE	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	TRACE0.00.0
FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPT MEASURED DEPTH WELLHEAD PRESSUR	CRET-PICTURED CLIFFS, FRUITLAND  E CODE	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE 0.0 0.0 0.7
FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPT MEASURED DEPTH WELLHEAD PRESSUR	CRET-PICTURED CLIFFS, FRUITLAND  E CODE	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	TRACE 0.0 0.0 0.7 0.00

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

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

STATENEW MEXICO_	METHANE	
COUNTYRIO ARRIBA	ETHANE	
FIELDLA JARA CANYON_	PROPANE	
WELL NAMEJICARILLA 29-02-16-1	N-BUTANE	
API	ISOBUTANE N-PENTANE	
LOCATION SEC 16, T29N, R2W	ISOPENTANE	
OWNERBLACK HILLS GAS RESOURCES	CYCLOPENTANE	
COMPLETED 031010	HEXANES PLUS	
	NITROGEN	
SAMPLED	OXYGEN	
FORMATION <u>EOCE-SAN JOSE, PALE-NACIMIENTO</u>	ARGON	
GEOLOGIC PROVINCE CODE580_	ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	HELIUM	0.02
	HEATING VALUE*	1,030
	SPECIFIC GRAVITY	0.595
SAMPLE 21456	COMPONENT, MOLE PCT	
STATE NEW MEXICO	METHANE	72.2
COUNTY EDDY	ETHANE	9.1
	PROPANE	4.7
FIELD LOVING E	N-BUTANE	1.4
WELL NAMEFATE 34-1	ISOBUTANE	0.6
API	N-PENTANE	0.5
		0.4
LOCATIONSEC 34, T23S, R28E	ISOPENTANE	
	ISOPENTANE	
LOCATION SEC 34, T23S, R28E OWNER BK EXPLORATION CORP.	CYCLOPENTANE	0.7
LOCATIONSEC 34, T23S, R28E  OWNERBK EXPLORATION CORP.  COMPLETED980310	CYCLOPENTANE HEXANES PLUS NITROGEN	0.7 10.0
LOCATION         SEC 34, T23S, R28E           OWNER         BK EXPLORATION CORP.           COMPLETED         980310           SAMPLED         050519	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN	0.7 10.0 
LOCATION SEC 34, T23S, R28E  OWNER BK EXPLORATION CORP.  COMPLETED 980310  SAMPLED 050519  FORMATION PERM-BRUSHY CANYON	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.7 10.0 
DOCATION SEC 34, T23S, R28E  OWNER BK EXPLORATION CORP.  COMPLETED 980310  SAMPLED 050519  FORMATION PERM-BRUSHY CANYON  GEOLOGIC PROVINCE CODE 430	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN	0.7 10.0  0.3
DOCATION SEC 34, T23S, R28E  OWNER BK EXPLORATION CORP.  COMPLETED 980310  SAMPLED 050519  FORMATION PERM-BRUSHY CANYON  GEOLOGIC PROVINCE CODE 430  TRUE VERTICAL DEPTH (FT) 6192	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN	0.7 10.0  0.3 0.0
DOCATION SEC 34, T23S, R28E  OWNER BK EXPLORATION CORP.  COMPLETED 980310  SAMPLED 050519  FORMATION PERM-BRUSHY CANYON  GEOLOGIC PROVINCE CODE 430  TRUE VERTICAL DEPTH (FT) 6192  MEASURED DEPTH	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	0.7 10.0  0.3 0.0 0.0
SEC 34, T23S, R28E           OWNER         BK EXPLORATION CORP.           COMPLETED         980310           SAMPLED         050519           FORMATION         PERM-BRUSHY CANYON           GEOLOGIC PROVINCE CODE         430           TRUE VERTICAL DEPTH (FT)         6192           MEASURED DEPTH         WELLHEAD PRESSURE, PSIG         200	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**  CARBON DIOXIDE	0.7 10.0  0.3 0.0 0.0 0.0
LOCATION SEC 34, T23S, R28E OWNER BK EXPLORATION CORP. COMPLETED 980310 SAMPLED 050519 FORMATION PERM-BRUSHY CANYON GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 6192 MEASURED DEPTH	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	0.7 10.0  0.3 0.0 0.0 0.3

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

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

SAMPLE	20585	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	89.9
·		ETHANE	1.7
COUNTY		PROPANE	0.8
FIELD	_	N-BUTANE	0.4
WELL NAME	BARN FEDERAL NO. 1	ISOBUTANE	0.1
API	3000560698	N-PENTANE	0.2
LOCATION	SEC. 12, T8S, R22E	ISOPENTANE	0.1
OWNER	LIME ROCK RESOURCES	CYCLOPENTANE	
COMPLETED	810203	HEXANES PLUS	0.2
SAMPLED	010226	NITROGEN	5.8
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	2891	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	1339	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20582	COMPONENT, MOLE PCT	
OTATE	NEWAEVIOO	METHANE	89.8
STATE		ETHANE	2.2
COUNTY		PROPANE	0.7
FIELD	PECOS SLOPE	N-BUTANE	0.3
WELL NAME	LEWIS ABN FEDERAL NO. 1	ISOBUTANE	0.1
API	3000562248	N-PENTANE	0.1
LOCATION	SEC. 21, T8S, R23E	ISOPENTANE	TRACE
OWNER	LIME ROCK RESOURCES	CYCLOPENTANE	
COMPLETED	850329	HEXANES PLUS	0.1
SAMPLED	010226	NITROGEN	6.0
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	430	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
		HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.0
OPEN FLOW, MCFD	725	HELIUM	0.72
		HEATING VALUE* SPECIFIC GRAVITY	

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	20597	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	89.4
·		ETHANE	2.5
COUNTY		PROPANE	1.1
FIELD		N-BUTANE	0.5
WELL NAME	MACHO FEDERAL NO. 13	ISOBUTANE	0.2
API	3000561914	N-PENTANE	0.2
LOCATION	SEC. 6, T7S, R23E	ISOPENTANE	
OWNER	LIME ROCK RESOURCES	CYCLOPENTANE	
COMPLETED	830703	HEXANES PLUS	0.2
SAMPLED	010227	NITROGEN	5.4
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE		ARGON	0.0
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE. PSIG		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	3100	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	<u>U.018</u>
SAMPLE	20584	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	
COUNTY	CHAVES	ETHANE	
		PROPANE	
FIELD	PECOS SLOPE W		
	PECOS SLOPE W	N-BUTANE	0.4
WELL NAME	ROCK FEDERAL NO. 1	ISOBUTANE	0.4
WELL NAME	ROCK FEDERAL NO. 1 3000560600	ISOBUTANE	0.4 0.1 0.2
WELL NAMEAPILOCATION	ROCK FEDERAL NO. 1. 3000560600 SEC. 7, T8S, R23E	ISOBUTANE N-PENTANE ISOPENTANE	0.4 0.1 0.2 0.1
WELL NAME API LOCATION OWNER	ROCK FEDERAL NO. 1 3000560600 SEC. 7, T8S, R23E LIME ROCK RESOURCES	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.4 0.1 0.2 0.1
WELL NAMEAPILOCATION	ROCK FEDERAL NO. 1 3000560600 SEC. 7, T8S, R23E LIME ROCK RESOURCES	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.4 0.1 0.2 0.1 
WELL NAME API LOCATION OWNER	ROCK FEDERAL NO. 1. 3000560600. SEC. 7, T8S, R23E. LIME ROCK RESOURCES. 800303.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.4 0.1 0.2 0.1  0.2 5.5
WELL NAME	ROCK FEDERAL NO. 1. 3000560600 SEC. 7, T8S, R23E LIME ROCK RESOURCES 800303. 010226.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.4 0.1 0.2 0.1  0.2 5.5 0.0
WELL NAME	ROCK FEDERAL NO. 1 3000560600 SEC. 7, T8S, R23E LIME ROCK RESOURCES 800303 010226 PERM-ABO	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.4 0.1 0.2 0.1  0.2 5.5 0.0
WELL NAME	ROCK FEDERAL NO. 1. 3000560600 SEC. 7, T8S, R23E LIME ROCK RESOURCES. 800303 010226. PERM-ABO. 430	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.4 0.1 0.2 0.1  0.2 5.5 0.0 TRACE
WELL NAME	ROCK FEDERAL NO. 1. 3000560600 SEC. 7, T8S, R23E LIME ROCK RESOURCES. 800303 010226 PERM-ABO 430. 3363	ISOBUTANE	0.4 0.1 0.2 0.1  0.2 5.5 0.0 TRACE
WELL NAME	ROCK FEDERAL NO. 1 3000560600 SEC. 7, T8S, R23E LIME ROCK RESOURCES 800303 010226 PERM-ABO 430 3363	ISOBUTANE	0.4 0.1 0.2 0.1  0.2 5.5 0.0 TRACE TRACE
WELL NAME	ROCK FEDERAL NO. 1 3000560600 SEC. 7, T8S, R23E LIME ROCK RESOURCES 800303 010226 PERM-ABO 430 3363	ISOBUTANE	0.4 0.1 0.2 0.1  0.2 5.5 0.0 TRACE  TRACE 0.0 0.0
WELL NAME	ROCK FEDERAL NO. 1 3000560600 SEC. 7, T8S, R23E LIME ROCK RESOURCES 800303 010226 PERM-ABO 430 3363	ISOBUTANE	0.4 0.1 0.2 0.1 0.2 5.5 0.0 TRACE TRACE 0.0 0.57

 $<sup>^{\</sup>star}$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21598	COMPONENT, MOLE PCT	
CTATE	NEW MEXICO	METHANE	74.5
·	<u> </u>	ETHANE	12.1
·	SAN JUAN	PROPANE	7.0
	PINON, BASIN	N-BUTANE	2.0
WELL NAME	T L RHODES B 1E	ISOBUTANE	0.7
·	3004526130	N-PENTANE	0.5
LOCATION	SEC 20, T28N, R11W	ISOPENTANE	0.5
OWNER ROBER	RT L. BAYLESS PRODUCERS, LLC.	CYCLOPENTANE	
COMPLETED	970321	HEXANES PLUS	0.8
SAMPLED	070516	NITROGEN	1.3
FORMATION	CRET-GALLUP, DAKOTA	OXYGEN	
GEOLOGIC PROVINCE COL	DE580_	ARGON	
	T)6212	ARGON + OXYGEN	0.1
•	1)	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
	SIG	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	,
SAMPLE	21664	COMPONENT, MOLE PCT	
		METHANE	95.2
STATE	NEW MEXICO	ETHANE	
COUNTY	SAN JUAN	PROPANE	
FIELD	POTWIN	N-BUTANE	
WELL NAME	BOWERS 1	ISOBUTANE	
API	3004525486	N-PENTANE	
LOCATION	SEC 17, T24N, R8W	ISOPENTANE	TRACE
OWNER	DUGAN PRODUCTION CORP.	CYCLOPENTANE	
COMPLETED	850621	HEXANES PLUS	TRACE
	070809	NITROGEN	1.1
	CRET-PICTURED CLIFFS	OXYGEN	
	DE580_	ARGON	
		ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (F		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PS	SIG	CARBON DIOXIDE	0.6
OPEN FLOW, MCFD	60_	HELIUM	0.00
		HEATING VALUE* SPECIFIC GRAVITY	

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

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

SAMPLE 21608	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	84.9
COUNTY RIO ARRIBA	ETHANE	5.5
	PROPANE	2.7
FIELD PUERTO CHIQUITO E	N-BUTANE	1.1
WELL NAME E PUERTO CHIQUITO MANCOS UNIT 37_	ISOBUTANE	0.4
API	N-PENTANE	0.3
LOCATION SEC 8C, T26N, R1E	ISOPENTANE	0.4
OWNERBENSON-MONTIN-GREER DRILLING CORP.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.6
SAMPLED	NITROGEN	1.2
FORMATIONCRET-NIBRARA. MANCOS	OXYGEN	
GEOLOGIC PROVINCE CODE 580	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	0.1
,	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG45_	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	•
	SPECIFIC GRAVITY	0.09
SAMPLE 20696	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	
COUNTYEDDY	ETHANE	
FIELDSHUGART N	PROPANE	
WELL NAME PATON B FEDERAL NO. 1	N-BUTANE	
API	ISOBUTANE	
LOCATION SEC. 9, T18S, R31E.	N-PENTANE	
	ISOPENTANE CYCLOPENTANE	
OWNERANADARKO PETROLEUM CORP.	HEXANES PLUS	
COMPLETED	NITROGEN	
SAMPLED010619_	OXYGEN	
FORMATION PERM-BONE SPRING	ARGON	
GEOLOGIC PROVINCE CODE 430	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)8090_	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD37_	HELIUM	0.04

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	20638	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	67.4
		ETHANE	10.6
·	SAN JUAN	PROPANE	4.7
·	SIMPSON	N-BUTANE	0.9
WELL NAME	GALLEGOS CANYON UNIT 83E	ISOBUTANE	0.3
API	3004526011	N-PENTANE	0.2
LOCATION	SEC. 26, T28N, R12W	ISOPENTANE	0.2
OWNER	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	950212	HEXANES PLUS	0.3
SAMPLED	010411	NITROGEN	11.5
FORMATION	CRET-GALLUP	OXYGEN	2.9
GEOLOGIC PROVINCE O	CODE580_	ARGON	
	(FT)5200_	ARGON + OXYGEN	
		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
,	PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	300_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SVMDLE	20678	COMPONENT MOLE DOT	
SAMPLE	20678	COMPONENT, MOLE PCT	74.0
	20678  NEW MEXICO	METHANE	
STATE		METHANE	10.4
STATE	NEW MEXICO	METHANE ETHANE PROPANE	10.4 4.8
STATE COUNTY FIELD	NEW MEXICO_	METHANE ETHANE PROPANE N-BUTANE	10.4 4.8 1.5
STATE COUNTY FIELD WELL NAME	NEW MEXICO LEA YOUNG N	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	10.4 4.8 1.5 0.5
STATE COUNTY FIELD WELL NAME API	NEW MEXICO LEA YOUNG N CHEVRON 12 FEDERAL NO. 1	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	10.4 4.8 1.5 0.5
STATE COUNTY FIELD WELL NAME API LOCATION	NEW MEXICO LEA YOUNG N CHEVRON 12 FEDERAL NO. 1 3002529747 SEC. 12, T18S, R32E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	10.4 4.8 1.5 0.5 0.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	NEW MEXICO LEA YOUNG N CHEVRON 12 FEDERAL NO. 1 3002529747 SEC. 12, T18S, R32E HARVEY E. YATES CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	10.4 4.8 1.5 0.5 0.5 0.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	NEW MEXICO LEA. YOUNG N CHEVRON 12 FEDERAL NO. 1 3002529747 SEC. 12, T18S, R32E HARVEY E. YATES CO. 860930	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	10.4 4.8 1.5 0.5 0.5 0.4 
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	NEW MEXICO  LEA  YOUNG N  CHEVRON 12 FEDERAL NO. 1  3002529747  SEC. 12, T18S, R32E  HARVEY E. YATES CO.  860930  010618	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE HEXANES PLUS	10.4 4.8 1.5 0.5 0.5 0.4  0.8 3.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	NEW MEXICO LEA YOUNG N CHEVRON 12 FEDERAL NO. 1 3002529747 SEC. 12, T18S, R32E HARVEY E. YATES CO. 860930 010618 PERM-BONE SPRING	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	10.4 4.8 1.5 0.5 0.5 0.4  0.8 3.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C	NEW MEXICO  LEA  YOUNG N  CHEVRON 12 FEDERAL NO. 1  3002529747  SEC. 12, T18S, R32E  HARVEY E. YATES CO.  860930  010618  PERM-BONE SPRING  CODE  430	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	10.4 4.8 1.5 0.5 0.5 0.4  0.8 3.4 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH	NEW MEXICO  LEA  YOUNG N  CHEVRON 12 FEDERAL NO. 1  3002529747  SEC. 12, T18S, R32E  HARVEY E. YATES CO.  860930  010618  PERM-BONE SPRING  CODE 430  (FT) 8443	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	10.4 4.8 1.5 0.5 0.4  0.8 3.4 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH	NEW MEXICO  LEA  YOUNG N  CHEVRON 12 FEDERAL NO. 1  3002529747  SEC. 12, T18S, R32E  HARVEY E. YATES CO.  860930  010618  PERM-BONE SPRING  CODE  430	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	10.4 4.8 1.5 0.5 0.5 0.4  0.8 3.4 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH	NEW MEXICO  LEA  YOUNG N  CHEVRON 12 FEDERAL NO. 1  3002529747  SEC. 12, T18S, R32E  HARVEY E. YATES CO.  860930  010618  PERM-BONE SPRING  CODE 430  (FT) 8443	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN	10.4 4.8 1.5 0.5 0.5 0.4  0.8 3.4 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH WELLHEAD PRESSURE,	NEW MEXICO  LEA  YOUNG N  CHEVRON 12 FEDERAL NO. 1  3002529747  SEC. 12, T18S, R32E  HARVEY E. YATES CO.  860930  010618  PERM-BONE SPRING  CODE  430  (FT)  8443	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	10.4 4.8 1.5 0.5 0.5 0.4 0.8 3.4 0.0 0.0 0.0 0.4 3.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH WELLHEAD PRESSURE,	NEW MEXICO  LEA  YOUNG N  CHEVRON 12 FEDERAL NO. 1  3002529747  SEC. 12, T18S, R32E  HARVEY E. YATES CO.  860930  010618  PERM-BONE SPRING  CODE 430  (FT) 8443	METHANE	10.4 4.8 1.5 0.5 0.5 0.4 0.8 3.4 0.0 0.0 0.0 0.4 3.1 0.02

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	20683	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	73.9
COUNTY		ETHANE	12.8
	_	PROPANE	5.6
FIELD		N-BUTANE	1.7
WELL NAME		ISOBUTANE	0.6
API	3002529087	N-PENTANE	0.5
LOCATION	SEC. 8, T18S, R32E	ISOPENTANE	0.5
OWNER	HARVEY E. YATES CO.	CYCLOPENTANE	
COMPLETED	000611	HEXANES PLUS	0.8
SAMPLED	010618	NITROGEN	2.7
FORMATION	PERM-BONE SPRING	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	
0.1151.5		SPECIFIC GRAVITY	0.701
SAMPLE	20690	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	
COUNTY	LEA.	ETHANE	12.5
EIEL B		DDODANE	
FIELD	YOUNG N	PROPANE	
WELL NAME	·	N-BUTANE	1.7
WELL NAME	YOUNG DEEP UNIT NO. 38	N-BUTANE	1.7 0.6
WELL NAME	YOUNG DEEP UNIT NO. 38. 3002533864	N-BUTANE ISOBUTANE N-PENTANE	1.7 0.6 0.5
WELL NAMEAPI	YOUNG DEEP UNIT NO. 38 3002533864 SEC. 10, T18S, R32E	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	1.7 0.6 0.5 0.4
WELL NAME API LOCATION OWNER	YOUNG DEEP UNIT NO. 38 3002533864 SEC. 10, T18S, R32E HARVEY E. YATES CO.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	1.7 0.6 0.5 0.4
WELL NAME	YOUNG DEEP UNIT NO. 38  3002533864  SEC. 10, T18S, R32E  HARVEY E. YATES CO.  971231	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	1.7 0.6 0.5 0.4 
WELL NAME	YOUNG DEEP UNIT NO. 38 3002533864 SEC. 10, T18S, R32E HARVEY E. YATES CO. 971231 010619	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANE	1.7 0.6 0.5 0.4  1.3 3.6
WELL NAME	YOUNG DEEP UNIT NO. 38.  3002533864  SEC. 10, T18S, R32E  HARVEY E. YATES CO.  971231  010619  PERM-BONE SPRING	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.7 0.6 0.5 0.4  1.3 3.6 0.0
WELL NAME	YOUNG DEEP UNIT NO. 38  3002533864  SEC. 10, T18S, R32E  HARVEY E. YATES CO.  971231  010619  PERM-BONE SPRING  430	N-BUTANE	1.7 0.6 0.5 0.4  1.3 3.6 0.0
WELL NAME	YOUNG DEEP UNIT NO. 38  3002533864  SEC. 10, T18S, R32E  HARVEY E. YATES CO.  971231  010619  PERM-BONE SPRING  430	N-BUTANE	1.7 0.6 0.5 0.4  1.3 3.6 0.0
WELL NAME	YOUNG DEEP UNIT NO. 38 3002533864 SEC. 10, T18S, R32E HARVEY E. YATES CO. 971231 010619 PERM-BONE SPRING. 430 8892	N-BUTANE	1.7 0.6 0.5 0.4  1.3 3.6 0.0 0.0
WELL NAME	YOUNG DEEP UNIT NO. 38  3002533864  SEC. 10, T18S, R32E.  HARVEY E. YATES CO.  971231  010619  PERM-BONE SPRING  430  8892	N-BUTANE	1.7 0.6 0.5 0.4  1.3 3.6 0.0 0.0  0.0
WELL NAME	YOUNG DEEP UNIT NO. 38	N-BUTANE	1.7 0.6 0.5 0.4  1.3 3.6 0.0 0.0  0.0 0.0
WELL NAME	YOUNG DEEP UNIT NO. 38	N-BUTANE	1.7 0.6 0.5 0.4  1.3 3.6 0.0 0.0  0.0 0.0 0.0

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

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

SAMPLE	20676	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	69.9
COUNTY		ETHANE	11.6
		PROPANE	6.6
FIELD		N-BUTANE	2.1
WELL NAME		ISOBUTANE	0.8
API	3002528889	N-PENTANE	0.6
LOCATION	SEC. 1, T18S, R32E	ISOPENTANE	0.6
OWNER	HARVEY E. YATES CO.	CYCLOPENTANE	
COMPLETED	841218	HEXANES PLUS	0.9
SAMPLED	010618	NITROGEN	3.1
FORMATION	PERM-BONE SPRING	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	<del></del>	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20687	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	70.3
COUNTY		ETHANE	13.9
FIELD	_	PROPANE	6.5
		N-BUTANE	
WELL NAME			1.9
		ISOBUTANE	
API	3002533642	ISOBUTANE N-PENTANE	0.7
API	3002533642		0.7 0.7
	3002533642 SEC. 9, T18S, R32E	N-PENTANE	0.7 0.7 0.5
LOCATION	3002533642 SEC. 9, T18S, R32E HARVEY E. YATES CO.	N-PENTANE	0.7 0.7 0.5
LOCATION	3002533642 SEC. 9, T18S, R32E HARVEY E. YATES CO. 961211	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.7 0.7 0.5  1.8 3.6
LOCATIONOWNERCOMPLETED	3002533642 SEC. 9, T18S, R32E HARVEY E. YATES CO. 961211 010618	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.7 0.7 0.5  1.8 3.6 0.0
LOCATION OWNER COMPLETED SAMPLED	3002533642 SEC. 9, T18S, R32E HARVEY E. YATES CO. 961211 010618 PERM-BONE SPRING.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.7 0.7 0.5  1.8 3.6 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	3002533642 SEC. 9, T18S, R32E HARVEY E. YATES CO. 961211 010618 PERM-BONE SPRING. 430	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.7 0.7 0.5  1.8 3.6 0.0
LOCATION	3002533642 SEC. 9, T18S, R32E HARVEY E. YATES CO. 961211 010618 PERM-BONE SPRING 430 8832	N-PENTANE	0.7 0.7 0.5  1.8 3.6 0.0 0.0
LOCATION	3002533642 SEC. 9, T18S, R32E HARVEY E. YATES CO. 961211 010618 PERM-BONE SPRING 430 8832	N-PENTANE	0.7 0.7 0.5  1.8 3.6 0.0  TRACE 0.0
LOCATION	3002533642 SEC. 9, T18S, R32E HARVEY E. YATES CO. 961211 010618 PERM-BONE SPRING 430 8832	N-PENTANE	0.7 0.7 0.5  1.8 3.6 0.0 0.0  TRACE 0.0
LOCATION	3002533642 SEC. 9, T18S, R32E HARVEY E. YATES CO. 961211 010618 PERM-BONE SPRING 430 8832	N-PENTANE	0.7 0.7 0.5  1.8 3.6 0.0 0.0  TRACE 0.0 0.1

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

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

SAMPLE 20701	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	70.4
	ETHANE	13.5
COUNTY LEA.	PROPANE	6.4
FIELD YOUNG N	N-BUTANE	1.9
WELL NAMEYOUNG DEEP UNIT NO. 1	ISOBUTANE	0.7
API	N-PENTANE	0.7
LOCATION SEC. 8, T18S, R32E	ISOPENTANE	0.5
OWNER HARVEY E. YATES CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	1.9
SAMPLED	NITROGEN	3.8
FORMATIONPERM-BONE SPRING	OXYGEN	
GEOLOGIC PROVINCE CODE 430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)8791	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
WELLHEAD PRESSURE, PSIG	HYDROGEN SULFIDE**	
,	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	<u>1,338</u>
	SDECIEIC CDAVITY	0.906
	SPECIFIC GRAVITY	0.806
SAMPLE 20691	COMPONENT, MOLE PCT	
SAMPLE 20691 STATENEW MEXICO_	COMPONENT, MOLE PCT  METHANE	69.2
STATENEW MEXICO_	COMPONENT, MOLE PCT  METHANE  ETHANE	69.2 13.1
	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	69.2 13.1 7.1
STATE NEW MEXICO_ COUNTY EDDY FIELD YOUNG N	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE	69.2 13.1 7.1 2.6
STATE NEW MEXICO_ COUNTY EDDY FIELD YOUNG N. WELL NAME AMOCO EAST 2 STATE NO. 2.	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	69.2 13.1 7.1 2.6 0.9
STATE	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	69.2 13.1 7.1 2.6 0.9 0.8
STATE         NEW MEXICO           COUNTY         EDDY           FIELD         YOUNG N           WELL NAME         AMOCO EAST 2 STATE NO. 2           API         3002528711           LOCATION         SEC. 2, T18S, R32E	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	69.2 13.1 7.1 2.6 0.9 0.8 0.7
STATE         NEW MEXICO           COUNTY         EDDY           FIELD         YOUNG N           WELL NAME         AMOCO EAST 2 STATE NO. 2           API         3002528711           LOCATION         SEC. 2, T18S, R32E           OWNER         HARVEY E, YATES CO.	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	69.2 13.1 7.1 2.6 0.9 0.8 0.7
STATE         NEW MEXICO           COUNTY         EDDY           FIELD         YOUNG N           WELL NAME         AMOCO EAST 2 STATE NO. 2           API         3002528711           LOCATION         SEC. 2, T18S, R32E           OWNER         HARVEY E. YATES CO.           COMPLETED         840823	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS	69.2 13.1 7.1 2.6 0.9 0.8 0.7 
STATE         NEW MEXICO           COUNTY         EDDY           FIELD         YOUNG N           WELL NAME         AMOCO EAST 2 STATE NO. 2           API         3002528711           LOCATION         SEC. 2, T18S, R32E           OWNER         HARVEY E, YATES CO.           COMPLETED         840823           SAMPLED         010619	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	69.2 13.1 7.1 2.6 0.9 0.8 0.7  1.4 3.8
STATE         NEW MEXICO           COUNTY         EDDY           FIELD         YOUNG N           WELL NAME         AMOCO EAST 2 STATE NO. 2           API         3002528711           LOCATION         SEC. 2, T18S, R32E           OWNER         HARVEY E. YATES CO.           COMPLETED         840823	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	69.2 13.1 7.1 2.6 0.9 0.8 0.7  1.4 3.8 0.0
STATE         NEW MEXICO           COUNTY         EDDY           FIELD         YOUNG N           WELL NAME         AMOCO EAST 2 STATE NO. 2           API         3002528711           LOCATION         SEC. 2, T18S, R32E           OWNER         HARVEY E. YATES CO.           COMPLETED         840823           SAMPLED         010619           FORMATION         PERM-BONE SPRING           GEOLOGIC PROVINCE CODE         430	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	69.2 13.1 7.1 2.6 0.9 0.8 0.7  1.4 3.8 0.0
STATE         NEW MEXICO           COUNTY         EDDY           FIELD         YOUNG N           WELL NAME         AMOCO EAST 2 STATE NO. 2           API         3002528711           LOCATION         SEC. 2, T18S, R32E           OWNER         HARVEY E. YATES CO.           COMPLETED         840823           SAMPLED         010619           FORMATION         PERM-BONE SPRING	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	69.2 13.1 7.1 2.6 0.9 0.8 0.7  1.4 3.8 0.0
STATE         NEW MEXICO           COUNTY         EDDY           FIELD         YOUNG N           WELL NAME         AMOCO EAST 2 STATE NO. 2           API         3002528711           LOCATION         SEC. 2, T18S, R32E           OWNER         HARVEY E. YATES CO.           COMPLETED         840823           SAMPLED         010619           FORMATION         PERM-BONE SPRING           GEOLOGIC PROVINCE CODE         430	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	69.2 13.1 7.1 2.6 0.9 0.8 0.7  1.4 3.8 0.0 0.0
STATE         NEW MEXICO           COUNTY         EDDY           FIELD         YOUNG N           WELL NAME         AMOCO EAST 2 STATE NO. 2           API         3002528711           LOCATION         SEC. 2, T18S, R32E           OWNER         HARVEY E, YATES CO.           COMPLETED         840823           SAMPLED         010619           FORMATION         PERM-BONE SPRING           GEOLOGIC PROVINCE CODE         430           TRUE VERTICAL DEPTH (FT)         8568	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	69.2 13.1 7.1 2.6 0.9 0.8 0.7  1.4 3.8 0.0 0.0
STATE         NEW MEXICO           COUNTY         EDDY           FIELD         YOUNG N           WELL NAME         AMOCO EAST 2 STATE NO. 2           API         3002528711           LOCATION         SEC. 2, T18S, R32E           OWNER         HARVEY E. YATES CO.           COMPLETED         840823           SAMPLED         010619           FORMATION         PERM-BONE SPRING           GEOLOGIC PROVINCE CODE         430           TRUE VERTICAL DEPTH (FT)         8568           MEASURED DEPTH	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	69.2 13.1 7.1 2.6 0.9 0.8 0.7  1.4 3.8 0.0 0.0  0.0
STATE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	69.2 13.1 7.1 2.6 0.9 0.8 0.7  1.4 3.8 0.0 0.0  0.0 0.0

 $<sup>^{\</sup>star}$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	20688	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	75.5
COUNTY		ETHANE	11.8
		PROPANE	5.4
FIELD		N-BUTANE	1.5
WELL NAME		ISOBUTANE	0.6
API	3002530866	N-PENTANE	0.4
LOCATION	SEC. 4, T18S, R32E	ISOPENTANE	0.4
OWNER	HARVEY E. YATES CO.	CYCLOPENTANE	
COMPLETED	900529	HEXANES PLUS	0.5
SAMPLED	010619	NITROGEN	3.8
FORMATION	PERM-BONE SPRING	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	214_	HELIUM	
		HEATING VALUE*	,
		SPECIFIC GRAVITY	0.73
SAMPLE	20692	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	69.0
COUNTY		ETHANE	
FIELD		PROPANE	7.3
•		N-BUTANE	2.4
WELL NAME		ISOBUTANE	0.9
API		N-PENTANE	
LOCATION	· · · · · · · · · · · · · · · · · · ·	ISOPENTANE	
LOCATION	· · · · · · · · · · · · · · · · · · ·	CYCLOPENTANE	-
·	HARVEY E. YATES CO.	CYCLOPENTANE	1.5
OWNER	HARVEY E. YATES CO. 900503	CYCLOPENTANE HEXANES PLUS NITROGEN	1.8 3.8
OWNER	HARVEY E. YATES CO. 900503 010619	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN	1.5 3.5 0.0
OWNERCOMPLETEDSAMPLED	HARVEY E. YATES CO. 900503 010619	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON	1.5 3.5 0.0
OWNER COMPLETED SAMPLED FORMATION	HARVEY E. YATES CO. 900503 010619 PERM-BONE SPRING 430	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN	1.9 3.9 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	HARVEY E. YATES CO. 900503 010619 PERM-BONE SPRING 430 9012	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN	1.4 3.4 0.0 0.0 
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	HARVEY E. YATES CO. 900503 010619 PERM-BONE SPRING 430 9012	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	HARVEY E. YATES CO. 900503 010619 PERM-BONE SPRING 430 9012	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**  CARBON DIOXIDE	
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	HARVEY E. YATES CO. 900503 010619 PERM-BONE SPRING 430 9012	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	1.5 3.5 0.0 0.0 TRACE 0.0

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

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

SAMPLE	20681	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	67.4
COUNTY		ETHANE	14.2
		PROPANE	7.8
FIELD		N-BUTANE	3.0
WELL NAME		ISOBUTANE	1.0
API	3002531299	N-PENTANE	0.9
LOCATION	SEC. 10, T18S, R32E	ISOPENTANE	1.0
OWNER	HARVEY E. YATES CO.	CYCLOPENTANE	
COMPLETED	910917	HEXANES PLUS	1.0
SAMPLED	010618	NITROGEN	3.4
FORMATION	PERM-BONE SPRING	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
` ,		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
			1 200
		HEATING VALUE*	
		SPECIFIC GRAVITY	
SAMPLE	20677		
SAMPLE STATE		SPECIFIC GRAVITY	0.835
STATE	NEW MEXICO	SPECIFIC GRAVITY COMPONENT, MOLE PCT	0.835 68.9
STATE	NEW MEXICO_	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE	0.835 68.9 13.3
STATECOUNTY	NEW MEXICO LEA YOUNG N	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE	0.835 68.9 13.3 6.8 2.4
STATE COUNTY FIELD WELL NAME	NEW MEXICO  LEA  YOUNG N  AMOCO 1 FEDERAL NO. 2	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	0.835 68.9 13.3 6.8 2.4 0.8
STATE COUNTY FIELD WELL NAME	NEW MEXICO LEA YOUNG N AMOCO 1 FEDERAL NO. 2 3002529848	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	0.835 68.9 13.3 6.8 2.4 0.8
STATE COUNTY FIELD WELL NAME	NEW MEXICO LEA YOUNG N AMOCO 1 FEDERAL NO. 2 3002529848	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.835 68.9 13.3 6.8 2.4 0.8 0.7
STATE COUNTY FIELD WELL NAME	NEW MEXICO LEA YOUNG N AMOCO 1 FEDERAL NO. 2 3002529848 SEC. 1, T18S, R32E	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE	0.835 68.9 13.3 6.8 2.4 0.8 0.7 0.6
STATE COUNTY FIELD WELL NAME API LOCATION	NEW MEXICO LEA YOUNG N AMOCO 1 FEDERAL NO. 2 3002529848 SEC. 1, T18S, R32E HARVEY E, YATES CO.	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE HEXANES PLUS	0.835 68.9 13.3 6.8 2.4 0.8 0.7 0.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	NEW MEXICO LEA YOUNG N AMOCO 1 FEDERAL NO. 2 3002529848 SEC. 1, T18S, R32E HARVEY E. YATES CO. 870416	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE ISOPENTANE INTROGEN	0.835 68.9 13.3 6.8 2.4 0.7 0.6  0.8 2.7
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	NEW MEXICO LEA YOUNG N AMOCO 1 FEDERAL NO. 2 3002529848 SEC. 1, T18S, R32E HARVEY E, YATES CO. 870416 010618	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.835 68.9 13.3 6.8 2.4 0.7 0.6  0.8 2.7 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	NEW MEXICO LEA YOUNG N AMOCO 1 FEDERAL NO. 2 3002529848 SEC. 1, T18S, R32E HARVEY E. YATES CO. 870416 010618 PERM-BONE SPRING	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.835 68.9 13.3 6.8 2.4 0.8 0.7 0.6 0.8 2.7 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	NEW MEXICO LEA YOUNG N AMOCO 1 FEDERAL NO. 2 3002529848 SEC. 1, T18S, R32E HARVEY E. YATES CO. 870416 010618 PERM-BONE SPRING 430	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.835 68.9 13.3 6.8 2.4 0.8 0.7 0.6 0.8 2.7 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	NEW MEXICO LEA YOUNG N AMOCO 1 FEDERAL NO. 2 3002529848 SEC. 1, T18S, R32E HARVEY E, YATES CO. 870416 010618 PERM-BONE SPRING 430 8425	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.835 68.9 13.3 6.8 2.4 0.8 0.7 0.6 0.8 2.7 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	NEW MEXICO LEA YOUNG N AMOCO 1 FEDERAL NO. 2 3002529848 SEC. 1, T18S, R32E HARVEY E. YATES CO. 870416 010618 PERM-BONE SPRING 430 8425	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.835 68.9 13.3 6.8 2.4 0.8 0.7 0.6 0.8 2.7 0.0 0.0 0.0 0.4
STATE 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 YOUNG N AMOCO 1 FEDERAL NO. 2 3002529848 SEC. 1, T18S, R32E HARVEY E. YATES CO. 870416 010618 PERM-BONE SPRING 430 8425	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.835 68.9 13.3 6.8 2.4 0.8 0.7 0.6 0.8 2.7 0.0 0.0 0.0 0.4 2.4
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	NEW MEXICO LEA YOUNG N AMOCO 1 FEDERAL NO. 2 3002529848 SEC. 1, T18S, R32E HARVEY E. YATES CO. 870416 010618 PERM-BONE SPRING 430 8425	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.835 68.9 13.3 6.8 2.4 0.8 0.7 0.6 0.8 2.7 0.0 0.0 0.0 0.4 2.4 0.09

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

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

SAMPLE	20689	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	64.2
COUNTY		ETHANE	17.5
		PROPANE	9.0
FIELD	_	N-BUTANE	2.6
WELL NAME	_	ISOBUTANE	1.0
API	3002533174	N-PENTANE	0.7
LOCATION	SEC. 10, T18S, R32E	ISOPENTANE	0.6
OWNER	HARVEY E. YATES CO.	CYCLOPENTANE	
COMPLETED	951227	HEXANES PLUS	1.3
SAMPLED	010619	NITROGEN	2.6
FORMATION	PERM-BONE SPRING	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	430	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	349	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20682	COMPONENT, MOLE PCT	59.1
STATE	NEW MEXICO	METHANE	58.1
COUNTY	LEA	ETHANE	
FIELD	YOUNG N	PROPANE	
WELL NAME		N-BUTANE	
API		ISOBUTANE	1.2
·	3002527406	NI DENITANIE	
	050 0 5100 5005		0.8
	SEC. 8, T18S, R32E	ISOPENTANE	0.8
OWNER	HARVEY E. YATES CO.	ISOPENTANE	0.8
	HARVEY E. YATES CO.	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.8  1.0
OWNER	HARVEY E. YATES CO 010106	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.8  1.0 10.5
OWNER	HARVEY E. YATES CO. 010106 010618	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.8  1.0 10.5 0.0
OWNER COMPLETED SAMPLED	HARVEY E. YATES CO. 010106 010618 PERM-DELAWARE	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.8  1.0 10.5 0.0
OWNER COMPLETED SAMPLED FORMATION	HARVEY E. YATES CO 010106. 010618. PERM-DELAWARE. 430.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.8  1.0 10.5 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	HARVEY E. YATES CO 010106. 010618. PERM-DELAWARE. 430. 5008.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.8  1.0 10.5 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	HARVEY E. YATES CO	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.8  1.0 10.5 0.0 0.0  0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	HARVEY E. YATES CO 010106. 010618. PERM-DELAWARE. 430. 5008.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.8 1.0 10.5 0.0 0.0 0.0 0.0 0.1
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	HARVEY E. YATES CO 010106. 010618. PERM-DELAWARE. 430. 5008.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.8 1.0 10.5 0.0 0.0 0.0 0.0 0.1 0.06

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

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

SAMPLE	20685	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	60.7
	LEA.	ETHANE	14.4
		PROPANE	9.3
·	YOUNG N	N-BUTANE	2.8
<u></u>	AMOCO CP FEDERAL NO. 1	ISOBUTANE	1.1
API	3002527680	N-PENTANE	8.0
LOCATION	SEC. 8, T18S, R32E	ISOPENTANE	0.8
OWNER	HARVEY E. YATES CO.	CYCLOPENTANE	
COMPLETED	890714	HEXANES PLUS	1.2
SAMPLED	010618	NITROGEN	8.9
FORMATION	PERM-DELAWARE	OXYGEN	0.0
GEOLOGIC PROVINCE COD	E430_	ARGON	0.0
	- 4913	ARGON + OXYGEN	
•	,	HYDROGEN	
		HYDROGEN SULFIDE**	0.0
	IG	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.865
SAMPLE	20686	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	58.7
COUNTY	LEA	ETHANE	
	YOUNG N	PROPANE	
•	YOUNG 8 FEDERAL, WEST NO. 1	N-BUTANE	
		ISOBUTANE	1.1
API	3002530503		
		N-PENTANE	
	SEC. 8, T18S, R32E	ISOPENTANE	0.7
	SEC. 8, T18S, R32E HARVEY E. YATES CO.	ISOPENTANE	0.7
OWNER		ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.7
OWNER	HARVEY E. YATES CO.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.7  0.9 7.2
OWNER COMPLETED SAMPLED	HARVEY E. YATES CO. 890307	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.7  0.9 7.2 0.0
OWNER COMPLETED SAMPLED	HARVEY E. YATES CO.  890307  010818  PERM-DELAWARE	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.7  0.9 7.2 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD	HARVEY E. YATES CO.  890307  010818  PERM-DELAWARE	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.7  0.9 7.2 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT	HARVEY E. YATES CO.  890307.  010818.  PERM-DELAWARE.  430.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.7 
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH	HARVEY E. YATES CO.  890307  010818  PERM-DELAWARE  430  5020	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.7 
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PSI	HARVEY E. YATES CO.  890307  010818  PERM-DELAWARE  E	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.7  0.9 7.2 0.0 0.0  0.0 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PSI	HARVEY E. YATES CO.  890307  010818  PERM-DELAWARE  430  5020	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.7  0.9 7.2 0.0 0.0  0.0 0.0 TRACE 0.09

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

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

SAMPLE	20680	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	55.1
		ETHANE	19.6
COUNTY	_	PROPANE	12.7
FIELD		N-BUTANE	3.0
WELL NAME		ISOBUTANE	1.3
API	3002531101	N-PENTANE	0.7
LOCATION	SEC. 12, T18S, R32E	ISOPENTANE	0.8
OWNER	HARVEY E. YATES CO.	CYCLOPENTANE	
COMPLETED	910112	HEXANES PLUS	0.9
SAMPLED	010618	NITROGEN	5.8
FORMATION	PERM-DELAWARE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	
TRUE VERTICAL DEPTH (FT)	4939	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG _		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	46	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	,
SAMPLE	50610	COMPONENT, MOLE PCT	
STATE	OKI VHOWV	METHANE	53.0
·	_	ETHANE	4.4
COUNTY	_	PROPANE	3.4
FIELD		N-BUTANE	1.3
WELL NAME		ISOBUTANE	0.6
API	3508123739	N-PENTANE	0.4
LOCATION	SEC 26, T17N, R3E	ISOPENTANE	0.3
OWNER	BAY PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	050610	HEXANES PLUS	0.4
SAMPLED	050822	NITROGEN	36.1
		OXYGEN	
FORMATION	MISS-MISSISSIPPIAN		
		ARGON	
GEOLOGIC PROVINCE CODE	355	ARGON + OXYGEN	
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	355 4226	ARGON ARGON + OXYGEN HYDROGEN	
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	355 4226	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	355 4226	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	 0.0 TRACE
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	355 4226	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.0 TRACE

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

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

SAMPLE	50611	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	76.0
COUNTY		ETHANE	9.3
		PROPANE	4.6
FIELD		N-BUTANE	1.6
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.5
LOCATION	SEC 26, T17N, R3E	ISOPENTANE	0.3
OWNER	BAY PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	010520	HEXANES PLUS	0.7
SAMPLED	050720	NITROGEN	6.4
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	
GEOLOGIC PROVINCE CODE	355	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
	_	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	25	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21508	COMPONENT, MOLE PCT	
CTATE	OKI ALIOMA	METHANE	84.4
STATE		ETHANE	6.5
COUNTY		PROPANE	2.9
FIELD		N-BUTANE	0.8
WELL NAME	RAINBOLT 1-3	ISOBUTANE	0.4
API	3506321134	N-PENTANE	0.3
LOCATION	SEC 3, T9N, R11E	ISOPENTANE	0.2
OWNER	CROWN ENERGY CO.	CYCLOPENTANE	
COMPLETED	801024	HEXANES PLUS	0.4
SAMPLED	051104	NITROGEN	3.6
FORMATION	PENN-BARTLESVILLE	OXYGEN	
GEOLOGIC PROVINCE CODE	355	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	55_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	

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

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

	21507	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	83.4
		ETHANE	7.2
·	HUGHES	PROPANE	3.1
	ALABAMA S	N-BUTANE	0.8
•	HAMMOND 2-9	ISOBUTANE	0.3
API	3506321147	N-PENTANE	0.2
LOCATION	SEC 9, T9N, R11E	ISOPENTANE	0.2
OWNER	CROWN ENERGY CO.	CYCLOPENTANE	
COMPLETED	801215	HEXANES PLUS	0.4
SAMPLED	051104	NITROGEN	4.1
FORMATION PE	NN-RED FORK, BARTLESVILLE	OXYGEN	
	355	ARGON	
	1605	ARGON + OXYGEN	
, ,		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
,	30_	CARBON DIOXIDE	0.3
OPEN FLOW, MCFD	8	HELIUM	
		HEATING VALUE*	1,118
		SPECIFIC GRAVITY	0.67
SAMPLE	21518	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	74.7
COUNTY		ETHANE	9.5
	GRADY	PROPANE	6.9
FIELD	GRADY ALEX NW		6.9
FIELD	GRADY ALEX NW BURTON 1-11	PROPANE	6.9 2.8
FIELD WELL NAME API	GRADY ALEX NW BURTON 1-11 3505123174	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	6.9 2.8 1.4 1.0
FIELD WELL NAME API	GRADY ALEX NW BURTON 1-11	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE	6.9 2.8 1.4 1.0 0.7
FIELD WELL NAME API LOCATION	GRADY ALEX NW BURTON 1-11 3505123174	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE	6.9 2.8 1.4 1.0 0.7
FIELD WELL NAME API LOCATION OWNER	GRADY  ALEX NW  BURTON 1-11  3505123174  SEC 11, T5N, R6W	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS	6.9 2.8 1.4 1.0 0.7  1.4
FIELD	GRADY ALEX NW BURTON 1-11 3505123174 SEC 11, T5N, R6W WARD PETROLEUM CORP.	PROPANE  N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	6.9 2.8 1.4 1.0 0.7 - 1.4 0.5
FIELD	GRADY ALEX NW BURTON 1-11 3505123174 SEC 11, T5N, R6W WARD PETROLEUM CORP. 040709	PROPANE	6.9 2.8 1.4 1.0 0.7  1.4 0.5
FIELD	GRADY  ALEX NW  BURTON 1-11  3505123174  SEC 11, T5N, R6W  WARD PETROLEUM CORP.  040709  060302  ORDO-BROMIDE 1 & 2	PROPANE	6.9 2.8 1.4 1.0 0.7  1.4 0.5
FIELD	GRADY  ALEX NW  BURTON 1-11  3505123174  SEC 11, T5N, R6W  WARD PETROLEUM CORP.  040709  060302  ORDO-BROMIDE 1 & 2  360	PROPANE	6.9 2.8 1.4 1.0 0.7  1.4 0.5
FIELD	GRADY ALEX NW BURTON 1-11 3505123174 SEC 11, T5N, R6W WARD PETROLEUM CORP. 040709 060302 ORDO-BROMIDE 1 & 2 360	PROPANE	6.9 2.8 1.4 1.0 0.7  1.4 0.5  TRACE
FIELD	GRADY ALEX NW BURTON 1-11 3505123174 SEC 11, T5N, R6W WARD PETROLEUM CORP. 040709 060302 ORDO-BROMIDE 1 & 2 360	PROPANE	6.9 2.8 1.4 1.0 0.7 1.4 0.5 TRACE 0.0 0.0
WELL NAME	GRADY ALEX NW BURTON 1-11 3505123174 SEC 11, T5N, R6W WARD PETROLEUM CORP. 040709 060302 ORDO-BROMIDE 1 & 2 360  17092 4000	PROPANE	6.9 2.8 1.4 1.0 0.7 1.4 0.5 TRACE 0.0 0.0
FIELD	GRADY ALEX NW BURTON 1-11 3505123174 SEC 11, T5N, R6W WARD PETROLEUM CORP. 040709 060302 ORDO-BROMIDE 1 & 2 360	PROPANE	6.9 2.8 1.4 1.0 0.7 1.4 0.5 TRACE 0.0 0.0 1.2 0.02

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

SAMPLE	21517	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	92.7
		ETHANE	3.5
·	KINGFISHER	PROPANE	1.5
	ALTONA.	N-BUTANE	0.4
	JUSTICE 9A	ISOBUTANE	0.3
API	3507324394	N-PENTANE	0.2
LOCATION	SEC 9, T15N, R9W	ISOPENTANE	0.2
OWNERC	HESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	971224	HEXANES PLUS	0.4
SAMPLED	060130	NITROGEN	0.4
FORMATION <u>PENN-INOLA,ATO</u>	OKA,MORROW,MISS-CHESTER	OXYGEN	
GEOLOGIC PROVINCE CODE	360_	ARGON	
	8826	ARGON + OXYGEN	
	0020	HYDROGEN	
	_	HYDROGEN SULFIDE**	
•	23	CARBON DIOXIDE	
OPEN FLOW, MCFD	26_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.618
SAMPLE	21514	COMPONENT, MOLE PCT	
STATE	OKLAHOMA.	METHANE	90.9
	KINGFISHER	ETHANE	
-	ALTONA	PROPANE	
	GALILEO 1-20	N-BUTANE	
•		ISOBUTANE	
	3507324475	N-PENTANE	
	SEC 20, T15N, R9W	ISOPENTANE	
•	RANGE PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	040816	HEXANES PLUS	
SAMPLED	060123	NITROGEN	3.3
		OVVOEN	
FORMATION	PENN-MORROW	OXYGEN	
·	PENN-MORROW	ARGON	
GEOLOGIC PROVINCE CODE	PENN-MORROW 360	ARGON	0.1
GEOLOGIC PROVINCE CODE	PENN-MORROW 360 9003	ARGON ARGON + OXYGEN HYDROGEN	0.1 0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	PENN-MORROW 360 9003	ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.1 0.0 0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	PENN-MORROW 360 9003	ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.0 0.0 0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	PENN-MORROW 360 9003	ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.1 0.0 0.0 0.0 0.4 0.03

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

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

SAMPLE	21515	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	90.3
·		ETHANE	4.2
	KINGFISHER	PROPANE	1.9
	ALTONA.	N-BUTANE	0.6
	BETTY 1-28	ISOBUTANE	0.2
	3507324288	N-PENTANE	0.2
LOCATION	SEC 28, T16N, R9W	ISOPENTANE	0.2
OWNER	KAISER-FRANCIS OIL CO.	CYCLOPENTANE	
COMPLETED	010623	HEXANES PLUS	0.4
SAMPLED	060131	NITROGEN	1.6
FORMATION PEI	NN-RED FORK, MISS-CHESTER	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	<del></del>
	8556	ARGON + OXYGEN	TRACE
` '	0000	HYDROGEN	0.0
	-	HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	100	HELIUM	
		HEATING VALUE*	1,095
		00501510 0041 (17)	
		SPECIFIC GRAVITY	0.631
SAMPLE	21573	COMPONENT, MOLE PCT	
	21573 OKLAHOMA	COMPONENT, MOLE PCT  METHANE	85.5
STATE		COMPONENT, MOLE PCT  METHANE  ETHANE	85.5 6.4
STATE	OKLAHOMA GRADY	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	85.5 6.4 3.3
STATECOUNTY	OKLAHOMA GRADY AMBER NE	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE	85.5 6.4 3.3 1.2
STATE COUNTY FIELD WELL NAME	OKLAHOMA GRADY AMBER NE CAMPBELL FARMS 1-25	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	85.5 6.4 3.3 1.2 0.6
STATE COUNTY FIELD WELL NAME	OKLAHOMA. GRADY  AMBER NE  CAMPBELL FARMS 1-25 3505123097	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	85.5 6.4 3.3 1.2 0.6 0.5
STATE COUNTY FIELD WELL NAME API LOCATION	OKLAHOMA GRADY AMBER NE CAMPBELL FARMS 1-25 3505123097 SEC. 25, T9N, R6W	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	85.5 6.4 3.3 1.2 0.6 0.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	OKLAHOMA GRADY AMBER NE CAMPBELL FARMS 1-25 3505123097 SEC. 25, T9N, R6W LINN ENERGY, LLC	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	85.5 6.4 3.3 1.2 0.6 0.5 0.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	OKLAHOMA GRADY AMBER NE CAMPBELL FARMS 1-25 3505123097 SEC. 25, T9N, R6W	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS	85.5 6.4 3.3 1.2 0.6 0.5 0.4 
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	OKLAHOMA GRADY AMBER NE CAMPBELL FARMS 1-25 3505123097 SEC. 25, T9N, R6W LINN ENERGY, LLC	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN	85.5 6.4 3.3 1.2 0.6 0.5 0.4  0.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	OKLAHOMA GRADY AMBER NE CAMPBELL FARMS 1-25 3505123097 SEC. 25, T9N, R6W LINN ENERGY, LLC	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	85.5 6.4 3.3 1.2 0.6 0.5 0.4  0.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	OKLAHOMA GRADY  AMBER NE CAMPBELL FARMS 1-25 3505123097 SEC. 25, T9N, R6W LINN ENERGY, LLC. 031117 061024 ORDO-BROMIDE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	85.5 6.4 3.3 1.2 0.6 0.5 0.4  0.9 0.7
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	OKLAHOMA GRADY  AMBER NE CAMPBELL FARMS 1-25 3505123097 SEC. 25, T9N, R6W LINN ENERGY, LLC. 031117 061024 ORDO-BROMIDE	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	85.5 6.4 3.3 1.2 0.6 0.5 0.4  0.9 0.7  TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	OKLAHOMA GRADY AMBER NE CAMPBELL FARMS 1-25 3505123097 SEC. 25, T9N, R6W LINN ENERGY, LLC 031117 061024 ORDO-BROMIDE 360	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS OXYGEN ARGON ARGON + OXYGEN HYDROGEN	85.5 6.4 3.3 1.2 0.6 0.5 0.4  0.9 0.7  TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	OKLAHOMA GRADY  AMBER NE  CAMPBELL FARMS 1-25 3505123097  SEC. 25, T9N, R6W  LINN ENERGY, LLC 031117 061024  ORDO-BROMIDE 360 11960	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	85.5 6.4 3.3 1.2 0.6 0.5 0.4  0.9 0.7  TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	OKLAHOMA GRADY  AMBER NE  CAMPBELL FARMS 1-25 3505123097 SEC. 25, T9N, R6W LINN ENERGY, LLC 031117 061024 ORDO-BROMIDE 360 11960	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE*** CARBON DIOXIDE	85.5 6.4 3.3 1.2 0.6 0.5 0.4  0.9 0.7  TRACE 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	OKLAHOMA GRADY  AMBER NE  CAMPBELL FARMS 1-25 3505123097  SEC. 25, T9N, R6W  LINN ENERGY, LLC 031117 061024  ORDO-BROMIDE 360 11960	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	85.5 6.4 3.3 1.2 0.6 0.5 0.4  0.9 0.7  TRACE 0.0 0.0 0.6

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

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

SAMPLE	21525	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	97.2
		ETHANE	0.9
COUNTY		PROPANE	0.0
FIELD		N-BUTANE	TRACE
WELL NAME		ISOBUTANE	TRACE
API	3501922184	N-PENTANE	0.0
LOCATION	SEC 3, T5S, R2E	ISOPENTANE	0.0
OWNER	KAISER-FRANCIS OIL CO.	CYCLOPENTANE	
COMPLETED	<u>811113</u>	HEXANES PLUS	0.0
SAMPLED	060328	NITROGEN	0.6
FORMATION	MISS-GODDARD	OXYGEN	
GEOLOGIC PROVINCE CODE	350	ARGON	
TRUE VERTICAL DEPTH (FT)	16401	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG _		HYDROGEN SULFIDE**	
, –		CARBON DIOXIDE	
OPEN FLOW, MCFD	1730	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	•
SAMPLE	21566	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	83.7
COUNTY		ETHANE	7.4
FIELD		PROPANE	2.4
			J. <del>4</del>
VA/ELL NIANAE		N-BUTANE	
WELL NAME	JOHN JOHN 2 & 3	ISOBUTANE	1.1 0.4
API	JOHN JOHN 2 & 3 3503727669	ISOBUTANE	1.1 0.4 0.4
API	JOHN JOHN 2 & 3 3503727669	ISOBUTANE N-PENTANE ISOPENTANE	1.1 0.4 0.4 0.2
API	JOHN JOHN 2 & 3 3503727669 SEC 32, T15N, R8E	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.1 0.4 0.4 0.2
	JOHN JOHN 2 & 3 3503727669 SEC 32, T15N, R8E TUSCANY OIL & GAS, LLC	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.1 0.4 0.4 0.2 
API LOCATION OWNER	JOHN JOHN 2 & 3 3503727669 SEC 32, T15N, R8E TUSCANY OIL & GAS, LLC 870225	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.1 0.4 0.4 0.2  0.5 2.6
API LOCATION OWNER COMPLETED	JOHN JOHN 2 & 3. 3503727669 SEC 32, T15N, R8E TUSCANY OIL & GAS, LLC 870225. 060915	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.1 0.4 0.2  0.5 2.6
API LOCATION OWNER COMPLETED SAMPLED	JOHN JOHN 2 & 3 3503727669 SEC 32, T15N, R8E TUSCANY OIL & GAS, LLC 870225 060915 PENN-PRUE	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.1 0.4 0.2  0.5 2.6
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	JOHN JOHN 2 & 3 3503727669 SEC 32, T15N, R8E TUSCANY OIL & GAS, LLC 870225 060915 PENN-PRUE	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	1.1 0.4 0.2  0.5 2.6
API	JOHN JOHN 2 & 3. 3503727669 SEC 32, T15N, R8E TUSCANY OIL & GAS, LLC. 870225. 060915 PENN-PRUE. 355. 2477	ISOBUTANE	1.1 0.4 0.2  0.5 2.6  0.1 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	JOHN JOHN 2 & 3 3503727669 SEC 32, T15N, R8E TUSCANY OIL & GAS, LLC 870225 060915 PENN-PRUE 3555	ISOBUTANE	1.1 0.4 0.2  0.5 2.6  0.1 0.0 0.0
API	JOHN JOHN 2 & 3 3503727669 SEC 32, T15N, R8E TUSCANY OIL & GAS, LLC 870225 060915 PENN-PRUE 3555 2477	ISOBUTANE	1.1 0.4 0.2  0.5 2.6  0.1 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	JOHN JOHN 2 & 3 3503727669 SEC 32, T15N, R8E TUSCANY OIL & GAS, LLC 870225 060915 PENN-PRUE 3555 2477	ISOBUTANE	1.1 0.4 0.2  0.5 2.6  0.1 0.0 0.0 0.1

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE 21563	COMPONENT, MOLE PCT	
STATEOKLAHOMA	METHANE	79.8
	ETHANE	6.6
COUNTY OKFUSKEE	PROPANE	3.6
FIELD BIGHAM SW	N-BUTANE	0.9
WELL NAMEMATTHEW 1	ISOBUTANE	0.4
API3510722273_	N-PENTANE	0.3
LOCATION SEC 3, T10N, R10E	ISOPENTANE	0.2
OWNER KENDOL EXPLORATION, INC.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.4
SAMPLED	NITROGEN	7.3
FORMATIONPENN-SKINNER	OXYGEN	
GEOLOGIC PROVINCE CODE355_	ARGON	
TRUE VERTICAL DEPTH (FT) 1802	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
WELLHEAD PRESSURE, PSIG	HYDROGEN SULFIDE**	
	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
STATEOKLAHOMA	METHANE	58.7
OTATE OWI ALIOMA	METHANE	58.7
COUNTY NOBLE	ETHANE	
FIELDBILLINGS.	PROPANE	
WELL NAME BILLINGS 9-15.	N-BUTANE	2.9
WEEL IV WIL		
ΔPI 3510323850	ISOBUTANE	
	N-PENTANE	0.7
LOCATIONSEC 15, T23N, R2W	N-PENTANE	0.7 0.5
OWNER CHESAPEAKE OPERATING, INC.	N-PENTANE ISOPENTANE CYCLOPENTANE	0.7 0.5 
LOCATIONSEC 15, T23N, R2W	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.7 0.5  1.0
OWNER CHESAPEAKE OPERATING, INC.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.7 0.5  1.0 9.4
LOCATIONSEC 15, T23N, R2W  OWNERCHESAPEAKE OPERATING, INC.  COMPLETED041213  SAMPLED060321  FORMATIONPENN-HASKELL, TONKAWA	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.7 0.5  1.0 9.4
OWNER CHESAPEAKE OPERATING, INC.  COMPLETED 041213.  SAMPLED 060321.	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.7 0.5  1.0 9.4 
COMPLETED         041213           SAMPLED         060321           FORMATION         PENN-HASKELL, TONKAWA	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.7 0.5  1.0 9.4  TRACE
OWNERCHESAPEAKE OPERATING, INC.  COMPLETED041213  SAMPLED060321  FORMATIONPENN-HASKELL, TONKAWA.  GEOLOGIC PROVINCE CODE355	N-PENTANE	0.7 0.5  1.0 9.4  TRACE
OWNERCHESAPEAKE OPERATING, INC.  COMPLETED041213  SAMPLED060321  FORMATIONPENN-HASKELL, TONKAWA  GEOLOGIC PROVINCE CODE355  TRUE VERTICAL DEPTH (FT)2741	N-PENTANE	0.7 0.5  1.0 9.4   TRACE 0.0
OWNERCHESAPEAKE OPERATING, INC.  COMPLETED041213.  SAMPLED060321.  FORMATIONPENN-HASKELL, TONKAWA  GEOLOGIC PROVINCE CODE355.  TRUE VERTICAL DEPTH (FT)2741.  MEASURED DEPTH	N-PENTANE	0.7 0.5  1.0 9.4  TRACE 0.0 0.0
OWNER	N-PENTANE	0.7 0.5  1.0 9.4  TRACE 0.0 0.0

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

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

	21583	COMPONENT, MOLE PCT	
STATE		METHANE	96.4
		ETHANE	0.7
COUNTY		PROPANE	TRACE
FIELD	·	N-BUTANE	0.0
WELL NAME	GUNTER 3	ISOBUTANE	0.0
API	3507920946	N-PENTANE	0.0
LOCATION	SEC 6, T7N, R24E	ISOPENTANE	0.0
OWNER BP	AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	950601	HEXANES PLUS	0.0
SAMPLED	070220	NITROGEN	2.5
FORMATION	PENN-HARTSHORNE	OXYGEN	
GEOLOGIC PROVINCE CODE		ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.3
OPEN FLOW, MCFD	100_	HELIUM	0.06
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.571
SAMPLE	21584	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	82.8
STATE		METHANE	
COUNTY	BEAVER.		5.2
COUNTY	BEAVER BOYD S	ETHANE	5.2 3.7
COUNTY FIELD WELL NAME	BEAVER BOYD S HANLON 1-26	ETHANE	5.2 3.7 1.2
COUNTY FIELD WELL NAME API	BEAVER BOYD S HANLON 1-26 3500722778	ETHANE PROPANE N-BUTANE	5.2 3.7 1.2 0.5
COUNTY FIELD WELL NAME	BEAVER BOYD S HANLON 1-26 3500722778	ETHANE PROPANE N-BUTANE ISOBUTANE	5.2 3.7 1.2 0.5 0.3
COUNTY FIELD WELL NAME API	BEAVER. BOYD S. HANLON 1-26. 3500722778. SEC 26, T3N, R20E.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	5.2 3.7 1.2 0.5 0.3 0.3
COUNTY  FIELD  WELL NAME  API  LOCATION	BEAVER. BOYD S  HANLON 1-26 3500722778  SEC 26, T3N, R20E  KAISER FRANCIS OIL CO.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	5.2 3.7 1.2 0.5 0.3 0.3 
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER	BEAVER. BOYD S. HANLON 1-26. 3500722778. SEC 26, T3N, R20E. KAISER FRANCIS OIL CO. 840622.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	5.2 3.7 1.2 0.5 0.3 0.3  0.6 4.9
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED	BEAVER. BOYD S. HANLON 1-26 3500722778 SEC 26, T3N, R20E KAISER FRANCIS OIL CO. 840622 070313	ETHANE	5.2 3.7 1.2 0.5 0.3 0.3  0.6 4.9
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED	BEAVER. BOYD S. HANLON 1-26 3500722778 SEC 26, T3N, R20E KAISER FRANCIS OIL CO. 840622 070313	ETHANE	5.2 3.7 1.2 0.5 0.3 0.3  0.6 4.9
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	BEAVER. BOYD S. HANLON 1-26. 3500722778  SEC 26, T3N, R20E. KAISER FRANCIS OIL CO. 840622 070313 MISS-MISSISSIPPIAN 360.	ETHANE	5.2 3.7 1.2 0.5 0.3 0.3  0.6 4.9
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)	BEAVER. BOYD S. HANLON 1-26 3500722778 SEC 26, T3N, R20E. KAISER FRANCIS OIL CO. 840622 070313 MISS-MISSISSIPPIAN 360 7043	ETHANE	5.2 3.7 1.2 0.5 0.3 0.3  0.6 4.9  TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	BEAVER. BOYD S. HANLON 1-26. 3500722778  SEC 26, T3N, R20E. KAISER FRANCIS OIL CO. 840622. 070313 MISS-MISSISSIPPIAN. 360. 7043.	ETHANE	5.2 3.7 1.2 0.5 0.3  0.6 4.9  TRACE 0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	BEAVER. BOYD S. HANLON 1-26 3500722778 SEC 26, T3N, R20E KAISER FRANCIS OIL CO. 840622 070313 MISS-MISSISSIPPIAN 360 7043	ETHANE	5.2 3.7 1.2 0.5 0.3 0.3  0.6 4.9  TRACE 0.0 0.3
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	BEAVER. BOYD S. HANLON 1-26 3500722778 SEC 26, T3N, R20E KAISER FRANCIS OIL CO. 840622 070313 MISS-MISSISSIPPIAN 360 7043	ETHANE	5.2 3.7 1.2 0.5 0.3 0.3  0.6 4.9  TRACE 0.0 0.0 0.3

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21588	COMPONENT, MOLE PCT	
STATE		METHANE	81.3
COUNTY		ETHANE	9.5
•		PROPANE	4.1
FIELD		N-BUTANE	1.5
WELL NAME	_	ISOBUTANE	0.5
API	3505122987	N-PENTANE	0.6
LOCATION	SEC. 35, T5N, R5W	ISOPENTANE	0.3
OWNER	MERIT ENERGY CO.	CYCLOPENTANE	
COMPLETED	010801	HEXANES PLUS	0.9
SAMPLED	070313	NITROGEN	0.7
FORMATION	ORDO-VIOLA	OXYGEN	
GEOLOGIC PROVINCE CODE	360_	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE. PSIG		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	115.	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE			
SAIVII EE	21587	COMPONENT, MOLE PCT	
STATE	_100.	COMPONENT, MOLE PCT  METHANE	85.8
STATE	OKLAHOMA.		
STATE	OKLAHOMA STEPHENS	METHANE ETHANE PROPANE	7.3 3.0
STATE COUNTY FIELD	OKLAHOMA. STEPHENS. BRAY SE	METHANE ETHANE PROPANE N-BUTANE	7.3 3.0 0.9
STATE COUNTY FIELD WELL NAME	OKLAHOMA STEPHENS BRAY SE LUBELL BI 1	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	7.3 3.0 0.9 0.6
STATE COUNTY FIELD WELL NAME API	OKLAHOMA. STEPHENS. BRAY SE. LUBELL BI 1. 3513730064	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	7.3 3.0 0.9 0.6 0.3
STATE COUNTY FIELD WELL NAME API LOCATION	OKLAHOMA STEPHENS BRAY SE LUBELL BI 1 3513730064 SEC. 30, T2N, R5W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	7.3 3.0 0.9 0.6 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	OKLAHOMA STEPHENS BRAY SE LUBELL BI 1 3513730064 SEC. 30, T2N, R5W MERIT ENERGY CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	7.3 3.0 0.9 0.6 0.3
STATE COUNTY  FIELD WELL NAME API LOCATION OWNER COMPLETED	OKLAHOMA STEPHENS BRAY SE LUBELL BI 1 3513730064 SEC. 30, T2N, R5W MERIT ENERGY CO. 660303	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE HEXANES PLUS	7.3 3.0 0.9 0.6 0.3 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	OKLAHOMA STEPHENS BRAY SE LUBELL BI 1 3513730064 SEC. 30, T2N, R5W MERIT ENERGY CO. 660303 070313	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	7.3 3.0 0.9 0.6 0.3 0.3  0.6
STATE COUNTY  FIELD WELL NAME API LOCATION OWNER COMPLETED	OKLAHOMA STEPHENS BRAY SE LUBELL BI 1 3513730064 SEC. 30, T2N, R5W MERIT ENERGY CO. 660303 070313	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	7.3 3.0 0.9 0.6 0.3 0.3  0.6 0.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	OKLAHOMA STEPHENS BRAY SE LUBELL BI 1 3513730064 SEC. 30, T2N, R5W MERIT ENERGY CO. 660303 070313 PENN-SPRINGER	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	7.3 3.0 0.9 0.6 0.3 0.3  0.6 0.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	OKLAHOMA STEPHENS BRAY SE LUBELL BI 1 3513730064 SEC. 30, T2N, R5W MERIT ENERGY CO. 660303 070313 PENN-SPRINGER. 350	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	7.3 3.0 0.9 0.6 0.3 0.3  0.6 0.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	OKLAHOMA STEPHENS BRAY SE LUBELL BI 1 3513730064 SEC. 30, T2N, R5W MERIT ENERGY CO. 660303 070313 PENN-SPRINGER 350 14505	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN	7.3 3.0 0.9 0.6 0.3 0.3  0.6  TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	OKLAHOMA STEPHENS BRAY SE LUBELL BI 1 3513730064 SEC. 30, T2N, R5W MERIT ENERGY CO. 660303 070313 PENN-SPRINGER. 350 14505	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	7.3 3.0 0.9 0.6 0.3 0.3 0.6 0.6 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	OKLAHOMA STEPHENS BRAY SE LUBELL BI 1 3513730064 SEC. 30, T2N, R5W MERIT ENERGY CO. 660303 070313 PENN-SPRINGER 350 14505	METHANE	7.3 3.0 0.9 0.6 0.3 0.3 0.6 0.6 TRACE 0.0 0.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	OKLAHOMA STEPHENS BRAY SE LUBELL BI 1 3513730064 SEC. 30, T2N, R5W MERIT ENERGY CO. 660303 070313 PENN-SPRINGER 350 14505	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	7.3 3.0 0.9 0.6 0.3 0.3 0.6 0.6 TRACE 0.0 0.0 0.5 0.03

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

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

SAMPLE	21579	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	96.2
·	PITTSBURG	ETHANE	2.1
•		PROPANE	0.3
•	BROOKEN.	N-BUTANE	TRACE
· ·	AHERN-COBLENTZ 1-10	ISOBUTANE	TRACE
API	3512160088	N-PENTANE	0.0
LOCATION	SEC 10, T7N, R18E	ISOPENTANE	0.0
OWNER	CHESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	611108	HEXANES PLUS	0.0
SAMPLED	061218	NITROGEN	0.4
FORMATION	PENN-DIRTY CREEK	OXYGEN	
GEOLOGIC PROVINCE COL	DE 345	ARGON	
	T)4496	ARGON + OXYGEN	TRACE
•	1)	HYDROGEN	
		HYDROGEN SULFIDE**	0.0
,	SIG92	CARBON DIOXIDE	
OPEN FLOW, MCFD	180_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21580	COMPONENT, MOLE PCT	
		METHANE	96.1
	OKLAHOMA.	ETHANE	0.8
COUNTY	HASKELL	PROPANE	
FIELD	BROOKEN	N-BUTANE	0.0
WELL NAME	WAGNON CREEK 1	ISOBUTANE	0.0
API	3506120484	N-PENTANE	0.0
LOCATION	SEC 25, T9N, R18E	ISOPENTANE	0.0
OWNER	HANNA OIL & GAS CO.	CYCLOPENTANE	
COMPLETED	811127	HEXANES PLUS	0.0
SAMPLED	061221	NITROGEN	1.6
FORMATION	DEVO-HUNTON	OXYGEN	
	DE 345	ARGON	
TRUE VERTICAL DEPTH (F	<u> </u>	ARGON + OXYGEN	TRACE
•	,	HYDROGEN	
	145	HYDROGEN SULFIDE**	0.0
	SIG415_	CARBON DIOXIDE	1.4
OPEN FLOW, MCFD	25_	HELIUM	
		HEATING VALUE*	987
		SPECIFIC GRAVITY	

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

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

SAMPLE	21673	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	80.2
·	GARFIELD	ETHANE	9.1
		PROPANE	4.4
	BROWN MIDDLE	N-BUTANE	1.3
WELL NAME	FICKEN 1	ISOBUTANE	0.4
•	3504722316	N-PENTANE	0.4
LOCATION	SEC 28, T20N, R4W	ISOPENTANE	0.2
OWNER	HAMMER OIL PROPERTIES, INC.	CYCLOPENTANE	
COMPLETED	801013	HEXANES PLUS	0.5
SAMPLED	071025	NITROGEN	3.1
FORMATION PENN	N-OSWEGO, MISS-MISSISSIPPIAN	OXYGEN	
GEOLOGIC PROVINCE COD	DE360_	ARGON	
	T)6074	ARGON + OXYGEN	0.1
•	0074	HYDROGEN	TRACE
		HYDROGEN SULFIDE**	0.0
,	SIG1040_	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	-
SAMPLE	21429	COMPONENT, MOLE PCT	
		METHANE	89.9
STATE	OKLAHOMA	ETHANE	
COUNTY	MAJOR	PROPANE	
FIELD	CAMPBELL	N-BUTANE	
WELL NAME	HIBBS 1-11	ISOBUTANE	0.2
API	3509324342	N-PENTANE	0.2
LOCATION	SEC 11, T23N, R16W	ISOPENTANE	0.1
OWNER	CHESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	040129	HEXANES PLUS	0.3
		NITROOFN	4.4
J LLD	050329	NITROGEN	4.1
FORMATION	050329 MISS-CHESTER MERAMEC	OXYGEN	
	MISS-CHESTER, MERAMEC		0.0
GEOLOGIC PROVINCE COL	MISS-CHESTER, MERAMEC DE	OXYGEN	0.0
GEOLOGIC PROVINCE COL TRUE VERTICAL DEPTH (F	MISS-CHESTER, MERAMEC DE360 T)7186	OXYGEN	0.0 0.1 
GEOLOGIC PROVINCE COL TRUE VERTICAL DEPTH (F	MISS-CHESTER, MERAMEC DE	OXYGEN ARGON ARGON + OXYGEN	0.0 0.1  0.0
GEOLOGIC PROVINCE COE TRUE VERTICAL DEPTH (F <sup>-</sup> MEASURED DEPTH	MISS-CHESTER, MERAMEC DE360 T)7186	OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.0 0.1  0.0 0.0
GEOLOGIC PROVINCE COE TRUE VERTICAL DEPTH (F MEASURED DEPTH WELLHEAD PRESSURE, PS	MISS-CHESTER, MERAMEC  DE	OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.0 0.1  0.0 0.0 0.4
GEOLOGIC PROVINCE COE TRUE VERTICAL DEPTH (F <sup>-</sup> MEASURED DEPTH	MISS-CHESTER, MERAMEC  DE	OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.1  0.0 0.0 0.4 0.07

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

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

STATE	34	COMPONENT, MOLE PCT	
31A1E		METHANE	42.4
COLINITY		ETHANE	11.6
COUNTY		PROPANE	15.8
FIELD		N-BUTANE	7.4
WELL NAMECAMRICK CEN	TRAL TANK BATTERY	ISOBUTANE	3.5
API		N-PENTANE	2.3
LOCATION	SEC 27, T1N, R20E	ISOPENTANE	1.5
OWNERCHAE	PARRAL ENERGY LLC	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	3.1
SAMPLED	050329	NITROGEN	2.5
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	_	ARGON + OXYGEN	
, ,		HYDROGEN	9.7
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.0
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	1,721
		SPECIFIC GRAVITY	1.032
SAMPLE 2074	48	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	80.6
COUNTY		ETHANE	7.6
FIELD		PROPANE	5.7
		N-BUTANE	1.7
WELL NAME		ISOBUTANE	0.6
API		N-PENTANE	0.5
LOCATION	SEC. 23, T2N, R19E	ISOPENTANE	
OWNERCHAE	PARRAL ENERGY LLC	CYCLOPENTANE	
COMPLETED	560718	HEXANES PLUS	
SAMPLED	010730	NITROGEN	
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
GLOLOGIC FROVINCE CODE		ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)		HYDROGEN	
TRUE VERTICAL DEPTH (FT)		HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE** CARBON DIOXIDE	0.0
TRUE VERTICAL DEPTH (FT)		HYDROGEN SULFIDE**	0.0 0.5 0.16

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

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

SAMPLE	20755	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	82.0
	TEXAS	ETHANE	6.8
·		PROPANE	4.7
	CAMRICK	N-BUTANE	1.7
•	IDA MARIE ROGERS NO. 1-3	ISOBUTANE	0.5
API	3513935684	N-PENTANE	0.7
LOCATION	SEC. 3, T1N, R18E	ISOPENTANE	0.4
OWNER	CHAPARRAL ENERGY LLC	CYCLOPENTANE	
COMPLETED	611020	HEXANES PLUS	0.8
SAMPLED	010731	NITROGEN	1.9
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360_	ARGON	0.0
	6367	ARGON + OXYGEN	
` '		HYDROGEN	
		HYDROGEN SULFIDE**	
	3	CARBON DIOXIDE	
OPEN FLOW, MCFD	5876	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20754	COMPONENT, MOLE PCT	
07.75	0.00	METHANE	95.8
	<u>OKLAHOMA</u>	ETHANE	2.1
	TEXAS_	PROPANE	0.6
FIELD	CAMRICK	N-BUTANE	0.2
WELL NAME	YELL NO. 1	ISOBUTANE	0.1
API	3513920614	N-PENTANE	0.1
LOCATION	SEC. 27, T1N, R18E	ISOPENTANE	0.1
OWNER	SAMSON RESOURCES CO.	CYCLOPENTANE	
COMPLETED	740608	HEXANES PLUS	0.1
SAMPLED	010731	NITROGEN	0.5
FORMATION	PENN-MORROW L	OXYGEN	0.0
	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
	7000	HYDROGEN	
		HYDROGEN SULFIDE**	
, -	3	CARBON DIOXIDE	
OPEN FLOW, MCFD	1650	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.585

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	20713	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	88.2
	CUSTER	ETHANE	6.9
		PROPANE	2.3
	CANUTE N	N-BUTANE	0.4
•	JIMMY DEAN NO. 1-23	ISOBUTANE	0.4
API	3503921387	N-PENTANE	0.1
LOCATION	SEC. 23, T12N, R20W	ISOPENTANE	0.2
OWNER	LINN ENERGY, LLC	CYCLOPENTANE	
COMPLETED	901001	HEXANES PLUS	0.3
SAMPLED	010709	NITROGEN	0.4
FORMATION	PENN-RED FORK	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360_	ARGON	0.0
	14180	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
	_	HYDROGEN SULFIDE**	0.0
,	8000	CARBON DIOXIDE	
OPEN FLOW, MCFD	1410	HELIUM	
		HEATING VALUE*	1,121
SAMPLE	21426	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	86.9
	ROGER MILLS	ETHANE	6.1
		PROPANE	2.1
	CARPENTER	N-BUTANE	0.6
WELL NAME	HALL 1-2	ISOBUTANE	0.4
API	3512922529	N-PENTANE	0.2
LOCATION	SEC 2, T11N, R23W	ISOPENTANE	0.2
OWNERST. MA	ARY LAND & EXPLORATION CO.	CYCLOPENTANE	
COMPLETED	040204	HEXANES PLUS	0.3
SAMPLED	050311	NITROGEN	2.3
FORMATION	PENN-MARMATON, CHEROKEE	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)	14348	ARGON + OXYGEN	
	11010	HYDROGEN	
		HYDROGEN SULFIDE**	
	51500_	CARBON DIOXIDE	
OPEN FLOW, MCFD	400	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.65

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

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

SAMPLE	20712	COMPONENT, MOLE PCT	
CTATE	OKI VHOWV	METHANE	88.3
STATE		ETHANE	7.0
COUNTY	_	PROPANE	2.0
FIELD	_	N-BUTANE	0.4
WELL NAME	MALSON NO. 1-5	ISOBUTANE	0.4
API	3503921711	N-PENTANE	0.1
LOCATION	SEC. 5, T12N, R20W	ISOPENTANE	0.1
OWNER	EL PASO PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	971002	HEXANES PLUS	0.2
SAMPLED	010709	NITROGEN	0.3
FORMATION	PENN-DESMOINESIAN L	OXYGEN	0.0
GEOLOGIC PROVINCE CODE		ARGON	0.0
TRUE VERTICAL DEPTH (FT)	_	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
	_	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	_	CARBON DIOXIDE	1.1
OPEN FLOW, MCFD	3111	HELIUM	
		HEATING VALUE*	•
		SPECIFIC GRAVITY	0.64
SAMPLE	20703	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	86.0
COUNTY		ETHANE	7.7
FIELD		PROPANE	3.1
		N-BUTANE	0.6
WELL NAME	_	ISOBUTANE	0.5
API		N-PENTANE	
LOCATION	SEC. 32, T13N, R19W	ISOPENTANE	0.3
OWNER	EL PASO PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	821121	HEXANES PLUS	
SAMPLED	010709	NITROGEN	
FORMATION	PENN-RED FORK	OXYGEN	
GEOLOGIC PROVINCE CODE _	360	ARGON	
TRUE VERTICAL DEPTH (FT) _	12882	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG	_	HYDROGEN SULFIDE**	
,		CARBON DIOXIDE	
OPEN FLOW, MCFD	550	HELIUM	
		HEATING VALUE*	1,151
		SPECIFIC GRAVITY	

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

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

STATE	SAMPLE	21452	COMPONENT, MOLE PCT	
COUNTY	CTATE	OKI ALIOMA	METHANE	90.3
PROPANE			ETHANE	4.1
WELL NAME			PROPANE	1.1
API	FIELD	CHITWOOD SOUTH	N-BUTANE	0.2
LOCATION	WELL NAME	MACK FARMS 1-19	ISOBUTANE	0.1
OWNER         CHESAPEAKE OPERATING. INC.         CYCLOPENTANE           COMPLETED         040317.         HEXANES PLUS         0           SAMPLED         050509.         NITROGEN         3           FORMATION         PENN-SPRINGER U.         ARGON         ARGON           GEOLOGIC PROVINCE CODE         360.         ARGON + OXYGEN         0           TRUE VERTICAL DEPTH (FT)         14930.         HYDROGEN         0           MEASURED DEPTH         HYDROGEN SULFIDE***         0           WELLHEAD PRESSURE, PSIG         700.         CARBON DIOXIDE         0           OPEN FLOW, MCFD         731.         HELIUM         0.6           SAMPLE         21438         COMPONENT, MOLE PCT           STATE         OKLAHOMA         METHANE         88           COUNTY         TEXAS.         PROPANE         2           FIELD         DOMBEY W.         N-BUTANE         0           WELL NAME         ROLLINS 1-2.         ISOBUTANE         0           LOCATION         SEC 2. T4N. R19E.         ISOBUTANE         0           LOCATION         SEC 2. T4N. R19E.         ISOPENTANE         0           COMPLETED         050329.         NITROGEN         2	API	3505123158	N-PENTANE	TRACE
December   December	LOCATION	SEC 19, T4N, R6W	ISOPENTANE	TRACE
SAMPLED	OWNERC	HESAPEAKE OPERATING, INC.	CYCLOPENTANE	
OXYGEN   O	COMPLETED	040317	HEXANES PLUS	0.1
ARGON   ARGON   ARGON   ARGON   ARGON   OVYGEN   OUNTY   OUN	SAMPLED	050509	NITROGEN	3.5
ARGON + OXYGEN	FORMATION	PENN-SPRINGER U	OXYGEN	
ARGON + OXYGEN	GEOLOGIC PROVINCE CODE	360	ARGON	
MEASURED DEPTH         HYDROGEN         0           WELLHEAD PRESSURE, PSIG         700.         CARBON DIOXIDE         0           OPEN FLOW, MCFD         731.         HELIUM         0.0           HEATING VALUE*         1.02         SPECIFIC GRAVITY         0.63           SAMPLE         21438         COMPONENT, MOLE PCT         WETHANE         88           STATE         OKLAHOMA         METHANE         4           COUNTY         TEXAS.         PROPANE         2           FIELD         DOMBEY W.         N-BUTANE         0           WELL NAME         ROLLINS 1-2.         ISOBUTANE         0           LOCATION         SEC 2. TAN. R19E.         ISOPENTANE         0           LOCATION         SEC 2. TAN. R19E.         ISOPENTANE         0           COMPLETED         790510.         HEXANES PLUS         0           OSAMPLED         050329.         NITROGEN         2           FORMATION         MISS-CHESTER         ARGON         0           GEOLOGIC PROVINCE CODE         360.         ARGON + OXYGEN         -           TRUE VERTICAL DEPTH (FT)         6660.         HYDROGEN SULFIDE***         0           WELLHEAD PRESSURE, PSIG         115.         <				
WELLHEAD PRESSURE, PSIG         700         CARBON DIOXIDE         0           OPEN FLOW, MCFD         731         HELIUM         0.6           SPECIFIC GRAVITY         0.6           SAMPLE         21438         COMPONENT, MOLE PCT           STATE         OKLAHOMA         METHANE         88           COUNTY         TEXAS         PROPANE         2           FIELD         DOMBEY W         N-BUTANE         0           WELL NAME         ROLLINS 1-2         ISOBUTANE         0           API         3513921118         N-PENTANE         0           LOCATION         SEC 2, T4N, R19E         ISOPENTANE         0           OWNER         CHAPARRAL ENERGY LLC         CYCLOPENTANE         0           COMPLETED         790510         HEXANES PLUS         0           SAMPLED         050329         NITROGEN         2           FORMATION         MISS-CHESTER         OXYGEN         0           GEOLOGIC PROVINCE CODE         360         ARGON + OXYGEN         -           TRUE VERTICAL DEPTH (FT)         6660         HYDROGEN         0           MEASURED DEPTH         HYDROGEN SULFIDE**         0           WELLHEAD PRESSURE, PSIG         1				
OPEN FLOW, MCFD			HYDROGEN SULFIDE**	0.0
HEATING VALUE*   1.02     SPECIFIC GRAVITY   0.63     SAMPLE   21438   COMPONENT, MOLE PCT     STATE	,		CARBON DIOXIDE	0.6
SPECIFIC GRAVITY	OPEN FLOW, MCFD	731	HELIUM	0.04
SAMPLE 21438 COMPONENT, MOLE PCT  STATE				•
STATE			SPECIFIC GRAVITY	0.611
STATE	SAMPLE	21438	COMPONENT, MOLE PCT	
TEXAS	STATE	OKLAHOMA	METHANE	88.6
PROPANE			ETHANE	4.1
WELL NAME         ROLLINS 1-2         ISOBUTANE         0           API         3513921118         N-PENTANE         0           LOCATION         SEC 2, T4N, R19E         ISOPENTANE         0           COWNER         CHAPARRAL ENERGY LLC         CYCLOPENTANE         0           COMPLETED         790510         HEXANES PLUS         0           SAMPLED         050329         NITROGEN         2           FORMATION         MISS-CHESTER         ARGON         0           GEOLOGIC PROVINCE CODE         360         ARGON + OXYGEN         0           TRUE VERTICAL DEPTH (FT)         6660         HYDROGEN         0           MEASURED DEPTH         HYDROGEN SULFIDE**         0           WELLHEAD PRESSURE, PSIG         115         CARBON DIOXIDE         0           OPEN FLOW, MCFD         HELIUM         0.2		_	PROPANE	2.3
API			N-BUTANE	0.8
SEC 2, T4N, R19E   ISOPENTANE   OWNER				
OWNER         CHAPARRAL ENERGY LLC.         CYCLOPENTANE           COMPLETED         790510         HEXANES PLUS         0           SAMPLED         050329         NITROGEN         2           FORMATION         MISS-CHESTER         OXYGEN         0           GEOLOGIC PROVINCE CODE         360         ARGON         0           TRUE VERTICAL DEPTH (FT)         6660         HYDROGEN         0           MEASURED DEPTH         HYDROGEN SULFIDE**         0           WELLHEAD PRESSURE, PSIG         115         CARBON DIOXIDE         0           OPEN FLOW, MCFD         HELIUM         0.2				
COMPLETED         790510         HEXANES PLUS         0           SAMPLED         050329         NITROGEN         2           FORMATION         MISS-CHESTER         OXYGEN         0           GEOLOGIC PROVINCE CODE         360         ARGON         0           TRUE VERTICAL DEPTH (FT)         6660         HYDROGEN         0           MEASURED DEPTH         HYDROGEN SULFIDE**         0           WELLHEAD PRESSURE, PSIG         115         CARBON DIOXIDE         0           OPEN FLOW, MCFD         HELIUM         0.1	LOCATION	SEC 2, T4N, R19E		
SAMPLED         050329         NITROGEN         2           FORMATION         MISS-CHESTER         OXYGEN         0           GEOLOGIC PROVINCE CODE         360         ARGON         0           TRUE VERTICAL DEPTH (FT)         6660         HYDROGEN         0           MEASURED DEPTH         HYDROGEN SULFIDE**         0           WELLHEAD PRESSURE, PSIG         115         CARBON DIOXIDE         0           OPEN FLOW, MCFD         HELIUM         0.1	OWNER	CHAPARRAL ENERGY LLC		
SAMPLED         USU329           FORMATION         MISS-CHESTER.         OXYGEN         0           GEOLOGIC PROVINCE CODE         360         ARGON         0           TRUE VERTICAL DEPTH (FT)         6660         HYDROGEN         0           MEASURED DEPTH         HYDROGEN SULFIDE**         0           WELLHEAD PRESSURE, PSIG         115         CARBON DIOXIDE         0           OPEN FLOW, MCFD         HELIUM         0.7	COMPLETED	790510		
ARGON	SAMPLED	050329		
GEOLOGIC PROVINCE CODE         360           TRUE VERTICAL DEPTH (FT)         6660           MEASURED DEPTH         HYDROGEN SULFIDE**           WELLHEAD PRESSURE, PSIG         115           OPEN FLOW, MCFD         HELIUM	FORMATION	MISS-CHESTER		
TRUE VERTICAL DEPTH (FT)         6660         HYDROGEN         0           MEASURED DEPTH         HYDROGEN SULFIDE**         0           WELLHEAD PRESSURE, PSIG         115         CARBON DIOXIDE         0           OPEN FLOW, MCFD         HELIUM         0.3	GEOLOGIC PROVINCE CODE	360_		
MEASURED DEPTH	TRUE VERTICAL DEPTH (FT)	6660		
WELLHEAD PRESSURE, PSIG         115         CARBON DIOXIDE         0           OPEN FLOW, MCFD         HELIUM         0.1				
OPEN FLOW, MCFD HELIUM				
HEATING VALUE <sup>*</sup>	OI LIVI LOVV, WICED			
SPECIFIC GRAVITY				

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

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

SAMPLE	21437	COMPONENT, MOLE PCT	
STATE		METHANE	87.1
COUNTY		ETHANE	4.4
	_	PROPANE	2.8
FIELD		N-BUTANE	1.0
WELL NAME	,	ISOBUTANE	0.5
API	3513923732	N-PENTANE	0.4
LOCATION	SEC 2, T4N, R19E	ISOPENTANE	0.3
OWNER	CHAPARRAL ENERGY LLC	CYCLOPENTANE	
COMPLETED	040203	HEXANES PLUS	0.6
SAMPLED	050329	NITROGEN	2.7
FORMATION	MISS-CHESTER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	-	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
STATE	OKI AHOMA	METHANE	86.3
STATE	OKI AHOMA	METHANE	86.3
COUNTY	TEXAS	ETHANE	
FIELD	DOMBEY W	PROPANE	
WELL NAME	MENG 1-11	N-BUTANE	
API	3513923371	ISOBUTANE N-PENTANE	
LOCATION		ISOPENTANE	
OWNER		CYCLOPENTANE	
		HEXANES PLUS	
COMPLETED		NITROGEN	
SAMPLED		OXYGEN	
FORMATION		ARGON	
GEOLOGIC PROVINCE CODE _	360	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT) _	6646	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _	80	CARBON DIOXIDE	0.2
	00	Of WEDGIVE EIGHTEE	
OPEN FLOW, MCFD		HELIUM	
OPEN FLOW, MCFD			0.19

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE 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	81.6
COUNTY		ETHANE	5.3
		PROPANE	3.4
FIELD		N-BUTANE	1.1
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.4
LOCATIONSEC	13, T4N, R19E	ISOPENTANE	0.3
OWNERCHAPARRAL	ENERGY LLC	CYCLOPENTANE	
COMPLETED	951115	HEXANES PLUS	0.7
SAMPLED	050329	NITROGEN	6.2
FORMATIONMISS-CHESTER, PENN	I-LANSING-KC	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360_	ARGON	
TRUE VERTICAL DEPTH (FT)	_	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	-
		SPECIFIC GRAVITY	0.093
SAMPLE 21439		COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	
COUNTY	TEXAS	ETHANE	4.8
FIELD	DOMBEY W	PROPANE	
		N-BUTANE	1.2
FIELD	DENHALL 1-11	N-BUTANE	1.2 0.6
WELL NAMEPAUL MEN API	DENHALL 1-11 3513921225	N-BUTANEISOBUTANE	1.2 0.6 0.4
WELL NAMEPAUL MEN  API  LOCATIONSEC	DENHALL 1-11 3513921225 11, T4N, R19E	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	1.2 0.6 0.4 0.4
WELL NAME PAUL MEN  API  LOCATION SEC  OWNER CHAPARRAL	DENHALL 1-11 3513921225 11, T4N, R19E ENERGY LLC	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	1.2 0.6 0.4 0.4
WELL NAMEPAUL MEN  API  LOCATIONSEC  OWNERCHAPARRAL  COMPLETED	DENHALL 1-11 3513921225 11, T4N, R19E ENERGY LLC 791107	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.2 0.6 0.4 0.4
WELL NAMEPAUL MEN  API  LOCATIONSEC  OWNERCHAPARRAL  COMPLETED  SAMPLED	DENHALL 1-11 3513921225 11, T4N, R19E ENERGY LLC 791107 050329	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.2 0.6 0.4 0.4  0.7 2.5
WELL NAMEPAUL MEN  API  LOCATIONSEC  OWNERCHAPARRAL  COMPLETED  SAMPLED  FORMATIONPENN-KEYES, MISS-N	DENHALL 1-11 3513921225 11, T4N, R19E ENERGY LLC 791107 050329 MISSISSIPPIAN	N-BUTANE	1.2 0.6 0.4 0.4  0.7 2.5 0.0
WELL NAMEPAUL MEN  API  LOCATIONSEC  OWNERCHAPARRAL  COMPLETED  SAMPLED  FORMATIONPENN-KEYES, MISS-N	DENHALL 1-11 3513921225 11, T4N, R19E ENERGY LLC 791107 050329 MISSISSIPPIAN	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.2 0.6 0.4 0.4  0.7 2.5 0.0
WELL NAME PAUL MEN  API  LOCATION SEC  OWNER CHAPARRAL	DENHALL 1-11 3513921225 11, T4N, R19E ENERGY LLC 791107 050329 IISSISSIPPIAN 360	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	1.2 0.6 0.4 0.4  0.7 2.5 0.0 0.0
WELL NAMEPAUL MEN  API  LOCATIONSEC  OWNERCHAPARRAL  COMPLETED  SAMPLED  FORMATIONPENN-KEYES, MISS-N  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)	DENHALL 1-11 3513921225 11, T4N, R19E ENERGY LLC 791107 050329 MISSISSIPPIAN 360 6720	N-BUTANE	1.2 0.6 0.4 0.4  0.7 2.5 0.0 0.0
WELL NAMEPAUL MEN  API  LOCATIONSEC  OWNERCHAPARRAL  COMPLETED  SAMPLED  FORMATIONPENN-KEYES, MISS-M  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH	DENHALL 1-11 3513921225 11, T4N, R19E ENERGY LLC 791107 050329 MISSISSIPPIAN 360 6720	N-BUTANE	1.2 0.6 0.4 0.4  0.7 2.5 0.0 0.0
WELL NAMEPAUL MEN  API  LOCATIONSEC  OWNERCHAPARRAL  COMPLETED  SAMPLED  FORMATIONPENN-KEYES, MISS-N  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	DENHALL 1-11 3513921225 11, T4N, R19E ENERGY LLC 791107 050329 MISSISSIPPIAN 360 6720	N-BUTANE	1.2 0.6 0.4 0.4  0.7 2.5 0.0 0.0  0.0 0.0
WELL NAMEPAUL MEN  API  LOCATIONSEC  OWNERCHAPARRAL  COMPLETED  SAMPLED  FORMATIONPENN-KEYES, MISS-M  GEOLOGIC PROVINCE CODE	DENHALL 1-11 3513921225 11, T4N, R19E ENERGY LLC 791107 050329 MISSISSIPPIAN 360 6720	N-BUTANE	1.2 0.6 0.4 0.4 0.7 2.5 0.0 0.0 0.0 0.0 0.19

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21432	COMPONENT, MOLE PCT	
STATE	OKI VHOWV	METHANE	86.4
		ETHANE	4.6
COUNTY		PROPANE	3.1
FIELD		N-BUTANE	1.0
WELL NAME	<u> </u>	ISOBUTANE	0.5
API		N-PENTANE	0.4
LOCATION	SEC 2, T4N, R19E	ISOPENTANE	0.3
OWNER	CHAPARRAL ENERGY LLC	CYCLOPENTANE	
COMPLETED	831221	HEXANES PLUS	0.6
SAMPLED	050329	NITROGEN	2.8
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG _		HYDROGEN SULFIDE**	
, –		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	,
SAMPLE	21433	COMPONENT, MOLE PCT	0.001
SAMPLE	21433		70.0
STATE	OKLAHOMA	METHANE	/6.0
COUNTY	TEVAC	ETHANE	6.0
	IEAAS	DDODANE	
FIELD		PROPANE	3.3
·	DOMBEY W	N-BUTANE	3.3
WELL NAME	DOMBEY W FLYNT 1-2 (UPPER)	N-BUTANEISOBUTANE	3.3 1.1 0.5
WELL NAME	DOMBEY W FLYNT 1-2 (UPPER). 3513923732	N-BUTANE ISOBUTANE N-PENTANE	3.3 1.1 0.5 0.4
WELL NAMEAPI	DOMBEY W FLYNT 1-2 (UPPER) 3513923732 SEC 2, T4N, R19E	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	3.3 1.1 0.5 0.4 0.3
WELL NAME API LOCATION OWNER	DOMBEY W FLYNT 1-2 (UPPER). 3513923732 SEC 2, T4N, R19E CHAPARRAL ENERGY LLC	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE	3.3 1.1 0.5 0.4 0.3
WELL NAME API LOCATION OWNER COMPLETED	DOMBEY W FLYNT 1-2 (UPPER) 3513923732 SEC 2, T4N, R19E CHAPARRAL ENERGY LLC 040203	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.3 1.1 0.5 0.4 0.3 
WELL NAME	DOMBEY W  FLYNT 1-2 (UPPER).  3513923732.  SEC 2, T4N, R19E.  CHAPARRAL ENERGY LLC.  040203.  050329.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN	3.3 1.1 0.5 0.4 0.3  0.6 11.4
WELL NAME	DOMBEY W FLYNT 1-2 (UPPER). 3513923732 SEC 2, T4N, R19E CHAPARRAL ENERGY LLC 040203 050329 PENN-TORONTO	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUS NITROGENOXYGEN	3.3 1.1 0.5 0.4 0.3  0.6 11.4
WELL NAME	DOMBEY W FLYNT 1-2 (UPPER). 3513923732 SEC 2, T4N, R19E CHAPARRAL ENERGY LLC 040203 050329 PENN-TORONTO	N-BUTANEISOBUTANEISOPENTANEISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN	3.3 1.1 0.5 0.4 0.3  0.6 11.4 0.0 0.0
WELL NAME	DOMBEY W  FLYNT 1-2 (UPPER).  3513923732.  SEC 2, T4N, R19E.  CHAPARRAL ENERGY LLC.  040203.  050329.  PENN-TORONTO.  360.	N-BUTANE	3.3 1.1 0.5 0.4 0.3  0.6 11.4 0.0 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT)	DOMBEY W FLYNT 1-2 (UPPER). 3513923732 SEC 2, T4N, R19E CHAPARRAL ENERGY LLC 040203 050329 PENN-TORONTO 360 4457	N-BUTANE	3.3 1.1 0.5 0.4 0.3  0.6 11.4 0.0 0.0  0.0
WELL NAME	DOMBEY W FLYNT 1-2 (UPPER). 3513923732 SEC 2, T4N, R19E CHAPARRAL ENERGY LLC 040203 050329 PENN-TORONTO 360 4457	N-BUTANE	3.3 1.1 0.5 0.4 0.3  0.6 11.4 0.0 0.0 0.0
WELL NAME	DOMBEY W FLYNT 1-2 (UPPER). 3513923732 SEC 2, T4N, R19E CHAPARRAL ENERGY LLC 040203 050329 PENN-TORONTO 360 4457	N-BUTANE	3.3 1.1 0.5 0.4 0.3  0.6 11.4 0.0 0.0  0.0 0.0
FIELD	DOMBEY W FLYNT 1-2 (UPPER). 3513923732 SEC 2, T4N, R19E CHAPARRAL ENERGY LLC 040203 050329 PENN-TORONTO 360 4457	N-BUTANE	3.3 1.1 0.5 0.4 0.3 0.6 11.4 0.0 0.0 0.0 0.0 0.1 0.33

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

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

SAMPLE	20738	COMPONENT, MOLE PCT	
STATE	OKI VHOMV	METHANE	78.2
COUNTY		ETHANE	8.3
		PROPANE	4.3
FIELD		N-BUTANE	1.5
WELL NAME	_	ISOBUTANE	0.5
API		N-PENTANE	0.5
LOCATION	SEC. 35, T1N, R12E	ISOPENTANE	0.3
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	860628	HEXANES PLUS	0.6
SAMPLED	010730	NITROGEN	5.3
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)	6785	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	4050	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	,
STATE	OKI AHOMA	METHANE	74.3
CTATE	OKI VHOWV	METHANE	74.3
COUNTY		ETHANE	6.6
FIELD		PROPANE	
WELL NAME		N-BUTANE	
•		ISOBUTANE	0.5
API			
LOCATION	3513900463	N-PENTANE	
LOCATION	SEC. 35, T1N, R13E	ISOPENTANE	0.2
LOCATION	SEC. 35, T1N, R13E	ISOPENTANE	0.2
<u>'</u>	SEC. 35, T1N, R13E CONOCOPHILLIPS CO.	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2
OWNER	SEC. 35, T1N, R13E CONOCOPHILLIPS CO. 440810	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.2  0.3 12.4
OWNER	SEC. 35, T1N, R13E CONOCOPHILLIPS CO. 440810 011030	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.2  0.3 12.4 0.0
OWNER COMPLETED SAMPLED FORMATION	SEC. 35, T1N, R13E CONOCOPHILLIPS CO. 440810 011030	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2  0.3 12.4 0.0 0.1
OWNER COMPLETED SAMPLED FORMATION	SEC. 35, T1N, R13E.  CONOCOPHILLIPS CO.  440810  011030  PERM-CHASE GROUP  360.	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.2  0.3 12.4 0.0 0.1
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	SEC. 35, T1N, R13E  CONOCOPHILLIPS CO.  440810  011030  PERM-CHASE GROUP  360  2930	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.2  0.3 12.4 0.0 0.1 
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SEC. 35, T1N, R13E.  CONOCOPHILLIPS CO.  440810  011030  PERM-CHASE GROUP  360  2930  2930	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.2  0.3 12.4 0.0 0.1  0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SEC. 35, T1N, R13E  CONOCOPHILLIPS CO.  440810  011030  PERM-CHASE GROUP  360  2930  2930	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.2  0.3 12.4 0.0 0.1  0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SEC. 35, T1N, R13E  CONOCOPHILLIPS CO.  440810  011030  PERM-CHASE GROUP  360  2930  2930	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.2  0.3 12.4 0.0 0.1  0.0 0.0

 $<sup>^{\</sup>star}$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	20885	COMPONENT, MOLE PCT	
STATE		METHANE	73.4
		ETHANE	6.4
COUNTY		PROPANE	3.6
FIELD		N-BUTANE	1.1
WELL NAME	JAKE NO. 1	ISOBUTANE	0.4
API	3513900467	N-PENTANE	0.3
LOCATION	SEC. 33, T1N, R13E	ISOPENTANE	0.2
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	460402	HEXANES PLUS	0.3
SAMPLED	011030_	NITROGEN	13.7
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
	_	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	_	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	,
		SPECIFIC GRAVITY	0.713
SAMPLE	20884	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	73.7
COUNTY		ETHANE	6.5
FIELD		PROPANE	3.7
WELL NAME		N-BUTANE	
		ISOBUTANE	
API	·	N-PENTANE	
LOCATION	SEC. 32, T1N, R13E	ISOPENTANE	0.2
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	480109	HEXANES PLUS	
SAMPLED	011030	NITROGEN	
FORMATION	PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE	360_	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE**	
OPEN FLOW, MCFD		CARBON DIOXIDE	
OPEN FLOW, WICHD		HELIUM	0.47
		1.1E A TINIO 1.4A E #	
		HEATING VALUE* SPECIFIC GRAVITY	

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	20888	COMPONENT, MOLE PCT	
CTATE		METHANE	70.0
STATE		ETHANE	6.4
COUNTY	_	PROPANE	3.8
FIELD		N-BUTANE	1.1
WELL NAME	ORV NO. 2	ISOBUTANE	0.5
API	3513921307	N-PENTANE	0.3
LOCATION	SEC. 31, T2N, R12E	ISOPENTANE	0.2
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	800520	HEXANES PLUS	0.2
SAMPLED	011030	NITROGEN	16.8
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	_	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
VELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	43	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.727
SAMPLE	20890	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	65.5
COUNTY		ETHANE	5.8
FIELD	_	PROPANE	3.7
		N-BUTANE	1.1
WELL NAME		ISOBUTANE	0.5
API	3513900683	N-PENTANE	
LOCATION	SEC. 10, T2N, R12E	ISOPENTANE	
OWNER	OXY USA, INC.	CYCLOPENTANE	
COMPLETED	521128	HEXANES PLUS	
SAMPLED	011030	NITROGEN	
FORMATION	PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG _		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	15800	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
		CDECIEIC CDAVITY	0.740

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

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

07475	20889	COMPONENT, MOLE PCT	
	OKLAHOMA	METHANE	64.7
COUNTY		ETHANE	5.8
		PROPANE	3.8
FIELD		N-BUTANE	1.2
WELL NAME	_	ISOBUTANE	0.5
API	3513900092	N-PENTANE	0.3
LOCATION	SEC. 9, T2N, R12E	ISOPENTANE	0.2
OWNER	OXY USA, INC.	CYCLOPENTANE	
COMPLETED	530201	HEXANES PLUS	0.3
SAMPLED	011030	NITROGEN	22.4
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	2664	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	26600	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20881	COMPONENT, MOLE PCT	
		METHANE	68.0
STATE	OKLAHOMA_	ETHANE	
COUNTY	TEXAS	PROPANE	
FIELD	GUYMON-HUGOTON	N-BUTANE	
WELL NAME	BERGNER NO. 1-B	ISOBUTANE	
API	3513901879	N-PENTANE	0.3
LOCATION	SEC. 33, T1N, R11E	ISOPENTANE	0.2
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	550531	HEXANES PLUS	0.3
SAMPLED		NITROGEN	18.6
FORMATION	_	OXYGEN	0.0
	360	ARGON	0.1
GEOLOGIC PROVINCE CODE		ARGON + OXYGEN	
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)			
TRUE VERTICAL DEPTH (FT)		HYDROGEN	
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.1
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH		HYDROGEN SULFIDE**	0.0 0.1 0.79

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

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

SAMPLE	20880	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	66.4
	<u> </u>	ETHANE	6.1
COUNTY		PROPANE	3.9
FIELD	_	N-BUTANE	1.2
WELL NAME	BERGNER NO. 1	ISOBUTANE	0.5
API	3513900527	N-PENTANE	0.3
LOCATION	SEC. 32, T1N, R11E	ISOPENTANE	0.2
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	541014	HEXANES PLUS	0.3
SAMPLED	011030	NITROGEN	20.0
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
-		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	2162	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.743
SAMPLE	20675	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	59.6
COUNTY		ETHANE	5.5
FIELD	_	PROPANE	3.8
WELL NAME	<u> </u>	N-BUTANE	1.2
· · · · · · · · · · · · · · · · · · ·		ISOBUTANE	
API	_	N-PENTANE	
LOCATION	SEC. 30, T3N, R12E	ISOPENTANE	
OWNER	OXY USA, INC.	CYCLOPENTANE	
COMPLETED	521113	HEXANES PLUS	
SAMPLED	010511	NITROGEN	
FORMATION	PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
		ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	2656		
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH		HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
MEASURED DEPTH WELLHEAD PRESSURE, PSIG	393	HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.1
MEASURED DEPTH	393	HYDROGEN SULFIDE**	0.0 0.1 1.06

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

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

OKLAHOMA.  TEXAS.  GUYMON-HUGOTON.	METHANE ETHANE PROPANE	5.4
TEXAS		
	PROPANE	
GUYMON-HUGOTON		3.9
	N-BUTANE	1.3
CLARK NO. 1	ISOBUTANE	0.5
3513921191	N-PENTANE	0.3
SEC. 36, T1N, R10E	ISOPENTANE	0.2
FIRST NATIONAL OIL, INC.	CYCLOPENTANE	
800122	HEXANES PLUS	
011030	NITROGEN	26.8
PERM-CHASE GROUP	OXYGEN	0.0
360	ARGON	0.1
	ARGON + OXYGEN	
	HYDROGEN	0.0
	HYDROGEN SULFIDE**	0.0
	CARBON DIOXIDE	0.4
154_	HELIUM	
	SPECIFIC GRAVITY	0.77
20891	COMPONENT, MOLE PCT	
OKI AHOMA	METHANE	58.9
	ETHANE	4.7
	PROPANE	3.8
_	N-BUTANE	1.4
	ISOBUTANE	0.5
3513920812	N-PENTANE	0.3
SEC. 1, T2N, R12E	ISOPENTANE	0.3
OXY USA, INC.	CYCLOPENTANE	
760119	HEXANES PLUS	0.3
011030	NITROGEN	28.7
PERM-COUNCIL GROVE	OXYGEN	0.0
360_	ARGON	
	ARGON + OXYGEN	
	HYDROGEN	
_	HYDROGEN SULFIDE**	
	CARBON DIOXIDE	0.2
360	HELIUM	0.73
	SEC. 36, T1N, R10E FIRST NATIONAL OIL, INC.  800122  011030 PERM-CHASE GROUP  360 2630  154  20891  OKLAHOMA TEXAS GUYMON-HUGOTON STONEBRAKER NO. M-2 3513920812 SEC. 1, T2N, R12E OXY USA, INC. 760119 011030 PERM-COUNCIL GROVE	SEC. 36, T1N, R10E  FIRST NATIONAL OIL, INC.  800122  011030  PERM-CHASE GROUP  360  2630  HYDROGEN  HYDROGEN  CARBON DIOXIDE  HELIUM  HEATING VALUE*  SPECIFIC GRAVITY  20891  COMPONENT, MOLE PCT  OKLAHOMA  TEXAS  GUYMON-HUGOTON  STONEBRAKER NO. M-2  3513920812  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN SULFIDE**  SPECIFIC GRAVITY   METHANE  ETHANE  FROPANE  STONEBRAKER NO. M-2  3513920812  N-PENTANE  OXY USA, INC.  CYCLOPENTANE  OXY USA, INC.  TEXANE  OXY GRAVITY  SEC. 1, T2N, R12E  OXY USA, INC.  T60119  HEXANES PLUS  NITROGEN  NITROGEN  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN  HYDROGEN

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

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

SAMPLE	20887	COMPONENT, MOLE PCT	
STATE		METHANE	89.2
		ETHANE	5.6
COUNTY	_	PROPANE	2.1
FIELD	GUYMON-HUGOTON	N-BUTANE	0.7
WELL NAME	CECIL NO. 1-32	ISOBUTANE	0.2
API	3513922503	N-PENTANE	0.2
LOCATION	SEC. 32, T2N, R12E	ISOPENTANE	0.1
OWNER	CABOT OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	940418	HEXANES PLUS	0.4
SAMPLED	011030	NITROGEN	1.2
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _		ARGON	0.0
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
` , _	_	HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.3
OPEN FLOW, MCFD	1337	HELIUM	0.13
		HEATING VALUE*	1,113
		SPECIFIC GRAVITY	0.636
SAMPLE	20704	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	84.7
COUNTY		ETHANE	8.8
FIELD		PROPANE	3.3
		N-BUTANE	0.7
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.2
LOCATION	SEC. 18, T13N, R19W	ISOPENTANE	0.2
OWNER	EL PASO PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	840726	HEXANES PLUS	
SAMPLED	010709	NITROGEN	0.3
FORMATION	PENN-RED FORK	OXYGEN	
GEOLOGIC PROVINCE CODE _	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	824	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.671

 $<sup>^{\</sup>star}$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	20706	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	85.5
·	CUSTER	ETHANE	8.0
•	_	PROPANE	3.0
	HAMMON E	N-BUTANE	0.7
<u>'</u>	LONG NO. 1-2	ISOBUTANE	0.5
API	3503920739	N-PENTANE	0.2
LOCATION	SEC. 2, T13N, R20W	ISOPENTANE	
OWNER	EL PASO PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	820603	HEXANES PLUS	0.5
SAMPLED	010709	NITROGEN	
FORMATION	PENN-RED FORK	OXYGEN	0.0
GEOLOGIC PROVINCE COD	DE360_	ARGON	0.0
	12662	ARGON + OXYGEN	
•	)	HYDROGEN	
		HYDROGEN SULFIDE**	
	IG5134_	CARBON DIOXIDE	
OPEN FLOW, MCFD	<u>815</u>	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
STATE	OKLAHOMA	METHANE	
STATE	OKLAHOMA	METHANE	88.7
COUNTY	CADDO	ETHANE PROPANE	
FIELD	LOOKEBA E	N-BUTANE	
WELL NAME	HAMPTON 1-1	ISOBUTANE	
API	3501522744	N-PENTANE	
	SEC 1. T11N. R11W	ISOPENTANE	
·	CHESAPEAKE OPERATING, INC.	CYCLOPENTANE	
	040327	HEXANES PLUS	
	050401	NITROGEN	
· ·	PENN-MORROW	OXYGEN	0.5
		ARGON	0.0
GEOLOGIC PROVINCE COD		ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT	,	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PS	IG1000_	CARBON DIOXIDE	0.9
OPEN FLOW, MCFD	500	HELIUM	0.00
		HEATING VALUE*	991
		SPECIFIC GRAVITY	0.617

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

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

SAMPLE	21451	COMPONENT, MOLE PCT	
CTATE	OKLAHOMA	METHANE	82.1
		ETHANE	6.8
·	STEPHENS	PROPANE	3.6
	MARLOW DISTRICT	N-BUTANE	1.2
WELL NAME	YOUNG 2-13	ISOBUTANE	0.6
API	3513725998	N-PENTANE	0.4
LOCATION	SEC 13, T2N, R8W	ISOPENTANE	0.3
OWNERC	HESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	040411	HEXANES PLUS	0.5
SAMPLED	050509	NITROGEN	4.1
FORMATION	PENN-HOXBAR L, DEESE	OXYGEN	
	350	ARGON	
	13716	ARGON + OXYGEN	0.1
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
	1000_	CARBON DIOXIDE	0.3
OPEN FLOW, MCFD	2485	HELIUM	
		HEATING VALUE*	
		CDECIEIC CDAVITY	
		SPECIFIC GRAVITY	0.693
SAMPLE	21444	COMPONENT, MOLE PCT	0.093
	21444 OKLAHOMA		
STATE	OKLAHOMA.	COMPONENT, MOLE PCT	92.3
STATE	OKLAHOMA GRADY	COMPONENT, MOLE PCT METHANE	92.3 2.8
STATE COUNTY FIELD	OKLAHOMA GRADY MINCO E	COMPONENT, MOLE PCT  METHANE  ETHANE	92.3 2.8 1.0
STATE COUNTY FIELD WELL NAME	OKLAHOMA GRADY MINCO E ELAINE 1-18	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	92.3 2.8 1.0 0.3
STATE COUNTY FIELD WELL NAME	OKLAHOMA. GRADY. MINCO E. ELAINE 1-18. 3505121826	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	92.3 2.8 1.0 0.3 0.1
STATE COUNTY FIELD WELL NAME	OKLAHOMA GRADY MINCO E ELAINE 1-18	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE	92.3 2.8 1.0 0.3 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	OKLAHOMA. GRADY. MINCO E. ELAINE 1-18. 3505121826	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	92.3 2.8 1.0 0.3 0.1 0.1
STATE COUNTY  FIELD WELL NAME API LOCATION OWNER	OKLAHOMA GRADY MINCO E ELAINE 1-18 3505121826 SEC 18, T10N, R6W	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS	92.3 2.8 1.0 0.3 0.1 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	OKLAHOMA. GRADY. MINCO E. ELAINE 1-18. 3505121826. SEC 18, T10N, R6W. OKLAND OIL CO.	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN	92.3 2.8 1.0 0.3 0.1 0.1 0.1  0.2 2.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	OKLAHOMA GRADY MINCO E ELAINE 1-18 3505121826 SEC 18, T10N, R6W OKLAND OIL CO.	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	92.3 2.8 1.0 0.3 0.1 0.1  0.2 2.6 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	OKLAHOMA.  GRADY.  MINCO E.  ELAINE 1-18.  3505121826.  SEC 18, T10N, R6W.  OKLAND OIL CO.  040412.  050407.  PENN-COTTAGE GROVE.	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	92.3 2.8 1.0 0.3 0.1 0.1 0.1  0.2 2.6 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE .	OKLAHOMA.  GRADY.  MINCO E.  ELAINE 1-18.  3505121826.  SEC 18, T10N, R6W.  OKLAND OIL CO.  040412.  050407.  PENN-COTTAGE GROVE.	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	92.3 2.8 1.0 0.3 0.1 0.1  0.2 2.6 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE .  TRUE VERTICAL DEPTH (FT) _	OKLAHOMA GRADY MINCO E ELAINE 1-18 3505121826 SEC 18, T10N, R6W OKLAND OIL CO. 040412 050407 PENN-COTTAGE GROVE 360 8348	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	92.3 2.8 1.0 0.3 0.1 0.1  0.2 2.6 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	OKLAHOMA GRADY MINCO E ELAINE 1-18 3505121826 SEC 18, T10N, R6W OKLAND OIL CO. 040412 050407 PENN-COTTAGE GROVE 360 8348	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN SULFIDE**	92.3 2.8 1.0 0.3 0.1 0.1  0.2 2.6 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	OKLAHOMA GRADY MINCO E ELAINE 1-18 3505121826 SEC 18, T10N, R6W OKLAND OIL CO. 040412 050407 PENN-COTTAGE GROVE 360 8348	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	92.3 2.8 1.0 0.3 0.1 0.1  0.2 2.6 0.0 0.0  0.0 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	OKLAHOMA GRADY MINCO E ELAINE 1-18 3505121826 SEC 18, T10N, R6W OKLAND OIL CO. 040412 050407 PENN-COTTAGE GROVE 360 8348	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN SULFIDE**	92.3 2.8 1.0 0.3 0.1 0.1  0.2 2.6 0.0 0.0  0.0 0.0 0.3

 $<sup>^{\</sup>star}$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21431	COMPONENT, MOLE PCT	
CTATE	OKI ALIOMA	METHANE	84.4
STATE		ETHANE	6.8
·	BEAVER.	PROPANE	4.2
FIELDM		N-BUTANE	1.2
WELL NAME	ALEXANDER 1-21	ISOBUTANE	0.6
API	3500720144	N-PENTANE	0.5
LOCATION	SEC 21, T2N, R27E	ISOPENTANE	0.3
OWNER	CHAPARRAL ENERGY LLC	CYCLOPENTANE	
COMPLETED	670513	HEXANES PLUS	0.7
SAMPLED	050329	NITROGEN	0.7
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.6
OPEN FLOW, MCFD	<del></del>	HELIUM	
		HEATING VALUE*	
0.115.5		SPECIFIC GRAVITY	0.000
SAMPLE	20709	COMPONENT, MOLE PCT	
STATE		METHANE	
	<u> </u>		79.7
COUNTY	_	ETHANE	10.5
	CUSTER	ETHANE	10.5 5.0
FIELD	CUSTER MOOREWOOD NE	ETHANE PROPANE N-BUTANE	10.5 5.0 1.4
FIELD	CUSTER. MOOREWOOD NE. KENNY NO. 3.	ETHANE PROPANE N-BUTANE ISOBUTANE	10.5 5.0 1.4 0.6
FIELD WELL NAME API	CUSTER.  MOOREWOOD NE  KENNY NO. 3  3503921166	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	10.5 5.0 1.4 0.6 0.4
FIELD WELL NAME API LOCATION	CUSTER  MOOREWOOD NE  KENNY NO. 3  3503921166  SEC. 15, T15N, R20W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	10.5 5.0 1.4 0.6 0.4
FIELD WELL NAME API LOCATION OWNER	CUSTER.  MOOREWOOD NE  KENNY NO. 3  3503921166  SEC. 15, T15N, R20W  EL PASO PRODUCTION CO.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	10.5 5.0 1.4 0.6 0.4 0.4
FIELD WELL NAME API LOCATION OWNER	CUSTER.  MOOREWOOD NE  KENNY NO. 3  3503921166  SEC. 15, T15N, R20W  EL PASO PRODUCTION CO.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	10.5 5.0 1.4 0.6 0.4 0.4
FIELD	CUSTER  MOOREWOOD NE  KENNY NO. 3  3503921166  SEC. 15, T15N, R20W  EL PASO PRODUCTION CO.  851029	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	10.5 5.0 1.4 0.6 0.4 0.4  0.7
FIELD	CUSTER.  MOOREWOOD NE  KENNY NO. 3  3503921166  SEC. 15, T15N, R20W  EL PASO PRODUCTION CO.  851029  010709  PENN-CHEROKEE	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	10.5 5.0 1.4 0.6 0.4 0.4  0.7 0.4 0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE _	CUSTER.  MOOREWOOD NE  KENNY NO. 3  3503921166  SEC. 15, T15N, R20W  EL PASO PRODUCTION CO.  851029  010709  PENN-CHEROKEE	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	10.5 5.0 1.4 0.6 0.4 0.4  0.7 0.4 0.0
FIELD	CUSTER.  MOOREWOOD NE.  KENNY NO. 3  3503921166  SEC. 15, T15N, R20W  EL PASO PRODUCTION CO.  851029  010709  PENN-CHEROKEE.  360	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	10.5 5.0 1.4 0.6 0.4 0.4  0.7 0.4 0.0 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	CUSTER.  MOOREWOOD NE.  KENNY NO. 3  3503921166  SEC. 15, T15N, R20W  EL PASO PRODUCTION CO.  851029  010709  PENN-CHEROKEE.  360  11252	ETHANE	10.5 5.0 1.4 0.6 0.4 0.7 0.7 0.4 0.0 0.0 TRACE
FIELD	CUSTER.  MOOREWOOD NE.  KENNY NO. 3.  3503921166.  SEC. 15, T15N, R20W.  EL PASO PRODUCTION CO.  851029  010709  PENN-CHEROKEE.  360.  11252.	ETHANE	10.5 5.0 1.4 0.6 0.4 0.7 0.7 0.4 0.0 TRACE
WELL NAME	CUSTER.  MOOREWOOD NE.  KENNY NO. 3  3503921166  SEC. 15, T15N, R20W  EL PASO PRODUCTION CO.  851029  010709  PENN-CHEROKEE  360  11252	ETHANE	10.5 5.0 1.4 0.6 0.4 0.4 0.7 0.4 0.0 TRACE 0.0 1.0
FIELD	CUSTER.  MOOREWOOD NE.  KENNY NO. 3  3503921166  SEC. 15, T15N, R20W  EL PASO PRODUCTION CO.  851029  010709  PENN-CHEROKEE  360  11252	ETHANE	10.5 5.0 1.4 0.6 0.4 0.4 0.7 0.4 0.0 TRACE 0.0 1.0 0.03

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

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

SAMPLE	20711	COMPONENT, MOLE PCT	
STATE	OKLAHOMA.	METHANE	79.8
		ETHANE	10.5
	CUSTER	PROPANE	5.1
·	MOOREWOOD NE	N-BUTANE	1.4
WELL NAME	HUTCHESON NO. 22-1	ISOBUTANE	0.6
·	3503921131	N-PENTANE	0.4
LOCATION	SEC. 22, T15N, R20W	ISOPENTANE	0.4
OWNER	EL PASO PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	850129	HEXANES PLUS	0.5
SAMPLED	010709	NITROGEN	0.4
FORMATION	PENN-PRUE	OXYGEN	0.0
	360	ARGON	
_	11275	ARGON + OXYGEN	
, ,	11273	HYDROGEN	TRACE
		HYDROGEN SULFIDE**	0.0
	2097	CARBON DIOXIDE	
OPEN FLOW, MCFD	2504	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.721
SAMPLE	20710	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	80.0
	CUSTER	ETHANE	10.4
	MOOREWOOD NE	PROPANE	5.1
	HUTCHESON NO. 22-4	N-BUTANE	1.4
		ISOBUTANE	
	3503921733	N-PENTANE	
	SEC. 22, T15N, R20W	ISOPENTANE	
OWNER	EL PASO PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	980130	HEXANES PLUS	
SAMPLED	010709	NITROGEN	
FORMATION	PENN-RED FORK	OXYGEN	
GEOLOGIC PROVINCE CODE _	360_	ARGON	
TRUE VERTICAL DEPTH (FT) _	11224	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
	2650	HYDROGEN SULFIDE**	
OPEN FLOW, MCFD		CARBON DIOXIDE	
OI LIVI LOVV, IVIOFD	1000	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
		SPECIFIC GRAVITY	0.718

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

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

SAMPLE	20708	COMPONENT, MOLE PCT	
STATE		METHANE	78.0
		ETHANE	11.3
COUNTY		PROPANE	6.3
FIELD		N-BUTANE	1.3
WELL NAME	BEESON NO. 1-21	ISOBUTANE	0.8
API	3503920565	N-PENTANE	0.3
LOCATION	SEC. 21, T15N, R20W	ISOPENTANE	0.3
OWNER	EL PASO PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	820225	HEXANES PLUS	0.3
SAMPLED	010709	NITROGEN	0.5
FORMATION	PENN-SKINNER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	_	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE**	
,		CARBON DIOXIDE	
OPEN FLOW, MCFD	3047_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20717	COMPONENT, MOLE PCT	
O WIII EE	20717	METHANE	02.5
STATE	OKLAHOMA	ETHANE	
COUNTY	DEWEY	PROPANE	
FIELD	PUTNAM	N-BUTANE	
WELL NAME	SQUIRES NO. 1	ISOBUTANE	
API	3504321287	N-PENTANE	
LOCATION	SEC. 21. T18N. R17W	ISOPENTANE	
OWNER	•	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	
SAMPLED		NITROGEN	0.9
FORMATION	<del>-</del>	OXYGEN	0.0
		ARGON	0.0
GEOLOGIC PROVINCE CODE _	360	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT) _		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	3620	CARBON DIOXIDE	3.6
OPEN FLOW, MCFD	770_	HELIUM	0.03
		HEATING VALUE*	996

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	20716	COMPONENT, MOLE PCT	
STATE		METHANE	86.4
		ETHANE	6.2
COUNTY		PROPANE	3.1
FIELD		N-BUTANE	1.1
WELL NAME	ALLEN ESTATE UNIT NO. 1	ISOBUTANE	0.5
API	3504320652	N-PENTANE	0.3
LOCATION	SEC. 7, T18N, R16W	ISOPENTANE	0.3
OWNER	CHAPARRAL ENERGY LLC	CYCLOPENTANE	
COMPLETED	760714	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)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	2338	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.674
SAMPLE	21058	COMPONENT, MOLE PCT	
STATE	OKLAHOMA.	METHANE	
COUNTY	ROGER MILLS	ETHANE	
FIELD	REYDON	PROPANE	
WELL NAME	_	N-BUTANE	
API		ISOBUTANE	
	3312921913	N-PENTANE	0.0
LOCATION	CEC 47 TAOM DOCM		
·	SEC. 17, T13N, R26W	ISOPENTANE	
OWNERBURLINGTON RES	SOURCES OIL & GAS CO., LP	CYCLOPENTANE	
·	SOURCES OIL & GAS CO., LP	CYCLOPENTANE	TRACE
OWNERBURLINGTON RES	SOURCES OIL & GAS CO., LP	CYCLOPENTANE HEXANES PLUS NITROGEN	TRACE
OWNER BURLINGTON RES	SOURCES OIL & GAS CO., LP 950917 021029	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	TRACE 0.2 0.0
OWNER BURLINGTON RES	SOURCES OIL & GAS CO., LP 950917 021029	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE 0.2 0.0 0.0
OWNER BURLINGTON RES  COMPLETED SAMPLED  FORMATION	950917 921029 PENN-MORROW	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN	TRACE 0.2 0.0 0.0
OWNERBURLINGTON RESCOMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	950917 021029 PENN-MORROW 360 15641	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN	TRACE 0.2 0.0 0.0 0.0
OWNER BURLINGTON RES  COMPLETED SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE	950917 921029 PENN-MORROW 360 15641	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	 TRACE 0.2 0.0 0.0  0.0
OWNER BURLINGTON RES  COMPLETED SAMPLED SAMPLED SERVICE CODE SERVICE CODE SERVICE CODE SERVICE CODE SERVICE CODE SERVICE VERTICAL DEPTH (FT) SERVICE CODE SERVICE VERTICAL DEPTH SERVICE CODE SERVICE VERTICAL DEPTH SERVICE CODE SERVICE VERTICAL DEPTH SERVICE COMPANY SERVI	950917 950917 021029 PENN-MORROW 360 15641	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON   ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**  CARBON DIOXIDE	TRACE 0.2 0.0 0.0 0.0 0.0 0.0 2.1
OWNERBURLINGTON RESCOMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	950917 950917 021029 PENN-MORROW 360 15641	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	TRACE 0.2 0.0 0.0 0.0 0.0 2.1 0.02

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

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

SAMPLE	21421	COMPONENT, MOLE PCT	
CTATE		METHANE	89.1
STATE		ETHANE	4.2
COUNTY		PROPANE	1.9
FIELD		N-BUTANE	0.7
WELL NAME		ISOBUTANE	0.3
API	3513725973	N-PENTANE	0.2
LOCATION	SEC 15, T1N, R8W	ISOPENTANE	0.2
OWNER	ZINKE & TRUMBO, INC.	CYCLOPENTANE	
COMPLETED	031221	HEXANES PLUS	0.3
SAMPLED	050301	NITROGEN	2.9
FORMATION	CAMO-ARBUCKLE U	OXYGEN	
GEOLOGIC PROVINCE CODE	350_	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG _		HYDROGEN SULFIDE**	
OPEN FLOW, MCFD		CARBON DIOXIDE	
OPEN FLOW, MICFD	2319	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21067	COMPONENT, MOLE PCT	
SAMELL	21007	,	
STATE	OKLAHOMA	METHANE	
COUNTY	ROGER MILLS	ETHANE PROPANE	
FIELD	STRONG CITY	N-BUTANE	
WELL NAME	USA NO. 5-31	ISOBUTANE	
API	3512922320	N-PENTANE	
LOCATION	SEC. 31, T15N, R22W	ISOPENTANE	
OWNER BURLINGTON RES		CYCLOPENTANE	
COMPLETED	· · · ·	HEXANES PLUS	
SAMPLED		NITROGEN	
FORMATION		OXYGEN	0.0
		ARGON	TRACE
GEOLOGIC PROVINCE CODE		ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	11484	HYDROGEN	
MEASURED DEPTH	-	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	1.1
OPEN FLOW, MCFD	4068	HELIUM	0.06
		HEATING VALUE*	1,168
		SPECIFIC GRAVITY	0.676

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE 21065	COMPONENT, MOLE PCT	
STATEOKLAHOMA	METHANE	89.5
	ETHANE	6.0
COUNTY ROGER MILLS	PROPANE	1.7
FIELD STRONG CITY	N-BUTANE	0.3
WELL NAMEROBERTS RANCH NO. 1-18.	ISOBUTANE	0.3
API3512921523_	N-PENTANE	0.1
LOCATION SEC. 18, T14N, R22W	ISOPENTANE	0.1
OWNERBURLINGTON RESOURCES OIL & GAS CO., LP	CYCLOPENTANE	
COMPLETED 900922	HEXANES PLUS	0.3
SAMPLED	NITROGEN	0.3
FORMATIONPENN-RED FORK	OXYGEN	0.0
GEOLOGIC PROVINCE CODE360_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	TRACE
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD2400	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.634
SAMPLE 21066	COMPONENT, MOLE PCT	
STATEOKLAHOMA	METHANE	90.0
COUNTY ROGER MILLS	ETHANE	5.8
FIELD STRONG CITY	PROPANE	
	N-BUTANE	0.3
WELL NAME DODEDTS DANCH NO 2 49		
WELL NAMEROBERTS RANCH NO. 3-18	ISOBUTANE	
API3512921647	N-PENTANE	0.3
API	N-PENTANE	0.3 0.1 0.1
API3512921647	N-PENTANE ISOPENTANE CYCLOPENTANE	0.3 0.1 0.1
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.3 0.1 0.1  0.2
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.3 0.1 0.1  0.2 0.3
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.3 0.1 0.1  0.2 0.3 0.0
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.3 0.1 0.1  0.2 0.3 0.0 0.0
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.3 0.1 0.1  0.2 0.3 0.0 0.0
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.3 0.1 0.1  0.2 0.3 0.0 0.0
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.3 0.1 0.1  0.2 0.3 0.0 0.0  0.0
API	N-PENTANE	0.3 0.1 0.1 0.2 0.3 0.0 0.0 0.0 0.0 1.4
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.3 0.1 0.1 0.2 0.3 0.0 0.0 0.0 1.4 0.04

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21419	COMPONENT, MOLE PCT	
STATE	OKI VHOMV	METHANE	64.6
COUNTY		ETHANE	7.3
·		PROPANE	4.1
FIELD	<del>.</del>	N-BUTANE	1.1
WELL NAME	_	ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION	SEC 30, T5N, R10E	ISOPENTANE	0.2
OWNER	RUPE OIL COMPANY, INC.	CYCLOPENTANE	-
COMPLETED	040115	HEXANES PLUS	0.4
SAMPLED	050215	NITROGEN	20.8
FORMATION	PENN-ATOKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360	ARGON	0.4
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	2114	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20739	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	77.2
COUNTY	TEXAS	ETHANE	8.1
FIELD		PROPANE	4.5
		N-BUTANE	
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.6
LOCATION	SEC 31 T1N R13E	ISOPENTANE	
	<u> </u>	IOOI EIVITAINE	0.4
OWNER		CYCLOPENTANE	
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	0.7
	CONOCOPHILLIPS CO. 921201	CYCLOPENTANE HEXANES PLUS NITROGEN	 0.7 5.8
COMPLETED	CONOCOPHILLIPS CO. 921201 010730	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.7 5.8 0.0
COMPLETED	CONOCOPHILLIPS CO. 921201 010730 PENN-MORROW	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON	0.7 5.8 0.0 0.0
COMPLETEDSAMPLEDFORMATION	CONOCOPHILLIPS CO. 921201 010730 PENN-MORROW 360	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN	0.7 5.8 0.0 0.0
COMPLETED	CONOCOPHILLIPS CO. 921201 010730 PENN-MORROW 360 6763	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN	 0.7 5.8 0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	21201 921201 010730 PENN-MORROW 360 6763	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	 0.7 5.8 0.0 0.0  TRACE
COMPLETED	247	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**  CARBON DIOXIDE	 0.7 5.8 0.0 0.0  TRACE 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	247	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	 0.7 5.8 0.0 0.0  TRACE 0.0 0.3

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

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

SAMPLE	21526	COMPONENT, MOLE PCT	
STATE	TEYAS	METHANE	88.8
		ETHANE	5.7
COUNTY		PROPANE	2.5
FIELD		N-BUTANE	0.8
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.2
LOCATION	SEC 30, BLK 9, H&GN SUR	ISOPENTANE	0.2
OWNER	OLSEN ENERGY, INC.	CYCLOPENTANE	
COMPLETED	850127	HEXANES PLUS	0.4
SAMPLED	060406	NITROGEN	0.9
FORMATION	PERM-CLEARFORK	OXYGEN	
GEOLOGIC PROVINCE CODE _	430	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	TRACE
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	TRACE
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.2
OPEN FLOW, MCFD	1875_	HELIUM	0.03
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21502	COMPONENT, MOLE PCT	
OAIVII EE	21002	METHANE	83.3
STATE	TEXAS.	ETHANE	
COUNTY	PECOS.	PROPANE	
FIELD	ABELL	N-BUTANE	1.3
WELL NAME	WAGNER 1	ISOBUTANE	
API	4227402000		
	423/103000	N-PENTANE	0.5
LOCATION		N-PENTANE ISOPENTANE	
	SEC 23, BLK 9, H&GN SUR		0.2
OWNER	SEC 23, BLK 9, H&GN SUR JOHN M. CLARK, INC.	ISOPENTANE	0.2
OWNER COMPLETED SAMPLED	SEC 23, BLK 9, H&GN SUR JOHN M. CLARK, INC. 850207	ISOPENTANE	0.2  0.7
OWNERCOMPLETEDSAMPLED	SEC 23, BLK 9, H&GN SUR JOHN M. CLARK, INC. 850207 050914	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2  0.7 2.6
OWNER COMPLETED SAMPLED FORMATION	SEC 23, BLK 9, H&GN SUR JOHN M. CLARK, INC. 850207 050914 ORDO-WADDELL	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.2  0.7 2.6
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	SEC 23, BLK 9, H&GN SUR.  JOHN M. CLARK, INC.  850207  050914  ORDO-WADDELL  430	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.2  0.7 2.6 
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT)	SEC 23, BLK 9, H&GN SUR  JOHN M. CLARK, INC.  850207  050914  ORDO-WADDELL  430  5738	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2  0.7 2.6  TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SEC 23, BLK 9, H&GN SUR JOHN M. CLARK, INC. 850207 050914 ORDO-WADDELL 430 5738	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.2  0.7 2.6   TRACE 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SEC 23, BLK 9, H&GN SUR JOHN M. CLARK, INC. 850207 050914 ORDO-WADDELL 430 5738	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.2  0.7 2.6  TRACE 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	SEC 23, BLK 9, H&GN SUR  JOHN M. CLARK, INC.  850207  050914  ORDO-WADDELL  430  5738	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.2  0.7 2.6  TRACE 0.0 0.0
OWNER	SEC 23, BLK 9, H&GN SUR  JOHN M. CLARK, INC.  850207  050914  ORDO-WADDELL  430  5738	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.2 

 $<sup>^{\</sup>star}$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21519	COMPONENT, MOLE PCT	
STATE	TEYAS	METHANE	85.8
-	_	ETHANE	6.2
COUNTY		PROPANE	3.0
FIELD		N-BUTANE	0.9
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.3
LOCATION	SEC 21, BLK 1, H&TC SUR	ISOPENTANE	0.2
OWNER	INCLINE ENERGY	CYCLOPENTANE	
COMPLETED	720126	HEXANES PLUS	
SAMPLED	060308	NITROGEN	2.5
FORMATION	PERM-GLORIETA	OXYGEN	
GEOLOGIC PROVINCE CODE	430	ARGON	
TRUE VERTICAL DEPTH (FT)	3317	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE. PSIG		HYDROGEN SULFIDE**	
,		CARBON DIOXIDE	
OPEN FLOW, MCFD	50_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.664
SAMPLE	21496	COMPONENT, MOLE PCT	
STATE	TEXAS	METHANE	80.4
COUNTY	CRANE	ETHANE	
FIELD		PROPANE	2.0
	ABELL NW		
WELL NAME		N-BUTANE	
WELL NAME	GRISHAM 27-1	ISOBUTANE	0.3
API	GRISHAM 27-1 4210334722	ISOBUTANE	0.3
API	GRISHAM 27-1 4210334722 SEC 27, BLK 1, H&TC SUR	ISOBUTANE N-PENTANE ISOPENTANE	0.3 0.2 0.2
API	GRISHAM 27-1 4210334722 SEC 27, BLK 1, H&TC SUR	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.3 0.2 0.2
API	GRISHAM 27-1 4210334722 SEC 27, BLK 1, H&TC SUR EOG RESOURCES, INC.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.3 0.2 0.2 
API LOCATION OWNER	GRISHAM 27-1 4210334722 SEC 27, BLK 1, H&TC SUR EOG RESOURCES, INC. 000418	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.3 0.2 0.2  0.4 10.3
API LOCATION OWNER COMPLETED	GRISHAM 27-1 4210334722 SEC 27, BLK 1, H&TC SUR EOG RESOURCES, INC. 000418	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.3 0.2 0.2  0.4 10.3
API LOCATION OWNER COMPLETED SAMPLED	GRISHAM 27-1 4210334722 SEC 27, BLK 1, H&TC SUR EOG RESOURCES, INC. 000418 050823 PERM-CLEAR FORK	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.3 0.2 0.2  0.4 10.3
API LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION	GRISHAM 27-1 4210334722 SEC 27, BLK 1, H&TC SUR EOG RESOURCES, INC. 000418 050823 PERM-CLEAR FORK.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.3 0.2 0.2  0.4 10.3  TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	GRISHAM 27-1  4210334722  SEC 27, BLK 1, H&TC SUR  EOG RESOURCES, INC.  000418  050823  PERM-CLEAR FORK  430  3400	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.3 0.2 0.2  0.4 10.3  TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	GRISHAM 27-1 4210334722 SEC 27, BLK 1, H&TC SUR EOG RESOURCES, INC. 000418 050823 PERM-CLEAR FORK 430 3400	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.3 0.2 0.2 0.4 10.3 TRACE 0.0 0.0
API	GRISHAM 27-1 4210334722 SEC 27, BLK 1, H&TC SUR EOG RESOURCES, INC. 000418 050823 PERM-CLEAR FORK 430 3400	ISOBUTANE	0.3 0.2 0.2 0.4 10.3 TRACE 0.0 0.8
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	GRISHAM 27-1 4210334722 SEC 27, BLK 1, H&TC SUR EOG RESOURCES, INC. 000418 050823 PERM-CLEAR FORK 430 3400	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.3 0.2 0.2 0.4 10.3 TRACE 0.0 0.8 0.01

 $<sup>^{\</sup>star}$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21516	COMPONENT, MOLE PCT	
STATE	TEVAC	METHANE	75.3
-	<u> </u>	ETHANE	3.7
COUNTY		PROPANE	2.6
FIELD		N-BUTANE	0.7
WELL NAME	PATTERSON 45-8	ISOBUTANE	0.4
API	4248331619	N-PENTANE	0.2
LOCATION	SEC 45, BLK A5, H&GN SUR	ISOPENTANE	0.2
OWNER	PABLO ENERGY, INC.	CYCLOPENTANE	
COMPLETED	021002	HEXANES PLUS	0.3
SAMPLED	060201	NITROGEN	16.1
FORMATION	PERM-BROWN DOLOMITE	OXYGEN	
GEOLOGIC PROVINCE CODE _	360	ARGON	
TRUE VERTICAL DEPTH (FT) _		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
· · · · · · · · · · · · · · · · · · ·		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	40	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.691
CANADIE			
SAMPLE	21504	COMPONENT, MOLE PCT	
SAMPLE STATE		COMPONENT, MOLE PCT  METHANE	20.5
<del></del>	TEXAS	METHANE	22.2
STATE	TEXAS_ UPTON_	METHANE ETHANE PROPANE	22.2 29.8
STATE COUNTY FIELD	TEXAS_UPTON_AMACKER-TIPPETT SW	METHANE ETHANE PROPANE N-BUTANE	22.2 29.8 7.0
STATE COUNTY FIELD WELL NAME	TEXAS_UPTON_ AMACKER-TIPPETT SW_ HALFF ESTATE 20-5	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	22.2 29.8 7.0 3.6
STATE COUNTY FIELD WELL NAME API	TEXAS  UPTON  AMACKER-TIPPETT SW  HALFF ESTATE 20-5  4246134181	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	22.2 29.8 7.0 3.6 2.8
STATE COUNTY FIELD WELL NAME API LOCATION	TEXAS  UPTON  AMACKER-TIPPETT SW  HALFF ESTATE 20-5  4246134181  SEC 20. BLK Y, GC&SF SUR	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	22.2 29.8 7.0 3.6 2.8 2.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	TEXAS  UPTON  AMACKER-TIPPETT SW  HALFF ESTATE 20-5  4246134181  SEC 20, BLK Y, GC&SF SUR  EOG RESOURCES, INC.	METHANE ETHANE PROPANE N-BUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	22.2 29.8 7.0 3.6 2.8 2.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	TEXAS  UPTON  AMACKER-TIPPETT SW  HALFF ESTATE 20-5  4246134181  SEC 20. BLK Y, GC&SF SUR	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	22.2 29.8 7.0 3.6 2.8 2.5 
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	TEXAS  UPTON  AMACKER-TIPPETT SW  HALFF ESTATE 20-5  4246134181  SEC 20, BLK Y, GC&SF SUR  EOG RESOURCES, INC.  011001	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN	22.2 29.8 7.0 3.6 2.8 2.5  4.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	TEXAS  UPTON  AMACKER-TIPPETT SW  HALFF ESTATE 20-5  4246134181  SEC 20, BLK Y, GC&SF SUR  EOG RESOURCES, INC.  011001  051010	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	22.2 29.8 7.0 3.6 2.8 2.5  4.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	TEXAS.  UPTON.  AMACKER-TIPPETT SW.  HALFF ESTATE 20-5.  4246134181.  SEC 20, BLK Y, GC&SF SUR.  EOG RESOURCES, INC.  011001.  051010.  PERM-WOLFCAMP.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	22.2 29.8 7.0 3.6 2.8 2.5  4.0 1.7
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	TEXAS  UPTON  AMACKER-TIPPETT SW  HALFF ESTATE 20-5  4246134181  SEC 20. BLK Y, GC&SF SUR  EOG RESOURCES, INC.  011001  051010  PERM-WOLFCAMP  430	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	22.2 29.8 7.0 3.6 2.8 2.5  4.0 1.7 
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	TEXAS  UPTON  AMACKER-TIPPETT SW  HALFF ESTATE 20-5  4246134181  SEC 20, BLK Y, GC&SF SUR  EOG RESOURCES, INC.  011001  051010  PERM-WOLFCAMP  430  8750	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	22.2 29.8 7.0 3.6 2.8 2.5  4.0 1.7  0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT)	TEXAS  UPTON  AMACKER-TIPPETT SW  HALFF ESTATE 20-5  4246134181  SEC 20. BLK Y, GC&SF SUR  EOG RESOURCES, INC.  011001  051010  PERM-WOLFCAMP  430  8750	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	22.2 29.8 7.0 3.6 2.8 2.5  4.0 1.7  0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG .	TEXAS  UPTON  AMACKER-TIPPETT SW  HALFF ESTATE 20-5  4246134181  SEC 20, BLK Y, GC&SF SUR  EOG RESOURCES, INC.  011001  051010  PERM-WOLFCAMP  430  8750	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	22.2 29.8 7.0 3.6 2.8 2.5  4.0 1.7  0.0 0.0 0.0
STATE	TEXAS  UPTON  AMACKER-TIPPETT SW  HALFF ESTATE 20-5  4246134181  SEC 20, BLK Y, GC&SF SUR  EOG RESOURCES, INC.  011001  051010  PERM-WOLFCAMP  430  8750	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	22.2 29.8 7.0 3.6 2.8 2.5  4.0 1.7  0.0 0.0 0.0 5.9 0.01

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

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

SAMPLE	21497	COMPONENT, MOLE PCT	
STATE	TEVAC	METHANE	73.3
-	_	ETHANE	12.0
COUNTY	<u> </u>	PROPANE	6.8
FIELD		N-BUTANE	2.0
WELL NAME		ISOBUTANE	0.7
API		N-PENTANE	0.6
LOCATION	SEC 64, BLK Y, TC RR SUR	ISOPENTANE	0.5
OWNER	HUNT OIL CO	CYCLOPENTANE	
COMPLETED	050329	HEXANES PLUS	0.9
SAMPLED	050830	NITROGEN	3.2
FORMATION	PENN-STRAWN	OXYGEN	
GEOLOGIC PROVINCE CODE	430	ARGON	
TRUE VERTICAL DEPTH (FT)	10166	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG _		HYDROGEN SULFIDE**	
OPEN FLOW, MCFD		CARBON DIOXIDE	
OPEN FLOW, MCFD	400	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	,
SAMPLE	21500	COMPONENT, MOLE PCT	
07.75	TT.V.0	METHANE	78.5
STATE		ETHANE	8.7
COUNTY	_	PROPANE	4.4
FIELD	ANDECTOR	N-BUTANE	1.3
WELL NAME	EMBAR 59	ISOBUTANE	0.6
API	4213535329	N-PENTANE	
			0.4
LOCATION	SEC 17, BLK 44, T&P SUR	ISOPENTANE	
OWNER		ISOPENTANE	0.4
	CONOCOPHILLIPS CO.		0.4
OWNER	CONOCOPHILLIPS CO. 951110	CYCLOPENTANE	0.4  0.6
OWNER	CONOCOPHILLIPS CO. 951110 050914	CYCLOPENTANE	0.4  0.6 4.8
OWNER COMPLETED SAMPLED FORMATION	CONOCOPHILLIPS CO. 951110 050914	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.4  0.6 4.8 
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	CONOCOPHILLIPS CO. 951110 050914 PERM-GRAYBURG 430	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN	0.4  0.6 4.8 
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	CONOCOPHILLIPS CO. 951110 050914 PERM-GRAYBURG 430 3854	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN	0.4  0.6 4.8  TRACE TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CONOCOPHILLIPS CO. 951110 050914 PERM-GRAYBURG 430 3854	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	0.4  0.6 4.8  TRACE TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	CONOCOPHILLIPS CO.  951110  050914  PERM-GRAYBURG  430  3854	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**  CARBON DIOXIDE	0.4 0.6 4.8 TRACE TRACE 0.1
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CONOCOPHILLIPS CO.  951110  050914  PERM-GRAYBURG  430  3854	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	0.4 0.6 4.8 TRACE TRACE 0.1 0.1 0.05

 $<sup>^{\</sup>star}$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21501	COMPONENT, MOLE PCT	
CTATE	TEXAS_	METHANE	76.1
		ETHANE	8.8
	<u>ECTOR</u>	PROPANE	4.6
-	ANDECTOR	N-BUTANE	1.3
WELL NAME	FRANK B 2	ISOBUTANE	0.5
•	4213503102	N-PENTANE	0.3
LOCATION	SEC 6, BLK 44, T&P SUR	ISOPENTANE	0.2
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	940906	HEXANES PLUS	0.4
SAMPLED	050914	NITROGEN	7.4
FORMATION	ORDO-MCKEE	OXYGEN	
GEOLOGIC PROVINCE CODE .	430	ARGON	
TRUE VERTICAL DEPTH (FT)	7840_	ARGON + OXYGEN	
` , -		HYDROGEN	
	300	HYDROGEN SULFIDE**	
OPEN FLOW, MCFD		CARBON DIOXIDE	
OF LINT LOW, MICH D		HELIUM HEATING VALUE*	
		SPECIFIC GRAVITY	
STATE	TEXAS.	METHANE	
COUNTY	IRION	ETHANE	11.4
FIELD	ANDREW A	PROPANE	
WELL NAME	BURNEY 3086 NO. 1	N-BUTANE	
	4223531362	ISOBUTANE N-PENTANE	
	SEC 3086. BLK 28. H&TC SUR	ISOPENTANE	
	MEADCO PROPERTIES	CYCLOPENTANE	
		HEXANES PLUS	
·	790426	NITROGEN	
	051115	OXYGEN	
FORMATION	PENN-CANYON	OXYGEN	
FORMATION	PENN-CANYON 430		
FORMATION	PENN-CANYON	ARGON	TRACE
FORMATION	PENN-CANYON 430 7340	ARGON ARGON + OXYGEN	TRACE
FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _	PENN-CANYON 430 7340	ARGON ARGON + OXYGEN HYDROGEN	TRACE 0.0 0.0
FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	PENN-CANYON 430 7340 300	ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	TRACE 0.0 0.0 0.0
FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG	PENN-CANYON 430 7340 300	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE 0.0 0.0 0.5 0.09

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

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

SAMPLE	21528	COMPONENT, MOLE PCT	
CTATE	TEXAS_	METHANE	77.6
		ETHANE	7.1
·	SHERMAN.	PROPANE	4.1
·	ANVIL	N-BUTANE	1.5
WELL NAME	HANDLIN 3	ISOBUTANE	0.5
API	4242130731	N-PENTANE	0.6
LOCATION	SEC 84, BLK 1C, GH&H SUR	ISOPENTANE	0.4
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	000127	HEXANES PLUS	0.9
SAMPLED	060525	NITROGEN	6.7
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CO	DDE 360	ARGON	
	FT)6638_	ARGON + OXYGEN	
,	0030	HYDROGEN	TRACE
	_	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, F	PSIG161_	CARBON DIOXIDE	0.2
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	1,162
		SPECIFIC GRAVITY	0.728
SAMPLE	21530	COMPONENT, MOLE PCT	
STATE	TEXAS	METHANE	31.3
	HOWARD	ETHANE	12.6
	BC.	PROPANE	24.6
	_	N-BUTANE	8.0
	NEWTON 1	ISOBUTANE	4.0
API	4222734182	N-PENTANE	5.4
LOCATION	SEC 12, BLK 33, T&P SUR	ISOPENTANE	4.5
OWNERENDE	EAVOR ENERGY RESOURCES, L.P.	CYCLOPENTANE	
COMPLETED	870930	HEXANES PLUS	8.5
SAMPLED	060523	NITROGEN	0.6
FORMATION	PENN-CANYON B & C	OXYGEN	
GEOLOGIC PROVINCE CO	DDE430_	ARGON	
	FT)9050	ARGON + OXYGEN	TRACE
,	3000	HYDROGEN	
MILAGUNED DEFILE		HYDROGEN SULFIDE**	0.0
WELLIEAD DDECOURE 5	2010		
	PSIG	CARBON DIOXIDE	
	PSIG	HELIUM	0.01
			0.0

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

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

SAMPLE 21675	COMPONENT, MOLE PCT
STATETEXAS.	METHANE
	ETHANE 6.7
COUNTY LIPSCOMB	PROPANE3.4
FIELD BROWN	N-BUTANE1.0
WELL NAME BROWN 2-987	ISOBUTANE0.4
API 4229532186	N-PENTANE0.2
LOCATION SEC 987, BLK 43, H&TC SUR	ISOPENTANE0.2
OWNERBRACKEN OPERATING, LLC.	CYCLOPENTANE
COMPLETED	HEXANES PLUS0.3
SAMPLED	NITROGEN1.5
FORMATIONPENN-TONKAWA	OXYGEN
GEOLOGIC PROVINCE CODE	ARGON
TRUE VERTICAL DEPTH (FT) 6524	ARGON + OXYGEN0.1
( /	HYDROGEN0.0
MEASURED DEPTH	HYDROGEN SULFIDE** 0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE0.4
OPEN FLOW, MCFD825_	HELIUM0.11
	HEATING VALUE*
	·
	SPECIFIC GRAVITY 0.665
SAMPLE 21510	·
SAMPLE 21510 STATE TEXAS.	SPECIFIC GRAVITY
STATE	SPECIFIC GRAVITY
STATE TEXAS. COUNTY CROCKETT	SPECIFIC GRAVITY
STATE TEXAS. COUNTY CROCKETT. FIELD HUNT-BAGGETT.	SPECIFIC GRAVITY
STATE	SPECIFIC GRAVITY         0.665           COMPONENT, MOLE PCT         89.2           METHANE         89.2           ETHANE         3.3           PROPANE         2.5           N-BUTANE         0.8           ISOBUTANE         0.2
STATE	SPECIFIC GRAVITY         0.665           COMPONENT, MOLE PCT         89.2           METHANE         89.2           ETHANE         3.3           PROPANE         2.5           N-BUTANE         0.8
STATE	SPECIFIC GRAVITY         0.665           COMPONENT, MOLE PCT         89.2           ETHANE         3.3           PROPANE         2.5           N-BUTANE         0.8           ISOBUTANE         0.2           N-PENTANE         0.1           ISOPENTANE         0.1
STATE	SPECIFIC GRAVITY         0.665           COMPONENT, MOLE PCT         89.2           METHANE         89.2           ETHANE         3.3           PROPANE         2.5           N-BUTANE         0.8           ISOBUTANE         0.2           N-PENTANE         0.1           ISOPENTANE         0.1           CYCLOPENTANE
STATE	SPECIFIC GRAVITY         0.665           COMPONENT, MOLE PCT         89.2           ETHANE         3.3           PROPANE         2.5           N-BUTANE         0.8           ISOBUTANE         0.2           N-PENTANE         0.1           ISOPENTANE         0.1           CYCLOPENTANE            HEXANES PLUS         0.2
STATE	SPECIFIC GRAVITY         0.665           COMPONENT, MOLE PCT         89.2           ETHANE         3.3           PROPANE         2.5           N-BUTANE         0.8           ISOBUTANE         0.2           N-PENTANE         0.1           ISOPENTANE         0.1           CYCLOPENTANE            HEXANES PLUS         0.2           NITROGEN         2.8
STATE	SPECIFIC GRAVITY         0.665           COMPONENT, MOLE PCT         89.2           ETHANE         3.3           PROPANE         2.5           N-BUTANE         0.8           ISOBUTANE         0.2           N-PENTANE         0.1           ISOPENTANE         0.1           CYCLOPENTANE            HEXANES PLUS         0.2           NITROGEN         2.8           OXYGEN
STATE	SPECIFIC GRAVITY         0.665           COMPONENT, MOLE PCT         89.2           ETHANE         89.2           ETHANE         3.3           PROPANE         2.5           N-BUTANE         0.8           ISOBUTANE         0.2           N-PENTANE         0.1           ISOPENTANE         0.1           CYCLOPENTANE            HEXANES PLUS         0.2           NITROGEN         2.8           OXYGEN            ARGON
STATE	SPECIFIC GRAVITY         0.665           COMPONENT, MOLE PCT         89.2           ETHANE         3.3           PROPANE         2.5           N-BUTANE         0.8           ISOBUTANE         0.1           ISOPENTANE         0.1           CYCLOPENTANE            HEXANES PLUS         0.2           NITROGEN         2.8           OXYGEN            ARGON            ARGON + OXYGEN         TRACE
STATE	SPECIFIC GRAVITY         0.665           COMPONENT, MOLE PCT         89.2           ETHANE         3.3           PROPANE         2.5           N-BUTANE         0.8           ISOBUTANE         0.1           ISOPENTANE         0.1           CYCLOPENTANE            HEXANES PLUS         0.2           NITROGEN         2.8           OXYGEN            ARGON            ARGON + OXYGEN         TRACE           HYDROGEN         0.0
STATE	SPECIFIC GRAVITY         0.665           COMPONENT, MOLE PCT         89.2           ETHANE         89.2           ETHANE         3.3           PROPANE         2.5           N-BUTANE         0.8           ISOBUTANE         0.1           ISOPENTANE         0.1           CYCLOPENTANE            HEXANES PLUS         0.2           NITROGEN         2.8           OXYGEN            ARGON            ARGON + OXYGEN         TRACE           HYDROGEN         0.0           HYDROGEN SULFIDE**         0.0
STATE	SPECIFIC GRAVITY         0.665           COMPONENT, MOLE PCT         89.2           ETHANE         3.3           PROPANE         2.5           N-BUTANE         0.8           ISOBUTANE         0.1           ISOPENTANE         0.1           CYCLOPENTANE            HEXANES PLUS         0.2           NITROGEN         2.8           OXYGEN            ARGON            ARGON + OXYGEN         TRACE           HYDROGEN         0.0           HYDROGEN SULFIDE**         0.0           CARBON DIOXIDE         0.8
STATE	SPECIFIC GRAVITY         0.665           COMPONENT, MOLE PCT         89.2           ETHANE         89.2           ETHANE         3.3           PROPANE         2.5           N-BUTANE         0.8           ISOBUTANE         0.1           ISOPENTANE         0.1           CYCLOPENTANE            HEXANES PLUS         0.2           NITROGEN         2.8           OXYGEN            ARGON            ARGON + OXYGEN         TRACE           HYDROGEN         0.0           HYDROGEN SULFIDE**         0.0

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

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

SAMPLE 21022	COMPONENT, MOLE PCT	
STATE TEXAS	METHANE	88.5
	ETHANE	6.6
COUNTY	PROPANE	1.7
FIELD NEWARK E	N-BUTANE	0.4
WELL NAMECLYDE NICHOLSON NO. 2	ISOBUTANE	0.4
API 4212131183	N-PENTANE	0.1
LOCATIONCARMEL MANCHACA SURVEY	ISOPENTANE	0.1
OWNER WAYNE HARPER.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.1
SAMPLED	NITROGEN	0.7
FORMATIONMISS-BARNETT SHALE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 420	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 8508	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD1300_	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 21677	COMPONENT, MOLE PCT	
STATE TEXAS	METHANE	70.0
STATETEXAS		70.2
COLINITY	ETHANE	
COUNTY EASTLAND	ETHANEPROPANE	10.4
FIELD NORTH RIDGE		10.4 3.7
FIELD NORTH RIDGE	PROPANE	10.4 3.7 0.8
COUNTY         EASTLAND           FIELD         NORTH RIDGE           WELL NAME         J W BARNES 5           API         4213330161	PROPANE	10.4 3.7 0.8 0.3
FIELD         NORTH RIDGE           WELL NAME         J W BARNES 5           API         4213330161	PROPANE  N-BUTANE ISOBUTANE  N-PENTANE ISOPENTANE	10.4 3.7 0.8 0.3 0.2 0.1
FIELD         NORTH RIDGE           WELL NAME         J W BARNES 5           API         4213330161           LOCATION         JOHN P ROHUS SUR, A-415	PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	10.4 3.7 0.8 0.3 0.2 0.1
FIELDNORTH RIDGE  WELL NAMEJ W BARNES 5.  API4213330161  LOCATIONJOHN P ROHUS SUR, A-415.  OWNERNORTH RIDGE CORP.	PROPANE	10.4 3.7 0.8 0.3 0.2 0.1  0.2
FIELDNORTH RIDGE WELL NAME J W BARNES 5	PROPANE	10.4 3.7 0.8 0.3 0.2 0.1  0.2 5.5
FIELD         NORTH RIDGE           WELL NAME         J W BARNES 5           API         4213330161           LOCATION         JOHN P ROHUS SUR, A-415           OWNER         NORTH RIDGE CORP.           COMPLETED         050131	PROPANE	10.4 3.7 0.8 0.3 0.2 0.1  0.2 5.5
FIELD         NORTH RIDGE           WELL NAME         J W BARNES 5           API         4213330161           LOCATION         JOHN P ROHUS SUR, A-415           OWNER         NORTH RIDGE CORP.           COMPLETED         050131           SAMPLED         080201	PROPANE	10.4 3.7 0.8 0.3 0.2 0.1  0.2 5.5
FIELD	PROPANE	10.4 3.7 0.8 0.3 0.2 0.1  0.2 5.5
FIELD         NORTH RIDGE           WELL NAME         J W BARNES 5           API         4213330161           LOCATION         JOHN P ROHUS SUR, A-415           OWNER         NORTH RIDGE CORP.           COMPLETED         050131           SAMPLED         080201           FORMATION         PENN-DUFFER	PROPANE	10.4 3.7 0.8 0.3 0.2 0.1  0.2 5.5  0.1
FIELD         NORTH RIDGE           WELL NAME         J W BARNES 5           API         4213330161           LOCATION         JOHN P ROHUS SUR, A-415           OWNER         NORTH RIDGE CORP.           COMPLETED         050131           SAMPLED         080201           FORMATION         PENN-DUFFER           GEOLOGIC PROVINCE CODE         425           TRUE VERTICAL DEPTH (FT)         3830           MEASURED DEPTH	PROPANE	10.4 3.7 0.8 0.3 0.2 0.1  0.2 5.5  0.1 0.0
FIELD         NORTH RIDGE           WELL NAME         J W BARNES 5           API         4213330161           LOCATION         JOHN P ROHUS SUR, A-415           OWNER         NORTH RIDGE CORP.           COMPLETED         050131           SAMPLED         080201           FORMATION         PENN-DUFFER           GEOLOGIC PROVINCE CODE         425           TRUE VERTICAL DEPTH (FT)         3830           MEASURED DEPTH         WELLHEAD PRESSURE, PSIG	PROPANE	10.4 3.7 0.8 0.3 0.2 0.1  0.2 5.5  0.1 0.0 0.0
FIELD         NORTH RIDGE           WELL NAME         J W BARNES 5           API         4213330161           LOCATION         JOHN P ROHUS SUR, A-415           OWNER         NORTH RIDGE CORP.           COMPLETED         050131           SAMPLED         080201           FORMATION         PENN-DUFFER           GEOLOGIC PROVINCE CODE         425           TRUE VERTICAL DEPTH (FT)         3830           MEASURED DEPTH	PROPANE	10.4 3.7 0.8 0.3 0.2 0.1  0.2 5.5  0.1 0.0 0.0 0.3 0.25

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

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

STATE	METHANE	7.9 2.5 0.6 0.2 0.1 0.3 2.9 0.0 TRACE 0.0 0.6 0.07 1,111 0.658
COUNTY         OCHILTREE           FIELD         PAN PETRO           WELL NAME         LESLIE 1-222           API         4235732330           LOCATION         SEC 222, BLK 43, H&TC SUR           OWNER         COURSON OIL & GAS, INC.           COMPLETED         040427           SAMPLED         050302           FORMATION         PENN-NOVI           GEOLOGIC PROVINCE CODE         360           TRUE VERTICAL DEPTH (FT)         8677           MEASURED DEPTH         WELLHEAD PRESSURE, PSIG         2150           OPEN FLOW, MCFD         1005           SAMPLE         21446           STATE         TEXAS           COUNTY         COOKE           FIELD         RADIE           WELL NAME         STRAUSS WI-2	PROPANE	2.5 0.6 0.2 0.1  0.3 2.9 0.0 TRACE  0.0 0.6 0.07 1,111 0.658
FIELD         PAN PETRO.           WELL NAME         LESLIE 1-222           API         4235732330           LOCATION         SEC 222, BLK 43, H&TC SUR           OWNER         COURSON OIL & GAS, INC.           COMPLETED         040427           SAMPLED         050302           FORMATION         PENN-NOVI           GEOLOGIC PROVINCE CODE         360           TRUE VERTICAL DEPTH (FT)         8677           MEASURED DEPTH         WELLHEAD PRESSURE, PSIG         2150           OPEN FLOW, MCFD         1005           SAMPLE         21446           STATE         TEXAS           COUNTY         COOKE           FIELD         RADIE           WELL NAME         STRAUSS WI-2	N-BUTANE	0.6 0.2 0.2 0.1 0.3 2.9 0.0 TRACE 0.0 0.0 0.6 0.07 1,111 0.658
WELL NAME	ISOBUTANE	0.2 0.2 0.1  0.3 2.9 0.0 TRACE  0.0 0.6 0.07 1.111
API	N-PENTANE	0.2 0.1  0.3 2.9 0.0 TRACE  0.0 0.0 0.6 0.07 1,111 0.658
LOCATION         SEC 222, BLK 43, H&TC SUR           OWNER         COURSON OIL & GAS, INC.           COMPLETED         040427           SAMPLED         050302           FORMATION         PENN-NOVI           GEOLOGIC PROVINCE CODE         360           TRUE VERTICAL DEPTH (FT)         8677           MEASURED DEPTH         WELLHEAD PRESSURE, PSIG         2150           OPEN FLOW, MCFD         1005           SAMPLE         21446           STATE         TEXAS           COUNTY         COOKE           FIELD         RADIE           WELL NAME         STRAUSS WI-2	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE	0.1  0.3 2.9 0.0 TRACE  0.0 0.6 0.07 1,111 0.658
OWNER	CYCLOPENTANE	 0.3 2.9 0.0 TRACE  0.0 0.0 0.6 0.07 1,111 0.658
COMPLETED         040427           SAMPLED         050302           FORMATION         PENN-NOVI           GEOLOGIC PROVINCE CODE         360           TRUE VERTICAL DEPTH (FT)         8677           MEASURED DEPTH         WELLHEAD PRESSURE, PSIG         2150           OPEN FLOW, MCFD         1005           SAMPLE         21446           STATE         TEXAS           COUNTY         COOKE           FIELD         RADIE           WELL NAME         STRAUSS WI-2	HEXANES PLUS	0.3 2.9 0.0 TRACE  0.0 0.0 0.6 0.07 1,111 0.658
SAMPLED         050302           FORMATION         PENN-NOVI           GEOLOGIC PROVINCE CODE         360           TRUE VERTICAL DEPTH (FT)         8677           MEASURED DEPTH         WELLHEAD PRESSURE, PSIG         2150           OPEN FLOW, MCFD         1005           SAMPLE         21446           STATE         TEXAS           COUNTY         COOKE           FIELD         RADIE           WELL NAME         STRAUSS WI-2	NITROGEN	2.9 0.0 TRACE  0.0 0.0 0.6 0.07 1,111 0.658
FORMATION	OXYGENARGONARGON + OXYGEN  ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY  COMPONENT, MOLE PCT METHANE	0.0 TRACE  0.0 0.0 0.6 0.07 1,111 0.658
GEOLOGIC PROVINCE CODE         360           TRUE VERTICAL DEPTH (FT)         8677           MEASURED DEPTH         2150           WELLHEAD PRESSURE, PSIG         2150           OPEN FLOW, MCFD         1005           SAMPLE         21446           STATE         TEXAS           COUNTY         COOKE           FIELD         RADIE           WELL NAME         STRAUSS WI-2	ARGONARGON + OXYGEN HYDROGENHYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE	TRACE  0.0  0.0  0.6  0.07  1,111  0.658
GEOLOGIC PROVINCE CODE         360           TRUE VERTICAL DEPTH (FT)         8677           MEASURED DEPTH         2150           WELLHEAD PRESSURE, PSIG         2150           OPEN FLOW, MCFD         1005           SAMPLE         21446           STATE         TEXAS           COUNTY         COOKE           FIELD         RADIE           WELL NAME         STRAUSS WI-2	ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE	0.0 0.0 0.6 0.07 1,111 0.658
TRUE VERTICAL DEPTH (FT)	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY  COMPONENT, MOLE PCT METHANE	0.0 0.0 0.6 0.07 1,111 0.658
MEASURED DEPTH	HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY  COMPONENT, MOLE PCT METHANE	0.0 0.6 0.07 1,111 0.658
SAMPLE         21446           STATE         TEXAS           COUNTY         COOKE           FIELD         RADIE           WELL NAME         STRAUSS WI-2	CARBON DIOXIDE  HELIUM  HEATING VALUE*  SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE	0.6 0.07 1,111 0.658
SAMPLE 21446  STATE	HELIUM HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE	0.07 1,111 0.658
SAMPLE 21446  STATE	HEATING VALUE* SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE	1,111 0.658
STATE TEXAS_ COUNTY COOKE FIELD RADIE WELL NAME STRAUSS WI-2_	SPECIFIC GRAVITY  COMPONENT, MOLE PCT  METHANE	0.658
STATE TEXAS_ COUNTY COOKE FIELD RADIE WELL NAME STRAUSS WI-2_	COMPONENT, MOLE PCT  METHANE	
STATE TEXAS_ COUNTY COOKE FIELD RADIE WELL NAME STRAUSS WI-2_	METHANE	<b>5.1.</b> 0
COUNTY COOKE  FIELD RADIE  WELL NAME STRAUSS WI-2	•	
COUNTY COOKE FIELD RADIE WELL NAME STRAUSS WI-2	ETHANE	54.3
FIELD RADIE_ WELL NAME STRAUSS WI-2_	LITIANE	1.0
WELL NAMESTRAUSS WI-2	PROPANE	
	N-BUTANE	0.1
API 4209733248	ISOBUTANE	TRACE
	N-PENTANE	TRACE
LOCATION N. TREVINO SURVEY, A-1021	ISOPENTANE	TRACE
OWNER HEP OIL CO., LTD	CYCLOPENTANE	
COMPLETED951120_	HEXANES PLUS	
SAMPLED	NITROGEN	43.9
FORMATION ORDO-ELLENBURGER	OXYGEN	
GEOLOGIC PROVINCE CODE350_	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
WELLHEAD PRESSURE, PSIG	HYDROGEN SULFIDE**	
,	CARBON DIOXIDE	
OPEN FLOW, MCFD1430_	HELIUM	
	HEATING VALUE*	E7 4

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

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

O/ WIT EE	21442	COMPONENT, MOLE PCT	
CTATE	TEXAS.	METHANE	56.1
	_	ETHANE	5.1
	SHERMAN.	PROPANE	4.5
•	TEXAS HUGOTON	N-BUTANE	1.4
WELL NAME	STROTHER 1-74	ISOBUTANE	0.7
API	4242130064	N-PENTANE	0.4
LOCATION	SEC 74, BLK 1T, T&NO SUR	ISOPENTANE	0.3
OWNER	CHAPARRAL ENERGY LLC	CYCLOPENTANE	
COMPLETED	770707	HEXANES PLUS	0.5
SAMPLED	050412	NITROGEN	29.7
FORMATION	PERM-HERINGTON	OXYGEN	0.0
	E CODE360.	ARGON	0.1
	TH (FT)	ARGON + OXYGEN	
	, ,	HYDROGEN	
		HYDROGEN SULFIDE**	0.0
	RE, PSIG13_	CARBON DIOXIDE	
OPEN FLOW, MCFD _		HELIUM	1.13
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.797
SAMPLE	21440	COMPONENT, MOLE PCT	
		METHANE	
STATE	TEXAS	METHANE	61.0
·		ETHANE	
COUNTY	SHERMAN		5.2
COUNTY	SHERMAN TEXAS HUGOTON	ETHANE PROPANE N-BUTANE	5.2 4.1 1.3
COUNTY	SHERMAN TEXAS HUGOTON ROSS 1-72	PROPANE	5.2 4.1 1.3
COUNTY FIELD WELL NAME	SHERMAN TEXAS HUGOTON ROSS 1-72 4242130065	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	5.2 4.1 1.3 0.6 0.4
COUNTY FIELD WELL NAME	SHERMAN TEXAS HUGOTON ROSS 1-72	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	5.2 4.1 1.3 0.6 0.4 0.3
COUNTY  FIELD  WELL NAME  API  LOCATION	SHERMAN TEXAS HUGOTON ROSS 1-72 4242130065	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	5.2 4.1 1.3 0.6 0.4 0.3
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER	SHERMAN TEXAS HUGOTON ROSS 1-72 4242130065 SEC 72, BLK 1T, T&NO SUR	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	5.2 4.1 1.3 0.6 0.4 0.3 
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED	SHERMAN. TEXAS HUGOTON. ROSS 1-72. 4242130065. SEC 72, BLK 1T, T&NO SUR. CHAPARRAL ENERGY LLC.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	5.2 4.1 1.3 0.6 0.4 0.3  0.5 25.4
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	SHERMAN TEXAS HUGOTON ROSS 1-72 4242130065 SEC 72, BLK 1T, T&NO SUR CHAPARRAL ENERGY LLC. 770709	ETHANE	5.2 4.1 1.3 0.6 0.4 0.3  0.5 25.4
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION	SHERMAN TEXAS HUGOTON ROSS 1-72 4242130065 SEC 72, BLK 1T, T&NO SUR CHAPARRAL ENERGY LLC 770709 050412	ETHANE	5.2 4.1 1.3 0.6 0.4 0.3  0.5 25.4 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE	SHERMAN. TEXAS HUGOTON. ROSS 1-72. 4242130065. SEC 72, BLK 1T, T&NO SUR. CHAPARRAL ENERGY LLC. 770709. 050412. PERM-HERINGTON, KRIDER.	ETHANE	5.2 4.1 1.3 0.6 0.4 0.3  0.5 25.4 0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE  TRUE VERTICAL DEP	SHERMAN  TEXAS HUGOTON  ROSS 1-72  4242130065  SEC 72, BLK 1T, T&NO SUR  CHAPARRAL ENERGY LLC  770709  050412  PERM-HERINGTON, KRIDER  E CODE	ETHANE	5.2 4.1 1.3 0.6 0.4 0.3  0.5 25.4 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEPTH	SHERMAN  TEXAS HUGOTON  ROSS 1-72  4242130065  SEC 72, BLK 1T, T&NO SUR  CHAPARRAL ENERGY LLC  770709  050412  PERM-HERINGTON, KRIDER  E CODE	ETHANE	5.2 4.1 1.3 0.6 0.4 0.3  0.5 25.4 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEP' MEASURED DEPTH WELLHEAD PRESSUR	SHERMAN  TEXAS HUGOTON  ROSS 1-72  4242130065  SEC 72, BLK 1T, T&NO SUR  CHAPARRAL ENERGY LLC  770709  050412  PERM-HERINGTON, KRIDER  E CODE	ETHANE	5.2 4.1 1.3 0.6 0.4 0.3  0.5 25.4 0.0 0.1  0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE TRUE VERTICAL DEP' MEASURED DEPTH WELLHEAD PRESSUR	SHERMAN  TEXAS HUGOTON  ROSS 1-72  4242130065  SEC 72, BLK 1T, T&NO SUR  CHAPARRAL ENERGY LLC  770709  050412  PERM-HERINGTON, KRIDER  E CODE	ETHANE	5.2 4.1 1.3 0.6 0.4 0.3  0.5 25.4 0.0 0.1  0.0 0.0

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE 21443	COMPONENT, MOLE PCT	
STATE TEXAS	METHANE	57.8
	ETHANE	5.2
COUNTY SHERMAN	PROPANE	4.3
FIELDTEXAS HUGOTON_	N-BUTANE	1.4
WELL NAME BILLINGTON-ETHERIDGE 1-108	ISOBUTANE	0.7
API 4242130052	N-PENTANE	0.3
LOCATION SEC 108, BLK 1T, T&NO SUR	ISOPENTANE	0.3
OWNERCHAPARRAL ENERGY LLC	CYCLOPENTANE	<del></del>
COMPLETED	HEXANES PLUS	0.5
SAMPLED	NITROGEN	28.4
FORMATIONPERM-KRIDER_	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
, ,	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	HELIUM	1.08
	HEATING VALUE*	896
SAMPLE 21441	SPECIFIC GRAVITY COMPONENT, MOLE PCT	<u> </u>
SAIVIFLE 21441	METHANE	E0.7
STATETEXAS	ETHANE	
COUNTYSHERMAN_	PROPANE	
FIELDTEXAS HUGOTON	N-BUTANE	
WELL NAMEMILES 2-R_	ISOBUTANE	
API4242130414_	N-PENTANE	
LOCATIONSEC 38. BLK 1T. T&NO SUR	ISOPENTANE	
OWNERCHAPARRAL ENERGY LLC	CYCLOPENTANE	
COMPLETED 880501	HEXANES PLUS	0.5
SAMPLED	NITROGEN	26.4
	OXYGEN	0.0
FORMATION PERM-KRIDER	ARGON	0.1
GEOLOGIC PROVINCE CODE	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	HELIUM	1.20
	HEATING VALUE*	920

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

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

SAMPLE 21424	COMPONENT, MOLE PCT	
STATETEXAS_	METHANE	91.9
	ETHANE	3.3
COUNTY HEMPHILL	PROPANE	0.6
FIELD URSCHEL RANCH	N-BUTANE	0.1
WELL NAME URSCHEL 1-60	ISOBUTANE	0.1
API	N-PENTANE	TRACE
LOCATION SEC 60, BLK 1, G&M SUR	ISOPENTANE	0.1
OWNERBRACKEN OPERATING, LLC	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.1
SAMPLED	NITROGEN	2.5
FORMATIONPENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG 6450	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
STATEUTAH_	METHANE	63.5
STATE UTAH	ETHANE	
COUNTY GRAND	PROPANE	10.4
FIELD BIG FLAT	N-BUTANE	2.6
WELL NAME KANE SPRINGS FEDERAL 25-19-34-1	ISOBUTANE	1.1
API	N-PENTANE	0.5
LOCATION SEC. 34, T25S, R19E	ISOPENTANE	0.4
OWNER INTREPID OIL & GAS, LLC	CYCLOPENTANE	
COMPLETED 930521	HEXANES PLUS	0.6
SAMPLED 050131	NITROGEN	3.6
FORMATION PENN-CANE CREEK	OXYGEN	0.0
GEOLOGIC PROVINCE CODE585	ARGON	
TRUE VERTICAL DEPTH (FT) 7985	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	TRACE
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG30_	CARBON DIOXIDE	
OPEN FLOW, MCFD328_	HELIUM	
	HEATING VALUE*	,
	SPECIFIC GRAVITY	0.838

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

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

SAMPLE 21457		COMPONENT, MOLE PCT	
STATE		METHANE	57.7
		ETHANE	15.9
COUNTY S.	-	PROPANE	7.0
FIELDCAJ		N-BUTANE	0.9
WELL NAMESANDIA		ISOBUTANE	0.4
API430	03731371	N-PENTANE	TRACE
LOCATION SEC 9, T3	9S, R26E	ISOPENTANE	0.1
OWNERMAX	CULLUM	CYCLOPENTANE	
COMPLETED	981015	HEXANES PLUS	0.1
SAMPLED	050519	NITROGEN	14.8
FORMATION PEN	N-ISMAY	OXYGEN	
GEOLOGIC PROVINCE CODE	585	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE. PSIG		HYDROGEN SULFIDE**	
OPEN FLOW, MCFD		CARBON DIOXIDE	
OF ENT LOW, WICH D		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	,
STATE	UTAH	METHANE	
COUNTY DU		ETHANE	6.8
FIELDCE	DAR RIM	PROPANE	
WELL NAME UTE FE		N-BUTANE	
API 430		ISOBUTANE	
		N-PENTANE	
LOCATION SEC 33, 1		ISOPENTANE	
OWNER EL PASO PRODUCTION OIL &		CYCLOPENTANE HEXANES PLUS	
COMPLETED		NITROGEN	
SAMPLED		OXYGEN	
FORMATIONEOCE-W		ARGON	
GEOLOGIC PROVINCE CODE	575_	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	8765	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	130_	HELIUM	
		HEATING VALUE*	1,121
		SPECIFIC GRAVITY	0.689

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

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

SAMPLE	21505	COMPONENT, MOLE PCT	
CTATE	UTAH	METHANE	74.9
		ETHANE	11.4
	SAN JUAN	PROPANE	5.1
·	LITTLE NANCY	N-BUTANE	1.6
· ·	NANCY FEDERAL 3-11	ISOBUTANE	0.7
•	4303730902	N-PENTANE	0.7
LOCATION	SEC 3, T38S, R25E	ISOPENTANE	0.6
OWNER	D. J. SIMMONS, INC.	CYCLOPENTANE	
COMPLETED	840506_	HEXANES PLUS	1.2
SAMPLED	051025	NITROGEN	3.7
FORMATION	PENN-ISMAY	OXYGEN	
GEOLOGIC PROVINCE CODE	E585_	ARGON	
	5410	ARGON + OXYGEN	
` ,	<u> </u>	HYDROGEN	
	_	HYDROGEN SULFIDE**	0.0
,	G520_	CARBON DIOXIDE	
OPEN FLOW, MCFD	50	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21455	COMPONENT, MOLE PCT	
		METHANE	57 1
STATE	UTAH_	ETHANE	
COUNTY	SAN JUAN	PROPANE	
FIELD	MONUMENT	N-BUTANE	4.3
WELL NAME	MONUMENT 8N-2	ISOBUTANE	
API	4303731509	N-PENTANE	1.9
LOCATION	SEC 8, T40S, R25E	ISOPENTANE	1.2
OWNER	RIM SOUTHWEST CORP.	CYCLOPENTANE	
COMPLETED	900514	HEXANES PLUS	2.8
	050526	NITROGEN	5.9
·	PENN-ISMAY. DESERT CREEK	OXYGEN	
GEOLOGIC PROVINCE CODE		ARGON	
	6080	ARGON + OXYGEN	0.6
,	·	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
	G	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	22_	HELIUM	0.12
		HEATING VALUE*	1 5/1
		HEATING VALUE	1,041

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

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

SAMPLE 21555	COMPONENT, MOLE PCT	
STATEUTAH.	METHANE	90.2
COUNTY UINTAH	ETHANE	3.8
	PROPANE	2.3
FIELD PARIETTE BENCH	N-BUTANE	0.6
WELL NAME PARIETTE BENCH FEDERAL 32-6-9-19	ISOBUTANE	0.4
API4304731554_	N-PENTANE	0.2
LOCATION SEC 6, T9S, R19E	ISOPENTANE	0.2
OWNERNEWFIELD PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.3
SAMPLED	NITROGEN	1.7
FORMATIONEOCE-GREEN RIVER	OXYGEN	
GEOLOGIC PROVINCE CODE 575	ARGON	<del></del>
TRUE VERTICAL DEPTH (FT)5596	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	0.0
	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD38_	HELIUM	
	HEATING VALUE*	
SAMPLE 21415	SPECIFIC GRAVITY COMPONENT, MOLE PCT	0.033
SAMIFLE 21413	METHANE	F2 7
STATE UTAH	ETHANE	
COUNTY GRAND	PROPANE	
FIELDPARK ROAD_	N-BUTANE	
WELL NAME KANE SPRINGS FEDERAL 19-1A	ISOBUTANE	
API4301931324	N-PENTANE	
LOCATION SEC. 19. T26S. R20E	ISOPENTANE	
OWNERINTREPID OIL & GAS, LLC	CYCLOPENTANE	
COMPLETED 911113	HEXANES PLUS	1.1
SAMPLED	NITROGEN	6.6
	OXYGEN	0.0
FORMATION PENN-CANE CREEK	ARGON	0.3
GEOLOGIC PROVINCE CODE585	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT) 9825	HYDROGEN	TRACE
MEASURED DEPTH 9825	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG25_	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	HELIUM	0.16
OPEN FLOW, MCFD	HELIUM HEATING VALUE*	

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

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

SAMPLE 21649		COMPONENT, MOLE PCT	
STATE	ITAH	METHANE	82.3
		ETHANE	5.7
COUNTY CAR		PROPANE	2.0
FIELD PETERS P		N-BUTANE	0.5
WELL NAMEPETERS POINT UNIT FEDERAL		ISOBUTANE	0.4
API430073	30965	N-PENTANE	0.1
LOCATION SEC 35, T12S,	R16E	ISOPENTANE	0.2
OWNERBILL BARRETT C	ORP.	CYCLOPENTANE	
COMPLETED	51213	HEXANES PLUS	0.3
SAMPLED07	70803	NITROGEN	7.4
FORMATIONCRET-MESAVE	ERDE	OXYGEN	
GEOLOGIC PROVINCE CODE	575	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	1862	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.667
SAMPLE 21454		COMPONENT, MOLE PCT	
SAMPLE 21454 STATE	UTAH	COMPONENT, MOLE PCT METHANE	64.7
STATE			
STATE	JUAN	METHANE	15.3
STATE	JUAN NWAY	METHANE	15.3 8.3
STATE	JUAN NWAY DC-5A	METHANE ETHANE PROPANE	15.3 8.3 2.4
STATE	JUAN. NWAY. DC-5A. 31597.	METHANE ETHANE PROPANE N-BUTANE	15.3 8.3 2.4 1.1
STATE	JUAN. NWAY. DC-5A. 31597.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	15.3 8.3 2.4 1.1 0.8
STATE         I           COUNTY         SAN           FIELD         RUN           WELL NAME         RUNWAY 10           API         430373           LOCATION         SEC 10, T40S,	JUAN NWAY DC-5A 31597 R25E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	15.3 8.3 2.4 1.1 0.8 0.6
STATE	JUAN JWAY DC-5A 31597 R25E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	15.3 8.3 2.4 1.1 0.8 0.6
STATE         I           COUNTY         SAN.           FIELD         RUN           WELL NAME         RUNWAY 10           API         430373           LOCATION         SEC 10, T40S.           OWNER         RIM SOUTHWEST C           COMPLETED         92	JUAN NWAY DC-5A 31597 R25E CORP	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	15.3 8.3 2.4 1.1 0.8 0.6  1.2 5.0
STATE         I           COUNTY         SAN           FIELD         RUN           WELL NAME         RUNWAY 10           API         430373           LOCATION         SEC 10, T40S,           OWNER         RIM SOUTHWEST C           COMPLETED         95           SAMPLED         05	JUAN NWAY DC-5A 31597 R25E CORP 10318	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	15.3 8.3 2.4 1.1 0.8 0.6  1.2 5.0
- · · · · · · · · · · · · · · · · · · ·	JUAN NWAY DC-5A 31597 R25E CORP 10318	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	15.3 8.3 2.4 1.1 0.8 0.6  1.2 5.0
STATE	JUAN NWAY DC-5A 31597 R25E CORP 10318 50525 REEK	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	15.3 8.3 2.4 1.1 0.8 0.6  1.2 5.0
STATE	JUAN JWAY DC-5A 31597 R25E CORP 10318 50525 REEK 585	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	15.3 8.3 2.4 1.1 0.8 0.6  1.2 5.0  0.3 0.0
STATE	JUAN NWAY DC-5A 31597 R25E CORP 10318 50525 REEK 585 6164	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	15.3 8.3 2.4 1.1 0.8 0.6  1.2 5.0  0.3 0.0
STATE	JUAN JWAY DC-5A 31597 R25E CORP 10318 50525 REEK 585 6164	METHANE	15.3 8.3 2.4 1.1 0.8 0.6  1.2 5.0  0.3 0.0 0.0 0.1
STATE	JUAN JWAY DC-5A 31597 R25E CORP 10318 50525 REEK 585 6164	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	15.3 8.3 2.4 1.1 0.8 0.6  1.2 5.0  0.3 0.0 0.0 0.1 0.09

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

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

SAMPLE	21489	COMPONENT, MOLE PCT	
STATE	UTAH	METHANE	83.9
	UINTAH	ETHANE	6.2
	UTELAND BUTTE	PROPANE	3.0
•	_	N-BUTANE	0.9
	STATE 1-16-10-18	ISOBUTANE	0.4
API	4304733807	N-PENTANE	0.4
LOCATION	SEC 16, T10S, R18E	ISOPENTANE	0.2
OWNER PENDRA	GON ENERGY PARTNERS, INC.	CYCLOPENTANE	
COMPLETED	010511	HEXANES PLUS	0.6
SAMPLED	050619	NITROGEN	4.1
FORMATION	EOCE-GREEN RIVER	OXYGEN	
GEOLOGIC PROVINCE CODE	575	ARGON	
		ARGON + OXYGEN	TRACE
` '		HYDROGEN	
		HYDROGEN SULFIDE**	
	j	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21448		
		COMPONENT, MOLE PCT	
STATE		METHANE	76.7
	UTAH	,	
COUNTY	UTAH SAN JUAN	METHANE	10.7
COUNTY	UTAH SAN JUAN WILD STALLION	METHANE	10.7 4.8
COUNTY FIELD WELL NAME	UTAH SAN JUAN WILD STALLION WILD STALLION UNIT 1	METHANE ETHANE PROPANE	10.7 4.8 1.3
COUNTY FIELD WELL NAMEAPI	UTAH. SAN JUAN. WILD STALLION. WILD STALLION UNIT 1. 4303731426	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	10.7 4.8 1.3 0.6 0.4
COUNTY FIELD WELL NAME API LOCATION	UTAH SAN JUAN WILD STALLION WILD STALLION UNIT 1 4303731426 SEC 33, T36S, R23E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	10.7 4.8 1.3 0.6 0.4 0.3
COUNTY FIELD WELL NAME API LOCATION	UTAH. SAN JUAN. WILD STALLION. WILD STALLION UNIT 1. 4303731426	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE	10.7 4.8 1.3 0.6 0.4 0.3
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER	UTAH SAN JUAN WILD STALLION WILD STALLION UNIT 1 4303731426 SEC 33, T36S, R23E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	10.7 4.8 1.3 0.6 0.4 0.3 
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED	UTAH. SAN JUAN WILD STALLION WILD STALLION UNIT 1 4303731426 SEC 33, T36S, R23E D.J. SIMMONS COMPANY	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	10.7 4.8 1.3 0.6 0.4 0.3  0.5 4.5
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED	UTAH SAN JUAN WILD STALLION WILD STALLION UNIT 1 4303731426 SEC 33, T36S, R23E D.J. SIMMONS COMPANY 880812	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	10.7 4.8 1.3 0.6 0.4 0.3  0.5 4.5
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION	UTAH SAN JUAN WILD STALLION WILD STALLION UNIT 1 4303731426 SEC 33, T36S, R23E D.J. SIMMONS COMPANY 880812 050428	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	10.7 4.8 1.3 0.6 0.4 0.3  0.5 4.5
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION	UTAH SAN JUAN WILD STALLION WILD STALLION UNIT 1 4303731426 SEC 33, T36S, R23E D.J. SIMMONS COMPANY 880812 050428 PENN-ISMAY 585	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	10.7 4.8 1.3 0.6 0.4 0.3  0.5 4.5 
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)	UTAH SAN JUAN WILD STALLION WILD STALLION UNIT 1 4303731426 SEC 33, T36S, R23E D.J. SIMMONS COMPANY 880812 050428 PENN-ISMAY 585	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	10.7 4.8 1.3 0.6 0.4 0.3  0.5 4.5  0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT). MEASURED DEPTH	UTAH SAN JUAN WILD STALLION WILD STALLION UNIT 1 4303731426 SEC 33, T36S, R23E D.J. SIMMONS COMPANY 880812 050428 PENN-ISMAY 585 6308	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	10.7 4.8 1.3 0.6 0.4 0.3  0.5 4.5  0.1 0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT).  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	UTAH SAN JUAN WILD STALLION WILD STALLION UNIT 1 4303731426 SEC 33, T36S, R23E D.J. SIMMONS COMPANY 880812 050428 PENN-ISMAY 585 6308	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	10.7 4.8 1.3 0.6 0.4 0.3 0.5 4.5 0.1 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT). MEASURED DEPTH	UTAH SAN JUAN WILD STALLION WILD STALLION UNIT 1 4303731426 SEC 33, T36S, R23E D.J. SIMMONS COMPANY 880812 050428 PENN-ISMAY 585 6308	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	10.7 4.8 1.3 0.6 0.4 0.3  0.5 4.5  0.1 0.0 0.0

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

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

	21591	COMPONENT, MOLE PCT	
CTATE	WYOMING	METHANE	84.3
-	SWEETWATER	ETHANE	8.0
		PROPANE	2.8
	ARCH_	N-BUTANE	0.6
•	ARCH UNIT 62	ISOBUTANE	0.4
API	4903705590	N-PENTANE	0.3
LOCATION	SEC. 15, T19N, R99W	ISOPENTANE	0.3
OWNER	ANADARKO E&P CO., LP.	CYCLOPENTANE	
COMPLETED	620902	HEXANES PLUS	0.6
SAMPLED	070409	NITROGEN	0.2
FORMATION	CRET-ALMOND	OXYGEN	
GEOLOGIC PROVINCE CODE	535	ARGON	
TRUE VERTICAL DEPTH (FT)	4352	ARGON + OXYGEN	
	1002	HYDROGEN	
		HYDROGEN SULFIDE**	
,	300	CARBON DIOXIDE	
OPEN FLOW, MCFD	140_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.685
SAMPLE	21498	COMPONENT, MOLE PCT	
		COMI CIVEIVI, MOLE I CI	
STATE	WYOMING.	METHANE	89.9
		METHANE	4.4
COUNTY	FREMONT	METHANE ETHANE PROPANE	4.4 1.9
COUNTY	FREMONT BEAVER CREEK	METHANE ETHANE PROPANE N-BUTANE	4.4 1.9 0.6
COUNTY FIELD WELL NAME	FREMONT.  BEAVER CREEK.  BEAVER CREEK UNIT 196.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.4 1.9 0.6 0.3
COUNTY FIELD WELL NAME API	FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.4 1.9 0.6 0.3 0.2
COUNTY  FIELD  WELL NAME  API  LOCATION	FREMONT.  BEAVER CREEK.  BEAVER CREEK UNIT 196.  4901322094.  SEC 22, T34N, R96W.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.4 1.9 0.6 0.3 0.2 0.2
COUNTY  FIELD  WELL NAME  API  LOCATION	FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	4.4 1.9 0.6 0.3 0.2 0.2
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER	FREMONT.  BEAVER CREEK.  BEAVER CREEK UNIT 196.  4901322094.  SEC 22, T34N, R96W.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.4 1.9 0.6 0.3 0.2 0.2 
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED	FREMONT.  BEAVER CREEK.  BEAVER CREEK UNIT 196.  4901322094.  SEC 22, T34N, R96W.  DEVON ENERGY PRODUCTION.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.4 1.9 0.6 0.3 0.2 0.2  0.3 2.1
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED	FREMONT  BEAVER CREEK  BEAVER CREEK UNIT 196  4901322094  SEC 22, T34N, R96W  DEVON ENERGY PRODUCTION  040313	METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN	4.4 1.9 0.6 0.3 0.2 0.2  0.3 2.1
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED	FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094 SEC 22, T34N, R96W DEVON ENERGY PRODUCTION 040313	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.4 1.9 0.6 0.3 0.2 0.2  0.3 2.1
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  FORMATION	FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094 SEC 22, T34N, R96W DEVON ENERGY PRODUCTION 040313 050902 CRET-SHANNON	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN	4.4 1.9 0.6 0.3 0.2 0.2  0.3 2.1  0.1
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE	FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094 SEC 22, T34N, R96W DEVON ENERGY PRODUCTION 040313 050902 CRET-SHANNON 530 5700	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	4.4 1.9 0.6 0.3 0.2 0.2  0.3 2.1  0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094 SEC 22, T34N, R96W DEVON ENERGY PRODUCTION 040313 050902 CRET-SHANNON 530 5700	METHANE	4.4 1.9 0.6 0.3 0.2 0.2  0.3 2.1  0.1 0.0
COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER  COMPLETED  SAMPLED  FORMATION  GEOLOGIC PROVINCE CODE  TRUE VERTICAL DEPTH (FT)  MEASURED DEPTH  WELLHEAD PRESSURE, PSIG	FREMONT.  BEAVER CREEK.  BEAVER CREEK UNIT 196.  4901322094  SEC 22, T34N, R96W  DEVON ENERGY PRODUCTION.  040313.  050902  CRET-SHANNON.  530.  5700.	METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON  HYDROGEN SULFIDE**  CARBON DIOXIDE	4.4 1.9 0.6 0.3 0.2 0.2  0.3 2.1  0.1 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	FREMONT.  BEAVER CREEK.  BEAVER CREEK UNIT 196.  4901322094  SEC 22, T34N, R96W  DEVON ENERGY PRODUCTION.  040313.  050902  CRET-SHANNON.  530.  5700.	METHANE	4.4 1.9 0.6 0.3 0.2 0.2  0.3 2.1  0.1 0.0 0.0 0.02

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21463	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	80.3
		ETHANE	8.2
	SUBLETTE	PROPANE	4.1
	BIG PINEY	N-BUTANE	0.9
WELL NAME	S 72-28	ISOBUTANE	0.5
API	4903523213	N-PENTANE	0.3
LOCATION	SEC 28, T30N, R113W	ISOPENTANE	0.4
OWNER	EOG RESOURCES, INC.	CYCLOPENTANE	
COMPLETED	041014_	HEXANES PLUS	0.4
SAMPLED	050616	NITROGEN	3.5
FORMATION	PALE-TRANSITION ZONE	OXYGEN	
GEOLOGIC PROVINCE (	CODE535_	ARGON	
	I (FT)3416	ARGON + OXYGEN	0.1
	. ,	HYDROGEN	
	Pole	HYDROGEN SULFIDE**	0.0
	, PSIG	CARBON DIOXIDE	1.3
OPEN FLOW, MCFD	571	HELIUM	0.10
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.702
		or Edit to Graviti	0.702
SAMPLE	21047	COMPONENT, MOLE PCT	0.702
	21047 WYOMING		
STATE	WYOMING	COMPONENT, MOLE PCT	89.3
STATE	WYOMING LINCOLN	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	89.3 5.7 2.4
STATE COUNTY FIELD	WYOMING LINCOLN BIRD CANYON	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE	89.3 5.7 2.4 0.6
STATE COUNTY FIELD WELL NAME	WYOMING LINCOLN BIRD CANYON HAUN FEDERAL NO. 20-5	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	89.3 5.7 2.4 0.6
STATE COUNTY FIELD WELL NAME API	WYOMING LINCOLN BIRD CANYON HAUN FEDERAL NO. 20-5 4902320553	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	89.3 5.7 2.4 0.6 0.4 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	WYOMING LINCOLN BIRD CANYON HAUN FEDERAL NO. 20-5 4902320553 SEC. 5, T26N, R111W	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE	89.3 5.7 2.4 0.6 0.4 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	WYOMING LINCOLN BIRD CANYON HAUN FEDERAL NO. 20-5 4902320553	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	89.3 5.7 2.4 0.6 0.4 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	WYOMING LINCOLN BIRD CANYON HAUN FEDERAL NO. 20-5 4902320553 SEC. 5, T26N, R111W	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS	89.3 5.7 2.4 0.6 0.4 0.1 0.2 
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	WYOMING LINCOLN BIRD CANYON HAUN FEDERAL NO. 20-5 4902320553 SEC. 5, T26N, R111W ENCANA OIL & GAS (USA), INC.	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN	89.3 5.7 2.4 0.6 0.4 0.1 0.2  0.4 0.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	WYOMING LINCOLN BIRD CANYON HAUN FEDERAL NO. 20-5 4902320553 SEC. 5, T26N, R111W ENCANA OIL & GAS (USA), INC. 000821	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	89.3 5.7 2.4 0.6 0.4 0.1 0.2  0.4 0.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	WYOMING LINCOLN BIRD CANYON HAUN FEDERAL NO. 20-5 4902320553 SEC. 5, T26N, R111W ENCANA OIL & GAS (USA), INC. 000821 021010 CRET-BEAR RIVER & DAKOTA	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	89.3 5.7 2.4 0.6 0.4 0.1 0.2  0.4 0.5 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE O	WYOMING LINCOLN BIRD CANYON HAUN FEDERAL NO. 20-5 4902320553 SEC. 5, T26N, R111W ENCANA OIL & GAS (USA), INC. 000821 021010 CRET-BEAR RIVER & DAKOTA	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	89.3 5.7 2.4 0.6 0.4 0.1 0.2  0.4 0.5 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH	WYOMING LINCOLN BIRD CANYON HAUN FEDERAL NO. 20-5 4902320553 SEC. 5, T26N, R111W ENCANA OIL & GAS (USA), INC. 000821 021010 CRET-BEAR RIVER & DAKOTA	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	89.3 5.7 2.4 0.6 0.4 0.1 0.2 0.4 0.5 0.0 1.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH	WYOMING LINCOLN BIRD CANYON HAUN FEDERAL NO. 20-5 4902320553 SEC. 5, T26N, R111W ENCANA OIL & GAS (USA), INC. 000821 021010 CRET-BEAR RIVER & DAKOTA CODE535 I (FT)9031	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	89.3 5.7 2.4 0.6 0.4 0.1 0.2 0.4 0.5 0.0 0.0 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH WELLHEAD PRESSURE	WYOMING LINCOLN BIRD CANYON HAUN FEDERAL NO. 20-5 4902320553 SEC. 5, T26N, R111W ENCANA OIL & GAS (USA), INC. 000821 021010 CRET-BEAR RIVER & DAKOTA CODE	COMPONENT, MOLE PCT  METHANE	89.3 5.7 2.4 0.6 0.4 0.1 0.2 0.4 0.5 0.0 0.0 TRACE 0.0 0.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH WELLHEAD PRESSURE	WYOMING LINCOLN BIRD CANYON HAUN FEDERAL NO. 20-5 4902320553 SEC. 5, T26N, R111W ENCANA OIL & GAS (USA), INC. 000821 021010 CRET-BEAR RIVER & DAKOTA CODE535 I (FT)9031	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	89.3 5.7 2.4 0.6 0.4 0.1 0.2 0.4 0.5 0.0 0.0 TRACE 0.0 0.4

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

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

SAMPLE 21046	COMPONENT, MOLE PCT	
CTATE	METHANE	84.6
STATE WYOMING	ETHANE	6.9
COUNTYSWEETWATER	PROPANE	4.3
FIELD BLUE FOREST	N-BUTANE	1.2
WELL NAMEFEDERAL NO. 12-4	ISOBUTANE	0.7
API	N-PENTANE	0.2
LOCATION SEC. 4, T24N, R110W	ISOPENTANE	0.3
OWNER ENCANA OIL & GAS (USA), INC.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.3
SAMPLED	NITROGEN	0.9
FORMATIONCRET-MUDDY	OXYGEN	0.0
GEOLOGIC PROVINCE CODE535	ARGON	
TRUE VERTICAL DEPTH (FT)11326_	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
WELLHEAD PRESSURE, PSIG	HYDROGEN SULFIDE**	
OPEN FLOW, MCFD	CARBON DIOXIDE	
OFEN FLOW, MOFD	HELIUM HEATING VALUE*	
	SPECIFIC GRAVITY	
CAMPLE		
SAMPLE 21491	COMPONENT, MOLE PCT	
	COMPONENT, MOLE PCT  METHANE	93.6
STATE WYOMING	,	
STATE WYOMING_ COUNTY SWEETWATER_	METHANE	1.8
STATE WYOMING COUNTY SWEETWATER FIELD BRADY	METHANE	1.8 0.4
STATE WYOMING_ COUNTY SWEETWATER_	METHANE ETHANE PROPANE	1.8 0.4 0.1
STATE WYOMING COUNTY SWEETWATER FIELD BRADY	METHANE ETHANE PROPANE N-BUTANE	1.8 0.4 0.1 0.3
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	1.8 0.4 0.1 0.3 0.1
STATE         WYOMING           COUNTY         SWEETWATER           FIELD         BRADY           WELL NAME         NORTH COOPER RIDGE UNIT 9-4           API         4903725607           LOCATION         SEC 9, T17N, R100W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	1.8 0.4 0.1 0.3 0.1
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.8 0.4 0.1 0.3 0.1 0.1
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.8 0.4 0.1 0.3 0.1 0.1
STATE         WYOMING           COUNTY         SWEETWATER           FIELD         BRADY           WELL NAME         NORTH COOPER RIDGE UNIT 9-4           API         4903725607           LOCATION         SEC 9, T17N, R100W           OWNER         ANADARKO E&P CO. LP	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.8 0.4 0.1 0.3 0.1 0.1  0.1 2.7
STATE         WYOMING           COUNTY         SWEETWATER           FIELD         BRADY           WELL NAME         NORTH COOPER RIDGE UNIT 9-4           API         4903725607           LOCATION         SEC 9, T17N, R100W           OWNER         ANADARKO E&P CO. LP           COMPLETED         031012           SAMPLED         050718           FORMATION         CRET-ALMOND COAL	METHANE	1.8 0.4 0.1 0.3 0.1 0.1  0.1 2.7 
STATE         WYOMING           COUNTY         SWEETWATER           FIELD         BRADY           WELL NAME         NORTH COOPER RIDGE UNIT 9-4           API         4903725607           LOCATION         SEC 9, T17N, R100W           OWNER         ANADARKO E&P CO. LP           COMPLETED         031012           SAMPLED         050718           FORMATION         CRET-ALMOND COAL           GEOLOGIC PROVINCE CODE         535	METHANE	1.8 0.4 0.1 0.3 0.1 0.1  0.1 2.7  TRACE
STATE         WYOMING           COUNTY         SWEETWATER           FIELD         BRADY           WELL NAME         NORTH COOPER RIDGE UNIT 9-4           API         4903725607           LOCATION         SEC 9, T17N, R100W           OWNER         ANADARKO E&P CO. LP           COMPLETED         031012           SAMPLED         050718           FORMATION         CRET-ALMOND COAL           GEOLOGIC PROVINCE CODE         535           TRUE VERTICAL DEPTH (FT)         3201	METHANE	1.8 0.4 0.1 0.3 0.1 0.1  0.1 2.7  TRACE 0.0
STATE	METHANE	1.8 0.4 0.1 0.3 0.1 0.1  0.1 2.7  TRACE 0.0
STATE	METHANE	1.8 0.4 0.1 0.3 0.1 0.1  0.1 2.7  TRACE 0.0 0.9
STATE         WYOMING           COUNTY         SWEETWATER           FIELD         BRADY           WELL NAME         NORTH COOPER RIDGE UNIT 9-4           API         4903725607           LOCATION         SEC 9, T17N, R100W           OWNER         ANADARKO E&P CO. LP           COMPLETED         031012           SAMPLED         050718           FORMATION         CRET-ALMOND COAL	METHANE	1.8. 0.4 0.1 0.3 0.1 0.1 0.1 2.7 TRACE 0.0 0.0 0.9 0.01

 $<sup>^\</sup>star$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  DUE TO THE ABSORPTION OF H2S DURING SAMPLING, THE REPORTED RESULTS MAY NOT BE RELIABLE

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

SAMPLE	21577	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	93.5
	SWEETWATER	ETHANE	2.5
	CEDAR BREAKS	PROPANE	0.4
·	CEDAR CHEST UNIT 7-5	N-BUTANE	-
		ISOBUTANE	
	4903724260	N-PENTANE	
	SEC 5, T13N, R94W	ISOPENTANE	
OWNER	EOG RESOURCES, INC.	CYCLOPENTANE	
COMPLETED	000715	HEXANES PLUS	
SAMPLED	061116	NITROGEN	
FORMATION	CRET-ALMOND	OXYGEN	
GEOLOGIC PROVINCE CODE	535	ARGON	
TRUE VERTICAL DEPTH (FT) _	12470	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
	1500	HYDROGEN SULFIDE**	
	5034	CARBON DIOXIDE	
OPEN FLOW, MOFD	5034	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	, , ,
SAMPLE	21531	COMPONENT, MOLE PCT	
O/ WII EE	21001	METHANE	77.0
STATE	WYOMING	ETHANE	
COUNTY	SWEETWATER	PROPANE	
FIELD	FREWEN	N-BUTANE	
WELL NAME	FREWEN UNIT 16	ISOBUTANE	
API	4903724438	N-PENTANE	
LOCATION	SEC 16. T19N R94W	ISOPENTANE	
OWNER B	P AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	001214	HEXANES PLUS	0.5
·	060530	NITROGEN	0.6
	CRET-MESAVERDE	OXYGEN	
	535	ARGON	
		ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT) _		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	3.6
OPEN FLOW, MCFD	180_	HELIUM	0.01
		HEATING VALUE*	1,214
		SPECIFIC GRAVITY	0.748

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

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

SAMPLE	21044	COMPONENT, MOLE PCT	
STATE	MANOMINIC	METHANE	92.9
	WYOMING	ETHANE	4.6
·	<u>SWEETWATER</u>	PROPANE	0.9
	MESA.	N-BUTANE	0.1
WELL NAME	MESA FEDERAL NO. 10-30	ISOBUTANE	0.1
	4903723307	N-PENTANE	TRACE
_OCATION	SEC. 30, T24N, R110W	ISOPENTANE	TRACE
OWNER	ENCANA OIL & GAS (USA), INC.	CYCLOPENTANE	
COMPLETED	940717	HEXANES PLUS	0.1
SAMPLED	021010	NITROGEN	0.4
FORMATION	CRET-FRONTIER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	535_	ARGON	0.0
	10230	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
	G1210_	CARBON DIOXIDE	
OPEN FLOW, MCFD	2815	HELIUM	
		HEATING VALUE*	,
		SPECIFIC GRAVITY	0.602
	_	CI 2011 10 CI (((1))	0,00
SAMPLE	21668	COMPONENT, MOLE PCT	V.UV=
<u>-</u>	21668 WYOMING	COMPONENT, MOLE PCT METHANE	84.2
STATE	WYOMING	COMPONENT, MOLE PCT  METHANE  ETHANE	84.2 9.7
STATE	WYOMING_ LINCOLN_	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	84.2 9.7 3.0
STATE COUNTY	WYOMING. LINCOLN. OPAL.	COMPONENT, MOLE PCT  METHANE  ETHANE	84.2 9.7 3.0
STATE COUNTY FIELD WELL NAME	WYOMING LINCOLN OPAL OPAL 4-21	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	84.2 9.7 3.0 0.6 0.5
STATE COUNTY FIELD WELL NAME	WYOMING. LINCOLN OPAL OPAL 4-21 4902305070	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	84.2 9.7 3.0 0.6 0.5
STATE COUNTY FIELD WELL NAME API LOCATION	WYOMING  LINCOLN  OPAL  OPAL 4-21  4902305070  SEC 21, T22N, R112W	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	84.2 9.7 3.0 0.6 0.5 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	WYOMING. LINCOLN OPAL OPAL 4-21 4902305070	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE	84.2 9.7 3.0 0.6 0.5 0.1 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	WYOMING  LINCOLN  OPAL  OPAL 4-21  4902305070  SEC 21, T22N, R112W	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	84.2 9.7 3.0 0.6 0.5 0.1 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	WYOMING.  LINCOLN.  OPAL.  OPAL 4-21.  4902305070.  SEC 21, T22N, R112W.  EOG RESOURCES, INC.	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN	84.2 9.7 3.0 0.6 0.5 0.1 0.2  0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	WYOMING LINCOLN OPAL OPAL 4-21 4902305070 SEC 21, T22N, R112W EOG RESOURCES, INC. 021221	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	84.2 9.7 3.0 0.6 0.5 0.1 0.2  0.2 0.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	WYOMING LINCOLN  OPAL  OPAL 4-21  4902305070  SEC 21, T22N, R112W  EOG RESOURCES, INC.  021221  070913  CRET-FRONTIER	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	84.2 9.7 3.0 0.6 0.5 0.1 0.2  0.2 0.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	WYOMING LINCOLN  OPAL  OPAL 4-21  4902305070  SEC 21, T22N, R112W  EOG RESOURCES, INC.  021221  070913  CRET-FRONTIER	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	84.2 9.7 3.0 0.6 0.5 0.1 0.2  0.2 0.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	WYOMING LINCOLN  OPAL  OPAL 4-21  4902305070  SEC 21, T22N, R112W  EOG RESOURCES, INC.  021221  070913  CRET-FRONTIER.	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS OXYGEN ARGON ARGON ARGON + OXYGEN HYDROGEN	84.2 9.7 3.0 0.6 0.5 0.1 0.2  0.2 0.9  0.1 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	WYOMING LINCOLN  OPAL  OPAL 4-21  4902305070  SEC 21, T22N, R112W  EOG RESOURCES, INC.  021221  070913  CRET-FRONTIER  535  10749	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	84.2 9.7 3.0 0.6 0.5 0.1 0.2  0.2 0.9  0.1 0.0
STATE COUNTY FIELD WELL NAME API LOCATION COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIC	WYOMING LINCOLN OPAL OPAL 4-21 4902305070 SEC 21, T22N, R112W EOG RESOURCES, INC. 021221 070913 CRET-FRONTIER 535 10749	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	84.2 9.7 3.0 0.6 0.5 0.1 0.2  0.2 0.9  0.1 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	WYOMING LINCOLN OPAL OPAL 4-21 4902305070 SEC 21, T22N, R112W EOG RESOURCES, INC. 021221 070913 CRET-FRONTIER 535 10749	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	84.2 9.7 3.0 0.6 0.5 0.1 0.2  0.2 0.9  0.1 0.0 0.0 0.6

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

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

SAMPLE	50625	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	80.0
	LINCOLN	ETHANE	11.4
	_	PROPANE	4.0
·	OPAL BENCH	N-BUTANE	0.8
•	OPAL BENCH UNIT 27-1	ISOBUTANE	0.9
API	4902321358	N-PENTANE	0.2
LOCATION	SEC 27, T22N, R113W	ISOPENTANE	0.3
OWNER	CHEVRON USA, INC.	CYCLOPENTANE	
COMPLETED	970907	HEXANES PLUS	0.3
SAMPLED	061200	NITROGEN	1.2
FORMATION	CRET-DAKOTA	OXYGEN	
GEOLOGIC PROVINCE CODE	535	ARGON	
	12132	ARGON + OXYGEN	
,	12102	HYDROGEN	
		HYDROGEN SULFIDE**	
,	G540_	CARBON DIOXIDE	
OPEN FLOW, MCFD	810	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
0.1151.5			0.700
SAMPLE	21609	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	
COUNTY	PARK	ETHANE	
FIELD	OREGON BASIN SE	PROPANE	
	BADGER CREEK USA 5277 2-24	N-BUTANE	
•	4902921289	ISOBUTANE	
		N-PENTANE	
LUCATION			
0149155	SEC 24, T50N, R100W	ISOPENTANE	
•	SAGA PETROLEUM, LLC.	CYCLOPENTANE	
•	, ,	CYCLOPENTANE	0.2
COMPLETED	SAGA PETROLEUM, LLC.	CYCLOPENTANE HEXANES PLUS NITROGEN	 0.2 1.1
COMPLETED	SAGA PETROLEUM, LLC. 840126	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.2 1.1
COMPLETEDSAMPLEDFORMATION	SAGA PETROLEUM, LLC. 840126. 070701.	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON	0.2 1.1 
COMPLETEDSAMPLEDFORMATION	SAGA PETROLEUM, LLC.  840126  070701  CRET-FRONTIER  520	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN	 0.2 1.1  TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SAGA PETROLEUM, LLC.  840126  070701  CRET-FRONTIER  520	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN	 0.2 1.1   TRACE 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SAGA PETROLEUM, LLC.  840126  070701  CRET-FRONTIER.  520  4956	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	 0.2 1.1  TRACE 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIC	SAGA PETROLEUM. LLC.  840126.  070701.  CRET-FRONTIER.  520.  4956.	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**  CARBON DIOXIDE	 0.2 1.1  TRACE 0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIC	SAGA PETROLEUM, LLC.  840126  070701  CRET-FRONTIER.  520  4956	CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN  HYDROGEN  HYDROGEN SULFIDE**	 0.2 1.1   TRACE 0.0 0.0 1.3

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

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

SAMPLE	21574	COMPONENT, MOLE PCT	
STATE	MYOMINO	METHANE	18.2
		ETHANE	TRACE
COUNTY		PROPANE	0.0
FIELD		N-BUTANE	0.0
WELL NAME		ISOBUTANE	TRACE
API	4903520603	N-PENTANE	0.0
LOCATION	SEC 10, T29N, R114W	ISOPENTANE	0.0
OWNER	WOLD OIL PROPERTIES	CYCLOPENTANE	
COMPLETED	810630	HEXANES PLUS	TRACE
SAMPLED	061026	NITROGEN	10.8
FORMATION	MISS-MADISON	OXYGEN	
GEOLOGIC PROVINCE CODE _	535	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	0.1
		HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	4.8
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	1.261
SAMPLE	21576	COMPONENT, MOLE PCT	
SAMPLE		COMPONENT, MOLE PCT METHANE	20.2
STATE	WYOMING	,	
STATE	WYOMING. SUBLETTE.	METHANE	TRACE
STATE COUNTY FIELD	WYOMING SUBLETTE RILEY RIDGE UNIT	METHANE ETHANE PROPANE N-BUTANE	TRACE 0.0 0.0
STATE COUNTY FIELD WELL NAMERILEY RIDGE F	WYOMING SUBLETTE RILEY RIDGE UNIT EDERAL 8-24 (END OF FLOW)	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	TRACE 0.0 0.0 TRACE
STATE COUNTY FIELD WELL NAMERILEY RIDGE F	WYOMING SUBLETTE RILEY RIDGE UNIT EDERAL 8-24 (END OF FLOW) 4903520537	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	TRACE
STATE COUNTY FIELD WELL NAMERILEY RIDGE E API LOCATION	WYOMING SUBLETTE RILEY RIDGE UNIT FEDERAL 8-24 (END OF FLOW) 4903520537 SEC 8, T29N, R114W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	TRACE 0.0 0.0 TRACE 0.0
STATE COUNTY FIELD WELL NAMERILEY RIDGE E API LOCATION	WYOMING SUBLETTE RILEY RIDGE UNIT EDERAL 8-24 (END OF FLOW) 4903520537	METHANE ETHANE PROPANE N-BUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	TRACE 0.0 0.0 TRACE 0.0 0.0 0.0
STATE COUNTY FIELD WELL NAMERILEY RIDGE F API LOCATION OWNER	WYOMING SUBLETTE RILEY RIDGE UNIT FEDERAL 8-24 (END OF FLOW) 4903520537 SEC 8, T29N, R114W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	TRACE 0.0 0.0 TRACE 0.0 0.0 0.0 TRACE TRACE
STATE COUNTY FIELD WELL NAMERILEY RIDGE F API LOCATION OWNER	WYOMING SUBLETTE RILEY RIDGE UNIT FEDERAL 8-24 (END OF FLOW) 4903520537 SEC 8, T29N, R114W WOLD OIL PROPERTIES 800924	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 7.1
STATE COUNTY FIELD WELL NAMERILEY RIDGE F API LOCATION OWNER COMPLETED	WYOMING SUBLETTE RILEY RIDGE UNIT EDERAL 8-24 (END OF FLOW) 4903520537 SEC 8, T29N, R114W WOLD OIL PROPERTIES 800924 060820	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	TRACE 0.0 0.0 TRACE 0.0 0.0 0.0 TRACE 7.1
STATE COUNTY FIELD WELL NAMERILEY RIDGE F API LOCATION OWNER COMPLETED SAMPLED	WYOMING SUBLETTE RILEY RIDGE UNIT EDERAL 8-24 (END OF FLOW) 4903520537 SEC 8, T29N, R114W WOLD OIL PROPERTIES 800924 060820 MISS-MADISON	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 7.1
STATE COUNTY FIELD WELL NAMERILEY RIDGE F API LOCATION OWNER COMPLETED SAMPLED FORMATION	WYOMING SUBLETTE RILEY RIDGE UNIT FEDERAL 8-24 (END OF FLOW) 4903520537 SEC 8, T29N, R114W WOLD OIL PROPERTIES 800924 060820 MISS-MADISON 535	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 7.1 0.1
STATE COUNTY FIELD WELL NAMERILEY RIDGE E API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	WYOMING SUBLETTE RILEY RIDGE UNIT FEDERAL 8-24 (END OF FLOW). 4903520537 SEC 8, T29N, R114W WOLD OIL PROPERTIES 800924 060820 MISS-MADISON 535	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 7.1 0.1 0.3
STATE COUNTY FIELD WELL NAMERILEY RIDGE F API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	WYOMING SUBLETTE RILEY RIDGE UNIT FEDERAL 8-24 (END OF FLOW) 4903520537 SEC 8, T29N, R114W WOLD OIL PROPERTIES 800924 060820 MISS-MADISON 535	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 7.1 0.1 0.3 5.2
STATE COUNTY FIELD WELL NAMERILEY RIDGE E API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG .	WYOMING SUBLETTE RILEY RIDGE UNIT FEDERAL 8-24 (END OF FLOW) 4903520537 SEC 8, T29N, R114W WOLD OIL PROPERTIES 800924 060820 MISS-MADISON 535	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 7.1 0.1 0.3 5.2 66.7
STATE COUNTY FIELD WELL NAMERILEY RIDGE F API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	WYOMING SUBLETTE RILEY RIDGE UNIT FEDERAL 8-24 (END OF FLOW) 4903520537 SEC 8, T29N, R114W WOLD OIL PROPERTIES 800924 060820 MISS-MADISON 535	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 7.1 0.1 0.3 5.2 66.7 0.49

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

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

SAMPLE	21575	COMPONENT, MOLE PCT	
CTATE	MANCONAINIC	METHANE	20.7
	WYOMING	ETHANE	TRACE
	SUBLETTE	PROPANE	0.0
	RILEY RIDGE UNIT	N-BUTANE	0.0
WELL NAMERILEY RID	OGE FEDERAL 8-24 (1ST SAMPLE)	ISOBUTANE	TRACE
API	4903520537	N-PENTANE	0.0
LOCATION	SEC 8, T29N, R114W	ISOPENTANE	0.0
OWNER	WOLD OIL PROPERTIES	CYCLOPENTANE	
COMPLETED	800924	HEXANES PLUS	TRACE
SAMPLED	060820	NITROGEN	7.3
FORMATION	MISS-MADISON	OXYGEN	
	DE 535	ARGON	
	T)15120	ARGON + OXYGEN	0.1
•	•	HYDROGEN	2.5
		HYDROGEN SULFIDE**	0.7
•	SIG	CARBON DIOXIDE	68.3
OPEN FLOW, MCFD	12300_	HELIUM	0.50
		HEATING VALUE*	223
		SPECIFIC GRAVITY	1 234
		SI ESII IS SICAVITI	1.207
SAMPLE	21568	COMPONENT, MOLE PCT	1.204
STATE	WYOMING	COMPONENT, MOLE PCT	17.2
STATE	WYOMING SUBLETTE	COMPONENT, MOLE PCT  METHANE	17.2 TRACE
STATE COUNTY FIELD	WYOMING. SUBLETTE. RILEY RIDGE UNIT.	COMPONENT, MOLE PCT  METHANE  ETHANE	17.2 TRACE 0.0
STATE COUNTY FIELD WELL NAME	WYOMING SUBLETTE RILEY RIDGE UNIT RILEY RIDGE FEDERAL 10-14	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE	17.2 TRACE 0.0 0.0
STATE COUNTY FIELD WELL NAME	WYOMING. SUBLETTE. RILEY RIDGE UNIT. RILEY RIDGE FEDERAL 10-14. 4903520603	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE	17.2 TRACE 0.0 0.0
STATE COUNTY FIELD WELL NAME	WYOMING SUBLETTE RILEY RIDGE UNIT RILEY RIDGE FEDERAL 10-14	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE	17.2 TRACE 0.0 0.0 0.1 0.0
STATE COUNTY FIELD WELL NAME API LOCATION	WYOMING. SUBLETTE. RILEY RIDGE UNIT. RILEY RIDGE FEDERAL 10-14. 4903520603	COMPONENT, MOLE PCT  METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE	17.2 TRACE 0.0 0.0 0.1 0.0
STATE  COUNTY  FIELD  WELL NAME  API  LOCATION  OWNER	WYOMING SUBLETTE RILEY RIDGE UNIT RILEY RIDGE FEDERAL 10-14 4903520603 SEC 10, T29N, R114W	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	17.2 TRACE 0.0 0.0 0.1 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	WYOMING SUBLETTE RILEY RIDGE UNIT RILEY RIDGE FEDERAL 10-14 4903520603 SEC 10, T29N, R114W WOLD OIL PROPERTIES	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	17.2 TRACE 0.0 0.0 0.1 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	WYOMING SUBLETTE RILEY RIDGE UNIT RILEY RIDGE FEDERAL 10-14 4903520603 SEC 10, T29N, R114W WOLD OIL PROPERTIES 810630	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	17.2 TRACE 0.0 0.0 0.1 0.0 0.0 TRACE 7.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	WYOMING SUBLETTE RILEY RIDGE UNIT RILEY RIDGE FEDERAL 10-14 4903520603 SEC 10, T29N, R114W WOLD OIL PROPERTIES 810630 060924	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	17.2 TRACE 0.0 0.0 0.1 0.0 0.0 TRACE 7.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COE	WYOMING. SUBLETTE. RILEY RIDGE UNIT. RILEY RIDGE FEDERAL 10-14. 4903520603 SEC 10, T29N, R114W. WOLD OIL PROPERTIES. 810630 060924 MISS-MADISON. DE 535	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	17.2 TRACE 0.0 0.0 0.1 0.0 0.0 TRACE 7.3 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COUNTY COUNT	WYOMING SUBLETTE RILEY RIDGE UNIT RILEY RIDGE FEDERAL 10-14 4903520603 SEC 10, T29N, R114W WOLD OIL PROPERTIES 810630 060924 MISS-MADISON DE 535 T) 15762	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	17.2 TRACE 0.0 0.1 0.0 0.0 TRACE 7.3 0.1 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COU TRUE VERTICAL DEPTH (F	WYOMING SUBLETTE RILEY RIDGE UNIT RILEY RIDGE FEDERAL 10-14 4903520603 SEC 10, T29N, R114W WOLD OIL PROPERTIES 810630 060924 MISS-MADISON DE 535 T) 15762	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	17.2 TRACE 0.0 0.0 0.1 0.0 0.0 TRACE 7.3 0.1 0.2 1.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COUNTY COUN	WYOMING. SUBLETTE RILEY RIDGE UNIT. RILEY RIDGE FEDERAL 10-14. 4903520603 SEC 10, T29N, R114W WOLD OIL PROPERTIES. 810630 060924 MISS-MADISON DE 535 T) 15762	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	17.2 TRACE 0.0 0.0 0.1 0.0 0.0 TRACE 7.3 0.1 0.2 1.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COUNTY COUNT	WYOMING SUBLETTE RILEY RIDGE UNIT RILEY RIDGE FEDERAL 10-14 4903520603 SEC 10, T29N, R114W WOLD OIL PROPERTIES 810630 060924 MISS-MADISON DE 535 T) 15762	COMPONENT, MOLE PCT  METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	17.2 TRACE 0.0 0.0 0.1 0.0 0.0 TRACE 7.3 0.1 0.2 1.3 73.3 0.53

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

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

SAMPLE 21629	COMPONENT, MOLE PCT	
STATE WYOMING	METHANE	88.3
COUNTY CARBON	ETHANE	5.6
	PROPANE	1.4
FIELD ROBBERS GULCH	N-BUTANE	0.3
WELL NAME HANGOUT RIDGE 5-25-14-93	ISOBUTANE	0.3
API	N-PENTANE	0.1
LOCATION SEC 25, T14N, R93W	ISOPENTANE	0.1
OWNERDEVON ENERGY PRODUCTION CO., LP.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.2
SAMPLED	NITROGEN	0.4
FORMATIONCRET-MESAVERDE	OXYGEN	
GEOLOGIC PROVINCE CODE535	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	TRACE
, ,	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG800_	CARBON DIOXIDE	3.3
OPEN FLOW, MCFD	HELIUM	0.00
	HEATING VALUE*	1,065
	SPECIFIC GRAVITY	<u>U.646</u>
SAMPLE 21636	COMPONENT, MOLE PCT	
STATE WYOMING	METHANE	
	ETHANE	6.1
COUNTYCARBON_	ETHANEPROPANE	6.1 2.1
COUNTY CARBON ROBBERS GULCH	ETHANE PROPANE N-BUTANE	6.1 2.1 0.5
COUNTY CARBON  FIELD ROBBERS GULCH  WELL NAME ROBBERS GULCH 5-23-14-92	ETHANE PROPANE N-BUTANE ISOBUTANE	6.1 2.1 0.5 0.5
COUNTY CARBON ROBBERS GULCH WELL NAME ROBBERS GULCH 5-23-14-92 API 4900722348	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	6.1 2.1 0.5 0.5
COUNTY         CARBON           FIELD         ROBBERS GULCH           WELL NAME         ROBBERS GULCH 5-23-14-92           API         4900722348           LOCATION         SEC 23, T14N, R92W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	6.1 2.1 0.5 0.5 0.2
COUNTY         CARBON           FIELD         ROBBERS GULCH           WELL NAME         ROBBERS GULCH 5-23-14-92           API         4900722348           LOCATION         SEC 23, T14N, R92W	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	6.1 2.1 0.5 0.5 0.2 0.2
	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	6.1 2.1 0.5 0.5 0.2 0.2
COUNTY         CARBON           FIELD         ROBBERS GULCH           WELL NAME         ROBBERS GULCH 5-23-14-92           API         4900722348           LOCATION         SEC 23, T14N, R92W           OWNER         DEVON ENERGY PRODUCTION CO., LP.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	6.1 2.1 0.5 0.5 0.2 0.2 0.2  0.3 4.0
COUNTY         CARBON           FIELD         ROBBERS GULCH           WELL NAME         ROBBERS GULCH 5-23-14-92           API         4900722348           LOCATION         SEC 23, T14N, R92W           OWNER         DEVON ENERGY PRODUCTION CO., LP.           COMPLETED         031003           SAMPLED         070717           FORMATION         CRET-MESAVERDE	ETHANE	6.1 2.1 0.5 0.5 0.2 0.2  0.3 4.0
COUNTY	ETHANE	6.1 2.1 0.5 0.5 0.2 0.2  0.3 4.0
COUNTY	ETHANE	6.1 2.1 0.5 0.5 0.2 0.2  0.3 4.0  TRACE
COUNTY	ETHANE	6.1 2.1 0.5 0.5 0.2 0.2  0.3 4.0  TRACE
COUNTY	ETHANE	6.1 2.1 0.5 0.2 0.2  0.3 4.0  TRACE 0.0
COUNTY	ETHANE	6.1 2.1 0.5 0.2 0.2 0.3 4.0 
COUNTY	ETHANE	6.1 2.1 0.5 0.5 0.2 0.2  0.3 4.0  TRACE 0.0 0.0 2.9

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

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

SAMPLE	21610	COMPONENT, MOLE PCT	
CTATE	WYOMING	METHANE	88.8
		ETHANE	5.9
	LINCOLN	PROPANE	2.2
·	ROCKING CHAIR	N-BUTANE	0.5
	HYRUM DITCH 11X-26	ISOBUTANE	0.4
API	4902320342	N-PENTANE	0.1
LOCATION	SEC 26, T26N, R113W	ISOPENTANE	0.2
OWNER	XTO ENERGY, INC.	CYCLOPENTANE	
COMPLETED	791127	HEXANES PLUS	0.2
SAMPLED	070710	NITROGEN	1.3
FORMATION	CRET-FRONTIER U 1 & 2	OXYGEN	
GEOLOGIC PROVINCE CODE _	535_	ARGON	
TRUE VERTICAL DEPTH (ET)	7971	ARGON + OXYGEN	
		HYDROGEN	
	900	HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	62	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	,
SAMPLE	21529	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT  METHANE	94.7
STATE	WYOMING	METHANE	TRACE
STATE	WYOMING_ CAMPBELL_	METHANE	TRACE
STATE COUNTY FIELD	WYOMING CAMPBELL WAGENSEN	METHANE	TRACE 0.0
STATE COUNTY FIELD WELL NAMEEAG	WYOMING CAMPBELL WAGENSEN GLE 31-30 (FIELD COMPOSITE)	METHANE ETHANE PROPANE	TRACE 0.0 0.0
STATE COUNTY FIELD WELL NAMEEAG	WYOMING CAMPBELL WAGENSEN GLE 31-30 (FIELD COMPOSITE) 4900539756	METHANE ETHANE PROPANE N-BUTANE	TRACE 0.0 0.0 0.0
STATE COUNTY FIELD WELL NAMEEAG	WYOMING CAMPBELL WAGENSEN GLE 31-30 (FIELD COMPOSITE)	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	TRACE 0.0 0.0 0.0 0.0 0.0 0.0
STATE COUNTY FIELD WELL NAMEEAG APILOCATION	WYOMING CAMPBELL WAGENSEN GLE 31-30 (FIELD COMPOSITE) 4900539756	METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  N-PENTANE  ISOPENTANE  CYCLOPENTANE	0.0 0.0 0.0 0.0 0.0 0.0
STATE COUNTY FIELD WELL NAME EAG API LOCATION OWNER	WYOMING CAMPBELL WAGENSEN GLE 31-30 (FIELD COMPOSITE) 4900539756 SEC 30, T46N, R71W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	TRACE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
STATE COUNTY  FIELD WELL NAME EAG API LOCATION OWNER COMPLETED	WYOMING CAMPBELL WAGENSEN GLE 31-30 (FIELD COMPOSITE) 4900539756 SEC 30, T46N, R71W DUNCAN OIL, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	TRACE 0.0 0.0 0.0 0.0 0.0 0.0 1.4
STATE COUNTY FIELD WELL NAME EAG API LOCATION OWNER COMPLETED SAMPLED	WYOMING CAMPBELL WAGENSEN GLE 31-30 (FIELD COMPOSITE) 4900539756 SEC 30, T46N, R71W DUNCAN OIL, INC. 000605	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	TRACE 0.0 0.0 0.0 0.0 0.0 0.0 1.4
STATE COUNTY FIELD WELL NAME EAG API LOCATION OWNER COMPLETED SAMPLED	WYOMING CAMPBELL WAGENSEN GLE 31-30 (FIELD COMPOSITE) 4900539756 SEC 30, T46N, R71W DUNCAN OIL, INC. 000605 060523 PALE-WYODAK COAL	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE 0.0 0.0 0.0 0.0 0.0 1.4
STATE COUNTY FIELD WELL NAME EAG API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	WYOMING CAMPBELL WAGENSEN GLE 31-30 (FIELD COMPOSITE) 4900539756 SEC 30, T46N, R71W DUNCAN OIL, INC. 000605 060523 PALE-WYODAK COAL	METHANE  ETHANE  PROPANE  N-BUTANE  ISOBUTANE  ISOPENTANE  CYCLOPENTANE  HEXANES PLUS  NITROGEN  OXYGEN  ARGON  ARGON + OXYGEN	TRACE 0.0 0.0 0.0 0.0 0.0 0.0 1.4 0.1
STATE COUNTY FIELD WELL NAME EAG API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	WYOMING CAMPBELL WAGENSEN GLE 31-30 (FIELD COMPOSITE) 4900539756 SEC 30, T46N, R71W DUNCAN OIL, INC. 000605 060523 PALE-WYODAK COAL 515	METHANE	TRACE 0.0 0.0 0.0 0.0 0.0 0.0 1.4 0.1 0.0
STATE COUNTY FIELD WELL NAME EAG API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	WYOMING CAMPBELL WAGENSEN GLE 31-30 (FIELD COMPOSITE) 4900539756 SEC 30, T46N, R71W DUNCAN OIL, INC. 000605 060523 PALE-WYODAK COAL 515	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	TRACE 0.0 0.0 0.0 0.0 0.0 1.4 0.1 0.0 0.0
STATE COUNTY FIELD WELL NAME EAG API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG .	WYOMING CAMPBELL WAGENSEN GLE 31-30 (FIELD COMPOSITE) 4900539756 SEC 30, T46N, R71W DUNCAN OIL, INC. 000605 060523 PALE-WYODAK COAL 515 388	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE 0.0 0.0 0.0 0.0 0.0 1.4 0.1 0.0 0.0 3.9
STATE COUNTY FIELD WELL NAME EAG API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG .	WYOMING CAMPBELL WAGENSEN GLE 31-30 (FIELD COMPOSITE) 4900539756 SEC 30, T46N, R71W DUNCAN OIL, INC. 000605 060523 PALE-WYODAK COAL 515	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	TRACE 0.0 0.0 0.0 0.0 0.0 0.0 1.4 0.1 0.0 0.0 3.9 0.00

 $<sup>^{\</sup>star}$  CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY  $^{\star\star}$  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	21123	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	85.4
		ETHANE	7.1
COUNTY	SAN JUAN	PROPANE	3.3
EIELD		N-BUTANE	0.9
FIELD		ISOBUTANE	0.6
PLANT	SAN JUAN GAS PLANT	N-PENTANE	0.2
		ISOPENTANE	0.3
LOCATION	TOTAL INLET-SAN JUAN	CYCLOPENTANE	
OWNER	CONOCOPHILLIPS CO.	HEXANES PLUS	0.4
		NITROGEN	0.3
SAMPLED	021204	OXYGEN	0.0
FORMATION	_	ARGON	0.0
		ARGON + OXYGEN	
GEOLOGIC PROVINCE CODE	580	HYDROGEN	0.0
PRESSURE, PSIG	888	HYDROGEN SULFIDE	0.0
1112000112, 1 010 <u></u>	330	CARBON DIOXIDE	1.4
FLOW, MCFD	522000	HELIUM	0.05
		HEATING VALUE*	1,162
		SPECIFIC GRAVITY	0.676

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

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