Analyses of Natural Gases, 2005–2007

D.L. Driskill December 2008

Technical Note 427





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Analyses of Natural Gases, 2005–2007

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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

¹The 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 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 1.²

They are delineated by political boundaries for convenience and for accommodation of the data processing equipment. Because not all of the provinces shown are gas-producing areas, many of the codes are not used in this publication. In addition, since State or Federal ownership is not always known in offshore areas, only one code is used for each State. Due to the lack of information on the location of wells in Alaska, only one code (972) is used for all wells.

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

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 Georgia Atlantic offshore-general 936 937 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 962 Oregon Pacific offshore–Federal 963 Washington Pacific offshore-general 964 Washington Pacific offshore–State 965 Washington Pacific offshore–Federal 972 Alaska Arctic offshore-general 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

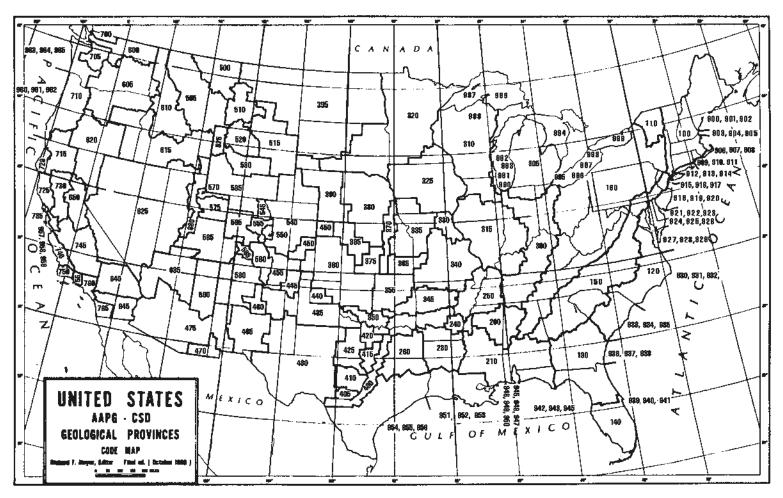


Figure 1. Geologic Provinces of the United States.

Table 1

Samples from Gas and Oil Wells in the United States

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

	21329	COMPONENT, MOLE PCT	
STATE	CALIFORNIA	METHANE	86.3
•	SOLANO	ETHANE	3.4
	BUNKER	PROPANE	1.4
		N-BUTANE	
·	HORIGAN RAYN NO. 1	ISOBUTANE	0.3
	0409521166	N-PENTANE	0.1
-	SEC 13, T6N, R1E	ISOPENTANE	
OWNER	ABA ENERGY CORP.	CYCLOPENTANE	
COMPLETED	020712	HEXANES PLUS	
SAMPLED	040527	NITROGEN	
FORMATION	CRET-WINTERS	OXYGEN	
GEOLOGIC PROVINCE CODE	730	ARGON	
TRUE VERTICAL DEPTH (FT))	ARGON + OXYGEN	
` '	10260	HYDROGEN	
	G 3200	HYDROGEN SULFIDE**	
	1500	CARBON DIOXIDE	
OPEN FLOW, MICFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21554	COMPONENT, MOLE PCT	
STATE	CALIFORNIA	METHANE	76.3
	CALIFORNIA.	METHANE	
COUNTY	KERN		9.8
COUNTY	KERN CAL CANAL	ETHANE	9.8 5.0
COUNTY FIELD WELL NAME	KERN CAL CANAL CHEVRON-USTAN-U.S.LA 13X-4	ETHANE	9.8 5.0 1.8
COUNTY FIELD WELL NAME API	KERN CAL CANAL CHEVRON-USTAN-U.S.LA 13X-4 0402958507	ETHANE PROPANE	9.8 5.0 1.8 0.9
COUNTY FIELD WELL NAME API	KERN CAL CANAL CHEVRON-USTAN-U.S.LA 13X-4	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	9.8 5.0 1.8 0.9 0.5
COUNTY FIELD WELL NAME API LOCATION	KERN CAL CANAL CHEVRON-USTAN-U.S.LA 13X-4 0402958507	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE	9.8 5.0 1.8 0.9 0.5 0.5
COUNTY FIELD WELL NAME API LOCATION OWNERSAN JOAQUIN I	KERN CAL CANAL CHEVRON-USTAN-U.S.LA 13X-4 0402958507 SEC 4. T29S. R22E	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	9.8 5.0 1.8 0.9 0.5 0.5
COUNTY FIELD WELL NAME API LOCATION OWNERSAN JOAQUIN I	KERN CAL CANAL CHEVRON-USTAN-U.S.LA 13X-4 0402958507 SEC 4. T29S. R22E FACILITIES MANAGEMENT. INC. 790217	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	9.8 5.0 1.8 0.9 0.5 0.5 0.6 0.1
COUNTY FIELD WELL NAME API LOCATION OWNERSAN JOAQUIN I COMPLETED SAMPLED	KERN CAL CANAL CHEVRON-USTAN-U.S.LA 13X-4 0402958507 SEC 4. T29S. R22E FACILITIES MANAGEMENT. INC. 790217	ETHANE	9.8 5.0 1.8 0.9 0.5 0.5 0.6 0.1
COUNTY FIELD WELL NAME API LOCATION OWNERSAN JOAQUIN I COMPLETED SAMPLED	KERN CAL CANAL CHEVRON-USTAN-U.S.LA 13X-4 0402958507 SEC 4. T29S. R22E FACILITIES MANAGEMENT. INC. 790217 060630 MIOC-STEVENS	ETHANE	9.8 5.0 1.8 0.9 0.5 0.5 0.6 0.1
COUNTY FIELD WELL NAME API LOCATION OWNERSAN JOAQUIN I COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	KERN CAL CANAL CHEVRON-USTAN-U.S.LA 13X-4 0402958507 SEC 4. T29S. R22E FACILITIES MANAGEMENT. INC. 790217 060630 MIOC-STEVENS	ETHANE	9.8 5.0 1.8 0.9 0.5 0.5 0.6 0.1
COUNTY FIELD WELL NAME API LOCATION OWNERSAN JOAQUIN I COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	KERN CAL CANAL CHEVRON-USTAN-U.S.LA 13X-4 0402958507 SEC 4. T29S. R22E FACILITIES MANAGEMENT. INC. 790217 060630 MIOC-STEVENS = 745	ETHANE	9.8 5.0 1.8 0.9 0.5 0.5 0.6 0.1 TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION OWNERSAN JOAQUIN I COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KERN CAL CANAL CHEVRON-USTAN-U.S.LA 13X-4 0402958507 SEC 4. T29S. R22E FACILITIES MANAGEMENT. INC. 790217 060630 MIOC-STEVENS = 745	ETHANE	9.8 5.0 1.8 0.9 0.5 0.5 0.6 0.1 TRACE 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNERSAN JOAQUIN I COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIC	KERN CAL CANAL CHEVRON-USTAN-U.S.LA 13X-4 0402958507 SEC 4. T29S. R22E FACILITIES MANAGEMENT. INC. 790217 060630 MIOC-STEVENS T45 11897	ETHANE	9.8 5.0 1.8 0.9 0.5 0.5 0.6 0.1 TRACE 0.0 0.0 4.5
COUNTY FIELD WELL NAME API LOCATION OWNERSAN JOAQUIN I COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	KERN CAL CANAL CHEVRON-USTAN-U.S.LA 13X-4 0402958507 SEC 4. T29S. R22E FACILITIES MANAGEMENT. INC. 790217 060630 MIOC-STEVENS T45 11897	ETHANE	9.8 5.0 1.8 0.9 0.5 0.5 0.6 0.1 TRACE 0.0 0.0 4.5

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

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

SAMPLE	21562	COMPONENT, MOLE PCT	
STATE	CALIFORNIA	METHANE	71.1
·	KERN	ETHANE	11.0
<u> </u>		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</u>	N FACILITIES MANAGEMENT, INC.	CYCLOPENTANE	
COMPLETED	890421	HEXANES PLUS	1.0
SAMPLED	060700	NITROGEN	0.8
FORMATION	MIOC-FRUITVALE	OXYGEN	
GEOLOGIC PROVINCE COD	DE745_	ARGON	
	Γ)8966	ARGON + OXYGEN	0.1
•		HYDROGEN	0.0
· · · · · · · · · · · · · · · · · · ·	_	HYDROGEN SULFIDE**	0.0
	SIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	10_	HELIUM	
		HEATING VALUE*	
CAMPLE	21567	SPECIFIC GRAVITY	
SAMPLE	21567	COMPONENT, MOLE PCT	
STATE	CALIFORNIA	METHANE	
COUNTY	KERN	ETHANE PROPANE	
FIELD	CARNEROS CREEK	N-BUTANE	
WELL NAME	SANTA FE 11	ISOBUTANE	
API	0403001479	N-PENTANE	
LOCATION	SEC 30, T28S, R20E	ISOPENTANE	
OWNER	PYRAMID OIL CO.	CYCLOPENTANE	
	931015	HEXANES PLUS	
· · · · · · · · · · · · · · · · · · ·	060831	NITROGEN	
` <u> </u>		OXYGEN	
	NT OF ROCKS, MIOC-PHACOIDES	ARGON	
	DE	ARGON + OXYGEN	0.5
TRUE VERTICAL DEPTH (F1		HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLIEAD DDECOLIDE DO	SIG	CARBON DIOXIDE	0.6
WELLHEAD PRESSURE, PS		CARBON DIOXIDE	
	18	HELIUM	0.00
	· · · · · · · · · · · · · · · · · · ·		

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

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

SAMPLE 21400	COMPONENT, MOLE PCT	
STATECALIFORNIA	METHANE	75.4
	ETHANE	2.0
COUNTY KERN	PROPANE	0.9
FIELD CYMRIC	N-BUTANE	0.3
WELL NAMEMCKITTRICK DEEP 104_	ISOBUTANE	0.
API0403003951_	N-PENTANE	0.
LOCATION SEC 6, T30S, R22E	ISOPENTANE	0.
OWNERPLAINS EXPLORATION & PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.3
SAMPLED	NITROGEN	2.
FORMATIONMIOC-ANTELOPE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	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	
	METHANE	82.
STATECALIFORNIA	ETHANE	5.
COUNTY KERN	PROPANE	2.0
FIELD CYMRIC	N-BUTANE	
WELL NAME R.H. ANDERSON TWO 100H	ISOBUTANE	0.3
API0403004641	N-PENTANE	TRACE
LOCATION SEC 20, T29S, R21E	ISOPENTANE	0.
OWNER PLAINS EXPLORATION & PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.4
SAMPLED041117_	NITROGEN	2.
FORMATION MIOC-CARNEROS	OXYGEN	0.
GEOLOGIC PROVINCE CODE	ARGON	
	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	HYDROGEN	
MEASURED DEPTH 4593	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	6.
77222.127.13 1 112000112, 1 010		
OPEN FLOW, MCFD 15	HELIUM	0.02
	HELIUM HEATING VALUE*	

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

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

SAMPLE 21571	COMPONENT, MOLE PCT
STATE CALIFORI	METHANE73.3
COUNTY LOS ANGEL	PROPANE6.3
FIELD DEL VAL	N-BUTANE3.2
WELL NAMENL&F 12	
API04037227	746_ N-PENTANE1.3
LOCATION SEC 20. T4N. R1	7WISOPENTANE1.3
OWNERLBTH. IN	NC. CYCLOPENTANE
COMPLETED 840°	126 HEXANES PLUS 2.5
SAMPLED0610	012 NITROGEN 2.0
FORMATION	OXYGEN
GEOLOGIC PROVINCE CODE 7	ARGON
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN0.2
MEASURED DEPTH	HYDROGEN0.0
	HYDROGEN SULFIDE**
WELLHEAD PRESSURE, PSIG	CANDON DIOXIDE
OPEN FLOW, MCFD	
	HEATING VALUE* 1.368 SPECIFIC GRAVITY 0.859
SAMPLE 21570	COMPONENT, MOLE PCT
	METHANE55.8
STATECALIFORI	ETHANE0.2
COUNTYSAN JOAQU	JIN. PROPANETRACE
FIELD FRENCH CA	M <u>P. </u>
WELL NAME PAGNUCCI 1	-34. ISOBUTANETRACE
API04077206	0.0 N-PENTANE
LOCATION SEC 34. T1N. R	6E_ ISOPENTANE0.0
OWNER VINTAGE PRODUCTION OF CA, L	LC CYCLOPENTANE
COMPLETED031	12 HEXANES PLUS0.0
SAMPLED0600	NITROGEN43.7
FORMATION CRET-LATHR	OXYGEN
GEOLOGIC PROVINCE CODE	ARGON -
	ARGON + OXYGENTRACE
TRUE VERTICAL DEPTH (FT)	HYDROGEN0.0
	HYDROGEN SULFIDE** 0.0
· · · · · · · · · · · · · · · · · · ·	CARBON DIOXIDE0.2
OPEN FLOW, MCFD44	HELIUM
	HEATING VALUE*
	SPECIFIC GRAVITY0.738

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

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

SAMPLE	21533	COMPONENT, MOLE PCT	
CTATE	CALIFORNIA	METHANE	69.9
	CALIFORNIA	ETHANE	3.7
	KERN.	PROPANE	1.5
FIELD	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	
	745	ARGON	
_	_	ARGON + OXYGEN	0.1
`	2319	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	19.3
OPEN FLOW, MCFD	4	HELIUM	0.00
		HEATING VALUE*	1.010
		SPECIFIC GRAVITY	0.869
SAMPLE	21458	COMPONENT, MOLE PCT	
STATE	CALIFORNIA.	METHANE	90.9
	GLENN	ETHANE	0.3
		PROPANE	0.0
	WILLOWS-BEEHIVE BEND	N-BUTANE	0.0
	SECTION 60 NO. 12	ISOBUTANE	0.0
API	0402120818	N-PENTANE	0.0
LOCATION	SEC 4, T19N, R2W	ISOPENTANE	0.0
OWNER	VENOCO, INC.	CYCLOPENTANE	
COMPLETED	021209	HEXANES PLUS	TRACE
SAMPLED	050000	NITROGEN	8.7
FORMATION	CRET-KIONE	OXYGEN	
GEOLOGIC PROVINCE CODE		ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	0.1
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	<u>. </u>	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	1200_	HELIUM	
		HEATING VALUE*	928
		SPECIFIC GRAVITY	0.593

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

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

SAMPLE	21404	COMPONENT, MOLE PCT	
STATE	CALIFORNIA	METHANE	91.0
COUNTY		ETHANE	0.8
FIELD		PROPANE	0.0
·		N-BUTANE	TRACE
WELL NAME		ISOBUTANE	
API		N-PENTANE	
LOCATION	SEC 7, T5S, R12W	ISOPENTANE	0.0
OWNER	THUMS LONG BEACH CO.	CYCLOPENTANE	
COMPLETED	000904	HEXANES PLUS	0.0
SAMPLED	041117	NITROGEN	
FORMATION	MIOC-PUENTE	OXYGEN	
GEOLOGIC PROVINCE CODE	760_	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE**	
,	·	CARBON DIOXIDE	
OPEN FLOW, MCFD	39	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.021
SAMPLE	21403	COMPONENT, MOLE PCT	
STATE	CALIFORNIA	METHANE	
COUNTY	LOS ANGELES	ETHANE	
FIELD	WILMINGTON	PROPANE	
WELL NAME		N-BUTANE	
API		ISOBUTANE	
LOCATION	_	N-PENTANE	
·	•	ISOPENTANE	
OWNER		CYCLOPENTANE HEXANES PLUS	
COMPLETED	030913	NITROGEN	
SAMPLED			
	041117_		
FORMATION	_	OXYGEN	0.0
FORMATION GEOLOGIC PROVINCE CODE	PLIO-REPETTO	OXYGEN	0.0
<u>'</u>	PLIO-REPETTO 760	OXYGEN ARGON ARGON + OXYGEN	0.0 TRACE
GEOLOGIC PROVINCE CODE _	PLIO-REPETTO 760	OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.0 TRACE 0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	PLIO-REPETTO 760 6444	OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.0 TRACE 0.0 0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	PLIO-REPETTO 760 6444	OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 TRACE 0.0 0.0 2.2
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PLIO-REPETTO 760 6444	OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.0 TRACE 0.0 0.0 2.2 0.03

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

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

SAMPLE	21481	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	94.2
	COLORADO	ETHANE	0.9
•	WASHINGTON	PROPANE	0.5
·	ABARR_	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	
	2799	ARGON + OXYGEN	
` '		HYDROGEN	
·		HYDROGEN SULFIDE**	
	G	CARBON DIOXIDE	
OPEN FLOW, MCFD	1388_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.59
SAMPLE	21490	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	75.3
•	WELD	ETHANE	7.1
•	ARISTOCRAT	PROPANE	6.8
•	ARISTOCRAT 41-10C	N-BUTANE	2.6
•		ISOBUTANE	
	0512312806	N-PENTANE	0.9
	SEC 10, T3N, R65W	ISOPENTANE	0.8
	SEC 10, T3N, R65W ENCANA OIL & GAS (USA), INC.	CYCLOPENTANE	0.8
OWNER	· · · · · · · · · · · · · · · · · · ·	CYCLOPENTANE	0.8 1.3
OWNER	ENCANA OIL & GAS (USA). INC.	CYCLOPENTANE HEXANES PLUS NITROGEN	0.8 1.3 3.0
OWNERCOMPLETEDSAMPLED	ENCANA OIL & GAS (USA). INC.	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.8 1.3 3.0
OWNER COMPLETED SAMPLED FORMATION	ENCANA OIL & GAS (USA). INC. 040129 050630	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.8 1.3 3.0
OWNER COMPLETED SAMPLED FORMATION	ENCANA OIL & GAS (USA). INC. 040129 050630 CRET-CODELL. NIOBRARA. 540	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.8 1.3 3.0 TRACE
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	ENCANA OIL & GAS (USA). INC. 040129 050630 CRET-CODELL. NIOBRARA = 540 7094	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.8 1.3 3.0 TRACE 0.1
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	ENCANA OIL & GAS (USA). INC. 040129 050630 CRET-CODELL. NIOBRARA = 540 7094	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.8 1.3 3.0 TRACE 0.1
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	ENCANA OIL & GAS (USA). INC. 040129 050630 CRET-CODELL. NIOBRARA = 540 7094 G 210	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.8 1.3 3.0 TRACE 0.1 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	ENCANA OIL & GAS (USA). INC. 040129 050630 CRET-CODELL. NIOBRARA = 540 7094 G 210	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.8 1.3 3.0 TRACE 0.1 0.0 0.3

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

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

SAMPLE	21459	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	76.3
•	WELD.	ETHANE	7.3
		PROPANE	6.2
FIELD		N-BUTANE	1.6
WELL NAME		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	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	0.1
		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	_	CARBON DIOXIDE	
OPEN FLOW, MCFD	585	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.743
SAMPLE	21469	COMPONENT, MOLE PCT	
SAMPLE STATE		COMPONENT, MOLE PCT METHANE	48.4
STATE	COLORADO	COMPONENT, MOLE PCT METHANE ETHANE	48.4 6.2
STATE	COLORADO_ KIOWA_	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	48.4 6.2 4.5
STATE COUNTY FIELD	COLORADO KIOWA AZTECAN	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	48.4 6.2 4.5 1.6
STATE COUNTY FIELD WELL NAME	COLORADO KIOWA AZTECAN BLACKHOLE 24-4 #2	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	48.4 6.2 4.5 1.6 0.7
STATE COUNTY FIELD WELL NAME API	COLORADO KIOWA AZTECAN BLACKHOLE 24-4 #2. 0506106751	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	48.4 6.2 4.5 1.6 0.7 0.5
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO KIOWA AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	48.4 6.2 4.5 1.6 0.7 0.5
STATE COUNTY FIELD WELL NAME API	COLORADO KIOWA AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	48.4 6.2 4.5 1.6 0.7 0.5 0.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	COLORADO KIOWA AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	48.4 6.2 4.5 1.6 0.7 0.5 0.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	COLORADO KIOWA AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4. T17S, R45W CITATION OIL & GAS CORP. 980407	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	48.4 6.2 4.5 1.6 0.7 0.5 0.4 0.8 33.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	COLORADO KIOWA AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4. T17S. R45W CITATION OIL & GAS CORP. 980407 050628	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	48.4 6.2 4.5 1.6 0.7 0.5 0.4 0.8 33.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	COLORADO KIOWA AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4. T17S. R45W CITATION OIL & GAS CORP. 980407 050628 PENN-MORROW	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	48.4 6.2 4.5 1.6 0.7 0.5 0.4 0.8 33.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	COLORADO KIOWA AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W CITATION OIL & GAS CORP. 980407 050628 PENN-MORROW 450	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	48.4 6.2 4.5 1.6 0.7 0.5 0.4 0.8 33.9
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	COLORADO KIOWA AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W CITATION OIL & GAS CORP. 980407 050628 PENN-MORROW 450 4964	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	48.4 6.2 4.5 1.6 0.7 0.5 0.4 0.8 33.9 0.1
STATE	COLORADO KIOWA AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W CITATION OIL & GAS CORP. 980407 050628 PENN-MORROW 450 4964	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	48.4 6.2 4.5 1.6 0.7 0.5 0.4 0.8 33.9 0.1 0.0
STATE	COLORADO KIOWA AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W CITATION OIL & GAS CORP. 980407 050628 PENN-MORROW 450 4964	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	48.4 6.2 4.5 1.6 0.7 0.5 0.4 0.8 33.9 0.1 0.0 0.0
STATE	COLORADO KIOWA AZTECAN BLACKHOLE 24-4 #2 0506106751 SEC 4, T17S, R45W CITATION OIL & GAS CORP. 980407 050628 PENN-MORROW 450 4964	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	48.4 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

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

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

SAMPLE	21656	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	92.0
COUNTY		ETHANE	1.1
·	·	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	TRACE
MEASURED DEPTH		HYDROGEN	0.0
	·	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	58	HELIUM	
		HEATING VALUE*	
0.1151.5		SPECIFIC GRAVITY	0.595
SAMPLE	21541	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	
COUNTY	ADAMS_	ETHANE	
FIELD	BARREL RANCH	PROPANE	
WELL NAME		N-BUTANE	
API		ISOBUTANE	
LOCATION		N-PENTANE	
		ISOPENTANE	
OWNER	_	CYCLOPENTANE HEXANES PLUS	
COMPLETED		NITROGEN	
SAMPLED		OXYGEN	
FORMATION		ARGON	
GEOLOGIC PROVINCE CODE _	540_	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	6559	HYDROGEN	
		HYDROGEN SULFIDE**	
MEASURED DEPTH			
		_	
MEASURED DEPTH		CARBON DIOXIDE	1.4
		_	1.4 0.03

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

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

SAMPLE 21534	COMPONENT, MOLE PCT	
STATECOLORADO	METHANE	73.7
	ETHANE	10.8
COUNTY ADAMS	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
FORMATION CRET-DAKOTA J	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	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 21550	COMPONENT, MOLE PCT	
STATECOLORADO	METHANE	
	ETHANE	14.3
COUNTY WELD	PROPANE	14.3 10.2
COUNTY WELD FIELD BIRD HAVEN	ETHANE PROPANE N-BUTANE	14.3 10.2 3.0
COUNTY	ETHANE PROPANE N-BUTANE ISOBUTANE	14.3 10.2 3.0 0.9
COUNTY	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	14.3 10.2 3.0 0.9 0.7
COUNTY	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	14.3 10.2 3.0 0.9 0.7 0.5
COUNTY	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	14.3 10.2 3.0 0.9 0.7 0.5
COUNTY	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	14.3 10.2 3.0 0.9 0.7 0.5
COUNTY	ETHANE	14.3 10.2 3.0 0.9 0.7 0.5 1.0
COUNTY	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	14.3 10.2 3.0 0.9 0.7 0.5 1.0 0.8
COUNTY	ETHANE	14.3 10.2 3.0 0.9 0.7 0.5 1.0 0.8
COUNTY	ETHANE	14.3 10.2 3.0 0.9 0.7 0.5 1.0 0.8
COUNTY	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	ETHANE	14.3 10.2 3.0 0.9 0.7 0.5 1.0 0.8 TRACE TRACE
COUNTY	ETHANE	14.3 10.2 3.0 0.9 0.7 0.5 1.0 0.8 TRACE TRACE 0.0 4.5
COUNTY	ETHANE	14.3 10.2 3.0 0.9 0.7 0.5 1.0 0.8 TRACE TRACE 0.0 4.5

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

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

SAMPLE 21	487	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	48.5
COUNTY		ETHANE	8.3
		PROPANE	7.7
FIELD		N-BUTANE	3.1
WELL NAMEGRAY STATE 5 (INJE	CSTLE PK GAS)	ISOBUTANE	1.0
API		N-PENTANE	0.7
LOCATION	SEC 36, T12S, R51W	ISOPENTANE	0.6
OWNERCITA	TION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	880202	HEXANES PLUS	1.0
SAMPLED	050630	NITROGEN	26.2
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE	450	ARGON	
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 21	486	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	46.4
	_	ETHANE	8.4
COUNTY		PROPANE	7.7
FIELD		N-BUTANE	3.3
WELL NAME		ISOBUTANE	1.0
API		N-PENTANE	1.0
LOCATION	SEC 36, T12S, R51W	ISOPENTANE	0.8
OWNERCITA	TION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	1.7
SAMPLED	050630	NITROGEN	26.8
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE	450_	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH	_	HYDROGEN	
WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE**	
,		CARBON DIOXIDE	
OPEN FLOW, MCFD	_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.931

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

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

SAMPLE	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
API	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	58.2
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE	450_	ARGON	
_	5292	ARGON + OXYGEN	0.2
MEASURED DEPTH		HYDROGEN	
· · · · · · · · · · · · · · · · · · ·		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	1701_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21485	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	47.9
COUNTY		ETHANE	6.9
	CASTLE PEAK	PROPANE	6.3
•		N-BUTANE	2.8
•	WECO-WILLIAM BATTERY	ISOBUTANE	
API		IOODOTANE	
·	0501706676	N-PENTANE	0.8
·	0501706676 SEC 11. T13S. R51W	N-PENTANE	0.8 0.9 0.7
LOCATION		N-PENTANE	0.8 0.9 0.7
LOCATION	SEC 11, T13S, R51W	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.8 0.9 0.7 1.4
LOCATIONOWNERCOMPLETED	SEC 11. T13S. R51W CITATION OIL & GAS CORP.	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.8 0.9 0.7 1.4 29.3
LOCATIONOWNERCOMPLETED	SEC 11. T13S. R51W CITATION OIL & GAS CORP. 870901 050630	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.8 0.9 0.7 1.4 29.3
LOCATION OWNER COMPLETED SAMPLED	SEC 11. T13S. R51W CITATION OIL & GAS CORP. 870901 050630 PENN-MORROW	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.8 0.9 0.7 1.4 29.3
LOCATION OWNER COMPLETED SAMPLED FORMATION	SEC 11. T13S. R51W CITATION OIL & GAS CORP. 870901 050630 PENN-MORROW 450	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.8 0.9 0.7 1.4 29.3 0.1
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	SEC 11. T13S. R51W CITATION OIL & GAS CORP. 870901 050630 PENN-MORROW 450 6202	N-PENTANE	0.8 0.9 0.7 1.4 29.3 0.1 TRACE
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SEC 11. T13S. R51W CITATION OIL & GAS CORP. 870901 050630 PENN-MORROW 450 6202	N-PENTANE	0.8 0.9 0.7 1.4 29.3 0.1 TRACE 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG .	SEC 11. T13S. R51W CITATION OIL & GAS CORP. 870901 050630 PENN-MORROW 450 6202	N-PENTANE	0.8 0.9 0.7 1.4 29.3 0.1 TRACE 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SEC 11. T13S. R51W CITATION OIL & GAS CORP. 870901 050630 PENN-MORROW 450 6202	N-PENTANE	0.8 0.9 0.7 1.4 29.3 0.1 TRACE 0.0 1.8

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

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

SAMPLE 2153	6	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	36.1
	_	ETHANE	6.2
COUNTY		PROPANE	6.7
FIELD	_	N-BUTANE	3.7
WELL NAME		ISOBUTANE	1.4
API		N-PENTANE	1.1
LOCATION	SEC 29, T13S, R43W	ISOPENTANE	1.0
OWNERCITATIO	ON 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	
WELLHEAD PRESSURE, PSIG	_	HYDROGEN SULFIDE**	
	<u> </u>	CARBON DIOXIDE	
OPEN FLOW, MCFD	207	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 2155.	2	COMPONENT, MOLE PCT	
3, um 22 2133.	_	METHANE	50 Q
STATE	COLORADO	ETHANE	
COUNTY	WELD	PROPANE	
FIELD	CROW	N-BUTANE	
WELL NAMEFEC	DERAL OSPREY 35-3	ISOBUTANE	
API	0512320272	N-PENTANE	
LOCATION	SEC 35, T8N, R60W	ISOPENTANE	1.2
OWNERDIVERSIFIED	OPERATING CORP.	CYCLOPENTANE	
COMPLETED	021201	HEXANES PLUS	2.5
SAMPLED		NITROGEN	0.6
FORMATION		OXYGEN	
GEOLOGIC PROVINCE CODE	_	ARGON	
	540	ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	4.2
OPEN FLOW, MCFD	160	HELIUM	0.01
		HEATING VALUE*	1,662
		SPECIFIC GRAVITY	1 044

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

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

SAMPLE	21542	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	71.5
	ADAMS	ETHANE	9.4
	DANSKIN	PROPANE	7.3
-		N-BUTANE	3.2
<u>'</u>	LINNEBUR FARMS 21-3	ISOBUTANE	1.1
	0500108151	N-PENTANE	0.8
·	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	
	6360	ARGON + OXYGEN	TRACE
` , ,	****	HYDROGEN	
		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	315	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21560	COMPONENT, MOLE PCT	
OAIVII EE	21300	METHANE	62.5
STATE	COLORADO	ETHANE	
COUNTY	ELBERT_	PROPANE	
FIELD	DEADEYE	N-BUTANE	
WELL NAME	HSR-WHITEHEAD 14-9	ISOBUTANE	
API	0503906630	N-PENTANE	
LOCATION	SEC 9. T6S. R62W	ISOPENTANE	
OWNER	HILCORP ENERGY CO.	CYCLOPENTANE	
	950725	HEXANES PLUS	
	060712	NITROGEN	2.2
	CRET-DAKOTA D	OXYGEN	
	540	ARGON	
		ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT)		HYDROGEN	TRACE
MEASURED DEPTH	_	HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	2.2
OPEN FLOW, MCFD		HELIUM	0.02
		HEATING VALUE*	
		SPECIFIC GRAVITY	

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

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

SAMPLE	21561	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	63.4
	-	ETHANE	10.8
·	<u>ELBERT</u>	PROPANE	11.7
<u>"</u>	<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	
	540	ARGON	
-	7405	ARGON + OXYGEN	
` , _	7700	HYDROGEN	TRACE
•		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	2.2
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	•
0.1151.5		SPECIFIC GRAVITY	0.922
SAMPLE	21535	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	
COUNTY	CHEYENNE	ETHANE	
FIELD	DINO	PROPANE	
WELL NAME	DART 22-22 NO.1	N-BUTANE	
•		ISOBUTANE	
	0501707261		
	0501707261 SEC 22 T15S R45W	N-PENTANE	2.0
LOCATION	SEC 22, T15S, R45W	N-PENTANE	2.0 1.9
LOCATION	SEC 22, T15S, R45W CITATION OIL & GAS CORP.	N-PENTANE ISOPENTANE CYCLOPENTANE	2.0 1.9
LOCATIONOWNERCOMPLETED	SEC 22, T15S, R45W CITATION OIL & GAS CORP. 911121	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.0 1.9 3.0
LOCATION OWNER COMPLETED SAMPLED	SEC 22, T15S, R45W CITATION OIL & GAS CORP. 911121 060626	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	2.0 1.9 3.0 19.9
LOCATION OWNER COMPLETED SAMPLED	SEC 22, T15S, R45W CITATION OIL & GAS CORP. 911121	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	2.0 1.9 3.0 19.9
LOCATION OWNER COMPLETED SAMPLED	SEC 22, T15S, R45W CITATION OIL & GAS CORP. 911121 060626	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	2.0 1.9 3.0 19.9
LOCATION OWNER COMPLETED SAMPLED FORMATION	SEC 22, T15S, R45W CITATION OIL & GAS CORP. 911121 060626 MISS-SPERGEN 450	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	2.0 1.9 3.0 19.9
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	SEC 22, T15S, R45W CITATION OIL & GAS CORP. 911121 060626 MISS-SPERGEN 450 5512	N-PENTANE	2.0 1.9 3.0 19.9 0.1
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _	SEC 22, T15S, R45W CITATION OIL & GAS CORP. 911121 060626 MISS-SPERGEN 450 5512	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	2.0 1.9 3.0 19.9 0.1 0.1
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SEC 22, T15S, R45W CITATION OIL & GAS CORP. 911121 060626 MISS-SPERGEN 450 5512	N-PENTANE	2.0 1.9 3.0 19.9 0.1 0.1 0.0 3.7
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SEC 22, T15S, R45W CITATION OIL & GAS CORP. 911121 060626 MISS-SPERGEN 450 5512	N-PENTANE	2.0 1.9 3.0 19.9 0.1 0.1 0.0 3.7 0.69

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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
OWNERDI	VERSIFIED OPERATING CORP.	CYCLOPENTANE	
COMPLETED	020905	HEXANES PLUS	2.1
SAMPLED	060628	NITROGEN	0.7
FORMATION	CRET-DAKOTA D	OXYGEN	
GEOLOGIC PROVINCE CODE	540	ARGON	
	6756	ARGON + OXYGEN	TRACE
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	<u>175</u>	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21539	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	41.6
	COLORADO	METHANE	
COUNTY	LINCOLN		13.3
COUNTY	LINCOLN FALLOW	ETHANE	13.3 16.1
COUNTY FIELD WELL NAME	LINCOLN FALLOW FALLOW 32-18 NO. 1	ETHANEPROPANE	13.3 16.1 4.8
COUNTY FIELD WELL NAME API	LINCOLN FALLOW FALLOW 32-18 NO. 1 0507306262	ETHANE PROPANE N-BUTANE	13.3 16.1 4.8 2.3
COUNTY FIELD WELL NAME API	LINCOLN FALLOW FALLOW 32-18 NO. 1	ETHANE PROPANE N-BUTANE ISOBUTANE	13.3 16.1 4.8 2.3 1.2
COUNTY FIELD WELL NAME API LOCATION	LINCOLN FALLOW FALLOW 32-18 NO. 1 0507306262	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE	13.3 16.1 4.8 2.3 1.2 1.3
COUNTY FIELD WELL NAME API LOCATION OWNER	LINCOLN FALLOW FALLOW 32-18 NO. 1 0507306262 SEC 18, T10S, R54W	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	13.3 16.1 4.8 2.3 1.2 1.3
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	LINCOLN FALLOW FALLOW 32-18 NO. 1 0507306262 SEC 18, T10S, R54W CITATION OIL & GAS CORP.	ETHANE	13.3 16.1 4.8 2.3 1.2 1.3 2.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	LINCOLN FALLOW FALLOW 32-18 NO. 1 0507306262 SEC 18. T10S, R54W CITATION OIL & GAS CORP. 921009	ETHANE	13.3 16.1 4.8 2.3 1.2 1.3 2.0 16.7
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	LINCOLN FALLOW FALLOW 32-18 NO. 1 0507306262 SEC 18, T10S, R54W CITATION OIL & GAS CORP. 921009 060627	ETHANE	13.3 16.1 4.8 2.3 1.2 1.3 2.0 16.7
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	LINCOLN FALLOW FALLOW 32-18 NO. 1 0507306262 SEC 18, T10S, R54W CITATION OIL & GAS CORP. 921009 060627 PENN-MARMATON 540	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	13.3 16.1 4.8 2.3 1.2 1.3 2.0 16.7 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	LINCOLN FALLOW FALLOW 32-18 NO. 1 0507306262 SEC 18, T10S, R54W CITATION OIL & GAS CORP. 921009 060627 PENN-MARMATON 540 6818	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	13.3 16.1 4.8 2.3 1.2 1.3 2.0 16.7 TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	LINCOLN FALLOW FALLOW 32-18 NO. 1 0507306262 SEC 18. T10S, R54W CITATION OIL & GAS CORP. 921009 060627 PENN-MARMATON 540 6818	ETHANE	13.3 16.1 4.8 2.3 1.2 1.3 2.0 16.7 TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	LINCOLN FALLOW FALLOW 32-18 NO. 1 0507306262 SEC 18, T10S, R54W CITATION OIL & GAS CORP. 921009 060627 PENN-MARMATON 540 6818	ETHANE	13.3 16.1 4.8 2.3 1.2 1.3 2.0 16.7 TRACE TRACE 0.0 0.4
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	LINCOLN FALLOW FALLOW 32-18 NO. 1 0507306262 SEC 18, T10S, R54W CITATION OIL & GAS CORP. 921009 060627 PENN-MARMATON 540 6818	ETHANE	13.3 16.1 4.8 2.3 1.2 1.3 2.0 16.7 TRACE TRACE 0.0 0.4 0.30

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE 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	IPONENT, MOLE PCT	
COUNTY	METHANE	33.8
FIELD	ETHANE	1.1
WELL NAME COOK NMD 1-13 API 0500906584 LOCATION SEC 13. T33S. R44W OWNER ENERGY ALLIANCE CO., INC. COMPLETED 981029 SAMPLED 050627 FORMATION PERM-RED CAVE. GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 1654 MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD 580 HEA' SPEC SAMPLE 21472 COM STATE COLORADO. COUNTY CHEYENNE FIELD FRONTERA WELL NAME FRONTERA WELL NAME FRONTERA U 5-1 API 0501706663 LOCATION SEC 18. T15S, R41W OWNER MULL DRILLING CO., INC. COMPLETED 871106 SAMPLED 050628 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 450 TRUE VERTICAL DEPTH (FT) 5164 MEASURED DEPTH	PROPANE	0.7
API	N-BUTANE	0.3
SEC 13, T33S, R44W	ISOBUTANE	0.1
OWNER	N-PENTANE	0.1
SAMPLED	ISOPENTANE	0.1
SAMPLED	CYCLOPENTANE	
FORMATION	HEXANES PLUS	0.2
GEOLOGIC PROVINCE CODE	NITROGEN	61.4
GEOLOGIC PROVINCE CODE	OXYGEN	
TRUE VERTICAL DEPTH (FT)	ARGON	
MEASURED DEPTH	ARGON + OXYGEN	0.1
WELLHEAD PRESSURE, PSIG 580 OPEN FLOW, MCFD 580 HEA' SPEC SAMPLE 21472 COM STATE COLORADO COUNTY CHEYENNE FIELD FRONTERA FRONTERA WELL NAME FRONTERA U 5-1 API API 0501706663 LOCATION LOCATION SEC 18, T15S, R41W OWNER MULL DRILLING CO., INC. COMPLETED 871106 SAMPLED 050628 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 450 TRUE VERTICAL DEPTH (FT) 5164 MEASURED DEPTH	HYDROGEN	TRACE
OPEN FLOW, MCFD	HYDROGEN SULFIDE**	0.0
SAMPLE 21472 COM STATE	CARBON DIOXIDE	0.1
SAMPLE 21472 COM STATE	HELIUM	
SAMPLE 21472 COM STATE	TING VALUE*	
STATE	CIFIC GRAVITY	0.83
STATE COLORADO COUNTY CHEYENNE FIELD FRONTERA WELL NAME FRONTERA U 5-1 API 0501706663 LOCATION SEC 18. T15S. R41W OWNER MULL DRILLING CO., INC. COMPLETED 871106 SAMPLED 050628 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 450 TRUE VERTICAL DEPTH (FT) 5164 MEASURED DEPTH	IPONENT, MOLE PCT	
COUNTY	METHANE	34.0
FIELD	ETHANE	3.5
WELL NAME FRONTERA U 5-1 API 0501706663 LOCATION SEC 18. T15S, R41W OWNER MULL DRILLING CO., INC. COMPLETED 871106 SAMPLED 050628 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 450 TRUE VERTICAL DEPTH (FT) 5164 MEASURED DEPTH	PROPANE	3.4
API	N-BUTANE	1.8
DOCATION SEC 18. T15S, R41W OWNER MULL DRILLING CO., INC. COMPLETED 871106 SAMPLED 050628 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 450 TRUE VERTICAL DEPTH (FT) 5164 MEASURED DEPTH	ISOBUTANE	0.7
OWNER	N-PENTANE	0.8
COMPLETED	ISOPENTANE	0.6
SAMPLED	CYCLOPENTANE	
FORMATION	HEXANES PLUS	1.3
GEOLOGIC PROVINCE CODE	NITROGEN	50.8
TRUE VERTICAL DEPTH (FT) 5164. MEASURED DEPTH	OXYGEN	
TRUE VERTICAL DEPTH (FT)	ARGON	
MEASURED DEPTH	ARGON + OXYGEN	0.1
	HYDROGEN	
WELLIEAD DDESCLIDE DSIC	HYDROGEN SULFIDE**	
	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	TING VALUE* CIFIC GRAVITY	

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

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

SAMPLE	21473	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	27.3
	CHEYENNE	ETHANE	3.7
		PROPANE	4.5
	<u>FRONTERA</u>	N-BUTANE	2.8
	FRONTERA UNIT 7	ISOBUTANE	1.0
API	0501706831	N-PENTANE	0.9
LOCATION	SEC 13. T15S. R42W	ISOPENTANE	0.8
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
`	5202	HYDROGEN	0.0
	_	HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.969
SAMPLE	21445	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	95.7
	COLONADO		
COUNTY	LAS ANIMAS	ETHANE	0.0
·	LAS ANIMAS	PROPANE	0.0
FIELD	LAS ANIMAS HILL RANCH	PROPANE N-BUTANE	0.0 0.0 0.0
FIELD	LAS ANIMAS HILL RANCH HILL RANCH 4-14R	PROPANE N-BUTANE ISOBUTANE	0.0 0.0 0.0 0.0
FIELD WELL NAME API	LAS ANIMAS HILL RANCH HILL RANCH 4-14R 0507107175	PROPANEN-BUTANEISOBUTANEN-PENTANE	0.0 0.0 0.0 0.0
FIELD WELL NAME API LOCATION	LAS ANIMAS. HILL RANCH HILL RANCH 4-14R. 0507107175 SEC 4. T35S. R67W	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.0 0.0 0.0 0.0 0.0 0.0
FIELD WELL NAME API LOCATION OWNER	LAS ANIMAS HILL RANCH HILL RANCH 4-14R 0507107175 SEC 4. T35S, R67W XTO ENERGY, INC.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.0 0.0 0.0 0.0 0.0 0.0
FIELD WELL NAME API LOCATION OWNER	LAS ANIMAS. HILL RANCH HILL RANCH 4-14R. 0507107175 SEC 4. T35S. R67W	PROPANE	0.0 0.0 0.0 0.0 0.0 0.0
FIELD	LAS ANIMAS HILL RANCH HILL RANCH 4-14R 0507107175 SEC 4. T35S, R67W XTO ENERGY, INC.	PROPANE	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
FIELD	LAS ANIMAS HILL RANCH HILL RANCH 4-14R 0507107175 SEC 4. T35S, R67W XTO ENERGY, INC. 011023	PROPANE	0.0 0.0 0.0 0.0 0.0 0.0 0.0 4.0
FIELD	LAS ANIMAS HILL RANCH HILL RANCH 4-14R 0507107175 SEC 4. T35S. R67W XTO ENERGY. INC. 011023 050412	PROPANE	0.0 0.0 0.0 0.0 0.0 0.0 0.0 4.0 0.0
FIELD	LAS ANIMAS HILL RANCH HILL RANCH 4-14R 0507107175 SEC 4. T35S. R67W XTO ENERGY, INC. 011023 050412 TERT-RATON 455	PROPANE	0.0 0.0 0.0 0.0 0.0 0.0 0.0 4.0 0.0
FIELD	LAS ANIMAS HILL RANCH HILL RANCH 4-14R 0507107175 SEC 4. T35S. R67W XTO ENERGY, INC. 011023 050412 TERT-RATON 455 1447	PROPANE	0.0 0.0 0.0 0.0 0.0 0.0 0.0 4.0 0.1
FIELD	LAS ANIMAS HILL RANCH HILL RANCH 4-14R 0507107175 SEC 4. T35S, R67W XTO ENERGY, INC. 011023 050412 TERT-RATON 455	PROPANE	0.0 0.0 0.0 0.0 0.0 0.0 0.0 4.0 0.1 0.0
WELL NAME	LAS ANIMAS HILL RANCH HILL RANCH 4-14R 0507107175 SEC 4. T35S. R67W XTO ENERGY. INC. 011023 050412 TERT-RATON 455 1447	PROPANE	0.0 0.0 0.0 0.0 0.0 0.0 0.0 4.0 0.0 0.1 0.0 0.0
FIELD	LAS ANIMAS HILL RANCH HILL RANCH 4-14R 0507107175 SEC 4. T35S. R67W XTO ENERGY. INC. 011023 050412 TERT-RATON 455 1447	PROPANE	0.0 0.0 0.0 0.0 0.0 0.0 0.0 4.0 0.1 0.0 0.0 0.2 0.00

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

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

SAMPLE	21470	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	52.4
·		ETHANE	10.9
·	KIOWA	PROPANE	8.3
	JACE_	N-BUTANE	2.4
WELL NAME	TUTTLE 33-35-1	ISOBUTANE	0.8
	0506106621	N-PENTANE	0.6
LOCATION	SEC 35, T17S, R42W	ISOPENTANE	0.5
OWNER	CITATION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	920119	HEXANES PLUS	0.9
SAMPLED	050628	NITROGEN	21.5
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE	CODE450	ARGON	
	1 (FT)5056_	ARGON + OXYGEN	0.1
	3030	HYDROGEN	
		HYDROGEN SULFIDE**	
	, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21599	COMPONENT, MOLE PCT	
07475	001.00400	METHANE	86.4
	COLORADO	ETHANE	8.1
•	GARFIELD.	PROPANE	
FIELD	KOKOPELLI	N-BUTANE	0.7
WELL NAME	JOLLEY 17-6	ISOBUTANE	0.7
API	0504507423	N-PENTANE	0.2
LOCATION	SEC 17, T6S, R91W	ISOPENTANE	0.2
OWNER	ENCANA OIL & GAS (USA), INC.	CYCLOPENTANE	
COMPLETED	000523	HEXANES PLUS	0.4
SAMPLED	070523	NITROGEN	0.4
FORMATION	CRET-WILLIAMS FORK	OXYGEN	
GEOLOGIC PROVINCE		ARGON	
	1 (FT)	ARGON + OXYGEN	TRACE
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	0.0
	, PSIG <u>285</u>	CARBON DIOXIDE	
OPEN FLOW, MCFD	280	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.6

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

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

SAMPLE	21594	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	47.4
		ETHANE	19.8
	ADAMS.	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	
	7010	HYDROGEN	
	<u> </u>	HYDROGEN SULFIDE**	
,		CARBON DIOXIDE	
OPEN FLOW, MCFD	800	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
07475	001.00400	METHANE	72.7
OTATE	COLORADO	METHANE	72.7
•		ETHANE	10.7
	ADAMS		10.7
·	ADAMS.	PROPANE	6.8
FIELD	LIDO	N-BUTANE	6.8 2.3
FIELD	LIDO MCLENNAN ST. A-1	N-BUTANE	6.8 2.3 0.9
FIELD WELL NAMEAPI	LIDO MCLENNAN ST. A-1 0500106616	N-BUTANE ISOBUTANE N-PENTANE	6.8 2.3 0.9 0.7
FIELD	LIDO MCLENNAN ST. A-1 0500106616 SEC 36. T1S. R60W	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	6.8 2.3 0.9 0.7 0.7
FIELD WELL NAME API LOCATION OWNER	LIDO MCLENNAN ST. A-1 0500106616 SEC 36. T1S. R60W SOVEREIGN ENERGY, LLC.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	6.8 2.3 0.9 0.7 0.7
FIELD WELL NAME API LOCATION OWNER	LIDO MCLENNAN ST. A-1 0500106616 SEC 36. T1S. R60W	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	6.8 2.3 0.9 0.7 0.7
FIELD	LIDO MCLENNAN ST. A-1 0500106616 SEC 36. T1S. R60W SOVEREIGN ENERGY, LLC.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	6.8 2.3 0.9 0.7 0.7 1.4 2.3
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	LIDO MCLENNAN ST. A-1. 0500106616 SEC 36, T1S, R60W SOVEREIGN ENERGY, LLC. 730108	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	6.8 2.3 0.9 0.7 0.7 1.4 2.3
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	LIDO MCLENNAN ST. A-1 0500106616 SEC 36. T1S. R60W SOVEREIGN ENERGY, LLC. 730108 060627 CRET-DAKOTA J	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	6.8 2.3 0.9 0.7 0.7 1.4 2.3
FIELD	LIDO MCLENNAN ST. A-1 0500106616 SEC 36. T1S. R60W SOVEREIGN ENERGY. LLC. 730108 060627 CRET-DAKOTA J 540	N-BUTANE	6.8 2.3 0.9 0.7 0.7 1.4 2.3 TRACE
WELL NAME	LIDO MCLENNAN ST. A-1 0500106616 SEC 36. T1S. R60W SOVEREIGN ENERGY. LLC. 730108 060627 CRET-DAKOTA J 540	N-BUTANE	6.8 2.3 0.9 0.7 0.7 1.4 2.3 TRACE 0.0
FIELD	LIDO MCLENNAN ST. A-1 0500106616 SEC 36. T1S. R60W SOVEREIGN ENERGY, LLC. 730108 060627 CRET-DAKOTA J 540 6284	N-BUTANE	6.8 2.3 0.9 0.7 0.7 1.4 2.3 TRACE 0.0
FIELD	LIDO MCLENNAN ST. A-1 0500106616 SEC 36. T1S. R60W SOVEREIGN ENERGY. LLC. 730108 060627 CRET-DAKOTA J 540 6284	N-BUTANE	6.8 2.3 0.9 0.7 0.7 1.4 2.3 TRACE 0.0 0.0
FIELD	LIDO MCLENNAN ST. A-1 0500106616 SEC 36. T1S. R60W SOVEREIGN ENERGY. LLC. 730108 060627 CRET-DAKOTA J 540 6284	N-BUTANE	6.8 2.3 0.9 0.7 0.7 1.4 2.3 TRACE 0.0 0.0 1.4 0.05

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

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

SAMPLE	21471	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	25.2
•		ETHANE	1.9
•	<u>CHEYENNE</u>	PROPANE	1.6
·	LONGHORN GULCH	N-BUTANE	0.8
WELL NAME	TED 11-3-1	ISOBUTANE	0.4
API		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	
TRUE VERTICAL DEPTH (FT)	_	ARGON + OXYGEN	0.1
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	1659	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.002
SAMPLE	21478	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	
COUNTY	WASHINGTON	ETHANE	1.1
FIELD	_	PROPANE	0.7
· · · · · · · · · · · · · · · · · · ·	BURNS 1	N-BUTANE	
•	_	ISOBUTANE	
	0512109772	N-PENTANE	
<u> </u>	SEC 29, T2S, R50W	ISOPENTANE	
OWNER	SAND HILLS SOCIETY	CYCLOPENTANE	
COMPLETED	<u>820315</u>	HEXANES PLUS	
SAMPLED	050629	NITROGEN	
FORMATION	CRET-NIOBRARA	OXYGEN	
		ARGON	
GEOLOGIC PROVINCE CODE _	540	ADCON LOVVOEN	TDACE
GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _		ARGON + OXYGEN	
	3042	HYDROGEN	0.0
TRUE VERTICAL DEPTH (FT) _	3042	HYDROGEN HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	3042	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.5
TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	3042	HYDROGEN HYDROGEN SULFIDE**	0.0 0.0 0.5 0.05

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

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

SAMPLE	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
API	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	
	6864	ARGON + OXYGEN	TRACE
	0007	HYDROGEN	0.0
· · · · · · · · · · · · · · · · · · ·	_	HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	
OPEN FLOW, MCFD	324_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21474	COMPONENT. MOLE PCT	
37 ttvii EE	21111	METHANE	32.8
STATE	COLORADO	ETHANE	
COUNTY	CHEYENNE	PROPANE	
FIELD	MAYFIELD	N-BUTANE	
WELL NAME	N. MAYFIELD 14-17-1	ISOBUTANE	1.4
API	0501707436	N-PENTANE	1.4
LOCATION	SEC 17, T13S, R43W	ISOPENTANE	1.1
OWNER	CITATION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	940928	HEXANES PLUS	2.1
SAMPLED	050628	NITROGEN	41.8
·	PENN-MORROW	OXYGEN	
	450	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	0.1
• •		HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
		CARBON DIOXIDE	
OPEN FLOW, MCFD	958	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.999

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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	
STATE	COLOBADO	METHANE	37.6
		ETHANE	6.8
·	LINCOLN	PROPANE	7.3
FIELD	_	N-BUTANE	3.4
WELL NAME		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	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	0.1
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	981	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.975
SAMPLE	21662	COMPONENT, MOLE PCT	
SAMPLE STATE			
STATE	COLORADO	COMPONENT, MOLE PCT	47.6
STATE	COLORADO WELD	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	47.6 19.3 16.9
STATE COUNTY FIELD	COLORADO WELD NORTH RIVERSIDE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	47.6 19.3 16.9 5.0
STATE COUNTY FIELD WELL NAME	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	47.6 19.3 16.9 5.0 2.1
STATE COUNTY FIELD WELL NAME	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	47.6 19.3 16.9 5.0 2.1 1.9
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8, T5N, R61W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	47.6 19.3 16.9 5.0 2.1 1.9
STATE COUNTY FIELD WELL NAME	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8, T5N, R61W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE	47.6 19.3 16.9 5.0 2.1 1.9 1.4
STATE COUNTY FIELD WELL NAME API LOCATION	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8. T5N. R61W ENERGY OPERATING CO., LLC	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	47.6 19.3 16.9 5.0 2.1 1.9 1.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNERBONANZA CREEK E	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8. T5N. R61W ENERGY OPERATING CO., LLC	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	47.6 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 E	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8. T5N. R61W NERGY OPERATING CO LLC 040528 070816	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	47.6 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 E COMPLETED SAMPLED	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8. T5N. R61W ENERGY OPERATING CO., LLC 040528 070816 CRET-DAKOTA D	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	47.6 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 E COMPLETED SAMPLED FORMATION	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8. T5N. R61W NERGY OPERATING CO LLC 040528 070816 CRET-DAKOTA D 540	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	47.6 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 E COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8. T5N. R61W NERGY OPERATING CO., LLC 040528 070816 CRET-DAKOTA D 540 6669	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	47.6 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 E COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8. T5N. R61W INERGY OPERATING CO., LLC 040528 070816 CRET-DAKOTA D 540 6669	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	47.6 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 E 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 NERGY OPERATING CO LLC 040528 070816 CRET-DAKOTA D 540 6669	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	47.6 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 E COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	COLORADO WELD NORTH RIVERSIDE PRONGHORN 32-8 0512322052 SEC 8. T5N. R61W NERGY OPERATING CO LLC 040528 070816 CRET-DAKOTA D 540 6669	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	47.6 19.3 16.9 5.0 2.1 1.9 1.4 2.6 0.3 0.5 0.0 0.0 2.5 0.00

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

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

SAMPLE	21663	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	47.7
•		ETHANE	18.9
	WELD	PROPANE	17.3
•	NORTH RIVERSIDE	N-BUTANE	5.0
	PRONGHORN 14-8	ISOBUTANE	2.2
API	0512323566	N-PENTANE	1.7
LOCATION	SEC 8, T5N, R61W	ISOPENTANE	1.4
OWNER <u>BONANZA CREE</u>	K ENERGY OPERATING CO., LLC.	CYCLOPENTANE	
COMPLETED	061217	HEXANES PLUS	2.6
SAMPLED	070816	NITROGEN	0.3
FORMATION	CRET-NIOBRARA	OXYGEN	
GEOLOGIC PROVINCE COD	E540_	ARGON	
TRUE VERTICAL DEPTH (ET	6142	ARGON + OXYGEN	
•	,	HYDROGEN	
	G	HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	332	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21595	COMPONENT, MOLE PCT	
SAMPLE	21090	,	747
STATE	COLORADO	METHANE	
COUNTY	<u>DOLORES</u>	PROPANE	
FIELD	PAPOOSE CANYON	N-BUTANE	
WELL NAME	BREWER FEDERAL 2-17	ISOBUTANE	
API	0503306108	N-PENTANE	
LOCATION	SEC 17, T39N, R19W	ISOPENTANE	
·	D. J. SIMMONS. INC.	CYCLOPENTANE	
•	030603	HEXANES PLUS	
	070427	NITROGEN	17.5
·	PENN-HONAKER TRAIL	OXYGEN	
GEOLOGIC PROVINCE COD		ARGON	
		ARGON + OXYGEN	0.3
TRUE VERTICAL DEPTH (FT		HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLIEAD DDECCLIDE DOL	G1700_	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	2000	HELIUM	0.18
	2000	HELIUM HEATING VALUE*	

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

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

SAMPLE	21600	COMPONENT, MOLE PCT	
CTATE	COLORADO	METHANE	82.1
-	_	ETHANE	8.5
•	WELD	PROPANE	2.8
•	PEACOCK.	N-BUTANE	0.8
	LOST CREEK 5	ISOBUTANE	0.6
API	0512321441	N-PENTANE	0.4
LOCATION	SEC 20, T3N, R62W	ISOPENTANE	0.5
OWNER	O'BRIEN ENERGY RESOURCES	CYCLOPENTANE	
COMPLETED	030822	HEXANES PLUS	0.7
SAMPLED	070525	NITROGEN	0.7
FORMATION	CRET-DAKOTA J	OXYGEN	
GEOLOGIC PROVINCE	CODE540_	ARGON	
	H (FT)	ARGON + OXYGEN	
		HYDROGEN	
	E, PSIG300_	HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	90	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
STATE	COLORADO	METHANE	28.3
STATE	COLORADO	METHANE	28.3
COUNTY	KIT CARSON	ETHANE	
FIELD	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	
	PENN-MORROW	ARGON	
GEOLOGIC PROVINCE	CODE540_	ARGON + OXYGEN	
TRUE VERTICAL DEPTI	H (FT)5455_	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE	E, PSIG470_	CARBON DIOXIDE	1.5
OPEN FLOW, MCFD	1723	HELIUM	3.01
		HEATING VALUE*	433
		SPECIFIC GRAVITY	0.871

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

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

	21537	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	28.3
· · · · · · · · · · · · · · · · · · ·	KIT CARSON	ETHANE	2.0
	·	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	0.1
, ,	<u> </u>	HYDROGEN	0.0
	_	HYDROGEN SULFIDE**	0.0
	·	CARBON DIOXIDE	
OPEN FLOW, MCFD	1622_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.871
SAMPLE	21482	COMPONENT, MOLE PCT	
STATE		METHANE	
	COLORADO	•	
		ETHANE	
COUNTY	YUMA	PROPANE	0.9 0.5
COUNTY	YUMA PONY EXPRESS	ETHANE PROPANE N-BUTANE	0.9 0.5 0.1
COUNTY FIELD WELL NAME	YUMA. PONY EXPRESS BLACH 1-24	ETHANE PROPANE N-BUTANE ISOBUTANE	0.9 0.5 0.1 0.1
COUNTY FIELD WELL NAMEAPI	YUMA. PONY EXPRESS BLACH 1-24 0512506159	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.9 0.5 0.1 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION	YUMA. PONY EXPRESS. BLACH 1-24. 0512506159. SEC 24. T1S. R48W.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.9 0.5 0.1 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION	YUMA. PONY EXPRESS BLACH 1-24 0512506159	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	0.9 0.5 0.1 0.1 TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER	YUMA. PONY EXPRESS. BLACH 1-24. 0512506159. SEC 24. T1S. R48W.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.9 0.5 0.1 0.1 TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	YUMA PONY EXPRESS BLACH 1-24 0512506159 SEC 24. T1S. R48W MOUNTAIN PETROLEUM CORP.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.9 0.5 0.1 0.1 TRACE TRACE 0.1 3.8
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	YUMA. PONY EXPRESS. BLACH 1-24. 0512506159. SEC 24. T1S. R48W. MOUNTAIN PETROLEUM CORP. 771221.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.9 0.5 0.1 0.1 TRACE TRACE 0.1 3.8
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION FORMATION	YUMA. PONY EXPRESS. BLACH 1-24. 0512506159 SEC 24. T1S. R48W MOUNTAIN PETROLEUM CORP. 771221. 050629	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.9 0.5 0.1 0.1 TRACE TRACE 0.1 3.8
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION FORMATION	YUMA. PONY EXPRESS. BLACH 1-24 0512506159 SEC 24. T1S. R48W MOUNTAIN PETROLEUM CORP. 771221 050629 CRET-NIOBRARA. 540	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.9 0.5 0.1 0.1 TRACE TRACE 0.1 3.8 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	YUMA. PONY EXPRESS. BLACH 1-24 0512506159 SEC 24. T1S. R48W MOUNTAIN PETROLEUM CORP. 771221 050629 CRET-NIOBRARA. 540	ETHANE	0.9 0.5 0.1 0.1 TRACE TRACE 0.1 3.8 TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT), MEASURED DEPTH	YUMA. PONY EXPRESS BLACH 1-24 0512506159 SEC 24. T1S. R48W MOUNTAIN PETROLEUM CORP. 771221 050629 CRET-NIOBRARA 540 2576	ETHANE	0.9 0.5 0.1 0.1 TRACE TRACE 0.1 3.8 TRACE 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	YUMA PONY EXPRESS BLACH 1-24 0512506159 SEC 24. T1S. R48W MOUNTAIN PETROLEUM CORP. 771221 050629 CRET-NIOBRARA 540 2576	ETHANE	0.9 0.5 0.1 0.1 TRACE TRACE 0.1 3.8 TRACE 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT), MEASURED DEPTH	YUMA PONY EXPRESS BLACH 1-24 0512506159 SEC 24. T1S. R48W MOUNTAIN PETROLEUM CORP. 771221 050629 CRET-NIOBRARA 540 2576	ETHANE	0.9 0.5 0.1 0.1 TRACE TRACE 0.1 3.8 TRACE 0.0 0.0 0.3 0.07

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

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

SAMPLE	21604	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	73.5
•	_	ETHANE	12.4
•	ADAMS	PROPANE	5.8
•	PORTER.	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	
·	E540_	ARGON	
	7512	ARGON + OXYGEN	TRACE
•	· ———	HYDROGEN	0.0
		HYDROGEN SULFIDE** _	0.0
, -	G	CARBON DIOXIDE	1.9
OPEN FLOW, MCFD	253	HELIUM	0.03
		HEATING VALUE*	1.304
		SPECIFIC GRAVITY	0.785
SAMPLE	21551	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	61.1
	ADAMS	ETHANE	14.8
	_	PROPANE	11.1
·	QUAIL	N-BUTANE	3.6
	STATE OF COLORADO NO. 5	ISOBUTANE	1.4
API	0500107578	N-PENTANE	1.0
LOCATION	SEC 36, T2S, R63W	ISOPENTANE	1.0
OWNER	MATRIX ENERGY, LLC.	CYCLOPENTANE	
COMPLETED	800703	HEXANES PLUS	1.7
SAMPLED	060629	NITROGEN	1.5
FORMATION	CRET-DAKOTA D. J	OXYGEN	
GEOLOGIC PROVINCE CODI	E540_	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	TRACE
		HYDROGEN	
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSI		CARBON DIOXIDE	2.8
OPEN FLOW, MCFD	3200	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	

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

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

SAMPLE	21477	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	94.7
•	_	ETHANE	0.8
-	WASHINGTON	PROPANE	0.4
•	RUSH WILLADEL	N-BUTANE	0.1
WELL NAME	RUDNIK 1A	ISOBUTANE	0.1
•	0512110198	N-PENTANE	TRACE
LOCATION	SEC 24, T3S, R51W	ISOPENTANE	TRACE
OWNER	CENTRAL OPERATING, INC.	CYCLOPENTANE	
COMPLETED	040830	HEXANES PLUS	0.1
SAMPLED	050629	NITROGEN	3.3
FORMATION	CRET-NIOBRARA	OXYGEN	
GEOLOGIC PROVINCE CODE	540	ARGON	
	2992	ARGON + OXYGEN	
. , -	2002	HYDROGEN	0.0
•	_	HYDROGEN SULFIDE**	
•		CARBON DIOXIDE	
OPEN FLOW, MCFD	200_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
0.1151.5			0.000
SAMPLE	21669	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	
COUNTY	WELD	ETHANE	
FIELD	SCABBARD	PROPANE	
WELL NAME	CHAMPLIN 367 AMOCO 1	N-BUTANE	
		ISOBUTANE	
	0512309072		
•	0512309072 SEC 5 T1N R63W	N-PENTANE	0.9
LOCATION	SEC 5, T1N, R63W	N-PENTANE	0.9
LOCATION	SEC 5, T1N, R63W ENERVEST OPERATING, LLC.	N-PENTANEISOPENTANECYCLOPENTANE	0.9 0.8
LOCATION OWNER COMPLETED	SEC 5, T1N, R63W ENERVEST OPERATING, LLC. 770531	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS	0.9 0.8 1.1
LOCATION OWNER COMPLETED SAMPLED	SEC 5, T1N, R63W ENERVEST OPERATING, LLC. 770531 070929	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.9 0.8 1.1 5.4
LOCATION OWNER COMPLETED SAMPLED	SEC 5, T1N, R63W ENERVEST OPERATING, LLC. 770531	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.9 0.8 1.1 5.4
LOCATION OWNER COMPLETED SAMPLED	SEC 5, T1N, R63W ENERVEST OPERATING, LLC. 770531 070929	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.9 0.8 1.1 5.4
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE.	SEC 5, T1N, R63W ENERVEST OPERATING, LLC. 770531 070929 CRET-DAKOTA J	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.9 0.8 1.1 5.4 0.2
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE.	SEC 5, T1N, R63W ENERVEST OPERATING, LLC. 770531 070929 CRET-DAKOTA J 540 7282	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.9 0.8 1.1 5.4 0.2
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) _	SEC 5, T1N, R63W ENERVEST OPERATING, LLC. 770531 070929 CRET-DAKOTA J 540 7282	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.9 0.8 1.1 5.4 0.2 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	SEC 5, T1N, R63W ENERVEST OPERATING, LLC. 770531 070929 CRET-DAKOTA J 540 7282	N-PENTANE	0.9 0.8 1.1 5.4 0.2 0.0 0.0
LOCATION	SEC 5, T1N, R63W ENERVEST OPERATING, LLC. 770531 070929 CRET-DAKOTA J 540 7282	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.9 0.8 1.1 5.4 0.2 0.0 0.0 1.7 0.03

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

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

SAMPLE	21316	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	57.7
-	_	ETHANE	11.5
•	PROWERS	PROPANE	8.2
·	SIGNAL HILL	N-BUTANE	2.4
	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	TRACE
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	2035	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.837
SAMPLE	21488	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	44.0
•	CHEYENNE	ETHANE	
•	SPEAKER	PROPANE	14.3
·	SPEAKER 5-13	N-BUTANE	5.5
•	_	ISOBUTANE	2.3
	0501707217	N-PENTANE	
	SEC 13. T12S. R51W	ISOPENTANE	
OWNER	CITATION OIL & GAS CORP.	CYCLOPENTANE	
COMPLETED	910718	HEXANES PLUS	
	910718 050630	NITROGEN	12.1
SAMPLED		NITROGENOXYGEN	12.1
SAMPLED	050630	NITROGENOXYGENARGON	12.1
SAMPLED	050630 PENN-MORROW 450	NITROGEN OXYGEN ARGON ARGON + OXYGEN	12.1 0.1
SAMPLED	050630 <u>PENN-MORROW</u> 450 6470	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	12.1 0.1 TRACE
SAMPLED	050630 PENN-MORROW 450 6470	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	12.1 0.1 TRACE 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG .	050630 PENN-MORROW 450 6470	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	12.1 0.1 TRACE 0.0 2.7
SAMPLED	050630 PENN-MORROW 450 6470	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	12.1 0.1 TRACE 0.0 2.7 0.30

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

SAMPLE	21545	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	41.2
	_	ETHANE	14.4
·	WELD	PROPANE	19.8
•	SPENSON	N-BUTANE	6.2
<u> </u>	HSR R HUGHES 15-13	ISOBUTANE	2.8
API	0512319358	N-PENTANE	3.6
LOCATION	SEC 13, T1N, R63W	ISOPENTANE	2.8
OWNER KERR-1	MCGEE ROCKY MOUNTAIN CORP.	CYCLOPENTANE	
COMPLETED	970531	HEXANES PLUS	6.6
SAMPLED	060628	NITROGEN	0.4
FORMATION	CRET-DAKOTA D	OXYGEN	
GEOLOGIC PROVINCE COL	DE540_	ARGON	
	T)7084	ARGON + OXYGEN	
		HYDROGEN	
·	_	HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	468_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	1.253
SAMPLE	21480	COMPONENT, MOLE PCT	
		METHANE	
STATE	COLORADO		
•	COLORADO WASHINGTON	ETHANE	0.6
COUNTY	WASHINGTON	PROPANE	0.6 0.4
COUNTY	WASHINGTON SPOTTED DOG	ETHANE PROPANE N-BUTANE	0.6 0.4 0.1
COUNTY FIELD WELL NAME	WASHINGTON SPOTTED DOG CHRISTIANSON 31-12	ETHANE PROPANE N-BUTANE ISOBUTANE	0.6 0.4 0.1 0.1
COUNTY FIELD WELL NAME API	WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.6 0.4 0.1 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION	WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.6 0.4 0.1 0.1 TRACE 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER	WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W VISTA RESOURCES, INC.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	0.6 0.4 0.1 0.1 TRACE 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W VISTA RESOURCES, INC. 020426	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.6 0.4 0.1 0.1 TRACE 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W VISTA RESOURCES, INC. 020426 050629	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.6 0.4 0.1 0.1 TRACE 0.1 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W VISTA RESOURCES, INC. 020426	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.6 0.4 0.1 0.1 TRACE 0.1 0.1 2.7
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12. T3S, R50W VISTA RESOURCES, INC. 020426 050629 CRET-NIOBRARA	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.6 0.4 0.1 0.1 TRACE 0.1 0.1 2.7
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COI	WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12. T3S, R50W VISTA RESOURCES, INC. 020426 050629 CRET-NIOBRARA	ETHANE	0.6 0.4 0.1 0.1 TRACE 0.1 0.1 2.7 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COI TRUE VERTICAL DEPTH (F	WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12. T3S, R50W VISTA RESOURCES, INC. 020426 050629 CRET-NIOBRARA DE	ETHANE	0.6 0.4 0.1 TRACE 0.1 0.1 2.7 TRACE 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COI TRUE VERTICAL DEPTH (F	WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12. T3S. R50W VISTA RESOURCES. INC. 020426 050629 CRET-NIOBRARA DE	ETHANE	0.6 0.4 0.1 0.1 TRACE 0.1 0.1 2.7 TRACE 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COI TRUE VERTICAL DEPTH (F MEASURED DEPTH WELLHEAD PRESSURE, PS	WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W VISTA RESOURCES, INC. 020426 050629 CRET-NIOBRARA DE	ETHANE	0.6 0.4 0.1 0.1 TRACE 0.1 0.1 2.7 TRACE 0.0 0.0 0.4
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COI TRUE VERTICAL DEPTH (F MEASURED DEPTH WELLHEAD PRESSURE, PS	WASHINGTON SPOTTED DOG CHRISTIANSON 31-12 0512110658 SEC 12, T3S, R50W VISTA RESOURCES, INC. 020426 050629 CRET-NIOBRARA DE	ETHANE	0.6 0.4 0.1 1TRACE 0.1 0.1 2.7 TRACE 0.0 0.0 0.4 0.04

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

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

SAMPLE	21479	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	95.9
COUNTY		ETHANE	0.6
		PROPANE	0.2
FIELD	·	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)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
<u>'</u>	·	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _	_	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21484	COMPONENT. MOLE PCT	
SAMPLE	21404	, , ,	94.5
STATE	COLORADO	METHANE	
COUNTY	YUMA	PROPANE	
FIELD	TIERRA PLANO	N-BUTANE	
WELL NAME	HARRIS 26-2-3	ISOBUTANE	
API	0512507919	N-PENTANE	
LOCATION	SEC 26, T2S, R45W	ISOPENTANE	
OWNER		CYCLOPENTANE	
COMPLETED	_	HEXANES PLUS	
SAMPLED		NITROGEN	
FORMATION	·	OXYGEN	
<u></u>		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	0.5
OPEN FLOW, MCFD	258	HELIUM	0.05
		HEATING VALUE*	993

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

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

SAMPLE	21483	COMPONENT, MOLE PCT	
STATE	COLOBADO	METHANE	94.8
•	_	ETHANE	0.9
COUNTY		PROPANE	0.5
FIELD	_	N-BUTANE	0.1
WELL NAME	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		ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.5
OPEN FLOW, MCFD	836_	HELIUM	0.06
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.585
SAMPLE	21654	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	93.9
			00.0
COLINTY	_	ETHANE	
COUNTY	YUMA	ETHANE	1.0
FIELD	YUMA_ VERNON_		1.0 0.5
FIELD	YUMA. VERNON LAWVER 1-5.	PROPANE	1.0 0.5 0.1
FIELD WELL NAMEAPI	YUMA VERNON LAWVER 1-5 0512506806	PROPANEN-BUTANE	1.0 0.5 0.1 0.1
FIELD	YUMA VERNON LAWVER 1-5 0512506806	PROPANE N-BUTANE ISOBUTANE	1.0 0.5 0.1 0.1 TRACE
FIELD WELL NAMEAPI	YUMA. VERNON LAWVER 1-5. 0512506806. SEC 5, T2S, R44W.	PROPANE N-BUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.0 0.5 0.1 0.1 TRACE TRACE
FIELD	YUMA. VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W DUNTAIN PETROLEUM CORP.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.0 0.5 0.1 0.1 TRACE TRACE
FIELD	YUMA VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W DUNTAIN PETROLEUM CORP. 820724	PROPANE N-BUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.0 0.5 0.1 0.1 TRACE TRACE
FIELD	YUMA VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W DUNTAIN PETROLEUM CORP. 820724 070814	PROPANE	1.0 0.5 0.1 0.1 TRACE TRACE 0.1 3.8
FIELD	YUMA. VERNON LAWVER 1-5. 0512506806 SEC 5, T2S, R44W DUNTAIN PETROLEUM CORP. 820724 070814 CRET-NIOBRARA	PROPANE	1.0 0.5 0.1 0.1 TRACE TRACE 0.1 3.8
FIELD	YUMA VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W DUNTAIN PETROLEUM CORP. 820724 070814 CRET-NIOBRARA 540	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	1.0 0.5 0.1 0.1 TRACE TRACE 0.1 3.8 TRACE
FIELD	YUMA VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W DUNTAIN PETROLEUM CORP. 820724 070814 CRET-NIOBRARA 540 2164	PROPANE	1.0 0.5 0.1 0.1 TRACE TRACE 0.1 3.8 TRACE
FIELD	YUMA VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W DUNTAIN PETROLEUM CORP. 820724 070814 CRET-NIOBRARA 540 2164	PROPANE	1.0 0.5 0.1 TRACE TRACE 0.1 3.8 TRACE 0.0
FIELD	YUMA VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W DUNTAIN PETROLEUM CORP. 820724 070814 CRET-NIOBRARA 540 2164	PROPANE	1.0 0.5 0.1 0.1 TRACE TRACE 0.1 3.8 TRACE 0.0 TRACE
FIELD	YUMA VERNON LAWVER 1-5 0512506806 SEC 5, T2S, R44W DUNTAIN PETROLEUM CORP. 820724 070814 CRET-NIOBRARA 540 2164	PROPANE	1.0 0.5 0.1 0.1 TRACE TRACE 0.1 3.8 TRACE 0.0 TRACE

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

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

SAMPLE	21548	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	67.8
	_	ETHANE	11.5
COUNTY	-	PROPANE	9.5
FIELD		N-BUTANE	3.5
WELL NAME	VERA NO. 1	ISOBUTANE	1.0
API	0512309380	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)	-	ARGON + OXYGEN	TRACE
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	2.4
OPEN FLOW, MCFD	15_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.874
SAMPLE	21547	COMPONENT, MOLE PCT	
STATE	COLORADO	METHANE	
COUNTY	WELD	ETHANE	8.5
FIELD	_	PROPANE	2.8
	-	N-BUTANE	
**LLL **/\\			
ADI	GORDON NO. 1	ISOBUTANE	0.5
API	0512313656	ISOBUTANEN-PENTANE	0.5 0.2
LOCATION	0512313656 SEC 5, T3N, R61W	ISOBUTANE N-PENTANE ISOPENTANE	0.5 0.2 0.3
	0512313656 SEC 5, T3N, R61W	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.5 0.2 0.3
LOCATION	0512313656 SEC 5. T3N, R61W HILCORP ENERGY CO.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.5 0.2 0.3
LOCATION	0512313656 SEC 5, T3N, R61W HILCORP ENERGY CO. 880203	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.5 0.2 0.3 0.6 0.7
LOCATIONOWNERCOMPLETED	0512313656 SEC 5, T3N, R61W HILCORP ENERGY CO. 880203 060628	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.5 0.2 0.3 0.6 0.7
OWNER COMPLETED SAMPLED	0512313656 SEC 5, T3N, R61W HILCORP ENERGY CO. 880203 060628	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.5 0.2 0.3 0.6 0.7
LOCATION OWNER COMPLETED SAMPLED FORMATION	0512313656 SEC 5. T3N, R61W HILCORP ENERGY CO. 880203 060628 CRET-DAKOTA J 540	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.5 0.2 0.3 0.6 0.7 TRACE
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	0512313656 SEC 5. T3N, R61W HILCORP ENERGY CO. 880203 060628 CRET-DAKOTA J 540 6625	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.5 0.2 0.3 0.6 0.7 TRACE
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	0512313656 SEC 5. T3N, R61W HILCORP ENERGY CO. 880203 060628 CRET-DAKOTA J 540 6625	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.5 0.2 0.3 0.6 0.7 TRACE 0.0
LOCATION	0512313656 SEC 5, T3N, R61W HILCORP ENERGY CO. 880203 060628 CRET-DAKOTA J 540 6625	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.5 0.2 0.3 0.6 0.7 TRACE 0.0 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	0512313656 SEC 5, T3N, R61W HILCORP ENERGY CO. 880203 060628 CRET-DAKOTA J 540 6625	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.5 0.2 0.3 0.6 0.7 TRACE 0.0 0.0 2.5

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

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

SAMPLE	21467	COMPONENT, MOLE PCT	
CTATE	COLODADO	METHANE	41.4
STATE		ETHANE	2.6
COUNTY		PROPANE	2.9
FIELD		N-BUTANE	1.4
WELL NAME	COOK 1	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	
•	_	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	1070	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21468	COMPONENT, MOLE PCT	
CTATE	COLODADO	METHANE	41.2
STATE	COLORADO		
OOLINITY (B404	ETHANE	2.5
COUNTY	_	ETHANE PROPANE	
COUNTY	_		2.8
·	WALSH	PROPANE	2.8 1.3
FIELD	WALSH FRAZEE 1	PROPANEN-BUTANE	2.8 1.3 0.5
FIELD	WALSH	PROPANEN-BUTANEISOBUTANE	2.8 1.3 0.5 0.4
FIELD WELL NAMEAPI	WALSH	PROPANE N-BUTANE ISOBUTANE N-PENTANE	2.8 1.3 0.5 0.4 0.4
FIELD WELL NAME API LOCATION	WALSH. FRAZEE 1. 0500906622 SEC 28, T32S, R43W. SANDLIN OIL CORP.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	2.8 1.3 0.5 0.4 0.4
FIELD WELL NAME API LOCATION OWNER	WALSH. FRAZEE 1. 0500906622 SEC 28, T32S, R43W SANDLIN OIL CORP. 040209	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	2.8 1.3 0.5 0.4 0.4
FIELD WELL NAME API LOCATION OWNER COMPLETED	WALSH FRAZEE 1 0500906622 SEC 28, T32S, R43W SANDLIN OIL CORP. 040209 050627	PROPANE	2.8 1.3 0.5 0.4 0.4 0.7 48.8
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	WALSH. FRAZEE 1. 0500906622 SEC 28. T32S, R43W SANDLIN OIL CORP. 040209 050627 PERM-WOLFCAMP	PROPANE	2.8 1.3 0.5 0.4 0.4 0.7 48.8
WELL NAME	WALSH. FRAZEE 1 0500906622 SEC 28, T32S, R43W SANDLIN OIL CORP. 040209 050627 PERM-WOLFCAMP 360	PROPANE	2.8 1.3 0.5 0.4 0.4 0.7 48.8 0.1
WELL NAME	WALSH. FRAZEE 1. 0500906622 SEC 28. T32S, R43W SANDLIN OIL CORP. 040209 050627 PERM-WOLFCAMP 360 2934	PROPANE	2.8 1.3 0.5 0.4 0.4 0.7 48.8 0.1 0.0
WELL NAME	WALSH. FRAZEE 1. 0500906622 SEC 28, T32S, R43W SANDLIN OIL CORP. 040209 050627 PERM-WOLFCAMP 360 2934	PROPANE	2.8 1.3 0.5 0.4 0.4 0.7 48.8 0.1 0.0
WELL NAME	WALSH. FRAZEE 1 0500906622 SEC 28. T32S. R43W SANDLIN OIL CORP. 040209 050627 PERM-WOLFCAMP 360 2934	PROPANE	2.8 1.3 0.5 0.4 0.4 0.7 48.8 0.1 0.0 0.0
WELL NAME	WALSH. FRAZEE 1 0500906622 SEC 28. T32S. R43W SANDLIN OIL CORP. 040209 050627 PERM-WOLFCAMP 360 2934	PROPANE	2.8 1.3 0.5 0.4 0.4 0.7 48.8 0.1 0.0 0.0 0.2 1.13

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

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

SAMPI	_E 21546		COMPONENT, MOLE PCT	
CTATE	COLORA	DO	METHANE	80.3
			ETHANE	7.5
	WE		PROPANE	5.4
	WATTENBE		N-BUTANE	1.6
WELL NAME	KRAUS	E 2	ISOBUTANE	1.1
	0512313		N-PENTANE	0.3
	SEC 28, T4N, R6		ISOPENTANE	0.4
OWNER	KERR-MCGEE ROCKY MOUNTAIN CO	RP.	CYCLOPENTANE	
COMPLETED	880	130_	HEXANES PLUS	0.7
SAMPLED	0600	628	NITROGEN	1.1
FORMATION	CRET-SUSSEX, NIOBRARA, FT HA	YS.	OXYGEN	
GEOLOGIC PROVING	CE CODE	540	ARGON	
TRUE VERTICAL DE	PTH (FT)	 271	ARGON + OXYGEN	
			HYDROGEN	
			HYDROGEN SULFIDE**	
	JRE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	`	260_	HELIUM	
			HEATING VALUE*	1,230
			SPECIFIC GRAVITY	0.732
SAMPI	_E 21655		SPECIFIC GRAVITY COMPONENT, MOLE PCT	0.732
		.DO		
STATE	COLORA		COMPONENT, MOLE PCT	90.5
STATE	COLORA YU	MA.	COMPONENT, MOLE PCT METHANE	90.5 1.2
STATE COUNTY FIELD	COLORA YU WAUNE	MA. ETA.	COMPONENT, MOLE PCT METHANE ETHANE	90.5 1.2 0.5
STATE COUNTY FIELD WELL NAME	COLORA YU WAUNE BLEDSOE 13-6-3	MA. ETA. 3-43.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	90.5 1.2 0.5 0.1
STATE COUNTY FIELD WELL NAME API	COLORA YU WAUNE BLEDSOE 13-6-3 0512509:	MA. ETA. 3-43. 319.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	90.5 1.2 0.5 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	COLORA YU WAUNE BLEDSOE 13-6-3 0512509: SEC 6, T3N, R4	MA. ETA. 3-43. 319. 3W.	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	COLORA YU WAUNE BLEDSOE 13-6-3 0512509:	MA. ETA. 3-43. 319. 3W.	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	COLORA YU WAUNE BLEDSOE 13-6-3 0512509: SEC 6, T3N, R4	MA ETA 3-43 319 3W RP	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	COLORA YU WAUNE BLEDSOE 13-6-3 0512509; SEC 6, T3N, R4 FOREST OIL COL	MA. ETA. B-43. 319. 3W. RP.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	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	COLORA YU WAUNE BLEDSOE 13-6-3 05125093 SEC 6, T3N, R4 FOREST OIL COL	MA. ETA. 1-43. 319. 3W. RP 812.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE 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	COLORA YU WAUNE BLEDSOE 13-6-3 0512509; SEC 6, T3N, R4 FOREST OIL COI 0506 0706 CRET-NIOBRA	MA. ETA. 1-43. 319. 3W. RP 812.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE 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 PROVING	COLORA YU WAUNE BLEDSOE 13-6-3 0512509; SEC 6, T3N, R4 FOREST OIL COI 0506 0706 CRET-NIOBRA	MA. ETA. B-43. 319. 3W. RP 812. 814. NRA.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	90.5 1.2 0.5 0.1 0.1 TRACE TRACE TRACE 7.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVING TRUE VERTICAL DE	COLORA YU WAUNE BLEDSOE 13-6-3 0512509: SEC 6, T3N, R4 FOREST OIL COI 0509 0709 CRET-NIOBRA	MA. ETA. 3-43 3319 33W RP. 812 814 ARA 540	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 PROVING TRUE VERTICAL DE MEASURED DEPTH	COLORA YU WAUNE BLEDSOE 13-6-3 05125093 SEC 6, T3N, R4 FOREST OIL COI 0508 0708 CRET-NIOBRA CE CODE PTH (FT)	MA. ETA. 319 3W RP. 812 814 ARA. 540	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE 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
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVING TRUE VERTICAL DE MEASURED DEPTH WELLHEAD PRESSL	COLORA YU WAUNE BLEDSOE 13-6-3 05125093 SEC 6, T3N, R4 FOREST OIL COI 0509 0709 CRET-NIOBRA CE CODE PTH (FT) 23	MA. ETA. 1-43. 319. 3W. RP 812. 814. IRA. 540.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE*** CARBON DIOXIDE	90.5 1.2 0.5 0.1 1.2 0.5 0.1 TRACE TRACE TRACE 7.1 TRACE 0.0 TRACE 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVING TRUE VERTICAL DE MEASURED DEPTH WELLHEAD PRESSL	COLORA YU WAUNE BLEDSOE 13-6-3 05125093 SEC 6, T3N, R4 FOREST OIL COI 0503 0703 CRET-NIOBRA CE CODE PTH (FT) 22	MA. ETA. 1-43. 319. 3W. RP 812. 814. IRA. 540.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE 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

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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	
STATEKANSAS_	METHANE	84.4
· · · · · · · · · · · · · · · · · · ·	ETHANE	3.5
COUNTY BARBER	PROPANE	2.1
FIELD AETNA	N-BUTANE	0.8
WELL NAMESPRIGGS E-1_	ISOBUTANE	0.3
API1500722501_	N-PENTANE	0.3
LOCATION SEC. 33, T33S, R13W	ISOPENTANE	0.2
OWNER WOOLSEY PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.6
SAMPLED	NITROGEN	7.1
FORMATIONPENN-SNYDERVILLE	OXYGEN	
GEOLOGIC PROVINCE CODE 375	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	0.0
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	·
OPEN FLOW, MCFD 33	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.665
SAMPLE 50614	COMPONENT, MOLE PCT	
	METHANE	
STATE KANSAS	METHANE	7.4
STATE KANSAS COUNTY STAFFORD	METHANE ETHANE PROPANE	7.4 3.8
STATE KANSAS COUNTY STAFFORD FIELD AJT	METHANE ETHANE PROPANE N-BUTANE	7.4 3.8 1.1
STATE KANSAS COUNTY STAFFORD FIELD AJT WELL NAME THOMAS 1	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	7.4 3.8 1.1 0.4
STATE KANSAS COUNTY STAFFORD FIELD AJT WELL NAME THOMAS 1 API 1518522904	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	7.4 3.8 1.1 0.4 0.4
STATE KANSAS COUNTY STAFFORD FIELD AJT WELL NAME THOMAS 1 API 1518522904 LOCATION SEC 29, T25S, R11W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	7.4 3.8 1.1 0.4 0.4
STATE KANSAS COUNTY STAFFORD FIELD AJT WELL NAME THOMAS 1 API 1518522904 LOCATION SEC 29, T25S, R11W OWNER RAYMOND OIL CO, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	7.4 3.8 1.1 0.4 0.4 0.2
STATE KANSAS COUNTY STAFFORD FIELD AJT WELL NAME THOMAS 1 API 1518522904 LOCATION SEC 29, T25S, R11W OWNER RAYMOND OIL CO, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE HEXANES PLUS	7.4 3.8 1.1 0.4 0.2 1.5
STATE KANSAS COUNTY STAFFORD FIELD AJT WELL NAME THOMAS 1 API 1518522904 LOCATION SEC 29, T25S, R11W OWNER RAYMOND OIL CO, INC. COMPLETED 940707	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	7.4 3.8 1.1 0.4 0.4 0.2 1.5
STATE KANSAS COUNTY STAFFORD FIELD AJT WELL NAME THOMAS 1 API 1518522904 LOCATION SEC 29, T25S, R11W OWNER RAYMOND OIL CO, INC. COMPLETED 940707 SAMPLED 930428	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	7.4 3.8 1.1 0.4 0.4 0.2 1.5 19.2
STATE KANSAS COUNTY STAFFORD FIELD AJT WELL NAME THOMAS 1 API 1518522904 LOCATION SEC 29. T25S. R11W OWNER RAYMOND OIL CO. INC. COMPLETED 940707 SAMPLED 930428 FORMATION ORDO-VIOLA	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	7.4 3.8 1.1 0.4 0.2 1.5 19.2 0.0
STATE KANSAS COUNTY STAFFORD FIELD AJT WELL NAME THOMAS 1 API 1518522904 LOCATION SEC 29. T25S. R11W OWNER RAYMOND OIL CO. INC. COMPLETED 940707 SAMPLED 930428 FORMATION ORDO-VIOLA GEOLOGIC PROVINCE CODE 385	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	7.4 3.8 1.1 0.4 0.4 0.2 1.5 19.2 0.0
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	7.4 3.8 1.1 0.4 0.2 1.5 19.2 0.0
STATE	METHANE	7.4 3.8 1.1 0.4 0.2 1.5 19.2 0.0 TRACE
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	7.4 3.8 1.1 0.4 0.4 0.2 1.5 19.2 0.0 TRACE 0.1
STATE KANSAS COUNTY STAFFORD FIELD AJT WELL NAME THOMAS 1 API 1518522904 LOCATION SEC 29. T25S. R11W OWNER RAYMOND OIL CO. INC. COMPLETED 940707 SAMPLED 930428 FORMATION ORDO-VIOLA	METHANE	7.4 3.8 1.1 0.4 0.4 0.2 1.5 19.2 0.0 TRACE 0.1 1.33

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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	KANGAG	METHANE	83.5
-	_	ETHANE	4.3
COUNTY		PROPANE	3.3
FIELD	ALFORD.	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	0.1
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	1.1
WELL NAME		N-BUTANE	
		ISOBUTANE	
API		N-PENTANE	
LOCATION	· · · · · · · · · · · · · · · · · · ·	ISOPENTANE	
OWNER	VINCENT OIL CORP.	CYCLOPENTANE	
COMPLETED	011022	HEXANES PLUS	
SAMPLED	011004	NITROGEN	
FORMATION	ORDO-VIOLA	OXYGEN	
	01,00 1102/1	ADCON	
GEOLOGIC PROVINCE CODE	360	ARGON	
•	360	ARGON + OXYGEN	
GEOLOGIC PROVINCE CODE	360 4798	ARGON + OXYGEN HYDROGEN	0.1
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	360 4798	ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	 0.1
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	360 4798 1430	ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 TRACE
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	360 4798 1430	ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.1 TRACE 0.23

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

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

SAMPLE 21511		COMPONENT, MOLE PCT	
STATE	KVNSVS	METHANE	76.0
	SEWARD	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
OWNERCABOT F	ETROLEUM 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)	5676	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 50629		COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	83.9
COUNTY	_	ETHANE	6.4
FIELD	_	PROPANE	3.0
WELL NAME		N-BUTANE	1.1
•		ISOBUTANE	
API		N-PENTANE	
LOCATION		ISOPENTANE	
OWNER UNION VALLEY F	ETROLEUM CORP.	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	0.6
	031107		
SAMPLED	031107_ 070430_	NITROGEN	
SAMPLED	070430	NITROGEN	
	070430	NITROGENOXYGENARGON	
FORMATIONM	070430 ISS-MISSISSIPPIAN 375	NITROGENOXYGENARGON + OXYGEN	
FORMATION MI GEOLOGIC PROVINCE CODE	070430 SS-MISSISSIPPIAN 375 4508	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	 0.0
FORMATIONM GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	070430 ISS-MISSISSIPPIAN 375 4508	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	 0.0 0.0
FORMATIONM GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	070430 ISS-MISSISSIPPIAN 375 4508	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	 0.0 0.0 0.2
FORMATIONM GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	070430 ISS-MISSISSIPPIAN 375 4508	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.0 0.0 0.2

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

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

SAMPLE 21682	COMPONENT, MOLE PCT	
STATEKANSAS_	METHANE	72.6
	ETHANE	5.4
COUNTY SEWARD	PROPANE	3.1
FIELDARKALON_	N-BUTANE	0.9
WELL NAMECOLBURN 1-16_	ISOBUTANE	0.4
API	N-PENTANE	0.2
LOCATION SEC 16, T33S, R32W	ISOPENTANE	0.2
OWNERMIDWESTERN EXPLORATION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.3
SAMPLED	NITROGEN	16.3
FORMATION PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE360_	ARGON	
TRUE VERTICAL DEPTH (FT) 2570	ARGON + OXYGEN	0.1
, ,	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	HELIUM	0.48
	HEATING VALUE*	980
	SPECIFIC GRAVITY	0.71
SAMPLE 21676	COMPONENT, MOLE PCT	
STATEKANSAS_	METHANE	
COUNTYSEWARD_	ETHANE	5.2
FIELD ARKALON	PROPANE	3.0
	N-BUTANE	
WELL NAME	· · · · · · · · · · · · · · · · · · ·	
	ISOBUTANE	0.4
API1517521850	N-PENTANE	0.4
API		0.4
API	N-PENTANE ISOPENTANE CYCLOPENTANE	0.4 0.2 0.2
WELL NAME COLBURN 1A-21 API 1517521850 LOCATION SEC 21, T33S, R32W OWNER OIL PRODUCERS INC. OF KANSAS COMPLETED 010818	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.4 0.2 0.2 0.2
API	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.4 0.2 0.2 0.2 15.9
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.4 0.2 0.2 0.2 15.9
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.4 0.2 0.2 0.2 15.9
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN	0.4 0.2 0.2 0.2 15.9 0.1
API	N-PENTANE	0.4 0.2 0.2 0.2 15.9 0.1 0.0
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.4 0.2 0.2 0.2 15.9 0.1 0.0
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.4 0.2 0.2 0.2 15.9 0.1 0.0 0.0
API	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.4 0.2 0.2 0.2 15.9 0.1 0.0 0.0

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

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

	21678	COMPONENT, MOLE PCT	
CTATE	KANSAS	METHANE	73.6
·		ETHANE	5.3
	SEWARD.	PROPANE	3.1
FIELD	ARKALON N	N-BUTANE	0.8
·	COLBURN 13-91	ISOBUTANE	0.4
API	1517520328	N-PENTANE	0.2
LOCATION	SEC 17, T33S, R32W	ISOPENTANE	0.2
OWNER	OIL PRODUCERS INC. OF KANSAS	CYCLOPENTANE	
COMPLETED	821102	HEXANES PLUS	0.2
SAMPLED	080123	NITROGEN	15.5
FORMATION	PERM-HERRINGTON, KRIDER	OXYGEN	
GEOLOGIC PROVINCE C	ODE360_	ARGON	
	(FT) <u>2468</u>	ARGON + OXYGEN	
	(11)	HYDROGEN	0.0
		HYDROGEN SULFIDE**	
,	PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	50628	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	60.7
•	KANSAS	METHANE	
COUNTY	HASKELL		8.8
COUNTY	HASKELL ATKINS	ETHANE	8.8 5.5
COUNTY FIELD WELL NAME	HASKELL ATKINS ATKINS N 1&2	ETHANEPROPANE	8.8 5.5 1.4
COUNTY FIELD WELL NAME	HASKELL ATKINS	ETHANE PROPANE N-BUTANE	8.8 5.5 1.4 1.1
COUNTY FIELD WELL NAME	HASKELL ATKINS ATKINS N 1&2	ETHANE PROPANE N-BUTANE ISOBUTANE	8.8 5.5 1.4 1.1 0.4
COUNTY FIELD WELL NAME API LOCATION	HASKELL ATKINS ATKINS N 1&2 1508121531	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	8.8 5.5 1.4 1.1 0.4 0.4
COUNTY FIELD WELL NAME API LOCATION OWNER	HASKELL ATKINS ATKINS N 1&2 1508121531 SEC 4, T27S, R33W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	8.8 5.5 1.4 1.1 0.4 0.4
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	HASKELL ATKINS ATKINS N 1&2 1508121531 SEC 4. T27S, R33W OXY USA, INC.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	8.8 5.5 1.4 1.1 0.4 0.4 1.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	HASKELL ATKINS ATKINS N 1&2 1508121531 SEC 4, T27S, R33W OXY USA, INC. 040717	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	8.8 5.5 1.4 1.1 0.4 0.4 1.0 19.9
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	HASKELL ATKINS ATKINS N 1&2 1508121531 SEC 4, T27S, R33W OXY USA, INC. 040717 071217 PENN-MORROW	ETHANE	8.8 5.5 1.4 1.1 0.4 0.4 1.0 19.9
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C	HASKELL ATKINS ATKINS N 1&2 1508121531 SEC 4, T27S, R33W OXY USA, INC. 040717 071217 PENN-MORROW	ETHANE	8.8 5.5 1.4 1.1 0.4 0.4 1.0 19.9
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO	HASKELL ATKINS ATKINS N 1&2 1508121531 SEC 4, T27S, R33W OXY USA, INC. 040717 071217 PENN-MORROW ODE	ETHANE	8.8 5.5 1.4 1.1 0.4 0.4 1.0 19.9
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CONTRUE VERTICAL DEPTH MEASURED DEPTH	HASKELL ATKINS ATKINS N 1&2 1508121531 SEC 4, T27S, R33W OXY USA, INC. 040717 071217 PENN-MORROW CODE	ETHANE	8.8 5.5 1.4 1.1 0.4 0.4 1.0 19.9 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CONTRUE VERTICAL DEPTH MEASURED DEPTH WELLHEAD PRESSURE,	HASKELL ATKINS ATKINS N 1&2 1508121531 SEC 4, T27S, R33W OXY USA, INC. 040717 071217 PENN-MORROW ODE	ETHANE	8.8 5.5 1.4 1.1 0.4 0.4 1.0 19.9 0.0 0.4
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CONTRUE VERTICAL DEPTH MEASURED DEPTH WELLHEAD PRESSURE,	HASKELL ATKINS ATKINS N 1&2 1508121531 SEC 4, T27S, R33W OXY USA, INC. 040717 071217 PENN-MORROW CODE	ETHANE	8.8 5.5 1.4 1.1 0.4 0.4 1.0 19.9 0.0 0.4 0.33

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

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

SAMPLE	21640	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	61.6
·		ETHANE	0.5
COUNTY		PROPANE	0.1
FIELD		N-BUTANE	0.0
WELL NAME		ISOBUTANE	0.0
API	1508321463	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	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	335_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
STATE	KANSAS	METHANE	60.8
STATE	KANSAS	METHANE	60.8
COUNTY	HODGEMAN	ETHANE PROPANE	
FIELD	BARRICKLOW SE	N-BUTANE	
WELL NAME	COX 1	ISOBUTANE	
API	1508321473	N-PENTANE	
LOCATION	SEC 3. T21S. R22W	ISOPENTANE	
OWNER	· · · · · · · · · · · · · · · · · · ·	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	
SAMPLED	_	NITROGEN	
FORMATION		OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
	<u>.</u>	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	436	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	

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

	COMPONENT, MOLE PCT
STATEKANSA	METHANE
	ETHANE8.0
COUNTY STAFFOR	PROPANE0.0
FIELD BAUMA	N-BUTANE1.4
WELL NAME HELMER	S.1. ISOBUTANE0.5
API	27
LOCATION SEC 33, T25S, R11	W ISOPENTANE0.3
OWNERPRATER OIL & GAS OPERATIN	NG CYCLOPENTANE
COMPLETED 9309	16_ HEXANES PLUS0.7
SAMPLED0707	17_ NITROGEN 13.2
FORMATION MISS-MISSISSIPPIA	AN_ OXYGEN
GEOLOGIC PROVINCE CODE3	ARGON
TRUE VERTICAL DEPTH (FT) 39	ARGON + OXYGEN0.
MEASURED DEPTH	HYDROGENIRACE
	HYDROGEN SULFIDE**0.0
WELLHEAD PRESSURE, PSIG	
OPEN FLOW, MCFD2	
	HEATING VALUE*1.018
	SPECIFIC GRAVITY
SAMPLE 21630	COMPONENT, MOLE PCT
STATEKANSA	ASMETHANE90.3
COUNTYEDWARD	ETHANE 3.1
FIELD BORDEWIG	PROPANE1.0
	PROPANE
WELL NAMEFOX A1-	PROPANE
WELL NAME FOX A1- API 15047215	PROPANE
FIELD BORDEWIG WELL NAME FOX A1- API 15047215 LOCATION SEC 25, T26S, R19	PROPANE
WELL NAME FOX A1- API 15047215	PROPANE
WELL NAME FOX A1- API 15047215 LOCATION SEC 25, T26S, R19	PROPANE 1.0 CK N-BUTANE 0.2 25 ISOBUTANE 0.2 13 N-PENTANE 0.2 2W ISOPENTANE 0.2 RP. CYCLOPENTANE - 04 HEXANES PLUS 0.3
WELL NAME FOX A1- API 15047215 LOCATION SEC 25, T26S, R19 OWNER MCCOY PETROLEUM COR COMPLETED 0511	PROPANE 1.0 CK N-BUTANE 0.2 25 ISOBUTANE 0.2 13 N-PENTANE 0.2 W ISOPENTANE 0.2 RP. CYCLOPENTANE 04 HEXANES PLUS 0.3 NITROGEN 4.2
WELL NAME FOX A1- API 15047215 LOCATION SEC 25, T26S, R19 OWNER MCCOY PETROLEUM COR COMPLETED 0511 SAMPLED 0707	PROPANE 1.0 PROPANE 1.0 1.0 0.2 25 ISOBUTANE 0.2 13 N-PENTANE 0.2 2W ISOPENTANE 0.2 3P. CYCLOPENTANE 04 HEXANES PLUS 0.3 18 NITROGEN 4.2 AN OXYGEN
WELL NAME FOX A1- API 15047215 LOCATION SEC 25. T26S. R19 OWNER MCCOY PETROLEUM COR COMPLETED 0511 SAMPLED 0707 FORMATION MISS-MISSISSIPPIA	PROPANE 1.0 PROPANE 1.0 1.0 0.2 25 ISOBUTANE 0.2 13 N-PENTANE 0.2 1W ISOPENTANE 0.2 RP. CYCLOPENTANE - 04 HEXANES PLUS 0.3 18 NITROGEN 4.7 AN OXYGEN - 60 ARGON -
WELL NAME FOX A1- API 15047215 LOCATION SEC 25. T26S. R19 OWNER MCCOY PETROLEUM COR COMPLETED 0511 SAMPLED 0707 FORMATION MISS-MISSISSIPPIA	PROPANE 1.0 CK N-BUTANE 0.2 25 ISOBUTANE 0.2 13 N-PENTANE 0.2 2W ISOPENTANE 0.2 3P CYCLOPENTANE - 04 HEXANES PLUS 0.3 18 NITROGEN 4.3 AN OXYGEN - ARGON - - 60 ARGON + OXYGEN TRACE
WELL NAME FOX A1- API 15047215 LOCATION SEC 25, T26S, R19 OWNER MCCOY PETROLEUM COR COMPLETED 0511 SAMPLED 0707 FORMATION MISS-MISSISSIPPIA GEOLOGIC PROVINCE CODE 3	CK PROPANE 1.0 N-BUTANE 0.2 25 ISOBUTANE 0.3 13 N-PENTANE 0.2 RP. CYCLOPENTANE - 04 HEXANES PLUS 0.3 18 NITROGEN 4.3 AN OXYGEN - ARGON - - ARGON + OXYGEN TRACE HYDROGEN TRACE
WELL NAME FOX A1- API 15047215 LOCATION SEC 25. T26S. R19 OWNER MCCOY PETROLEUM COR COMPLETED 0511 SAMPLED 0707 FORMATION MISS-MISSISSIPPIA GEOLOGIC PROVINCE CODE 3 TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CK PROPANE 1.0 N-BUTANE 0.2 13 N-PENTANE 0.2 13. N-PENTANE 0.2 RP. CYCLOPENTANE 04 HEXANES PLUS 0.3 18 NITROGEN 4.2 AN OXYGEN 60 ARGON HYDROGEN TRACE HYDROGEN SULFIDE** 0.0
WELL NAME	CK PROPANE 1.0 N-BUTANE 0.2 25 ISOBUTANE 0.2 13 N-PENTANE 0.2 2W ISOPENTANE 0.2 3P CYCLOPENTANE - 04 HEXANES PLUS 0.3 18 NITROGEN 4.2 AN OXYGEN - ARGON - 60 ARGON + OXYGEN TRACE HYDROGEN TRACE HYDROGEN SULFIDE** 0.0 CARBON DIOXIDE 0.0
WELL NAME FOX A1- API 15047215 LOCATION SEC 25. T26S. R19 OWNER MCCOY PETROLEUM COR COMPLETED 0511 SAMPLED 0707 FORMATION MISS-MISSISSIPPIA GEOLOGIC PROVINCE CODE 3 TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CK PROPANE 1.0 N-BUTANE 0.2 25 ISOBUTANE 0.2 13 N-PENTANE 0.2 RP. CYCLOPENTANE - 04 HEXANES PLUS 0.3 18 NITROGEN 4.2 AN OXYGEN - ARGON - HYDROGEN TRACE HYDROGEN SULFIDE** 0.0 CARBON DIOXIDE 0.0

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

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

SAMPLE	21617	COMPONENT, MOLE PCT	
STATE	KANSAS_	METHANE	77.7
•	PRATT	ETHANE	4.2
		PROPANE	2.1
	BYERS ROAD	N-BUTANE	0.7
·	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	
TRUE VERTICAL DEPTH (FT)	4282	ARGON + OXYGEN	
		HYDROGEN	
		HYDROGEN SULFIDE**	
,		CARBON DIOXIDE	
OPEN FLOW, MICFD	1491	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21616	COMPONENT, MOLE PCT	
- <u></u>	21616 KANSAS	COMPONENT, MOLE PCT METHANE	87.0
STATE	KANSAS		
STATE	KANSAS_ PRATT_	METHANE ETHANE PROPANE	4.0 1.8
STATE COUNTY FIELD	KANSAS PRATT CARVER-ROBBINS	METHANE ETHANE PROPANE N-BUTANE	4.0 1.8 0.6
STATE COUNTY FIELD WELL NAME	KANSAS PRATT CARVER-ROBBINS WARD 2-12	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.0 1.8 0.6 0.3
STATE COUNTY FIELD WELL NAME API	KANSAS PRATT CARVER-ROBBINS WARD 2-12 1515120721	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.0 1.8 0.6 0.3 0.2
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS PRATT CARVER-ROBBINS WARD 2-12 1515120721 SEC 12, T27S, R15W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.0 1.8 0.6 0.3 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS PRATT CARVER-ROBBINS WARD 2-12 1515120721	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	4.0 1.8 0.6 0.3 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNERPF	KANSAS PRATT CARVER-ROBBINS WARD 2-12 1515120721 SEC 12, T27S, R15W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE HEXANES PLUS	4.0 1.8 0.6 0.3 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER PE	KANSAS PRATT CARVER-ROBBINS WARD 2-12 1515120721 SEC 12, T27S, R15W RATER OIL & GAS OPERATING	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.0 1.8 0.6 0.3 0.2 0.1 0.3 4.8
STATE COUNTY FIELD WELL NAME API LOCATION OWNER PE COMPLETED SAMPLED	KANSAS PRATT CARVER-ROBBINS WARD 2-12 1515120721 SEC 12, T27S, R15W RATER OIL & GAS OPERATING 800325	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.0 1.8 0.6 0.3 0.2 0.1 0.3 4.8
STATE COUNTY FIELD WELL NAME API LOCATION OWNER PE COMPLETED SAMPLED	KANSAS PRATT CARVER-ROBBINS WARD 2-12 1515120721 SEC 12. T27S. R15W RATER OIL & GAS OPERATING 800325 070717 MISS-MISSISSIPPIAN	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.0 1.8 0.6 0.3 0.2 0.1 0.3 4.8
STATE COUNTY FIELD WELL NAME API LOCATION OWNERPE COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	KANSAS PRATT CARVER-ROBBINS WARD 2-12 1515120721 SEC 12. T27S. R15W RATER OIL & GAS OPERATING 800325 070717 MISS-MISSISSIPPIAN	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	4.0 1.8 0.6 0.3 0.2 0.1 0.3 4.8 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNERPE COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	KANSAS PRATT CARVER-ROBBINS WARD 2-12 1515120721 SEC 12, T27S, R15W RATER OIL & GAS OPERATING 800325 070717 MISS-MISSISSIPPIAN 385 4408	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	4.0 1.8 0.6 0.3 0.2 0.1 0.3 4.8 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER PE COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	KANSAS PRATT CARVER-ROBBINS WARD 2-12 1515120721 SEC 12. T27S, R15W RATER OIL & GAS OPERATING 800325 070717 MISS-MISSISSIPPIAN 385 4408	METHANE	4.0 1.8 0.6 0.3 0.2 0.1 0.3 4.8 TRACE 0.0
STATE	KANSAS PRATT CARVER-ROBBINS WARD 2-12 1515120721 SEC 12. T27S, R15W RATER OIL & GAS OPERATING 800325 070717 MISS-MISSISSIPPIAN 385 4408	METHANE	4.0 1.8 0.6 0.3 0.2 0.1 0.3 4.8 TRACE 0.0 0.0
STATE	KANSAS PRATT CARVER-ROBBINS WARD 2-12 1515120721 SEC 12. T27S, R15W RATER OIL & GAS OPERATING 800325 070717 MISS-MISSISSIPPIAN 385 4408	METHANE	4.0 1.8 0.6 0.3 0.2 0.1 0.3 4.8 TRACE 0.0 0.0 0.1

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

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

SAMPLE 21619		COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	83.7
STATE		ETHANE	4.7
COUNTY		PROPANE	2.4
FIELDCARVER-R		N-BUTANE	0.8
WELL NAMEFISH &	GAME 3-6	ISOBUTANE	0.4
API1	515121240	N-PENTANE	0.3
LOCATION SEC 6, T	27S, R15W	ISOPENTANE	0.2
OWNERBEF	EN CORP.	CYCLOPENTANE	
COMPLETED	830217	HEXANES PLUS	0.6
SAMPLED	070717	NITROGEN	6.0
FORMATIONMISS-MISS	ISSIPPIAN_	OXYGEN	
GEOLOGIC PROVINCE CODE	385	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	500_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 20840		COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	89.5
COUNTY		ETHANE	3.4
FIELDCHR		PROPANE	1.4
		N-BUTANE	
WELL NAMEHJV CHRISTOPHE		ISOBUTANE	0.2
API1		N-PENTANE	0.2
LOCATIONSEC. 3, T	33S, R39W	ISOPENTANE	0.1
OWNER ANADARKO PETROLE			
	UM CORP.	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	0.3
COMPLETEDSAMPLED	000827	HEXANES PLUS	0.3 3.6
	000827 010910	HEXANES PLUS NITROGEN OXYGEN	0.3 3.6 0.0
SAMPLED	000827 010910	HEXANES PLUS NITROGEN OXYGEN ARGON	0.3 3.6 0.0 0.0
SAMPLED	000827 010910 IORROW L 360	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.3 3.6 0.0 0.0
SAMPLED	000827 010910 IORROW L 360	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.3 3.6 0.0 0.0
SAMPLED	000827 010910 IORROW L 360 6315	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.3 3.6 0.0 0.0 0.0
SAMPLED	000827 010910 IORROW L 360 6315	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.3 3.6 0.0 0.0 0.0 0.0
SAMPLED	000827 010910 IORROW L 360 6315	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.3 3.6 0.0 0.0 0.0 0.0 0.4 0.22

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

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

SAMPLE	21645	COMPONENT, MOLE PCT	
STATE	KANCAC	METHANE	67.8
-		ETHANE	0.5
COUNTY		PROPANE	0.1
FIELD	_	N-BUTANE	TRACE
WELL NAME		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		ARGON	
TRUE VERTICAL DEPTH (FT)	_	ARGON + OXYGEN	
		HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _	_	CARBON DIOXIDE	
OPEN FLOW, MCFD	110_	HELIUM	
		HEATING VALUE*	700
		,	
		SPECIFIC GRAVITY	
SAMPLE	21639	,	
SAMPLE STATE		SPECIFIC GRAVITY	0.68
STATE	KANSAS	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE	0.68 64.7 0.5
STATE	KANSAS HODGEMAN	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE	0.68 64.7 0.5
STATECOUNTY	KANSAS HODGEMAN EAKIN NE	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	0.68 64.7 0.5 0.1 TRACE
STATE COUNTY FIELD WELL NAME	KANSAS HODGEMAN EAKIN NE CHAFFEE 1	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE	0.68 64.7 0.5 0.1 TRACE 0.0
STATE COUNTY FIELD WELL NAME	KANSAS HODGEMAN EAKIN NE CHAFFEE 1 1508321467	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	0.68 64.7 0.5 0.1 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS HODGEMAN EAKIN NE CHAFFEE 1 1508321467 SEC 13, T21S, R21W	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.68 64.7 0.5 0.1 TRACE 0.0 0.0
STATE COUNTY FIELD WELL NAME	KANSAS HODGEMAN EAKIN NE CHAFFEE 1 1508321467 SEC 13, T21S, R21W	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.68 64.7 0.5 0.1 TRACE 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS HODGEMAN EAKIN NE CHAFFEE 1 1508321467 SEC 13, T21S, R21W BECKER OIL CORP.	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.68 64.7 0.5 0.1 TRACE 0.0 0.0 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	KANSAS HODGEMAN EAKIN NE CHAFFEE 1 1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE HEXANES PLUS NITROGEN	0.68 64.7 0.5 0.1 TRACE 0.0 0.0 TRACE 33.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	KANSAS HODGEMAN EAKIN NE CHAFFEE 1 1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508 070718	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.68 64.7 0.5 0.1 TRACE 0.0 0.0 TRACE 33.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	KANSAS HODGEMAN EAKIN NE CHAFFEE 1 1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508 070718 PERM-CHASE GROUP	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.68 64.7 0.5 0.1 TRACE 0.0 0.0 TRACE 33.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	KANSAS HODGEMAN EAKIN NE CHAFFEE 1 1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508 070718 PERM-CHASE GROUP 360	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.68 64.7 0.5 0.1 TRACE 0.0 0.0 TRACE 33.5 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	KANSAS HODGEMAN EAKIN NE CHAFFEE 1 1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508 070718 PERM-CHASE GROUP 360 2206	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.68 64.7 0.5 0.1 TRACE 0.0 0.0 TRACE 33.5 TRACE 0.0
STATE	KANSAS HODGEMAN EAKIN NE CHAFFEE 1 1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508 070718 PERM-CHASE GROUP 360 2206	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.68 64.7 0.5 0.1 TRACE 0.0 0.0 TRACE 33.5 TRACE 0.0 0.0
STATE	KANSAS HODGEMAN EAKIN NE CHAFFEE 1 1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508 070718 PERM-CHASE GROUP 360 2206	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE*** CARBON DIOXIDE	0.68 64.7 0.5 0.1 TRACE 0.0 0.0 TRACE 33.5 TRACE 0.0 0.0 0.0
STATE	KANSAS HODGEMAN EAKIN NE CHAFFEE 1 1508321467 SEC 13, T21S, R21W BECKER OIL CORP. 010508 070718 PERM-CHASE GROUP 360 2206	SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.68 64.7 0.5 0.1 TRACE 0.0 0.0 TRACE 33.5 TRACE 0.0 0.0 1.17

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

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

SAMPLE 21098	COMPONENT, MOLE PCT	
STATEKANSAS_	METHANE	70.9
	ETHANE	5.3
COUNTY MORTON	PROPANE	4.4
FIELD FLKHART W	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
OWNER ANADARKO PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	
SAMPLED	NITROGEN	
FORMATION PENN-WABAUNSEE	OXYGEN	
GEOLOGIC PROVINCE CODE	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
WELLHEAD PRESSURE, PSIG500	HYDROGEN SULFIDE**	
OPEN FLOW, MCFD	CARBON DIOXIDE	
OF ENT LOW, MICH D	HELIUM HEATING VALUE*	
	SPECIFIC GRAVITY	
STATE KANSAS	METHANE	
STATE KANSAS	METHANE	84.8
COUNTYSTAFFORD	ETHANE	
FIELDFARMINGTON	PROPANE N-BUTANE	
WELL NAME SEIBERT 2-5	ISOBUTANE	
API1518523167	N-PENTANE	
LOCATION SEC 5, T25S, R15W	ISOPENTANE	
OWNER CASTELLI EXPLORATION, INC.	CYCLOPENTANE	
COMPLETED 021026	HEXANES PLUS	
SAMPLED 070718	NITROGEN	10.9
FORMATION PERM-HERINGTON	OXYGEN	
GEOLOGIC PROVINCE CODE	ARGON	
	ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT) 2272	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	938
	SPECIFIC GRAVITY	

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

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

SAMPLE 21627	COMPONENT, MOLE PCT	
STATEKANSAS_	METHANE	84.3
	ETHANE	1.9
COUNTY STAFFORD	PROPANE	0.5
FIELDFARMINGTON_	N-BUTANE	0.1
WELL NAMEAIKEN 3.	ISOBUTANE	0.1
API1518523145_	N-PENTANE	TRACE
LOCATION SEC 6, T25S, R15W	ISOPENTANE	TRACE
OWNERCASTELLI EXPLORATION, INC.	CYCLOPENTANE	
COMPLETED 020103	HEXANES PLUS	TRACE
SAMPLED	NITROGEN	12.5
FORMATION PENN-HOWARD	OXYGEN	
GEOLOGIC PROVINCE CODE385	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	TRACE
MEASURED DEPTH	HYDROGEN	TRACE
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD 220	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
0.1171.7		0.021
SAMPLE 21628	COMPONENT, MOLE PCT	
STATE KANSAS	METHANE	
COUNTYSTAFFORD	ETHANE	
	PROPANE	
FIELDFARMINGTON W_		
	N-BUTANE	
WELL NAMESEIBERT 3-31_	ISOBUTANE	0.1
WELL NAME <u>SEIBERT 3-31</u> API <u>1518523154</u>	ISOBUTANE	0.1 0.1
WELL NAME SEIBERT 3-31 API 1518523154 LOCATION SEC 31, T24S, R15W	ISOBUTANE N-PENTANE ISOPENTANE	0.1 0.1 0.1
WELL NAME SEIBERT 3-31 API 1518523154 LOCATION SEC 31, T24S, R15W OWNER CASTELLI EXPLORATION, INC.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.1 0.1 0.1
WELL NAME SEIBERT 3-31 API 1518523154 LOCATION SEC 31, T24S, R15W OWNER CASTELLI EXPLORATION, INC. COMPLETED 020425	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.1 0.1 0.1
WELL NAME SEIBERT 3-31 API 1518523154 LOCATION SEC 31, T24S, R15W OWNER CASTELLI EXPLORATION, INC. COMPLETED 020425 SAMPLED 070718	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.1 0.1 0.1 11.0
WELL NAME SEIBERT 3-31 API 1518523154 LOCATION SEC 31, T24S, R15W OWNER CASTELLI EXPLORATION, INC. COMPLETED 020425 SAMPLED 070718	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.1 0.1 0.1 11.0
WELL NAME SEIBERT 3-31 API 1518523154 LOCATION SEC 31, T24S, R15W OWNER CASTELLI EXPLORATION, INC. COMPLETED 020425 SAMPLED 070718 FORMATION PERM-CHASE GROUP	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 0.1 0.1 0.1 11.0
WELL NAME SEIBERT 3-31 API 1518523154 LOCATION SEC 31, T24S, R15W OWNER CASTELLI EXPLORATION, INC. COMPLETED 020425 SAMPLED 070718 FORMATION PERM-CHASE GROUP	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN	0.1 0.1 0.1 0.1 11.0
WELL NAME SEIBERT 3-31 API 1518523154 LOCATION SEC 31, T24S, R15W OWNER CASTELLI EXPLORATION, INC. COMPLETED 020425 SAMPLED 070718 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 385 TRUE VERTICAL DEPTH (FT) 2277	ISOBUTANE	0.1 0.1 0.1 0.1 11.0 0.1
WELL NAME SEIBERT 3-31 API 1518523154 LOCATION SEC 31, T24S, R15W OWNER CASTELLI EXPLORATION, INC. COMPLETED 020425 SAMPLED 070718 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 385 TRUE VERTICAL DEPTH (FT) 2277 MEASURED DEPTH	ISOBUTANE	0.1 0.1 0.1 0.1 11.0 0.1 0.0 0.0
WELL NAME SEIBERT 3-31 API 1518523154 LOCATION SEC 31, T24S, R15W OWNER CASTELLI EXPLORATION, INC. COMPLETED 020425 SAMPLED 070718 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 385 TRUE VERTICAL DEPTH (FT) 2277 MEASURED DEPTH WELLHEAD PRESSURE, PSIG	ISOBUTANE	0.1 0.1 0.1 0.1 11.0 0.1 0.0 0.0
MEASURED DEPTH WELLHEAD PRESSURE, PSIG	ISOBUTANE	0.1 0.1 0.1 0.1 11.0 0.1 0.0 0.0 TRACE

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

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

SAMPLE	50592	COMPONENT, MOLE PCT	
STATE	KANSAS_	METHANE	87.2
		ETHANE	5.4
	KINGMAN	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	
MEASURED DEPTH		HYDROGEN SULFIDE**	
	1203	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	2776_	HELIUM	
		HEATING VALUE*	
SAMPLE	21622	SPECIFIC GRAVITY	<u> </u>
SAMPLE	21632	COMPONENT, MOLE PCT METHANE	74.4
STATE	KANSAS	ETHANE	
COUNTY	PAWNEE	PROPANE	
FIELD	GATTERMAN	N-BUTANE	
WELL NAME	GREEN 1	ISOBUTANE	
API	1514521484	N-PENTANE	
LOCATION	SEC 35, T23S, R18W	ISOPENTANE	
	BECKER OIL CORP.	CYCLOPENTANE	
•	030324	HEXANES PLUS	
	070718	NITROGEN	
		OXYGEN	
· · · · · · · · · · · · · · · · · · ·	PERM-KRIDER	ARGON	
GEOLOGIC PROVINCE CODE _	225	4500N - 000/05N	
		ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT)		HYDROGEN	
	2261.		0.0
TRUE VERTICAL DEPTH (FT)	2261	HYDROGEN	0.0
TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	2261	HYDROGEN HYDROGEN SULFIDE**	0.0 0.0 TRACE
TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG	2261	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 TRACE 0.99

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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	
STATE KANSAS	METHANE	69.3
	ETHANE	0.7
COUNTY PAWNEE	PROPANE	0.1
FIELDGIVENS	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 020130	HEXANES PLUS	TRACE
SAMPLED	NITROGEN	28.8
FORMATION PERM-KRIDER	OXYGEN	
GEOLOGIC PROVINCE CODE 385	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	TRACE
` '	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD130_	HELIUM	
	HEATING VALUE*	719
SAMPLE 20759	COMPONENT, MOLE PCT	
	METHANE	61.4
STATE KANSAS	ETHANE	
COUNTYMORTON	PROPANE	3.9
FIELD GREENWOOD	N-BUTANE	1.3
WELL NAME INTERSTATE 2-20_	ISOBUTANE	0.4
API1512920358_	N-PENTANE	0.4
LOCATION SEC. 20, T34S, R45W	ISOPENTANE	0.1
OWNER ANADARKO PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.4
SAMPLED	NITROGEN	25.3
FORMATION PENN-WABAUNSEE & TOPEKA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	ARGON	TRACE
	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT) 2783	HYDROGEN	TRACE
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.2
OPEN FLOW, MCFD 85	HELIUM	
	HEATING VALUE*	921
	SPECIFIC GRAVITY	0.769

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

SAMPLE	21637	COMPONENT, MOLE PCT	
STATE	MANICAC	METHANE	69.3
·		ETHANE	0.8
COUNTY		PROPANE	0.2
FIELD	<u> </u>	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	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	TRACE
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	400	HELIUM	
		HEATING VALUE*	
		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	LIPPOLDT 1	ISOBUTANE	
		10000171112	TRACE
API	1504721462	N-PENTANE	
API LOCATION			TRACE
	SEC 6, T23S, R20W	N-PENTANE	TRACE TRACE
LOCATION	SEC 6. T23S. R20W BECKER OIL CORP.	N-PENTANEISOPENTANE	TRACE TRACE
LOCATION	SEC 6. T23S. R20W BECKER OIL CORP. 020207	N-PENTANEISOPENTANECYCLOPENTANE	TRACE TRACE TRACE
LOCATION OWNER COMPLETED	SEC 6. T23S. R20W BECKER OIL CORP. 020207 070718	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	TRACE TRACE TRACE 28.1
LOCATION OWNER COMPLETED SAMPLED	SEC 6. T23S. R20W BECKER OIL CORP. 020207 070718	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE TRACE TRACE 28.1
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	SEC 6, T23S, R20W BECKER OIL CORP. 020207 070718 PERM-TOWANDA 360	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN	TRACE TRACE TRACE 28.1 TRACE
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	SEC 6. T23S. R20W BECKER OIL CORP. 020207 070718 PERM-TOWANDA 360 2544	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	TRACE TRACE TRACE 28.1 TRACE 28.0
LOCATION	SEC 6. T23S. R20W BECKER OIL CORP. 020207 070718 PERM-TOWANDA 360 2544	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	TRACE TRACE TRACE 28.1 TRACE 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SEC 6, T23S, R20W BECKER OIL CORP. 020207 070718 PERM-TOWANDA 360 2544	N-PENTANE	TRACE TRACE 28.1 TRACE 0.0 TRACE
LOCATION	SEC 6, T23S, R20W BECKER OIL CORP. 020207 070718 PERM-TOWANDA 360 2544	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	TRACE TRACE 28.1 TRACE 0.0 TRACE 1.01

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

SAMPLE 21644	COMPONENT, MOLE PCT	
STATEKANSAS_	METHANE	66.2
	ETHANE	0.7
COUNTY HODGEMAN	PROPANE	0.1
FIELD HANSTON-OPPY	N-BUTANE	TRACE
WELL NAME OPPY-BURKE 1	ISOBUTANE	TRACE
API	N-PENTANE	0.0
LOCATION SEC 19. T22S. R22W	ISOPENTANE	TRACE
OWNERBECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	TRACE
SAMPLED	NITROGEN	31.8
FORMATIONPERM-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	1.10
	HEATING VALUE*	687
	SPECIFIC GRAVITY	0.686
SAMPLE 20771	COMPONENT, MOLE PCT	
STATE KANSAS	METHANE	74.2
COUNTY MORTON	ETHANE	6.8
	PROPANE	3.6
FIELD HUGOTON	N-BUTANE	1.0
WELL NAMEMILLEMON 1-27_	ISOBUTANE	0.4
API1512900389_	N-PENTANE	0.2
LOCATION SEC. 27. T34S. R40W	ISOPENTANE	0.2
OWNER ANADARKO PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.2
SAMPLED	NITROGEN	12.9
FORMATIONPERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 360	ARGON	TRACE
TRUE VERTICAL DEPTH (FT) 2720	ARGON + OXYGEN	
· · ·	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG404	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD 13241	HELIUM	
	HEATING VALUE*	1.036
	SPECIFIC GRAVITY	0.708

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

SAMPLE	20766	COMPONENT, MOLE PCT	
STATE	KANISAS	METHANE	73.4
		ETHANE	6.7
COUNTY		PROPANE	3.7
FIELD		N-BUTANE	1.1
WELL NAME		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)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	350	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20768	COMPONENT, MOLE PCT	<u> </u>
SAWIF LL	20700	METHANE	72.2
STATE	KANSAS	ETHANE	
COUNTY	MORTON	PROPANE	
FIELD	HUGOTON	N-BUTANE	
WELL NAME	MILLER M-1	ISOBUTANE	
API	1512900380	N-PENTANE	
LOCATION	SEC. 20, T34S, R40W	ISOPENTANE	
OWNER	OXY USA, INC.	CYCLOPENTANE	
	OXY USA, INC. 510629	CYCLOPENTANE HEXANES PLUS	
COMPLETED	510629		0.3
COMPLETED	510629 010801	HEXANES PLUS	0.3 13.8
COMPLETEDSAMPLEDFORMATION	510629 010801 PERM-CHASE GROUP	HEXANES PLUS	0.3 13.8 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	510629 010801 PERM-CHASE GROUP 360	HEXANES PLUS NITROGEN 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	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	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	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**	0.3 13.8 0.0 TRACE 0.0 0.0
COMPLETEDSAMPLEDFORMATION	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 0.1

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

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

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

SAMPLE	20767	COMPONENT, MOLE PCT	
STATE	KANCAC	METHANE	73.4
		ETHANE	6.7
COUNTY		PROPANE	3.7
FIELD		N-BUTANE	1.1
WELL NAME	WIKER A-1	ISOBUTANE	0.5
API	1512900381	N-PENTANE	0.3
LOCATION	SEC. 21, T34S, R40W	ISOPENTANE	0.2
OWNER	OXY USA, INC.	CYCLOPENTANE	
COMPLETED	510530	HEXANES PLUS	0.2
SAMPLED	010801	NITROGEN	13.4
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE		ARGON	TRACE
TRUE VERTICAL DEPTH (FT)	_	ARGON + OXYGEN	
` ,		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	15800	HELIUM	0.41
		HEATING VALUE*	1.034
		SPECIFIC GRAVITY	0.714
SAMPLE	20770	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	73.2
COUNTY		ETHANE	6.7
	_	PROPANE	3.7
FIELD		N-BUTANE	1.1
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.3
LOCATION	SEC. 17, T34S, R40W	ISOPENTANE	0.2
OWNER	OXY USA, INC.	CYCLOPENTANE	
COMPLETED	960229	HEXANES PLUS	0.3
SAMPLED	010801	NITROGEN	13.7
FORMATION	PERM-CHASE GROUP	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	388	HELIUM	
			4 000
		HEATING VALUE* SPECIFIC GRAVITY	

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

SAMPLE	20765	COMPONENT, MOLE PCT	
STATE	KVVIGVG	METHANE	73.5
•	_	ETHANE	6.7
COUNTY	<u> </u>	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**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	12100	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.712
SAMPLE	20764	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	72.3
COUNTY	MORTON	ETHANE	6.2
FIFI D	HUGOTON	PROPANE	3.5
FIELD		N-BUTANE	3.5 1.0
WELL NAME	MATERN A-3	N-BUTANEISOBUTANE	3.5 1.0 0.4
WELL NAME	MATERN A-3 1512921465	N-BUTANEISOBUTANEN-PENTANE	3.5 1.0 0.4 0.3
WELL NAMEAPILOCATION	MATERN A-3 1512921465 SEC. 34. T34S, R41W	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	3.5 1.0 0.4 0.3 0.2
WELL NAME API LOCATION OWNER	MATERN A-3 1512921465 SEC. 34, T34S, R41W OXY USA, INC.	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	3.5 1.0 0.4 0.3 0.2
WELL NAMEAPILOCATION	MATERN A-3 1512921465 SEC. 34, T34S, R41W OXY USA, INC.	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.5 1.0 0.4 0.3 0.2
WELL NAME API LOCATION OWNER	MATERN A-3 1512921465 SEC. 34, T34S, R41W OXY USA, INC. 970129	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.5 1.0 0.4 0.3 0.2 0.3 15.4
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	MATERN A-3. 1512921465 SEC. 34, T34S, R41W OXY USA, INC. 970129 010801 PERM-CHASE GROUP	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.5 1.0 0.4 0.3 0.2 0.3 15.4
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	MATERN A-3. 1512921465 SEC. 34, T34S, R41W OXY USA, INC. 970129 010801 PERM-CHASE GROUP	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.5 1.0 0.4 0.3 0.2 0.3 15.4 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	MATERN A-3. 1512921465 SEC. 34, T34S, R41W OXY USA. INC. 970129 010801 PERM-CHASE GROUP 360	N-BUTANE	3.5 1.0 0.4 0.3 0.2 0.3 15.4 0.0
WELL NAME	MATERN A-3. 1512921465 SEC. 34. T34S, R41W OXY USA, INC. 970129 010801 PERM-CHASE GROUP 360 2356	N-BUTANE	3.5 1.0 0.4 0.3 0.2 0.3 15.4 0.0 0.1
WELL NAME	MATERN A-3. 1512921465 SEC. 34. T34S. R41W OXY USA. INC. 970129 010801 PERM-CHASE GROUP 360 2356	N-BUTANE	3.5 1.0 0.4 0.3 0.2 0.3 15.4 0.0 0.1
WELL NAME	MATERN A-3. 1512921465 SEC. 34, T34S, R41W OXY USA, INC. 970129 010801 PERM-CHASE GROUP 360 2356	N-BUTANE	3.5 1.0 0.4 0.3 0.2 0.3 15.4 0.0 0.1 0.0 0.0
WELL NAME	MATERN A-3. 1512921465 SEC. 34, T34S, R41W OXY USA, INC. 970129 010801 PERM-CHASE GROUP 360 2356	N-BUTANE	3.5 1.0 0.4 0.3 0.2 0.3 15.4 0.0 0.1 0.0 0.0

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

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

SAMPLE	20763	COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	71.8
STATE		ETHANE	5.9
COUNTY		PROPANE	3.3
FIELD	HUGOTON	N-BUTANE	1.0
WELL NAME	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 (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	11400_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.716
SAMPLE	21095	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	65.3
COUNTY		ETHANE	3.1
·		PROPANE	1.7
FIELD		N-BUTANE	0.4
WELL NAME		ISOBUTANE	0.2
API		N-PENTANE	0.1
LOCATION	SEC. 27, T25S, R32W	ISOPENTANE	0.1
OWNER BP	AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	940701	HEXANES PLUS	
SAMPLED	021120	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	135_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.714

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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	KANSAS	METHANE	65.0
COUNTY		ETHANE	2.6
		PROPANE	1.3
FIELD	<u> </u>	N-BUTANE	0.3
WELL NAME		ISOBUTANE	0.1
API		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	
FORMATION	PERM-CHASE GROUP	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	360_	ARGON	TRACE
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	<u>8983</u>	HELIUM	
		HEATING VALUE*	
SAMPLE	21094	SPECIFIC GRAVITY COMPONENT. MOLE PCT	
SAWIFLE	21094	METHANE	65.7
STATE	KANSAS	ETHANE	
COUNTY	FINNEY	PROPANE	
FIELD	HUGOTON	N-BUTANE	
WELL NAME	BEACH NO. 2-2	ISOBUTANE	
API	1505521716	N-PENTANE	
LOCATION	SEC. 33. T25S. R31W	ISOPENTANE	
OWNER		CYCLOPENTANE	
COMPLETED	_	HEXANES PLUS	
SAMPLED		NITROGEN	
FORMATION		OXYGEN	0.0
·		ARGON	TRACE
GEOLOGIC PROVINCE CODE		ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	157	CARBON DIOXIDE	0.0
OPEN FLOW, MCFD	0e	HELIUM	0.76
OPEN FLOW, MICFD	96_		0.10
OPEN FLOW, MICFD	90_	HEATING VALUE*	

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

SAMPLE	20760	COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	52.4
·	KANSAS	ETHANE	2.5
_	MORTON_	PROPANE	1.7
FIELD	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
·	DE360	ARGON	0.1
		ARGON + OXYGEN	
•	1236	HYDROGEN	0.5
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PS		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	240	HELIUM	0.98
		HEATING VALUE*	707
		SPECIFIC GRAVITY	0.782
SAMPLE	21647	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	70.3
		ETHANE	0.7
·	HODGEMAN	PROPANE	0.1
•	JETPORT_	N-BUTANE	TRACE
•	JETMORE-BRADFORD 1	ISOBUTANE	TRACE
API	1508321486	N-PENTANE	0.0
LOCATION	SEC 18, T24S, R23W	ISOPENTANE	TRACE
OWNER	BECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	040501	HEXANES PLUS	TRACE
SAMPLED	070719	NITROGEN	27.8
FORMATION	PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE COD		ARGON	
	T)	ARGON + OXYGEN	TRACE
•	•	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
,	IG	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD		HELIUM	0.99
		HEATING VALUE*	727

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

SAMPLE	21634	COMPONENT, MOLE PCT	
STATE	KVVIGVG	METHANE	69.9
		ETHANE	0.6
COUNTY		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	TRACE
MEASURED DEPTH		HYDROGEN	0.0
	_	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.671
SAMPLE	21614	COMPONENT, MOLE PCT	
SAMPLE STATE		METHANE	
STATE	KANSAS	,	
STATE	KANSAS_ STAFFORD_	METHANE ETHANE PROPANE	1.9 0.6
STATE COUNTY FIELD	KANSAS STAFFORD LEESBURGH	METHANE ETHANE PROPANE N-BUTANE	1.9 0.6 0.1
STATE COUNTY FIELD WELL NAME	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	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
STATE COUNTY FIELD WELL NAME API	KANSAS STAFFORD LEESBURGH MCCUNE 1A 1518523174 SEC 12. T25S. R13W	METHANE ETHANE PROPANE N-BUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.9 0.6 0.1 0.1 TRACE TRACE
STATE COUNTY FIELD WELL NAME API LOCATION	KANSAS STAFFORD LEESBURGH MCCUNE 1A 1518523174 SEC 12. T25S. R13W BECKER OIL CORP.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE HEXANES PLUS	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 N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.9 0.6 0.1 0.1 TRACE TRACE TRACE 23.9
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 EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	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	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	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 2892	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	1.9 0.6 0.1 0.1 TRACE TRACE 23.9 TRACE TRACE
STATE	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
STATE	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** CARBON DIOXIDE	1.9 0.6 0.1 0.1 TRACE TRACE TRACE 23.9 TRACE TRACE TRACE
STATE	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 TRACE TRACE TRACE 23.9 TRACE TRACE TRACE 0.0 TRACE

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

21613	COMPONENT, MOLE PCT	
KANCAC	METHANE	71.4
	ETHANE	1.8
	PROPANE	0.6
_	N-BUTANE	0.1
	ISOBUTANE	0.1
1518523175	N-PENTANE	TRACE
SEC 13, T25S, R13W	ISOPENTANE	TRACE
BECKER OIL CORP.	CYCLOPENTANE	
030321	HEXANES PLUS	TRACE
070717	NITROGEN	24.9
PERM-KRIDER, TOWANDA	OXYGEN	
385	ARGON	
	ARGON + OXYGEN	TRACE
	HYDROGEN	0.0
	HYDROGEN SULFIDE**	0.0
	CARBON DIOXIDE	TRACE
360	•	
	HEATING VALUE*	780
	SPECIFIC GRAVITY	0.672
21651	COMPONENT, MOLE PCT	
KANSAS	METHANE	58.9
	ETHANE	4.0
_	PROPANE	2.8
	N-BUTANE	0.9
	ISOBUTANE	0.4
_	N-PENTANE	0.2
SEC 27, T18S, R38W	ISOPENTANE	0.2
MULL DRILLING CO. INC.	CYCLOPENTANE	
761103		
070813		
PERM-CHASE GROUP		
360	<u> </u>	
1650		
	SPECIFIC GRAVITY	0.76
	KANSAS STAFFORD LEESBURGH RUSSELL 1A 1518523175 SEC 13. T25S. R13W BECKER OIL CORP. 030321 070717 PERM-KRIDER. TOWANDA 385 1991 360 21651 KANSAS WICHITA LEOTI GAS AREA WALK 1 1520320034 SEC 27. T18S. R38W MULL DRILLING CO. INC. 761103 070813 PERM-CHASE GROUP	KANSAS

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

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

SAMPLE	21625	COMPONENT, MOLE PCT	
CTATE	KANSAS_	METHANE	81.1
·		ETHANE	3.5
•	STAFFORD	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
OWNER	CHESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	610328	HEXANES PLUS	0.4
SAMPLED	070718	NITROGEN	10.3
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	
	CODE385_	ARGON	
	H (FT)	ARGON + OXYGEN	TRACE
		HYDROGEN	0.0
		HYDROGEN SULFIDE**	
	=, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	<u> </u>	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	•
044515	0.4050		
SAMPLE	21653	COMPONENT, MOLE PCT	
STATE	KANSAS_	METHANE	
COUNTY	SCOTT	ETHANE	
FIELD	MANNING SW	PROPANE N-BUTANE	
WELL NAME	WEISENBERGER K 1	ISOBUTANE	
API	1517120580	N-PENTANE	
•	SEC 10, T18S, R31W	ISOPENTANE	
	SLAWSON EXPLORATION CO.	CYCLOPENTANE	
	060519	HEXANES PLUS	
· ·		NITROGEN	
	070814	OXYGEN	
· · · · · · · · · · · · · · · · · · ·	PERM-CHASE GROUP	ARGON	
	CODE	ARGON + OXYGEN	0.1
TRUE VERTICAL DEPT	H (FT)2746	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE	E, PSIG	CARBON DIOXIDE	0.0
OPEN FLOW, MCFD	60_	HELIUM	1.38
- ,			
_		HEATING VALUE*	513

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE 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	21611	COMPONENT, MOLE PCT	
COUNTY	ATE	KANICAC	METHANE	70.8
FIELD	·	_	ETHANE	7.4
WELL NAME		_	PROPANE	5.5
API 1515921916 N-PENTANE LOCATION SEC 18. T21S. R8W ISOPENTANE COMPLETED			N-BUTANE	1.8
LOCATION SEC 18. T21S. R8W ISOPENTANE OWNER JAY FITZPATRICK, JR. CYCLOPENTANE COMPLETED 850105. HEXANES PLUS SAMPLED 070716. NITROGEN FORMATION MISS-MISSISSIPPIAN ARGON GEOLOGIC PROVINCE CODE 385. ARGON + OXYGEN TRUE VERTICAL DEPTH (FT) 3304. HYDROGEN SULFIDE** WELLHEAD PRESSURE, PSIG CARBON DIOXIDE HYDROGEN SULFIDE** WELLHEAD PRESSURE, PSIG CARBON DIOXIDE HELIUM OPEN FLOW, MCFD 4900. HELIUM HEATING VALUE* SPECIFIC GRAVITY SPECIFIC GRAVITY SPECIFIC GRAVITY STATE KANSAS ETHANE ETHANE COUNTY FINNEY PROPANE N-BUTANE WELL NAME JONES NO. M-1 ISOBUTANE N-BUTANE LOCATION SEC. 32. T26S. R34W ISOPENTANE ISOPENTANE LOCATION SEC. 32. T26S. R34W ISOPENTANE INTROGEN SAMPLED 021119 NITROGEN OXYGEN SAMPLED			ISOBUTANE	0.9
OWNER JAY FITZPATRICK, JR. CYCLOPENTANE COMPLETED 850105 HEXANES PLUS SAMPLED 070716 NITROGEN OXYGEN ARGON ARGON GEOLOGIC PROVINCE CODE 385 ARGON GEOLOGIC PROVINCE CODE 385 ARGON + OXYGEN TRUE VERTICAL DEPTH (FT) 3304 HYDROGEN SULFIDE** WELLHEAD PRESSURE, PSIG CABON DIOXIDE HYDROGEN SULFIDE** WELLHEAD PRESSURE, PSIG CARBON DIOXIDE HELIUM OPEN FLOW, MCFD 4900 HELIUM HEATING VALUE* SPECIFIC GRAVITY SPECIFIC GRAVITY SPECIFIC GRAVITY STATE KANSAS ETHANE ETHANE SPECIFIC GRAVITY PROPANE N-BUTANE PROPANE STATE KANSAS ETHANE ETHANE COUNTY FINNEY PROPANE N-BUTANE N-BUTANE WELL NAME JONES NO. M-1 ISOBUTANE N-PENTANE LOCATION SEC. 32. T26S. R34W ISOPENTANE N-PENTANE LOCATION SEC. 32	1	<u> 1515921916</u>	N-PENTANE	0.5
COMPLETED 850105 HEXANES PLUS SAMPLED 070716 NITROGEN FORMATION MISS-MISSISSIPPIAN ARGON GEOLOGIC PROVINCE CODE 385 ARGON + OXYGEN TRUE VERTICAL DEPTH (FT) 3304 HYDROGEN MEASURED DEPTH HYDROGEN SULFIDE** CARBON DIOXIDE WELLHEAD PRESSURE, PSIG CARBON DIOXIDE CARBON DIOXIDE OPEN FLOW, MCFD 4900 HELIUM HEATING VALUE* SPECIFIC GRAVITY SAMPLE 21091 COMPONENT, MOLE PCT STATE KANSAS ETHANE COUNTY FINNEY PROPANE FIELD PANOMA GAS AREA N-BUTANE WELL NAME JONES NO. M-1 ISOBUTANE API 1505520308 N-PENTANE LOCATION SEC. 32. T26S. R34W ISOPENTANE COMPLETED 780831 HEXANES PLUS SAMPLED 021119 NITROGEN SAMPLED 021119 NITROGEN FORMATION PERM-COUNCIL GROVE ARGON	CATION	SEC 18, T21S, R8W	ISOPENTANE	0.4
SAMPLED	VNER	JAY FITZPATRICK, JR.	CYCLOPENTANE	
SAMPLE	MPLETED	850105	HEXANES PLUS	0.6
ARGON ARGON ARGON ARGON ARGON ARGON ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** ARGON + OXYGEN HELIUM HEATING VALUE* SPECIFIC GRAVITY SAMPLE	MPLED	070716	NITROGEN	11.5
GEOLOGIC PROVINCE CODE 385 ARGON + OXYGEN TRUE VERTICAL DEPTH (FT) 3304 HYDROGEN MEASURED DEPTH HYDROGEN SULFIDE** CARBON DIOXIDE WELLHEAD PRESSURE, PSIG CARBON DIOXIDE HELIUM OPEN FLOW, MCFD 4900 HELIUM HEATING VALUE* SPECIFIC GRAVITY SPECIFIC GRAVITY SPECIFIC GRAVITY STATE KANSAS ETHANE ETHANE COUNTY FINNEY PROPANE PROPANE FIELD PANOMA GAS AREA N-BUTANE N-BUTANE WELL NAME JONES NO. M-1 ISOBUTANE ISOBUTANE LOCATION SEC. 32. T26S. R34W ISOPENTANE ISOPENTANE COMPLETED 780831 HEXANES PLUS NITROGEN SAMPLED 021119 NITROGEN OXYGEN FORMATION PERM-COUNCIL GROVE ARGON ARGON GEOLOGIC PROVINCE CODE 360 ARGON + OXYGEN HYDROGEN TRUE VERTICAL DEPTH (FT) 2963 HYDROGEN SULFIDE** CARBON DIOXIDE WELLHEAD PRESSURE, PSIG	RMATION	MISS-MISSISSIPPIAN	OXYGEN	
ARGON + OXYGEN	OLOGIC PROVINCE CODE	385	ARGON	
MEASURED DEPTH HYDROGEN SULFIDE** WELLHEAD PRESSURE, PSIG CARBON DIOXIDE OPEN FLOW, MCFD 4900 HELIUM HEATING VALUE* SPECIFIC GRAVITY SPECIFIC GRAVITY SAMPLE 21091 COMPONENT, MOLE PCT STATE KANSAS ETHANE COUNTY FINNEY FIELD PANOMA GAS AREA WELL NAME JONES NO. M-1 API 1505520308 N-PENTANE LOCATION SEC. 32. T26S. R34W OWNER CIMAREX ENERGY CO. COMPLETED 780831 SAMPLED 021119 FORMATION PERM-COUNCIL GROVE GEOLOGIC PROVINCE CODE 360 ARGON ARGON ARGON + OXYGEN HYDROGEN HYDROGEN HYDROGEN HYDROGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE OPEN FLOW, MCFD 4400 HELIUM			ARGON + OXYGEN	TRACE
WELLHEAD PRESSURE, PSIG	` ,		HYDROGEN	0.0
OPEN FLOW, MCFD 4900 HELIUM HEATING VALUE* SPECIFIC GRAVITY SAMPLE 21091 COMPONENT, MOLE PCT STATE KANSAS METHANE COUNTY FINNEY PROPANE FIELD PANOMA GAS AREA N-BUTANE WELL NAME JONES NO. M-1 ISOBUTANE API 1505520308 N-PENTANE LOCATION SEC. 32. T26S. R34W ISOPENTANE OWNER CIMAREX ENERGY CO. CYCLOPENTANE COMPLETED 780831 HEXANES PLUS SAMPLED 021119 NITROGEN FORMATION PERM-COUNCIL GROVE ARGON GEOLOGIC PROVINCE CODE 360 ARGON + OXYGEN TRUE VERTICAL DEPTH (FT) 2963 HYDROGEN MEASURED DEPTH HYDROGEN SULFIDE** WELLHEAD PRESSURE, PSIG 194 CARBON DIOXIDE OPEN FLOW, MCFD 4400 HELIUM				
HEATING VALUE* SPECIFIC GRAVITY SPECIFIC GRAVITY SAMPLE 21091 COMPONENT, MOLE PCT			CARBON DIOXIDE	TRACE
SPECIFIC GRAVITY	PEN FLOW, MCFD	4900	<u>'</u>	
SAMPLE 21091 COMPONENT, MOLE PCT				
STATE			SPECIFIC GRAVITY	0.76
STATE	SAMPLE	21091	COMPONENT, MOLE PCT	
COUNTY	ΔΤΕ	KANSAS	METHANE	71.5
FIELD		_	ETHANE	5.4
WELL NAME JONES NO. M-1 ISOBUTANE API 1505520308 N-PENTANE LOCATION SEC. 32. T26S, R34W ISOPENTANE OWNER CIMAREX ENERGY CO. CYCLOPENTANE COMPLETED 780831 HEXANES PLUS SAMPLED 021119 NITROGEN FORMATION PERM-COUNCIL GROVE ARGON GEOLOGIC PROVINCE CODE 360 ARGON + OXYGEN TRUE VERTICAL DEPTH (FT) 2963 HYDROGEN MEASURED DEPTH HYDROGEN SULFIDE** WELLHEAD PRESSURE, PSIG 194 CARBON DIOXIDE OPEN FLOW, MCFD 4400 HELIUM	-	_	PROPANE	3.2
API	•	_	N-BUTANE	0.9
LOCATION SEC. 32. T26S. R34W ISOPENTANE OWNER CIMAREX ENERGY CO. CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON HOXYGEN HYDROGEN HYDROGEN HYDROGEN SULFIDE** WELLHEAD PRESSURE, PSIG 194 CARBON DIOXIDE OPEN FLOW, MCFD 4400 HELIUM	·		ISOBUTANE	0.4
OWNER CIMAREX ENERGY CO. CYCLOPENTANE COMPLETED 780831 HEXANES PLUS SAMPLED 021119 NITROGEN FORMATION PERM-COUNCIL GROVE ARGON GEOLOGIC PROVINCE CODE 360 ARGON + OXYGEN TRUE VERTICAL DEPTH (FT) 2963 HYDROGEN MEASURED DEPTH HYDROGEN SULFIDE** HYDROGEN SULFIDE** WELLHEAD PRESSURE, PSIG 194 CARBON DIOXIDE OPEN FLOW, MCFD 4400 HELIUM	1	1505520308	N-PENTANE	0.2
COMPLETED 780831 HEXANES PLUS SAMPLED 021119 NITROGEN FORMATION PERM-COUNCIL GROVE ARGON GEOLOGIC PROVINCE CODE 360 ARGON + OXYGEN TRUE VERTICAL DEPTH (FT) 2963 HYDROGEN MEASURED DEPTH HYDROGEN SULFIDE** HYDROGEN SULFIDE** WELLHEAD PRESSURE, PSIG 194 CARBON DIOXIDE OPEN FLOW, MCFD 4400 HELIUM	CATION	SEC. 32, T26S, R34W	ISOPENTANE	0.2
SAMPLED	VNER	CIMAREX ENERGY CO.	CYCLOPENTANE	
DEM DEM	MPLETED	780831	HEXANES PLUS	0.2
ARGON ARGON ARGON ARGON + OXYGEN HYDROGEN SULFIDE** ARGON ARGON + OXYGEN HYDROGEN SULFIDE** ARGON + OXYGEN HYDROGEN SULFIDE** HYDROGEN SULFIDE** ARGON + OXYGEN HELIUM	MPLED	021119	NITROGEN	17.6
GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2963 MEASURED DEPTH HYDROGEN SULFIDE** WELLHEAD PRESSURE, PSIG 194 CARBON DIOXIDE OPEN FLOW, MCFD 4400 HELIUM	RMATION	PERM-COUNCIL GROVE	OXYGEN	0.0
TRUE VERTICAL DEPTH (FT) 2963 ARGON + OXYGEN	OLOGIC PROVINCE CODE	360		
MEASURED DEPTH HYDROGEN WELLHEAD PRESSURE, PSIG 194 CARBON DIOXIDE OPEN FLOW, MCFD 4400 HELIUM	UE VERTICAL DEPTH (ET)	2963	ARGON + OXYGEN	
WELLHEAD PRESSURE, PSIG	` ,	_		
OPEN FLOW, MCFD 4400 HELIUM		<u> </u>		
HEATING \/ALLIE*	'EN FLOW, MCFD	4400		
SPECIFIC GRAVITY			HEATING VALUE*	

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

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

SAMPLE	21090	COMPONENT, MOLE PCT	
STATE	KANCAC	METHANE	71.7
COUNTY		ETHANE	5.3
<u> </u>		PROPANE	3.2
FIELD		N-BUTANE	0.9
WELL NAME		ISOBUTANE	0.4
API	1505520316	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	TRACE
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _	·	CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	2400	HELIUM	
		HEATING VALUE*	965
		SPECIFIC GRAVITY	0.711
SAMPLE	21239	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	68.1
COUNTY		ETHANE	
FIELD	·	PROPANE	1.1
WELL NAME		N-BUTANE	0.4
·		ISOBUTANE	
API		N-PENTANE	
LOCATION		ISOPENTANE	
OWNER	BEAR PETROLEUM. INC.	CYCLOPENTANE	
COMPLETED	820714	HEXANES PLUS	
SAMPLED	030819	NITROGEN	
FORMATION	PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE _	385	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG _		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	<u>805</u>
		SPECIFIC GRAVITY	0.694

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

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

SAMPLE	21238	COMPONENT, MOLE PCT	
CTATE	KANCAC	METHANE	69.3
STATE		ETHANE	3.4
COUNTY		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	_	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	_	ARGON + OXYGEN	
` ,		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	889	HELIUM	1.68
		HEATING VALUE*	910
		SPECIFIC GRAVITY	0.717
SAMPLE	21234	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	61.5
COUNTY		ETHANE	3.0
		PROPANE	1.3
FIELD		N-BUTANE	0.8
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.5
LOCATION	SEC. 34, T17S, R16W	ISOPENTANE	0.4
OWNER	BEAR PETROLEUM, INC.	CYCLOPENTANE	
COMPLETED	700806	HEXANES PLUS	0.8
SAMPLED	030819	NITROGEN	28.7
FORMATION	PENN-GRANITE WASH	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	385	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	4850	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.75

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

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

SAMPLE	21233	COMPONENT, MOLE PCT	
STATE	KANGAG	METHANE	63.5
COUNTY		ETHANE	2.8
·		PROPANE	1.8
FIELD		N-BUTANE	1.6
WELL NAME	<u>BAHR 1</u>	ISOBUTANE	0.7
API	<u> 1516521198</u>	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	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	500_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21235	COMPONENT, MOLE PCT	
SAMPLE	21235	,	00.0
STATE	KANSAS	METHANE	
COUNTY	RUSH	ETHANE PROPANE	
FIELD	REICHEL GAS AREA	N-BUTANE	
WELL NAME	FOOS 1	ISOBUTANE	
API	1516502235	N-PENTANE	
LOCATION		ISOPENTANE	
OWNER	· · · · · · · · · · · · · · · · · · ·	CYCLOPENTANE	
COMPLETED	· · · · · ·	HEXANES PLUS	
•	_	NITROGEN	
SAMPLED		OXYGEN	0.0
FORMATION		ARGON	0.1
GEOLOGIC PROVINCE CODE		ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	3503	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	1300_	CARBON DIOXIDE	0.1
	10000	HELIUM	1.75
OPEN FLOW, MCFD	10000	TILLIOWI	
OPEN FLOW, MCFD	10000_	HEATING VALUE*	

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

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

SAMPLE	21236	COMPONENT, MOLE PCT	
STATE	KVNSVS	METHANE	64.0
		ETHANE	2.0
COUNTY		PROPANE	0.9
FIELD		N-BUTANE	0.3
WELL NAME		ISOBUTANE	0.2
API	1516521019	N-PENTANE	
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	385_	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	21237	COMPONENT, MOLE PCT	
O/ WII EE	21201	METHANE	64.4
STATE	KANSAS_	ETHANE	
COUNTY	RUSH	PROPANE	
FIELD	REICHEL W	N-BUTANE	
WELL NAME	MUTH 1	ISOBUTANE	
API	1516521146	N-PENTANE	
LOCATION	SEC. 1, T17S, R18W	ISOPENTANE	0.1
OWNER	BEAR PETROLEUM, INC.	CYCLOPENTANE	
COMPLETED	840713	HEXANES PLUS	0.4
SAMPLED	030819	NITROGEN	28.9
FORMATION	_	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	385	ARGON	0.1
		ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.0
OPEN FLOW, MCFD	348_	HELIUM	2.00
		HEATING VALUE*	767
		·	

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

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

SAMPLE	21648	COMPONENT, MOLE PCT	
STATE	KANICAC	METHANE	71.6
	_	ETHANE	0.6
COUNTY		PROPANE	0.1
FIELD		N-BUTANE	TRACE
WELL NAME		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
		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	120_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21633	COMPONENT, MOLE PCT	
SAIVIT LL	21003	METHANE	72.4
STATE	KANSAS_	ETHANE	
COUNTY	HODGEMAN	PROPANE	
FIELD	SAW LOG CREEK	N-BUTANE	
WELL NAME	GLEASON 1	ISOBUTANE	
API	1508321508	N-PENTANE	
LOCATION	SEC 32, T23S, R21W	ISOPENTANE	TRACE
OWNER	BECKER OIL CORP.	CYCLOPENTANE	
COMPLETED	060101	HEXANES PLUS	TRACE
SAMPLED	_	NITROGEN	25.7
	070718	NITROGENOXYGEN	
FORMATION	070718 PERM-CHASE GROUP		
FORMATION GEOLOGIC PROVINCE CODE	070718 PERM-CHASE GROUP 360	OXYGEN	
FORMATION	070718 PERM-CHASE GROUP 360 2669	OXYGEN	 TRACE
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	070718 PERM-CHASE GROUP 360 2669	OXYGENARGON + OXYGEN	 TRACE 0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	070718 PERM-CHASE GROUP 360 2669	OXYGENARGONARGON + OXYGENHYDROGEN	TRACE 0.0
FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	070718 PERM-CHASE GROUP 360 2669	OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	TRACE 0.0 0.0 TRACE
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD	070718 PERM-CHASE GROUP 360 2669	OXYGENARGONARGON + OXYGENHYDROGENHYDROGEN SULFIDE**CARBON DIOXIDE	TRACE 0.0 TRACE 0.86

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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 KANSAS	METHANE	56.2
COUNTY SCOTT	ETHANE	4.1
FIELD SHALLOW WATER W.	PROPANE	2.9
	N-BUTANE	1.0
WELL NAME BUCKNER 1(WAS NOT FLOWING)	ISOBUTANE	0.4
API1517120400_	N-PENTANE	
LOCATION SEC 16, T20S, R33W	ISOPENTANE	
OWNER BEREXCO, INC.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	
SAMPLED	NITROGEN	
FORMATIONPERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		
OPEN FLOW, MCFD 190	CARBON DIOXIDE HELIUM	
	I ILLIUW	0.65
		796
	HEATING VALUE*SPECIFIC GRAVITY	
SAMPLE 21612	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT	0.776
SAMPLE 21612 STATE <u>KANSAS</u>	HEATING VALUE*SPECIFIC GRAVITY	0.776 67.4
SAMPLE 21612 STATEKANSAS_ COUNTYSTAFFORD_	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE	0.776 67.4 4.1
SAMPLE 21612 STATEKANSAS_ COUNTYSTAFFORD_	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE	0.776 67.4 4.1 3.0
SAMPLE 21612 STATE KANSAS COUNTY STAFFORD FIELD SODEN E	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE	0.776 67.4 4.1 3.0 1.2
SAMPLE 21612 STATE KANSAS COUNTY STAFFORD FIELD SODEN E WELL NAME FANSHIER 1-25 API 1518523224	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	0.776 67.4 4.1 3.0 1.2 0.6
SAMPLE 21612 STATE KANSAS_ COUNTY STAFFORD_ FIELD SODEN E_ WELL NAME FANSHIER 1-25_	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	0.776 67.4 4.1 3.0 1.2 0.6 0.4
SAMPLE 21612 STATE KANSAS COUNTY STAFFORD FIELD SODEN E WELL NAME FANSHIER 1-25 API 1518523224 LOCATION SEC 25, T23S, R13W	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.776 67.4 4.1 3.0 1.2 0.6 0.4
SAMPLE 21612 STATE KANSAS COUNTY STAFFORD FIELD SODEN E WELL NAME FANSHIER 1-25 API 1518523224 LOCATION SEC 25, T23S, R13W OWNER AMERICAN WARRIOR, INC.	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE	0.776 67.4 4.1 3.0 1.2 0.6 0.4 0.3
SAMPLE 21612 STATE KANSAS COUNTY STAFFORD FIELD SODEN E WELL NAME FANSHIER 1-25 API 1518523224	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.776 67.4 4.1 3.0 1.2 0.6 0.4 0.3 0.7 21.3
SAMPLE 21612 STATE	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.776 67.4 4.1 3.0 1.2 0.6 0.4 0.3 0.7 21.3
SAMPLE 21612 STATE KANSAS COUNTY STAFFORD FIELD SODEN E WELL NAME FANSHIER 1-25 API 1518523224 LOCATION SEC 25, T23S, R13W OWNER AMERICAN WARRIOR, INC. COMPLETED 040502 SAMPLED 070717 FORMATION PENN-LANSING-KANSAS CITY	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.776 67.4 4.1 3.0 1.2 0.6 0.4 0.3 0.7 21.3
SAMPLE 21612 STATE KANSAS COUNTY STAFFORD FIELD SODEN E WELL NAME FANSHIER 1-25 API 1518523224 LOCATION SEC 25, T23S, R13W OWNER AMERICAN WARRIOR, INC. COMPLETED 040502 SAMPLED 070717 FORMATION PENN-LANSING-KANSAS CITY	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.776 67.4 4.1 3.0 1.2 0.6 0.4 0.3 21.3 TRACE
SAMPLE 21612 STATE	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.776 67.4 4.1 3.0 1.2 0.6 0.4 0.3 21.3 TRACE 0.0
SAMPLE 21612 STATE	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.776 67.4 4.1 3.0 1.2 0.6 0.4 0.3 1.7 21.3 TRACE 0.0 0.0
SAMPLE 21612 STATE	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE*** CARBON DIOXIDE	0.776 67.4 4.1 3.0 1.2 0.6 0.4 0.3 0.7 21.3 TRACE 0.0 0.0 0.2
SAMPLE 21612 STATE	HEATING VALUE* SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	0.776 67.4 4.1 3.0 1.2 0.6 0.4 0.3 0.7 21.3 TRACE 0.0 0.0 0.2 0.86

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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	KANCAC	METHANE	70.5
	_	ETHANE	0.7
COUNTY	<u>-</u>	PROPANE	0.1
FIELD		N-BUTANE	TRACE
WELL NAME	BENISH 1	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	360	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	TRACE
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	TRACE
OPEN FLOW, MCFD	145_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21240	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	68.5
	RUSH	ETHANE	2.2
FIELD	<u> </u>	PROPANE	1.0
•	_	N-BUTANE	0.4
WELL NAME		ISOBUTANE	0.3
API	1516530158	N-PENTANE	
LOCATION		ISOPENTANE	0.1
OWNER	SEC. 30, T16S, R16W	ISOPENTANE	0.1
•	SEC. 30. T16S. R16W BEAR PETROLEUM, INC.	ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.2
OWNER	SEC. 30. T16S. R16W BEAR PETROLEUM, INC. 670201	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.2 25.1
OWNER	SEC. 30. T16S. R16W BEAR PETROLEUM, INC. 670201 030819	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.2 25.1 0.0
OWNERCOMPLETEDSAMPLED	SEC. 30. T16S. R16W 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	SEC. 30. T16S. R16W 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	SEC. 30. T16S. R16W 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)	SEC. 30. T16S. R16W 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	SEC. 30. T16S. R16W 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	SEC. 30. T16S. R16W 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

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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	
STATE	KANCAC	METHANE	89.0
	_	ETHANE	4.2
COUNTY	_	PROPANE	1.9
FIELD		N-BUTANE	0.7
WELL NAME	_	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	
GEOLOGIC PROVINCE CODE		ARGON	
TRUE VERTICAL DEPTH (FT)	-	ARGON + OXYGEN	TRACE
` ,		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.2
OPEN FLOW, MCFD	280	HELIUM	0.26
		HEATING VALUE*	1,095
		SPECIFIC GRAVITY	0.638
SAMPLE	21631	COMPONENT, MOLE PCT	
STATE	KANSAS	METHANE	84.0
COUNTY		ETHANE	3.3
FIELD	_	PROPANE	1.3
	_	N-BUTANE	0.4
WELL NAME	_	ISOBUTANE	0.2
API		N-PENTANE	0.1
LOCATION	SEC 18, T24S, R17W	ISOPENTANE	0.1
OWNER	HOLL, F.G., CO. LLC	CYCLOPENTANE	
COMPLETED	780512	HEXANES PLUS	0.2
SAMPLED	070718	NITROGEN	9.2
FORMATION PENN-CHER	OKEE, MISS-MISSISSIPPIAN	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	1550	HELIUM	
		HEATING VALUE*	977
		SPECIFIC GRAVITY	

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

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

SAMPLE	21642	COMPONENT, MOLE PCT	
STATE	KVNCVC	METHANE	64.2
	_	ETHANE	0.6
COUNTY		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	0.0
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	
STATE	KANSAS	METHANE	63.6
STATE	KANSAS		
COUNTY	HODGEMAN	ETHANE PROPANE	
FIELD	WIELAND N	N-BUTANE	
WELL NAME	SELFRIDGE 1A	ISOBUTANE	
API	1508321485	N-PENTANE	
LOCATION	SEC 8, T21S, R22W	ISOPENTANE	
OWNER	BECKER OIL CORP.	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	
SAMPLED	_	NITROGEN	
FORMATION		OXYGEN	
GEOLOGIC PROVINCE CODE _		ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
` ,		HYDROGEN	
MEASURED DEPTH	_	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _	_	CARBON DIOXIDE	
OPEN FLOW, MCFD	1832	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.697

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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	COMPONENT, MOLE PCT	
STATEKANSAS_	METHANE	85.2
· · · · · · · · · · · · · · · · · · ·	ETHANE	2.6
COUNTYEDWARDS	PROPANE	0.9
FIELD WIL	N-BUTANE	0.2
WELL NAMEJULIAN 3-5_	ISOBUTANE	0.1
API1504721471_	N-PENTANE	0.1
LOCATION SEC 5, T25S, R16W	ISOPENTANE	0.1
OWNERCASTELLI EXPLORATION. INC.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.1
SAMPLED	NITROGEN	10.2
FORMATIONPERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE360_	ARGON	
TRUE VERTICAL DEPTH (FT)2474	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD366	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 21622	COMPONENT, MOLE PCT	
	METHANE	
STATE KANSAS	METHANE	85.3
	ETHANE	
COUNTYEDWARDS	<u></u>	2.6
COUNTY EDWARDS FIELD WIL	ETHANE	2.6 1.0
COUNTY EDWARDS FIELD WIL WELL NAME JULIAN 2-5	ETHANEPROPANE	2.6 1.0 0.2
STATE KANSAS COUNTY EDWARDS FIELD WIL WELL NAME JULIAN 2-5 API 1504721464	ETHANE PROPANE N-BUTANE	2.6 1.0 0.2 0.1
COUNTY EDWARDS FIELD WIL WELL NAME JULIAN 2-5	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	2.6 1.0 0.2 0.1 0.1 0.1
COUNTY EDWARDS FIELD WIL WELL NAME JULIAN 2-5 API 1504721464 LOCATION SEC 5, T25S, R16W	ETHANE PROPANE N-BUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	2.6 1.0 0.2 0.1 0.1
COUNTY EDWARDS FIELD WIL WELL NAME JULIAN 2-5 API 1504721464 LOCATION SEC 5, T25S, R16W OWNER CASTELLI EXPLORATION, INC.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.6 1.0 0.2 0.1 0.1 0.1
COUNTY EDWARDS FIELD WIL WELL NAME JULIAN 2-5 API 1504721464	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	2.6 1.0 0.2 0.1 0.1 0.1 0.1 9.9
COUNTY EDWARDS FIELD WIL WELL NAME JULIAN 2-5 API 1504721464 LOCATION SEC 5, T25S, R16W OWNER CASTELLI EXPLORATION, INC. COMPLETED 020420	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	2.6 1.0 0.2 0.1 0.1 0.1 0.1 9.9
COUNTY EDWARDS FIELD WIL WELL NAME JULIAN 2-5 API 1504721464 LOCATION SEC 5, T25S, R16W OWNER CASTELLI EXPLORATION, INC. COMPLETED 020420 SAMPLED 070717	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGENARGON	2.6 1.0 0.2 0.1 0.1 0.1 0.1 9.9
COUNTY EDWARDS FIELD WIL WELL NAME JULIAN 2-5 API 1504721464 LOCATION SEC 5, T25S, R16W OWNER CASTELLI EXPLORATION, INC. COMPLETED 020420 SAMPLED 070717 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 360	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN	2.6 1.0 0.2 0.1 0.1 0.1 0.1 9.9
COUNTY EDWARDS FIELD WIL WELL NAME JULIAN 2-5 API 1504721464 LOCATION SEC 5, T25S, R16W OWNER CASTELLI EXPLORATION, INC. COMPLETED 020420 SAMPLED 070717 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2329	ETHANE	2.6. 1.0 0.2 0.1 0.1 0.1 0.1 9.9 TRACE 0.0
COUNTY EDWARDS FIELD WIL WELL NAME JULIAN 2-5 API 1504721464 LOCATION SEC 5, T25S, R16W OWNER CASTELLI EXPLORATION. INC. COMPLETED 020420 SAMPLED 070717 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2329 MEASURED DEPTH	ETHANE	2.6 1.0 0.2 0.1 0.1 0.1 9.9 TRACE 0.0
COUNTY	ETHANE	2.6 1.0 0.2 0.1 0.1 0.1 0.1 9.9 TRACE 0.0 0.0
COUNTY EDWARDS FIELD WIL WELL NAME JULIAN 2-5 API 1504721464 LOCATION SEC 5, T25S, R16W OWNER CASTELLI EXPLORATION. INC. COMPLETED 020420 SAMPLED 070717 FORMATION PERM-CHASE GROUP GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2329 MEASURED DEPTH	ETHANE	2.6 1.0 0.2 0.1 0.1 0.1 TRACE 0.0 0.0 TRACE 0.50

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

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

SAMPLE	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		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20762	COMPONENT, MOLE PCT	
STATE	KANICAC	METHANE	71.8
		ETHANE	4.8
COUNTY	_	PROPANE	3.1
FIELD	WILBURTONE	N-BUTANE	
\A/E N AN/E		N-BUTANE	
WELL NAIVIE	BARKER B 1-4	ISOBUTANE	1.1
API	-	•	1.1 0.6
· · · · · · · · · · · · · · · · · · ·	1512921649	ISOBUTANE	1.1 0.6 0.5
API	1512921649 SEC. 36. T34S. R41W	ISOBUTANEN-PENTANE	1.1 0.6 0.5 0.4
API	1512921649 SEC. 36. T34S. R41W OXY USA, INC.	ISOBUTANE N-PENTANE ISOPENTANE	1.1 0.6 0.5 0.4
APILOCATION	1512921649 SEC, 36, T34S, R41W OXY USA, INC. 010930	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.1 0.6 0.5 0.4
API LOCATION OWNER COMPLETED	1512921649 SEC. 36, T34S, R41W OXY USA, INC. 010930 010801	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.1 0.6 0.5 0.4 0.4 16.6
API LOCATION OWNER COMPLETED SAMPLED	1512921649 SEC. 36. T34S. R41W OXY USA. INC. 010930 010801 PENN-MORROW U	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.1 0.6 0.5 0.4 0.4 16.6 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	1512921649 SEC. 36. T34S. R41W OXY USA. INC. 010930 010801 PENN-MORROW U 360	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	1.1 0.6 0.5 0.4 0.4 16.6 0.0 TRACE
API 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	ISOBUTANE	1.1 0.6 0.5 0.4 0.4 16.6 0.0 TRACE
API	1512921649 SEC. 36. T34S. R41W OXY USA. INC. 010930 010801 PENN-MORROW U 360 5494	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	1.1 0.6 0.5 0.4 0.4 16.6 0.0 TRACE TRACE
API	1512921649 SEC. 36. T34S. R41W OXY USA, INC. 010930 010801 PENN-MORROW U 360 5494	ISOBUTANE	1.1 0.6 0.5 0.4 0.4 16.6 0.0 TRACE TRACE 0.0
API	1512921649 SEC. 36. T34S. R41W OXY USA, INC. 010930 010801 PENN-MORROW U 360 5494	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	1.1 0.6 0.5 0.4 16.6 0.0 TRACE TRACE 0.0 0.4

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

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

S	AMPLE	50591		COMPONENT, MOLE PCT	
CTATE		KANSAS		METHANE	90.5
•				ETHANE	4.2
		BARBER	_	PROPANE	1.8
•		WOLGAMOTT	_	N-BUTANE	0.6
WELL NAME		WOLGAMOTT NO. 2-9	L	ISOBUTANE	0.2
API		1500722680	<u>L</u>	N-PENTANE	0.2
LOCATION		SEC. 9, T35S, R14W	<u>'</u>	ISOPENTANE	0.2
OWNER		JACK EXPLORATION, INC.	_	CYCLOPENTANE	
COMPLETED _		011024	<u>-</u>	HEXANES PLUS	0.5
SAMPLED		020905	_	NITROGEN	1.7
FORMATION		MISS-MISSISSIPPIAN	L	OXYGEN	
GEOLOGIC PRO	OVINCE CODE	375	- :	ARGON	
		4898		ARGON + OXYGEN	
				HYDROGEN	0.0
			_	HYDROGEN SULFIDE**	0.0
				CARBON DIOXIDE	0.2
OPEN FLOW, M	CFD	1669	<u>-</u>	HELIUM	
				HEATING VALUE*	
				SPECIFIC GRAVITY	0.634
S	AMPLE	21589		COMPONENT, MOLE PCT	
STATE		LOUISIANA		METHANE	92.4
		BIENVILLE	_	ETHANE	3.4
		ALABAMA BEND	_	PROPANE	0.7
			_	N-BUTANE	0.1
		CK STONE MINERALS 11-1-1	_	ISOBUTANE	0.2
		1701321462		N-PENTANE	TRACE
LOCATION		SEC. 11, T15N, R10W	<u>'</u>	ISOPENTANE	0.1
OWNER	PE	TROCHEM OPERATING CO.	_	CYCLOPENTANE	
COMPLETED _		050612	_	HEXANES PLUS	
SAMPLED		070319	<u>_</u>	NITROGEN	
FORMATION _		JURA-COTTON VALLEY	<u>.</u>	OXYGEN	
GEOLOGIC PRO	OVINCE CODE	230	<u>_</u>	ARGON	
		10106	_	ARGON + OXYGEN	
		.0.00	_	HYDROGEN	
	·		-	HYDROGEN SULFIDE**	
	, -		_	CARBON DIOXIDE	
OPEN FLOW, M	CFD	1500	_	HELIUM	
				HEATING VALUE*	
				SPECIFIC GRAVITY	0.614

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

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

SAMPLE 215	90	COMPONENT, MOLE PCT	
STATE	LOUISIANA	METHANE	91.9
-		ETHANE	3.8
COUNTY	_	PROPANE	0.8
FIELD		N-BUTANE	0.2
WELL NAMEBLACK STO		ISOBUTANE	0.2
API	_	N-PENTANE	0.1
LOCATION	SEC. 3, T15N, R10W	ISOPENTANE	0.1
OWNER PETROC	HEM OPERATING CO.	CYCLOPENTANE	
COMPLETED	051102	HEXANES PLUS	0.1
SAMPLED	070319	NITROGEN	0.2
FORMATION	JRA-COTTON VALLEY	OXYGEN	
GEOLOGIC PROVINCE CODE	230	ARGON	
TRUE VERTICAL DEPTH (FT)	9884	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	0.0
WELLHEAD PRESSURE. PSIG	_	HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	14/5	HELIUM	
		HEATING VALUE*	1.042
		000000000000000000000000000000000000000	0.010
		SPECIFIC GRAVITY	0.619
SAMPLE 214	53	COMPONENT, MOLE PCT	
SAMPLE 214		COMPONENT, MOLE PCT METHANE	81.6
STATE	MONTANA_	COMPONENT, MOLE PCT METHANE ETHANE	81.6 5.5
STATE	MONTANA TOOLE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	81.6 5.5 3.1
STATE COUNTY FIELD	MONTANA. TOOLE. AMANDA	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	81.6 5.5 3.1 1.1
STATE COUNTY FIELD WELL NAME	MONTANA. TOOLE. AMANDA. JACOBSON 23-10.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	81.6 5.5 3.1 1.1 0.5
STATE COUNTY FIELD WELL NAME API	MONTANA. TOOLE. AMANDA JACOBSON 23-10. 2510123540.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	81.6 5.5 3.1 1.1 0.5 0.3
STATE COUNTY FIELD WELL NAME API LOCATION	MONTANA. TOOLE AMANDA JACOBSON 23-10 2510123540 SEC 23. T36N, R4W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	81.6 5.5 3.1 1.1 0.5 0.3
STATE COUNTY FIELD WELL NAME API	MONTANA. TOOLE AMANDA JACOBSON 23-10 2510123540 SEC 23. T36N, R4W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE	81.6 5.5 3.1 1.1 0.5 0.3 0.3
STATE COUNTY FIELD WELL NAME API LOCATION	MONTANA TOOLE AMANDA JACOBSON 23-10 2510123540 SEC 23, T36N, R4W T OIL COMPANY, INC.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	81.6 5.5 3.1 1.1 0.5 0.3 0.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNERSOMON	MONTANA. TOOLE AMANDA JACOBSON 23-10 2510123540 SEC 23, T36N, R4W T OIL COMPANY, INC. 920811	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN	81.6 5.5 3.1 1.1 0.5 0.3 0.3 0.5 5.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER SOMON COMPLETED	MONTANA. TOOLE AMANDA JACOBSON 23-10 2510123540 SEC 23, T36N, R4W TOIL COMPANY, INC. 920811 050000	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	81.6 5.5 3.1 1.1 0.5 0.3 0.3 0.5 5.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER SOMON COMPLETED SAMPLED	MONTANA. TOOLE AMANDA JACOBSON 23-10 2510123540 SEC 23, T36N, R4W TOIL COMPANY, INC. 920811 050000	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	81.6 5.5 3.1 1.1 0.5 0.3 0.3 0.5 5.3
STATE	MONTANA. TOOLE AMANDA JACOBSON 23-10 2510123540 SEC 23, T36N, R4W TOIL COMPANY, INC. 920811 050000 JURA-SWIFT 500	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	81.6 5.5 3.1 1.1 0.5 0.3 0.3 0.5 5.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER SOMON COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	MONTANA. TOOLE AMANDA JACOBSON 23-10 2510123540 SEC 23, T36N, R4W TOIL COMPANY, INC. 920811 050000 JURA-SWIFT 500 2520	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	81.6 5.5 3.1 1.1 0.5 0.3 0.3 0.5 5.3 0.1 0.0
STATE	MONTANA. TOOLE AMANDA JACOBSON 23-10 2510123540 SEC 23. T36N, R4W T OIL COMPANY, INC. 920811 050000 JURA-SWIFT 500 2520	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	81.6 5.5 3.1 1.1 0.5 0.3 0.3 0.5 5.3 0.1 0.0 0.0
STATE	MONTANA. TOOLE AMANDA JACOBSON 23-10 2510123540 SEC 23. T36N. R4W TOIL COMPANY. INC. 920811 050000 JURA-SWIFT 500 2520	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE*** CARBON DIOXIDE	81.6 5.5 3.1 1.1 0.5 0.3 0.3 0.5 5.3 0.1 0.0 0.0
STATE	MONTANA. TOOLE AMANDA JACOBSON 23-10 2510123540 SEC 23. T36N. R4W TOIL COMPANY. INC. 920811 050000 JURA-SWIFT 500 2520	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	81.6 5.5 3.1 1.1 0.5 0.3 0.3 0.5 5.3 0.1 0.0 0.0 1.4 0.10

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

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

TRUE VERTICAL DEPTH (FT) 1996 HYDROGEN 0.2 MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG 115 CARBON DIOXIDE 0.1 OPEN FLOW, MCFD 153 HELIUM 0.37 HEATING VALUE* 1.054	SAMPLE	21532	COMPONENT, MOLE PCT	
COUNTY	OTATE	MONTANA	METHANE	91.7
PROPANE	·		ETHANE	0.5
WELL NAME	·	_	PROPANE	0.1
API	•	_	N-BUTANE	TRACE
LOCATION	WELL NAME	SHOEMAKER 9-22	ISOBUTANE	TRACE
OWNER CROFT PETROLEUM CO. CYCLOPENTANE — COMPLETED 011010 HEXANES PLUS TRACE SAMPLED 060608. NITROGEN 7.3 FORMATION CRET-SECOND WHITE SPECKS. ARGON — GEOLOGIC PROVINCE CODE 500 ARGON + OXYGEN TRACE TRUE VERTICAL DEPTH (FT) 2080 HYDROGEN 0.0 MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG 465. CARBON DIOXIDE 0.1 OPEN FLOW, MCFD 127. HELIUM 0.14 HEATING VALUE* 946 SPECIFIC GRAVITY 0.591 STATE MONTANA METHANE 86.6 COUNTY GLACIER PROPANE 2.2 FIELD LITTLE ROCK N-BUTANE 0.9 WELL NAME AUGESTAD 2-2 ISOBUTANE 0.6 API 2503522076 N-PENTANE 0.2 LOCATION SEC 2. T36N, R6W ISOPENTANE 0.3 OWNER CROFT PETROLEUM CO.	API	2505121732	N-PENTANE	TRACE
December Computer Computer	LOCATION	SEC 22, T36N, R6E	ISOPENTANE	TRACE
SAMPLED	OWNER	CROFT PETROLEUM CO.	CYCLOPENTANE	
STATE	COMPLETED	011010	HEXANES PLUS	TRACE
ARGON	SAMPLED	060608	NITROGEN	7.3
ARGON ARGON ARGON ARGON + OXYGEN TRACE	FORMATION	CRET-SECOND WHITE SPECKS	OXYGEN	
ARGON + OXYGEN TRACE			ARGON	
MEASURED DEPTH		•	ARGON + OXYGEN	TRACE
WELLHEAD PRESSURE, PSIG	` ,		HYDROGEN	0.0
OPEN FLOW, MCFD 127. HELIUM 0.14 HEATING VALUE* 946 SPECIFIC GRAVITY 0.591 SAMPLE 21602 COMPONENT, MOLE PCT STATE MONTANA METHANE 86.6 COUNTY GLACIER PROPANE 2.2 FIELD LITTLE ROCK N-BUTANE 0.9 WELL NAME AUGESTAD 2-2 ISOBUTANE 0.6 API 2503522076 N-PENTANE 0.2 LOCATION SEC 2. T36N. R6W ISOPENTANE 0.3 OWNER CROFT PETROLEUM CO. CYCLOPENTANE COMPLETED 070307 HEXANES PLUS 0.3 SAMPLED 070000 NITROGEN 6.0 FORMATION CRET-BLACKLEAF ARGON GEOLOGIC PROVINCE CODE 500 ARGON + OXYGEN 0.1 TRUE VERTICAL DEPTH (FT) 1996 HYDROGEN 0.2 MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG 115 CARBON DIOXIDE <td></td> <td></td> <td>HYDROGEN SULFIDE**</td> <td>0.0</td>			HYDROGEN SULFIDE**	0.0
HEATING VALUE* 946 SPECIFIC GRAVITY 0.591 SAMPLE 21602 COMPONENT, MOLE PCT STATE			CARBON DIOXIDE	0.1
SPECIFIC GRAVITY	OPEN FLOW, MCFD	127_	HELIUM	0.14
SAMPLE 21602 COMPONENT, MOLE PCT			HEATING VALUE*	946
MONTANA METHANE 86.6			SPECIFIC GRAVITY	0.591
STATE	SAMPLE	21602	COMPONENT, MOLE PCT	
COUNTY	STATE	MONTANA	METHANE	86.6
FIELD LITTLE ROCK N-BUTANE			ETHANE	2.3
WELL NAME AUGESTAD 2-2 ISOBUTANE 0.9 API 2503522076 N-PENTANE 0.2 LOCATION SEC 2, T36N, R6W ISOPENTANE 0.3 OWNER CROFT PETROLEUM CO. CYCLOPENTANE COMPLETED 070307 HEXANES PLUS 0.3 SAMPLED 070000 NITROGEN 6.0 FORMATION CRET-BLACKLEAF ARGON GEOLOGIC PROVINCE CODE 500 ARGON + OXYGEN 0.1 TRUE VERTICAL DEPTH (FT) 1996 HYDROGEN 0.2 MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG 115 CARBON DIOXIDE 0.1 OPEN FLOW, MCFD 153 HELIUM 0.37 HEATING VALUE* 1.054		_		
API			N-BUTANE	0.9
SEC 2. T36N. R6W ISOPENTANE 0.3			ISOBUTANE	0.6
OWNER CROFT PETROLEUM CO. CYCLOPENTANE	•		N-PENTANE	0.2
COMPLETED 070307 HEXANES PLUS 0.3 SAMPLED 070000 NITROGEN 6.0 FORMATION CRET-BLACKLEAF OXYGEN GEOLOGIC PROVINCE CODE 500 ARGON TRUE VERTICAL DEPTH (FT) 1996 HYDROGEN 0.1 MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG 115 CARBON DIOXIDE 0.1 OPEN FLOW, MCFD 153 HELIUM 0.37 HEATING VALUE* 1.054	LOCATION	SEC 2, T36N, R6W	ISOPENTANE	0.3
SAMPLED 070000 NITROGEN 6.0 FORMATION CRET-BLACKLEAF ARGON GEOLOGIC PROVINCE CODE 500 ARGON + OXYGEN 0.1 TRUE VERTICAL DEPTH (FT) 1996 HYDROGEN 0.2 MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG 115 CARBON DIOXIDE 0.1 OPEN FLOW, MCFD 153 HELIUM 0.37 HEATING VALUE* 1.054	OWNER	CROFT PETROLEUM CO.	CYCLOPENTANE	
FORMATION	COMPLETED	070307		
CRET-BLACKLEAF ARGON	SAMPLED	070000	NITROGEN	6.0
GEOLOGIC PROVINCE CODE 500 ARGON + OXYGEN 0.1 TRUE VERTICAL DEPTH (FT) 1996 HYDROGEN 0.2 MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG 115 CARBON DIOXIDE 0.1 OPEN FLOW, MCFD 153 HELIUM 0.37 HEATING VALUE* 1.054	FORMATION	CRET-BLACKLEAF	OXYGEN	
TRUE VERTICAL DEPTH (FT) 1996 HYDROGEN 0.2 MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG 115 CARBON DIOXIDE 0.1 OPEN FLOW, MCFD 153 HELIUM 0.37 HEATING VALUE* 1.054	GEOLOGIC PROVINCE CODE	500	· · · · · · · · · · · · · · · · · · ·	
MEASURED DEPTH		•		
WELLHEAD PRESSURE, PSIG 115 CARBON DIOXIDE 0.1 OPEN FLOW, MCFD 153 HELIUM 0.37 HEATING VALUE* 1.054	, ,	-	· · · · · · · · · · · · · · · · · · ·	
OPEN FLOW, MCFD				
HEATING VALUE*1.054	•			
	OPEN FLOW, MCFD	153		
			HEATING VALUE* SPECIFIC GRAVITY	

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

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

SAMPLE	21597	COMPONENT, MOLE PCT	
STATE	MONTANA	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)	2633	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE. PSIG		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	32	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21607	COMPONENT, MOLE PCT	
CTATE	MONITANIA	METHANE	85.9
STATE		ETHANE	1.4
COUNTY	_	PROPANE	0.5
FIELD		N-BUTANE	0.1
WELL NAME		ISOBUTANE	0.1
API	2510121751	N-PENTANE	TRACE
LOCATION	SEC 29, T37N, R1E	ISOPENTANE	0.1
OWNER	DNR OIL & GAS. INC.	CYCLOPENTANE	
COMPLETED	781002	HEXANES PLUS	TRACE
SAMPLED	070628	NITROGEN	10.0
FORMATION	CRET-BOW ISLAND	OXYGEN	
CEOLOGIC PROVINCE CODE	500	ARGON	
GEOLOGIC PROVINCE CODE		ARGON + OXYGEN	0.6
	<u>500</u> 1133		
TRUE VERTICAL DEPTH (FT)	1133	HYDROGEN	TRACE
TRUE VERTICAL DEPTH (FT)	1133	HYDROGEN HYDROGEN SULFIDE**	TRACE 0.0
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	1133	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE 0.0 1.3
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	1133	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	1.3 0.09
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _ OPEN FLOW, MCFD	1133	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE 0.0 1.3 0.09

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

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

SAMPLE	21666	COMPONENT, MOLE PCT	
STATE	MONITANIA	METHANE	73.5
•	_	ETHANE	7.3
COUNTY	·	PROPANE	5.9
FIELD	·	N-BUTANE	2.1
WELL NAME		ISOBUTANE	1.0
API		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)	2208	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG _	_	HYDROGEN SULFIDE**	
OPEN FLOW, MCFD	·	CARBON DIOXIDE	
OPEN FLOW, MICFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21665	COMPONENT, MOLE PCT	
07 tivil EE	21000	METHANE	03.0
STATE	MONTANA.	ETHANE	
COUNTY	LIBERTY	PROPANE	
FIELD	SAGE CREEK	N-BUTANE	
WELL NAME	STATE 14-16	ISOBUTANE	
API	2505121711	N-PENTANE	
LOCATION	SEC 16, T37N, R7E	ISOPENTANE	
OWNER	OMIMEX CANADA LTD.	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	0.0
SAMPLED		NITROGEN	5.5
FORMATION		OXYGEN	
	_	ARGON	
GEOLOGIC PROVINCE CODE _	500	ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
MEASURED DEPTH	·	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _	348	CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	92	HELIUM	0.16
		HEATING VALUE*	955
		SPECIFIC GRAVITY	0.579

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

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

SAMPLE	21670	COMPONENT, MOLE PCT	
STATE	MONITANIA	METHANE	89.2
<u> </u>	_	ETHANE	1.6
COUNTY	-	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)		ARGON + OXYGEN	TRACE
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	34_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21621	COMPONENT, MOLE PCT	
STATE	MONTANA	METHANE	94.5
•	MONTANA.	METHANE	
COUNTY	HILL		0.2
COUNTY	HILL ST JOE ROAD	ETHANE	0.2 TRACE
COUNTY FIELD WELL NAME	HILL ST JOE ROAD DUSEK 28-4-36-16	ETHANE	0.2 TRACE 0.0
COUNTY FIELD WELL NAME API	HILL ST JOE ROAD DUSEK 28-4-36-16 2504123215	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	0.2 TRACE 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION	HILL ST JOE ROAD DUSEK 28-4-36-16 2504123215 SEC 28. T36N. R16E	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	0.2 TRACE 0.0 0.0 0.0 0.0
COUNTY FIELD WELL NAME API	HILL ST JOE ROAD DUSEK 28-4-36-16 2504123215 SEC 28. T36N. R16E	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	0.2 TRACE 0.0 0.0 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION	HILL ST JOE ROAD DUSEK 28-4-36-16 2504123215 SEC 28, T36N, R16E KLABZUBA OIL & GAS, INC.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.2 TRACE 0.0 0.0 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER	HILL ST JOE ROAD DUSEK 28-4-36-16 2504123215 SEC 28, T36N, R16E KLABZUBA OIL & GAS, INC. 050523	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.2 TRACE 0.0 0.0 0.0 0.0 0.0 5.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	HILL ST JOE ROAD DUSEK 28-4-36-16 2504123215 SEC 28. T36N. R16E KLABZUBA OIL & GAS. INC. 050523 070709	ETHANE	0.2 TRACE 0.0 0.0 0.0 0.0 0.0 5.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	HILL ST JOE ROAD DUSEK 28-4-36-16 2504123215 SEC 28, T36N, R16E KLABZUBA OIL & GAS, INC. 050523 070709 CRET-NIOBRARA	ETHANE	0.2 TRACE 0.0 0.0 0.0 0.0 0.0 5.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	HILL ST JOE ROAD DUSEK 28-4-36-16 2504123215 SEC 28. T36N. R16E KLABZUBA OIL & GAS. INC. 050523 070709 CRET-NIOBRARA 500	ETHANE	0.2 TRACE 0.0 0.0 0.0 0.0 0.0 5.0 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	HILL ST JOE ROAD DUSEK 28-4-36-16 2504123215 SEC 28. T36N. R16E KLABZUBA OIL & GAS. INC. 050523 070709 CRET-NIOBRARA 500 1973	ETHANE	0.2 TRACE 0.0 0.0 0.0 0.0 0.0 5.0 TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	HILL ST JOE ROAD DUSEK 28-4-36-16 2504123215 SEC 28. T36N. R16E KLABZUBA OIL & GAS. INC. 050523 070709 CRET-NIOBRARA 500 1973	ETHANE	0.2 TRACE 0.0 0.0 0.0 0.0 5.0 TRACE 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 _	HILL ST JOE ROAD DUSEK 28-4-36-16 2504123215 SEC 28. T36N. R16E KLABZUBA OIL & GAS, INC. 050523 070709 CRET-NIOBRARA 500 1973	ETHANE	0.2 TRACE 0.0 0.0 0.0 0.0 0.0 5.0 TRACE 0.1 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	HILL ST JOE ROAD DUSEK 28-4-36-16 2504123215 SEC 28. T36N. R16E KLABZUBA OIL & GAS, INC. 050523 070709 CRET-NIOBRARA 500 1973	ETHANE	0.2 TRACE 0.0 0.0 0.0 0.0 0.0 5.0 TRACE 0.1 0.0 0.1 0.09

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

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

SAMPLE	21657	COMPONENT, MOLE PCT	
CTATE	NEDDACKA	METHANE	89.2
STATE		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)	<u> </u>	ARGON + OXYGEN	0.1
` ,—		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	494_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.619
SAMPLE	0.1.000		
SAMILL	21660	COMPONENT, MOLE PCT	
STATE		METHANE	
STATE	NEBRASKA.	METHANE	1.3
STATE	NEBRASKA CHEYENNE	METHANE	1.3
STATE COUNTY FIELD	NEBRASKA CHEYENNE MCCOURT W	METHANE ETHANE PROPANE N-BUTANE	1.3 0.9 0.3
STATE COUNTY FIELD WELL NAME	NEBRASKA CHEYENNE MCCOURT W TOOF 3-4B	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	1.3 0.9 0.3 0.2
STATE COUNTY FIELD WELL NAME API	NEBRASKA CHEYENNE MCCOURT W TOOF 3-4B 2603322443	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	1.3 0.9 0.3 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	NEBRASKA CHEYENNE MCCOURT W TOOF 3-4B 2603322443 SEC 3, T16N, R48W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.3 0.9 0.3 0.2 0.1
STATE COUNTY FIELD WELL NAME API	NEBRASKA CHEYENNE MCCOURT W TOOF 3-4B 2603322443 SEC 3, T16N, R48W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE	1.3 0.9 0.3 0.2 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	NEBRASKA CHEYENNE MCCOURT W TOOF 3-4B 2603322443 SEC 3, T16N, R48W PATHEX PETROLEUM, INC.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.3 0.9 0.3 0.2 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	NEBRASKA CHEYENNE MCCOURT W TOOF 3-4B 2603322443 SEC 3, T16N, R48W PATHEX PETROLEUM, INC. 930208	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.3 0.9 0.3 0.2 0.1 0.1 0.1 5.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	NEBRASKA CHEYENNE MCCOURT W TOOF 3-4B 2603322443 SEC 3, T16N, R48W PATHEX PETROLEUM, INC. 930208 070815	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.3 0.9 0.3 0.2 0.1 0.1 0.1 5.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	NEBRASKA CHEYENNE MCCOURT W TOOF 3-4B 2603322443 SEC 3, T16N, R48W PATHEX PETROLEUM, INC. 930208 070815	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.3 0.9 0.3 0.2 0.1 0.1 0.1 5.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	NEBRASKA CHEYENNE MCCOURT W TOOF 3-4B 2603322443 SEC 3, T16N, R48W PATHEX PETROLEUM, INC. 930208 070815 CRET-NIOBRARA 540	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN	1.3 0.9 0.3 0.2 0.1 0.1 0.1 5.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	NEBRASKA CHEYENNE MCCOURT W TOOF 3-4B 2603322443 SEC 3. T16N. R48W PATHEX PETROLEUM. INC. 930208 070815 CRET-NIOBRARA 540 3595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	1.3 0.9 0.3 0.2 0.1 0.1 0.1 5.2 0.1 0.0
STATE	NEBRASKA CHEYENNE MCCOURT W TOOF 3-4B 2603322443 SEC 3, T16N, R48W PATHEX PETROL EUM, INC. 930208 070815 CRET-NIOBRARA 540 3595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	1.3 0.9 0.3 0.2 0.1 0.1 0.1 5.2 0.1 0.0 TRACE
STATE	NEBRASKA CHEYENNE MCCOURT W TOOF 3-4B 2603322443 SEC 3, T16N, R48W PATHEX PETROLEUM, INC. 930208 070815 CRET-NIOBRARA 540 3595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	1.3 0.9 0.3 0.2 0.1 0.1 0.1 5.2 0.1 0.0 TRACE 0.5
STATE	NEBRASKA CHEYENNE MCCOURT W TOOF 3-4B 2603322443 SEC 3, T16N, R48W PATHEX PETROLEUM, INC. 930208 070815 CRET-NIOBRARA 540 3595	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	1.3 0.9 0.3 0.2 0.1 0.1 0.1 5.2 0.1 0.0 TRACE 0.5 0.14

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

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

SAMPLE	21658	COMPONENT, MOLE PCT	
STATE	NERDASKA	METHANE	89.6
•	_	ETHANE	1.5
COUNTY		PROPANE	1.0
FIELD		N-BUTANE	0.3
WELL NAME		ISOBUTANE	0.2
API	2603322480	N-PENTANE	0.1
LOCATION	SEC 21, T16N, R47W	ISOPENTANE	
OWNER	PATHEX PETROLEUM, INC.	CYCLOPENTANE	
COMPLETED	931016	HEXANES PLUS	0.1
SAMPLED	070815	NITROGEN	6.3
FORMATION	CRET-NIOBRARA	OXYGEN	
GEOLOGIC PROVINCE CODE _	540_	ARGON	
TRUE VERTICAL DEPTH (FT)	3414	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE**	
,	_	CARBON DIOXIDE	
OPEN FLOW, MCFD	328	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21659		0.010
SAMPLE	21009	COMPONENT, MOLE PCT	
STATE	NEBRASKA_	METHANE	
COUNTY	CHEYENNE	ETHANE	
FIELD	MILLER N	PROPANE	
WELL NAME	HYDE 5-2A	N-BUTANE ISOBUTANE	
API	2603322438	N-PENTANE	
LOCATION	_	ISOPENTANE	
OWNER	· · · · · · · · · · · · · · · · · · ·	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	
		NITROGEN	
SAMPLED	0/0815		
FORMATION	ODET NUODDADA	OXYGEN	
	CRET-NIOBRARA	OXYGEN ARGON	
GEOLOGIC PROVINCE CODE _	540		
	540	ARGON	0.1
GEOLOGIC PROVINCE CODE _	540_ 3402_	ARGON - OXYGEN	0.1 0.0
GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _	540 3402	ARGON ARGON + OXYGEN HYDROGEN	0.1 0.0 0.1
GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	540	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.1 0.0 0.1 0.5
GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	540	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.0 0.1 0.5 0.16

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

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

	21661	COMPONENT, MOLE PCT	
CTATE	NEDDACKA	METHANE	71.1
•	NEBRASKA.	ETHANE	6.5
•	KIMBALL	PROPANE	8.9
•	TYSON	N-BUTANE	3.6
WELL NAME	STATE C-1	ISOBUTANE	1.1
	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 C	ODE540_	ARGON	
	(FT)5642	ARGON + OXYGEN	0.3
	(11)	HYDROGEN	
	PSIG	HYDROGEN SULFIDE**	
,		CARBON DIOXIDE	
OPEN FLOW, MCFD	2800	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21569	COMPONENT, MOLE PCT	
STATE	NERRASKA	METHANE	15.1
	NEBRASKA.	METHANE	
COUNTY	KIMBALL	•	1.8
COUNTY	KIMBALL WILDCAT	ETHANE	1.8 1.0
COUNTY FIELD WELL NAME	KIMBALL WILDCAT COUSINS NEAR 10-33T	ETHANEPROPANE	1.8 1.0 0.2
COUNTY FIELD WELL NAME	KIMBALL WILDCAT	ETHANEPROPANEN-BUTANE	1.8 1.0 0.2 0.1
COUNTY FIELD WELL NAME API LOCATION	KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.8 1.0 0.2 0.1 TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION	KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	1.8 1.0 0.2 0.1 TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER	KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.8 1.0 0.2 0.1 TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W ADVANTAGE RESOURCES, INC.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	1.8 1.0 0.2 0.1 TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W ADVANTAGE RESOURCES, INC. 050711	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.8 1.0 0.2 0.1 TRACE TRACE TRACE 78.9
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W ADVANTAGE RESOURCES, INC. 050711 061005 PERM-WYKERT	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS OXYGEN ARGON	1.8 1.0 0.2 0.1 TRACE TRACE TRACE 78.9
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C	KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W ADVANTAGE RESOURCES, INC. 050711 061005 PERM-WYKERT	ETHANE	1.8 1.0 0.2 0.1 TRACE TRACE TRACE 78.9
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C	KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W ADVANTAGE RESOURCES, INC. 050711 061005 PERM-WYKERT CODE540 (FT)8226	ETHANE	1.8. 1.0 0.2 0.1 TRACE TRACE TRACE 78.9 0.1 2.3
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COUNTY COU	KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W ADVANTAGE RESOURCES, INC. 050711 061005 PERM-WYKERT CODE	ETHANE	1.8 1.0 0.2 0.1 TRACE TRACE TRACE 78.9 0.1 2.3
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C TRUE VERTICAL DEPTH WELLHEAD PRESSURE,	KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W ADVANTAGE RESOURCES, INC. 050711 061005 PERM-WYKERT CODE 540 (FT) 8226 PSIG 5	ETHANE	1.8 1.0 0.2 0.1 TRACE TRACE TRACE 78.9 0.1 2.3 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C TRUE VERTICAL DEPTH WELLHEAD PRESSURE,	KIMBALL WILDCAT COUSINS NEAR 10-33T 2610522596 SEC 33, T14N, R56W ADVANTAGE RESOURCES, INC. 050711 061005 PERM-WYKERT CODE	ETHANE	1.8 1.0 0.2 0.1 TRACE TRACE 78.9 0.1 2.3 0.0 0.1 0.58

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

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

SAMPLE	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	
MEASURED DEPTH		HYDROGEN	TRACE
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	800	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	-
SAMPLE	50609	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	89.6
COUNTY		ETHANE	6.0
	_	PROPANE	
•			2.0
	ALBINO ALBINO	N-BUTANE	
	SAN JUAN 32-8 UNIT 46	ISOBUTANE	0.4 0.4
API	SAN JUAN 32-8 UNIT 46 3004525127		0.4 0.4
	SAN JUAN 32-8 UNIT 46 3004525127	ISOBUTANE	0.4 0.4 0.1
API	SAN JUAN 32-8 UNIT 46 3004525127 SEC 14, T32N, R8W	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.4 0.4 0.1 0.2
API	SAN JUAN 32-8 UNIT 46 3004525127 SEC 14. T32N. R8W CONOCOPHILLIPS CO.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.4 0.4 0.1 0.2 0.4
API LOCATION OWNER	SAN JUAN 32-8 UNIT 46 3004525127 SEC 14. T32N. R8W CONOCOPHILLIPS CO. 820113	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.4 0.4 0.1 0.2 0.4 0.1
API LOCATION OWNER COMPLETED	SAN JUAN 32-8 UNIT 46 3004525127 SEC 14. T32N. R8W CONOCOPHILLIPS CO. 820113 050427	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.4 0.4 0.1 0.2 0.4 0.1
API LOCATION OWNER COMPLETED SAMPLED	SAN JUAN 32-8 UNIT 46 3004525127 SEC 14. T32N. R8W CONOCOPHILLIPS CO. 820113 050427 CRET-PICTURED CLIFFS	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.4 0.4 0.1 0.2 0.4 0.1
API LOCATION OWNER COMPLETED SAMPLED FORMATION	SAN JUAN 32-8 UNIT 46 3004525127 SEC 14. T32N. R8W CONOCOPHILLIPS CO. 820113 050427 CRET-PICTURED CLIFFS 580	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.4 0.4 0.1 0.2 0.4 0.1 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	SAN JUAN 32-8 UNIT 46 3004525127 SEC 14. T32N. R8W CONOCOPHILLIPS CO. 820113 050427 CRET-PICTURED CLIFFS 580 3973	ISOBUTANE	0.4 0.4 0.1 0.2 0.4 0.1 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SAN JUAN 32-8 UNIT 46 3004525127 SEC 14. T32N. R8W CONOCOPHILLIPS CO. 820113 050427 CRET-PICTURED CLIFFS 580 3973	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.4 0.4 0.1 0.2 0.4 0.1 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	SAN JUAN 32-8 UNIT 46 3004525127 SEC 14. T32N. R8W CONOCOPHILLIPS CO. 820113 050427 CRET-PICTURED CLIFFS 580 3973	ISOBUTANE	0.4 0.4 0.1 0.2 0.4 0.1 0.0 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	SAN JUAN 32-8 UNIT 46 3004525127 SEC 14. T32N. R8W CONOCOPHILLIPS CO. 820113 050427 CRET-PICTURED CLIFFS 580 3973	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.4 0.4 0.1 0.2 0.4 0.1 0.0 0.0 0.0 0.8

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

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

SAMPLE	21499	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	81.1
	LEA	ETHANE	9.1
		PROPANE	4.7
	ANDERSON RANCH	N-BUTANE	1.4
	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	
GEOLOGIC PROVINCE CO	DDE430_	ARGON	
	FT)12231_	ARGON + OXYGEN	TRACE
•	12201	HYDROGEN	0.0
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, F		CARBON DIOXIDE	
OPEN FLOW, MCFD	298	HELIUM	
		HEATING VALUE*	
		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	0.0
GEOLOGIC PROVINCE CO	DDE580	ARGON	
	FT)5020	ARGON + OXYGEN	
•		HYDROGEN	
	PSIG	HYDROGEN SULFIDE**	
	·	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	1,227
		SPECIFIC GRAVITY	

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

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

SAMPLE 21460	COMPONENT, MOLE PCT
STATENEW MEXICO	METHANE <u>86.5</u>
	ETHANE 4.4
COUNTY SAN JUAN	PROPANE2.0
FIELD AZTEC N	N-BUTANE
WELL NAMEAZTEC COM 1	
API	<u> 1. N-PENTANE</u>
LOCATION SEC 2. T30N. R11V	V ISOPENTANE0.2
OWNERBP AMERICA PRODUCTION CO	CYCLOPENTANE
COMPLETED 961108	HEXANES PLUS
SAMPLED	NITROGEN 5.2
FORMATIONCRET-FRUITLAND	OXYGEN
GEOLOGIC PROVINCE CODE580	ARGON
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN 0.3
MEASURED DEPTH	HYDROGEN
	HTDROGEN SOLFIDE
WELLHEAD PRESSURE, PSIG	CANDON DIOXIDE
OPEN FLOW, MCFD800	
	HEATING VALUE* 1.058 SPECIFIC GRAVITY 0.645
SAMPLE 50613	COMPONENT, MOLE PCT
STATENEW MEXICO	METHANE 75.3
THE	
COLINTY PIO APPIRA	ETHANE10.3
	ETHANE 10.3 A PROPANE 6.5
FIELD BASIN	ETHANE 10.3 PROPANE 6.5 N-BUTANE 2.1
FIELD BASIN WELL NAME JICARILLA A-12	ETHANE 10.3 PROPANE 6.5 N-BUTANE 2.1 SOBUTANE 1.2
FIELD BASIN WELL NAME JICARILLA A-12 API 3003920396	ETHANE 10.3 PROPANE 6.5 N-BUTANE 2.1 ISOBUTANE 1.2 N-PENTANE 0.7
FIELD BASIN WELL NAME JICARILLA A-12 API 3003920396	ETHANE 10.3 PROPANE 6.5 N-BUTANE 2.1 SOBUTANE 1.2 N-PENTANE 0.7 ISOPENTANE 0.9
FIELD BASIN WELL NAME JICARILLA A-12 API 3003920396 LOCATION SEC 24, T26N, R4W	ETHANE 10.3 PROPANE 6.5 N-BUTANE 2.1 SOBUTANE 1.2 N-PENTANE 0.7 V ISOPENTANE 0.9 CYCLOPENTANE
COUNTY RIO ARRIBA FIELD BASIN WELL NAME JICARILLA A-12 API 3003920396 LOCATION SEC 24, T26N, R4W OWNER CONOCOPHILLIPS CO COMPLETED 711026	ETHANE 10.3 PROPANE 6.5 N-BUTANE 2.1 ISOBUTANE 1.2 N-PENTANE 0.7 ISOPENTANE 0.9 CYCLOPENTANE B HEXANES PLUS 1.9
FIELD BASIN WELL NAME JICARILLA A-12 API 3003920396 LOCATION SEC 24, T26N, R4W OWNER CONOCOPHILLIPS CO	ETHANE 10.3 PROPANE 6.5 N-BUTANE 2.1 SOBUTANE 1.2 N-PENTANE 0.7 SOPENTANE 0.9 CYCLOPENTANE HEXANES PLUS 1.9 NITROGEN 0.4
FIELD BASIN WELL NAME JICARILLA A-12 API 3003920396 LOCATION SEC 24, T26N, R4W OWNER CONOCOPHILLIPS CO COMPLETED 711026	ETHANE 10.3 PROPANE 6.5 N-BUTANE 2.1 SOBUTANE 1.2 N-PENTANE 0.7 SOPENTANE 0.9 CYCLOPENTANE B HEXANES PLUS 1.9 NITROGEN 0.4 OXYGEN 0.0
FIELD BASIN WELL NAME JICARILLA A-12 API 3003920396 LOCATION SEC 24. T26N. R4W OWNER CONOCOPHILLIPS CO COMPLETED 711028 SAMPLED 051206	ETHANE 10.3 PROPANE 6.5 N-BUTANE 2.1 SOBUTANE 1.2 N-PENTANE 0.7 SOPENTANE 0.9 CYCLOPENTANE B HEXANES PLUS 1.9 NITROGEN 0.4 OXYGEN 0.0 ARGON
FIELD BASIN WELL NAME JICARILLA A-12 API 3003920396 LOCATION SEC 24, T26N, R4W OWNER CONOCOPHILLIPS CO COMPLETED 711026 SAMPLED 05120 FORMATION CRET-DAKOTA	ETHANE 10.3 PROPANE 6.5 N-BUTANE 2.1 ISOBUTANE 1.2 ISOPENTANE 0.9 CYCLOPENTANE B HEXANES PLUS 1.9 NITROGEN 0.4 OXYGEN 0.0 ARGON ARGON + OXYGEN
FIELD BASIN WELL NAME JICARILLA A-12 API 3003920396 LOCATION SEC 24, T26N, R4W OWNER CONOCOPHILLIPS CO COMPLETED 711026 SAMPLED 05120 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 8274	ETHANE 10.3 PROPANE 6.5 N-BUTANE 2.1 ISOBUTANE 1.2 ISOPENTANE 0.9 CYCLOPENTANE B HEXANES PLUS 1.9 NITROGEN 0.4 OXYGEN 0.0 ARGON ARGON ARGON + OXYGEN 0.0
FIELD BASIN WELL NAME JICARILLA A-12 API 3003920396 LOCATION SEC 24, T26N, R4W OWNER CONOCOPHILLIPS CO COMPLETED 711026 SAMPLED 05120 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 8274	ETHANE 10.3 PROPANE 6.5 N-BUTANE 2.1 SOBUTANE 1.2 N-PENTANE 0.7 SOPENTANE 0.9 CYCLOPENTANE B HEXANES PLUS 1.9 NITROGEN 0.4 OXYGEN 0.0 ARGON ARGON ARGON + OXYGEN HYDROGEN SULFIDE**
FIELD BASIN WELL NAME JICARILLA A-12 API 3003920396 LOCATION SEC 24, T26N, R4W OWNER CONOCOPHILLIPS CO COMPLETED 711026 SAMPLED 05120 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 8274 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 2100	ETHANE 10.3 PROPANE 6.5 N-BUTANE 2.1 SOBUTANE 1.2 SOBUTANE 0.7 SOBUTANE 0.9 CYCLOPENTANE 0.9 CYCLOPENTANE 1.9 NITROGEN 0.4 OXYGEN 0.0 ARGON ARGON + OXYGEN 0.0 HYDROGEN SULFIDE** CARBON DIOXIDE 0.6
FIELD BASIN WELL NAME JICARILLA A-12 API 3003920396 LOCATION SEC 24, T26N, R4W OWNER CONOCOPHILLIPS CO COMPLETED 711026 SAMPLED 051207 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 8274 MEASURED DEPTH	ETHANE 10.3 PROPANE 6.5 N-BUTANE 2.1 SOBUTANE 1.2 N-PENTANE 0.7 SOPENTANE 0.9 CYCLOPENTANE B HEXANES PLUS 1.9 NITROGEN 0.4 OXYGEN 0.0 ARGON ARGON ARGON + OXYGEN 0.0 HYDROGEN SULFIDE** CARBON DIOXIDE 0.6

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

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

SAMPLE 20624	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	85.5
	ETHANE	8.4
COUNTY SAN 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 811026	HEXANES PLUS	0.4
SAMPLED	NITROGEN	0.8
FORMATIONCRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 580	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 6034	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD 1392	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.661
SAMPLE 20646	COMPONENT, MOLE PCT	
STATENEW MEXICO_	METHANE	
COUNTY SAN JUAN	ETHANE	10.8
FIELD BASIN	PROPANE	4.4
	N-BUTANE	1.1
WELL NAME GALLEGOS CANYON UNIT 216E	ISOBUTANE	0.6
API3004524271_	N-PENTANE	
LOCATION SEC. 14, T28N, R12W	ISOPENTANE	
OWNER BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
		0.5
COMPLETED800717	HEXANES PLUS	
COMPLETED	NITROGEN	0.6
-	NITROGENOXYGEN	0.6 0.0
SAMPLED	NITROGENOXYGENARGON	0.6 0.0 0.0
SAMPLED	NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.6 0.0 0.0
SAMPLED 010411 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 6144	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.6 0.0 0.0
SAMPLED	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.6 0.0 0.0 0.0
SAMPLED 010411 FORMATION CRET-DAKOTA GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 6144 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 742	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.6 0.0 0.0 0.0 0.0
SAMPLED	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.6 0.0 0.0 0.0 0.0 1.1

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

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

SAMPLE 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
LOCATION SEC. 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**	
WELLHEAD PRESSURE, PSIG964	CARBON DIOXIDE	
OPEN FLOW, MCFD947	HELIUM	
	HEATING VALUE*	
0.4401.5	SPECIFIC GRAVITY	
SAMPLE 20622	COMPONENT, MOLE PCT	05.0
STATENEW MEXICO_	METHANE ETHANE	
COUNTYSAN JUAN	PROPANE	
FIELD BASIN	N-BUTANE	
WELL NAME GALLEGOS CANYON UNIT 178E	ISOBUTANE	
API	N-PENTANE	
LOCATION SEC. 4, T27N, R12W	ISOPENTANE	
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED 850701	HEXANES PLUS	
	NITROGEN	
SAMPLED	OXYGEN	
FORMATIONCRET-DAKOTA	ARGON	<u> </u>
GEOLOGIC PROVINCE CODE580		
	ARGON ARGON + OXYGEN HYDROGEN	
GEOLOGIC PROVINCE CODE580	ARGON + OXYGEN	0.0
GEOLOGIC PROVINCE CODE	ARGON + OXYGEN	0.0 0.0
GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 5972 MEASURED DEPTH	ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.0 0.0 0.0
GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 5972 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 832	ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.8 0.11

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

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

SAMPLE	20634	COMPONENT, MOLE PCT	
CTATE	NEW MEXICO	METHANE	80.5
·		ETHANE	11.0
-	SAN JUAN	PROPANE	4.2
	BASIN_	N-BUTANE	0.9
	GALLEGOS CANYON UNIT 265E	ISOBUTANE	0.5
API	3004526706	N-PENTANE	0.2
LOCATION	SEC. 25. T28N. R12W	ISOPENTANE	0.2
OWNER	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	860424	HEXANES PLUS	0.3
SAMPLED	010411	NITROGEN	1.3
FORMATION	CRET-DAKOTA	OXYGEN	0.0
	E CODE580	ARGON	0.0
	TH (FT)6215_	ARGON + OXYGEN	
	, ,	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSUR		CARBON DIOXIDE	0.9
OPEN FLOW, MCFD _	1771	HELIUM	0.12
		HEATING VALUE*	1.189
		SPECIFIC GRAVITY	0.696
SAMPLE	20635	COMPONENT, MOLE PCT	
STATE	NEW MEXICO.	METHANE	79.5
		ETHANE	11.0
· ·	SAN JUAN	PROPANE	4.6
•	BASIN_	N-BUTANE	1.2
•	GALLEGOS CANYON UNIT 232E	ISOBUTANE	0.6
API	3004526338	N-PENTANE	0.3
LOCATION	SEC. 26, T28N, R12W	ISOPENTANE	0.3
OWNER	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	850607	HEXANES PLUS	0.5
SAMPLED	010411	NITROGEN	1.1
FORMATION	CRET-DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE	E CODE 580	ARGON	
	TH (FT)6186	ARGON + OXYGEN	
MEASURED DEPTH _	· , -	HYDROGEN	
		HYDROGEN SULFIDE**	
	RE, PSIG1218	CARBON DIOXIDE	
OPEN FLOW, MCFD _	1438_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.713

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

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

	COMPONENT, MOLE PCT	
STATE NEW 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
API	N-PENTANE	TRACE
LOCATION SEC. 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) 1208	ARGON + OXYGEN	
` '	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	2.0
OPEN FLOW, MCFD 120	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.597
SAMPLE 20628	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	
		93.4
COUNTY SAN JUAN	ETHANE	3.7
	ETHANEPROPANE	3.7 0.6
FIELD BASIN	ETHANE	3.7 0.6 0.2
FIELD BASIN WELL NAME GALLEGOS CANYON UNIT 41	ETHANEPROPANEN-BUTANEISOBUTANE	3.7 0.6 0.2 0.1
FIELD BASIN WELL NAME GALLEGOS CANYON UNIT 41 API 3004507074	ETHANEPROPANE N-BUTANEISOBUTANE N-PENTANE	3.7 0.6 0.2 0.1 0.1
COUNTY SAN JUAN FIELD BASIN WELL NAME GALLEGOS CANYON UNIT 41 API 3004507074 LOCATION SEC. 32, T28N, R12W	ETHANEPROPANE N-BUTANEISOBUTANE N-PENTANEISOPENTANE	3.7 0.6 0.2 0.1 0.1
FIELD BASIN WELL NAME GALLEGOS CANYON UNIT 41 API 3004507074 LOCATION SEC. 32, T28N, R12W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.7 0.6 0.2 0.1 0.1 0.1
FIELD BASIN WELL NAME GALLEGOS CANYON UNIT 41 API 3004507074 LOCATION SEC. 32, T28N, R12W OWNER BP AMERICA PRODUCTION CO.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.7 0.6 0.2 0.1 0.1 0.1
FIELD BASIN WELL NAME GALLEGOS CANYON UNIT 41 API 3004507074	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.7 0.6 0.2 0.1 0.1 0.1 0.1
FIELD BASIN WELL NAME GALLEGOS CANYON UNIT 41 API 3004507074 LOCATION SEC. 32, T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 950305 SAMPLED 010410	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.7 0.6 0.2 0.1 0.1 0.1 0.1 0.2
FIELD BASIN WELL NAME GALLEGOS CANYON UNIT 41 API 3004507074 LOCATION SEC. 32, T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 950305 SAMPLED 010410 FORMATION CRET-FRUITLAND	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.7 0.6 0.2 0.1 0.1 0.1 0.1 0.2 0.0
FIELD BASIN WELL NAME GALLEGOS CANYON UNIT 41 API 3004507074 LOCATION SEC. 32, T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 950305 SAMPLED 010410 FORMATION CRET-FRUITLAND GEOLOGIC PROVINCE CODE 580	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	3.7 0.6 0.2 0.1 0.1 0.1 0.1 0.2 0.0
FIELD BASIN WELL NAME GALLEGOS CANYON UNIT 41 API 3004507074 LOCATION SEC. 32, T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 950305 SAMPLED 010410 FORMATION CRET-FRUITLAND GEOLOGIC PROVINCE CODE 580	ETHANE	3.7 0.6 0.2 0.1 0.1 0.1 0.1 0.2 0.0 0.0
FIELD	ETHANE	3.7 0.6 0.2 0.1 0.1 0.1 0.2 0.0 0.0 0.0
FIELD	ETHANE	3.7 0.6 0.2 0.1 0.1 0.1 0.2 0.0 0.0 0.0 1.6
FIELD	ETHANE	3.7 0.6 0.2 0.1 0.1 0.1 0.2 0.0 0.0 0.0 1.6

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

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

SAMPLE 20621	COMPONENT, MOLE PCT	
STATE NEW MEYICO	METHANE	91.6
STATENEW MEXICO_	ETHANE	3.8
COUNTY SAN JUAN	PROPANE	0.7
FIELD BASIN	N-BUTANE	0.2
WELL NAME GALLEGOS 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 920930	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
	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	3.0
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.62
SAMPLE 20641	COMPONENT, MOLE PCT	
STATENEW MEXICO_	METHANE	76.2
COUNTY SAN JUAN	ETHANE	12.7
	PROPANE	5.6
FIELD BASIN	N-BUTANE	1.5
WELL NAME GALLEGOS CANYON UNIT 216	ISOBUTANE	0.8
API	N-PENTANE	0.4
LOCATION SEC. 14, T28N, R12W	ISOPENTANE	0.5
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED 660215	HEXANES PLUS	0.6
SAMPLED	NITROGEN	0.7
FORMATIONCRET-GRANEROS. DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 580	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 6104	ARGON + OXYGEN	
()	HYDROGEN	
MEASURED DEPTH	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG2448	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.745

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

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

SAMPLE 20645	COMPONENT, MOLE PCT	
STATENEW MEXICO_	METHANE	79.1
	ETHANE	11.2
COUNTY SAN JUAN	PROPANE	4.8
FIELD BASIN	N-BUTANE	1.1
WELL NAME GALLEGOS CANYON UNIT 208E	ISOBUTANE	0.7
API	N-PENTANE	0.3
LOCATION SEC. 15, T28N, R12W	ISOPENTANE	0.4
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.6
SAMPLED010411_	NITROGEN	0.6
FORMATION CRET-GRANEROS, DAKOTA	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 580_	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, MCFD1344_	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.722
SAMPLE 50623	COMPONENT, MOLE PCT	
STATENEW MEXICO_	METHANE	94.5
COUNTY RIO ARRIBA	ETHANE	2.0
FIELD BASIN	PROPANE	0.7
	N-BUTANE	0.2
WELL NAMESAN JUAN 30-5 UNIT 102	ISOBUTANE	0.1
API	N-PENTANE	
LOCATION SEC 34,T30N,R5W	ISOPENTANE	0.1
OWNER <u>CONOCOPHILLIPS CO.</u>	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.4
SAMPLED	NITROGEN	0.1
FORMATION <u>CRET-MESAVERDE, DAKOTA</u>	OXYGEN	
GEOLOGIC PROVINCE CODE580_	ARGON	
TRUE VERTICAL DEPTH (FT) 8243	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
ODEN ELOW MOED	1.15.11.18.4	0.01
OPEN FLOW, MCFD	HELIUM	
OPEN FLOW, MCFD	HEATING VALUE* SPECIFIC GRAVITY	1.049

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

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

SAMPLE	50624	COMPONENT, MOLE PCT	
CTATE	NEWMENIOO	METHANE	94.1
·	NEW MEXICO	ETHANE	1.9
·	RIO ARRIBA	PROPANE	0.7
FIELD	BASIN_	N-BUTANE	0.2
WELL NAME	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	
		ARGON + OXYGEN	
	(FT) <u>8243</u>	HYDROGEN	
		HYDROGEN SULFIDE**	
	PSIG151_	CARBON DIOXIDE	1.9
OPEN FLOW, MCFD		HELIUM	0.01
		HEATING VALUE*	1.063
		SPECIFIC GRAVITY	0.618
SAMPLE	21650	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	81.8
	RIO ARRIBA	ETHANE	8.1
	<u> </u>	PROPANE	4.0
	BASIN.ICE CANYON. BLANCO	N-BUTANE	1.2
	MONA LISA 2	ISOBUTANE	0.8
API	3003925745	N-PENTANE	0.4
LOCATION	SEC 14, T26N, R7W	ISOPENTANE	0.5
OWNER	DUGAN PRODUCTION CORP.	CYCLOPENTANE	
COMPLETED	980506	HEXANES PLUS	0.7
SAMPLED	070723	NITROGEN	1.9
FORMATIONC	CRET-DAKOTA.GALLUP.MESAVERDE	OXYGEN	
· ·	CODE580	ARGON	
	(FT) <u>6770</u>	ARGON + OXYGEN	TRACE
	(F1)	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
,	PSIG	CARBON DIOXIDE	0.8
OPEN FLOW, MCFD	145_	HELIUM	
		HEATING VALUE*	1,197
		SPECIFIC GRAVITY	0.707

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

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

SAMPLE	21418	COMPONENT, MOLE PCT	
CTATE	NEW MEXICO.	METHANE	85.8
-		ETHANE	6.8
	EDDY_	PROPANE	2.1
•	BIG SINKS	N-BUTANE	0.7
WELL NAME	POKER LAKER UNIT 196	ISOBUTANE	0.4
API	3001533164	N-PENTANE	0.2
LOCATION	SEC 29. T24S. R31E	ISOPENTANE	0.2
OWNER BA	SS ENTERPRISES PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	040209	HEXANES PLUS	0.4
SAMPLED	050214	NITROGEN	2.9
FORMATION	PERM-WOLFCAMP	OXYGEN	0.0
GEOLOGIC PROVINCE	CODE430	ARGON	0.1
	H (FT)12954_	ARGON + OXYGEN	
		HYDROGEN	0.0
		HYDROGEN SULFIDE**	
	, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	555_	HELIUM	0.04
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21581	COMPONENT, MOLE PCT	
	- · - · ·	COM CIVELVI, MOLL I CI	
STATE		METHANE	96.2
	NEW MEXICO		
COUNTY	NEW MEXICO_	METHANE	1.7
COUNTY	NEW MEXICO EDDY BLACK RIVER NORTH	METHANE	1.7 0.2
COUNTY FIELD WELL NAME	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1	METHANE ETHANE PROPANE	1.7 0.2 TRACE
COUNTY FIELD WELL NAME	NEW MEXICO EDDY BLACK RIVER NORTH	METHANE ETHANE PROPANE N-BUTANE	1.7 0.2 TRACE TRACE
COUNTY FIELD WELL NAME API	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	1.7 0.2 TRACE TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1 3001524740	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	1.7 0.2 TRACE TRACE TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER	NEW MEXICO EDDY BLACK RIVER NORTH FOREHAND FED 25 COM 1 3001524740 SEC 25, T23S, R26E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	1.7 0.2 TRACE TRACE TRACE TRACE
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.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	1.7 0.2 TRACE TRACE TRACE TRACE TRACE TRACE
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	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.7 0.2 TRACE TRACE TRACE TRACE TRACE TRACE 0.8
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 070102 PENN-ATOKA	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.7 0.2 TRACE TRACE TRACE TRACE TRACE TRACE 0.8
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE (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 430	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	1.7 0.2 TRACE TRACE TRACE TRACE TRACE 0.8
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF 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 430 H (FT) 11228	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	1.7 0.2 TRACE TRACE TRACE TRACE TRACE 0.8 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF 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 430 H (FT) 11228	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	1.7 0.2 TRACE TRACE TRACE TRACE TRACE 0.8 0.1 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL 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 430 H (FT) 11228	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE*** CARBON DIOXIDE	1.7 0.2 TRACE TRACE TRACE TRACE TRACE 0.8 0.1 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL 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 430 H (FT) 11228	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	1.7 0.2 TRACE TRACE TRACE TRACE TRACE 0.8 0.1 0.0 0.0

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

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

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

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

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

SAMPLE 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**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
STATENEW MEXICO	METHANE	
STATE NEW MEXICO	METHANE	81.8
COUNTY SAN JUAN	ETHANE	
FIELD BLANCO	PROPANE	
WELL NAMEFLORANCE GAS COM E 9A	N-BUTANE	
API3004521882	ISOBUTANE N-PENTANE	
LOCATION SEC. 13. T30N. R9W	ISOPENTANE	
<u> </u>	ISOFEINTAINE	
OWNED PRIMEDICA PRODUCTION CO	CYCI OPENTANE	
	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.5
SAMPLED		0.5
COMPLETED	HEXANES PLUS NITROGEN	0.5 0.3 0.0
COMPLETED	HEXANES PLUS NITROGEN OXYGEN	0.5 0.3 0.0 0.0
COMPLETED	HEXANES PLUS NITROGEN OXYGEN ARGON	0.5 0.3 0.0 0.0
COMPLETED	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.5 0.3 0.0 0.0 TRACE
COMPLETED	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.5 0.3 0.0 0.0 TRACE 0.0
COMPLETED	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.5 0.3 0.0 0.0 TRACE 0.0
COMPLETED	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.5 0.3 0.0 0.0 TRACE 0.0 1.1

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

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

	SAMPLE	50607	COMPONENT, MOLE PCT	
CTATE		NEW MEXICO	METHANE	86.5
			ETHANE	6.1
·		SAN JUAN	PROPANE	2.5
		BLANCO_	N-BUTANE	0.7
WELL NAME		PRIMO 1A	ISOBUTANE	0.4
		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 F	PROVINCE CODE	580	ARGON	
		2723	ARGON + OXYGEN	
	` '		HYDROGEN	0.0
			HYDROGEN SULFIDE**	
		G	CARBON DIOXIDE	2.8
OPEN FLOW	, MCFD	_	HELIUM	
			HEATING VALUE*	1.124
			SPECIFIC GRAVITY	0.674
	SAMPLE	20666	COMPONENT, MOLE PCT	
STATE		NEW MEXICO	METHANE	83.2
			ETHANE	9.1
		SAN JUAN	PROPANE	3.8
		BLANCO	N-BUTANE	1.0
WELL NAME		FLORANCE 20A	ISOBUTANE	0.6
API		3004522152	N-PENTANE	0.3
LOCATION _		SEC. 24, T30N, R9W	ISOPENTANE	0.3
OWNER		BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED		790601	HEXANES PLUS	0.4
SAMPLED _		010412	NITROGEN	0.1
FORMATION	CRET-F	PICTURED CLIFFS. MESAVERDE	OXYGEN	0.0
		580	ARGON	
		2539	ARGON + OXYGEN	
			HYDROGEN	0.0
	·		HYDROGEN SULFIDE**	0.0
	,	G	CARBON DIOXIDE	1.0
OPEN FLOW	, MCFD		HELIUM	0.06
			HEATING VALUE*	1,197
			SPECIFIC GRAVITY	

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

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

SAMPLE	20598	COMPONENT, MOLE PCT	
CTATE	NEW MEXICO	METHANE	89.4
`		ETHANE	2.5
	CHAVES OF THE CONTROL	PROPANE	1.0
	CHAVES CO. UNDESIGNATED	N-BUTANE	0.4
WELL NAME	MACHO FEDERAL COM NO. 10	ISOBUTANE	0.1
API	3000561648	N-PENTANE	0.1
LOCATION	SEC. 7, T7S, R23E	ISOPENTANE	0.1
OWNER	LIME ROCK RESOURCES	CYCLOPENTANE	
COMPLETED	820729	HEXANES PLUS	0.2
SAMPLED	010227	NITROGEN	5.6
FORMATION	PERM-ABO	OXYGEN	0.0
GEOLOGIC PROVINCE CO	DDE430_	ARGON	TRACE
	FT)	ARGON + OXYGEN	
,		HYDROGEN	
		HYDROGEN SULFIDE**	
	PSIG 765	CARBON DIOXIDE	
OPEN FLOW, MCFD	1600_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.615
SAMPLE	21521	COMPONENT, MOLE PCT	0.615
	21521 NEW MEXICO	<u> </u>	
STATE	NEW MEXICO	COMPONENT, MOLE PCT METHANE ETHANE	87.2 4.7
STATE	NEW MEXICO_	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	87.2 4.7 1.7
STATE COUNTY FIELD	NEW MEXICO CHAVES FOOR RANCH	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	87.2 4.7 1.7 0.6
STATE COUNTY FIELD WELL NAME	NEW MEXICO 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 API	NEW MEXICO 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 LOCATION	NEW MEXICO CHAVES FOOR RANCH WR STATE 4 3000562652 SEC 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	NEW MEXICO CHAVES FOOR RANCH WR STATE 4 3000562652	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE	87.2 4.7 1.7 0.6 0.3 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	NEW MEXICO CHAVES FOOR RANCH WR STATE 4 3000562652 SEC 24, T9S, R26E	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 OWNER COMPLETED	NEW MEXICO CHAVES FOOR RANCH WR STATE 4 3000562652 SEC 24, T9S, R26E ELK OIL CO.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE LYCLOPENTANE HEXANES PLUS NITROGEN	87.2 4.7 1.7 0.6 0.3 0.2 0.2 0.4 4.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	NEW MEXICO CHAVES FOOR RANCH WR STATE 4 3000562652 SEC 24, T9S, R26E ELK OIL CO. 890123	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 COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	NEW MEXICO CHAVES FOOR RANCH WR STATE 4 3000562652 SEC 24, T9S, R26E ELK OIL CO. 890123 060309 ORDO-ORDOVICIAN	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 COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO	NEW MEXICO CHAVES FOOR RANCH WR STATE 4 3000562652 SEC 24, T9S, R26E ELK OIL CO. 890123 060309 ORDO-ORDOVICIAN	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 COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO	NEW MEXICO CHAVES FOOR RANCH WR STATE 4 3000562652 SEC 24, T9S, R26E ELK OIL CO. 890123 060309 ORDO-ORDOVICIAN DDE 430	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE 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 COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO TRUE VERTICAL DEPTH (I	NEW MEXICO CHAVES FOOR RANCH WR STATE 4 3000562652 SEC 24, T9S, R26E ELK OIL CO. 890123 060309 ORDO-ORDOVICIAN DDE 430 FT) 5938	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE 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 COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO TRUE VERTICAL DEPTH (I MEASURED DEPTH WELLHEAD PRESSURE, F	NEW MEXICO CHAVES FOOR RANCH WR STATE 4 3000562652 SEC 24, T9S, R26E ELK OIL CO. 890123 060309 ORDO-ORDOVICIAN ODE 430 FT) 5938	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + 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 COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO TRUE VERTICAL DEPTH (I MEASURED DEPTH WELLHEAD PRESSURE, F	NEW MEXICO CHAVES FOOR RANCH WR STATE 4 3000562652 SEC 24, T9S, R26E ELK OIL CO. 890123 060309 ORDO-ORDOVICIAN DDE 430 FT) 5938	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE 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 0.4 0.4

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

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

SAMPLE	21523	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	88.8
		ETHANE	4.3
COUNTY	_	PROPANE	1.6
FIELD		N-BUTANE	0.6
WELL NAME	STATE SE 4	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	TRACE
MEASURED DEPTH		HYDROGEN	0.0
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	2000	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.634
SAMPLE	21425	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	85.8
COUNTY		ETHANE	4.4
FIELD		PROPANE	1.7
		N-BUTANE	0.6
WELL NAME		ISOBUTANE	0.3
API		N-PENTANE	0.2
LOCATION	SEC 5, T10S, R26E	ISOPENTANE	
OWNER	YATES PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	040412	HEXANES PLUS	
SAMDLED		NITROGEN	6.1
SAIVIFLED	050304		
FORMATION		OXYGEN	
•		ARGON	0.1
FORMATION	SILU-SILURIAN 430	ARGON + OXYGEN	0.1
FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _	SILU-SILURIAN 430 5852	ARGON ARGON + OXYGEN HYDROGEN	0.1 TRACE
FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	SILU-SILURIAN 430 5852	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.1 TRACE 0.0
FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	SILU-SILURIAN 430 5852	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 TRACE 0.0 0.1
FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	SILU-SILURIAN 430 5852	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.1 TRACE 0.0 0.1 0.27

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

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

SAMPL	E 21447	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	88.6
•		ETHANE	4.7
·	EDDY.	PROPANE	1.6
•	INDIAN BASIN	N-BUTANE	0.6
	FEDERAL 33 GAS COM 3	ISOBUTANE	0.3
API	3001532180	N-PENTANE	0.2
LOCATION	SEC 33, T21S, R23E	ISOPENTANE	0.2
OWNER	CHEVRON USA. INC.	CYCLOPENTANE	
COMPLETED	040309	HEXANES PLUS	0.4
SAMPLED	050420	NITROGEN	2.9
FORMATION	PENN-CISCO	OXYGEN	
GEOLOGIC PROVING	CE CODE430_	ARGON	
TRUE VERTICAL DEL	PTH (FT)	ARGON + OXYGEN	
		HYDROGEN	
		HYDROGEN SULFIDE**	
	IRE, PSIG 340	CARBON DIOXIDE	
OPEN FLOW, MCFD	800	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.000
SAMPL	LE 20637	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	
COUNTY	SAN JUAN	ETHANE	
FIELD	KUTZ W	PROPANE	0.1
		N-BUTANE	TDAOE
WELL NAME	GALLEGOS CANYON UNIT 368		
	GALLEGOS CANYON UNIT 368 3004526878	ISOBUTANE	TRACE
API	3004526878	ISOBUTANE	TRACE TRACE
API	3004526878 SEC. 26, T28N, R12W	ISOBUTANE N-PENTANE ISOPENTANE	TRACE TRACE TRACE
API LOCATION OWNER	3004526878 SEC. 26, T28N, R12W BP AMERICA PRODUCTION CO.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	TRACE TRACE TRACE
API LOCATION OWNER COMPLETED	3004526878 SEC. 26, T28N, R12W BP AMERICA PRODUCTION CO. 880530	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	TRACE TRACE TRACE TRACE
API LOCATION OWNER COMPLETED SAMPLED	3004526878 SEC. 26, T28N, R12W BP AMERICA PRODUCTION CO. 880530 010411	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	TRACE TRACE TRACE TRACE 0.1
API LOCATION OWNER COMPLETED SAMPLED	3004526878 SEC. 26, T28N, R12W BP AMERICA PRODUCTION CO. 880530	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	TRACE TRACE TRACE TRACE TRACE 0.1
API LOCATION OWNER COMPLETED SAMPLED	3004526878 SEC. 26, T28N, R12W BP AMERICA PRODUCTION CO. 880530 010411 CRET-PICTURED CLIFFS	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE TRACE TRACE TRACE TRACE 0.1 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVING	3004526878 SEC. 26, T28N, R12W BP AMERICA PRODUCTION CO. 880530 010411 CRET-PICTURED CLIFFS	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	TRACE TRACE TRACE TRACE 0.1 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVING TRUE VERTICAL DEI	3004526878 SEC. 26, T28N, R12W BP AMERICA PRODUCTION CO. 880530 010411 CRET-PICTURED CLIFFS CE CODE580	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	TRACE TRACE TRACE TRACE 0.1 0.0 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVING TRUE VERTICAL DEI	3004526878 SEC. 26, T28N, R12W BP AMERICA PRODUCTION CO. 880530 010411 CRET-PICTURED CLIFFS CE CODE	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	TRACE TRACE TRACE TRACE 0.1 0.0 0.0 0.0 0.0
API	3004526878 SEC. 26, T28N, R12W BP AMERICA PRODUCTION CO. 880530 010411 CRET-PICTURED CLIFFS CE CODE	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN	TRACE TRACE TRACE TRACE 0.1 0.0 0.0 0.0 0.0 2.2
API	3004526878 SEC. 26, T28N, R12W BP AMERICA PRODUCTION CO. 880530 010411 CRET-PICTURED CLIFFS CE CODE 580 PTH (FT) 1581	ISOBUTANE	TRACE TRACE TRACE TRACE 0.1 0.0 0.0 0.0 0.0 2.2 0.01

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

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

SAMPLE 20642	COMPONENT, MOLE PCT	
STATE NEW 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
FORMATIONCRET-PICTURED CLIFFS	OXYGEN	0.0
GEOLOGIC PROVINCE CODE580	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 1595	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	0.0
	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	1.9
OPEN FLOW, MCFD	HELIUM	0.01
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.593
	<u> </u>	0.000
SAMPLE 20629	COMPONENT, MOLE PCT	0.000
	<u> </u>	
STATENEW MEXICO_	COMPONENT, MOLE PCT	95.2
STATE	COMPONENT, MOLE PCT METHANE	95.2 2.9
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	95.2 2.9 0.4 0.1
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	95.2 2.9 0.4 0.1
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	95.2 2.9 0.4 0.1
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	95.2 2.9 0.4 0.1 0.1 TRACE
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 315 API 3004524655 LOCATION SEC. 21, T28N, R12W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	95.2 2.9 0.4 0.1 0.1 TRACE TRACE
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 315 API 3004524655 LOCATION SEC. 21, T28N, R12W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	95.2 2.9 0.4 0.1 0.1 TRACE TRACE
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 315 API 3004524655 LOCATION SEC. 21, T28N, R12W OWNER BP AMERICA PRODUCTION CO.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	95.2 2.9 0.4 0.1 0.1 TRACE TRACE 0.1
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 315 API 3004524655 LOCATION SEC. 21, T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 810416 SAMPLED 010410	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	95.2 2.9 0.4 0.1 TRACE TRACE 0.1 0.2
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 315 API 3004524655 LOCATION SEC. 21, T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 810416 SAMPLED 010410	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	95.2 2.9 0.4 0.1 TRACE TRACE 0.1 0.2 0.0
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 315 API 3004524655 LOCATION SEC. 21, T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 810416 SAMPLED 010410 FORMATION CRET-PICTURED CLIFFS	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	95.2 2.9 0.4 0.1 TRACE TRACE 0.1 0.2 0.0
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 315 API 3004524655 LOCATION SEC. 21, T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 810416 SAMPLED 010410 FORMATION CRET-PICTURED CLIFFS GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 1290	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	95.2 2.9 0.4 0.1 0.1 TRACE TRACE 0.1 0.2 0.0 0.0 0.0
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 315 API 3004524655 LOCATION SEC. 21. T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 810416 SAMPLED 010410 FORMATION CRET-PICTURED CLIFFS GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 1290 MEASURED DEPTH	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	95.2 2.9 0.4 0.1 TRACE TRACE 0.1 0.2 0.0 0.0 0.0 0.0
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE ARGON ARGON ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE*** CARBON DIOXIDE	95.2 2.9 0.4 0.1 1TRACE TRACE 0.1 0.2 0.0 0.0 0.0 1.1
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 315 API 3004524655 LOCATION SEC. 21, T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 810416 SAMPLED 010410 FORMATION CRET-PICTURED CLIFFS GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 1290	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	95.2 2.9 0.4 0.1 0.1 TRACE TRACE 0.1 0.2 0.0 0.0 0.0 0.0 1.1

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

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

SAMPLE 20636	COMPONENT, MOLE PCT	
STATENEW MEXICO_	METHANE	95.6
COUNTY SAN JUAN	ETHANE	1.7
FIELD KUTZ W	PROPANE	0.1
	N-BUTANE	TRACE
WELL NAMEGALLEGOS CANYON UNIT 337	ISOBUTANE	TRACE
API3004526136_	N-PENTANE	TRACE
LOCATION SEC. 26, T28N, R12W	ISOPENTANE	TRACE
OWNER BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	TRACE
SAMPLED010411_	NITROGEN	
FORMATION CRET-PICTURED CLIFFS	OXYGEN	
GEOLOGIC PROVINCE CODE580_	ARGON	
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
WELLHEAD PRESSURE. PSIG	HYDROGEN SULFIDE**	
OPEN FLOW, MCFD	CARBON DIOXIDE	
OF LINT LOW, MICH D	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
CAMDLE 20027		0.000
SAMPLE 20627	COMPONENT, MOLE PCT	00.0
STATENEW MEXICO	METHANE	
COUNTY SAN JUAN	ETHANE PROPANE	
FIELD KUTZ W	N-BUTANE	
WELL NAMEGALLEGOS CANYON UNIT 354	ISOBUTANE	
API	N-PENTANE	
LOCATION SEC. 29, T28N, R12W	ISOPENTANE	
OWNER BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED 850825	HEXANES PLUS	
SAMPLED	NITROGEN	
FORMATION CRET-PICTURED CLIFFS	OXYGEN	0.0
	ARGON	0.0
GEOLOGIC PROVINCE CODE580	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT) 1291	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD 483	HELIUM	0.01
	HEATING VALUE*	1.043
	HEATING VALUE"	1.043

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

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

SAMPLE 20644	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	94.4
COUNTY SAN JUAN	ETHANE	3.0
	PROPANE	0.4
FIELD KUTZ W	N-BUTANE	0.1
WELL NAME GALLEGOS CANYON UNIT 290	ISOBUTANE	0.1
API	N-PENTANE	TRACE
LOCATION SEC. 15, T28N, R12W	ISOPENTANE	TRACE
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	
SAMPLED	NITROGEN	0.1
FORMATIONCRET-PICTURED CLIFFS	OXYGEN	0.0
GEOLOGIC PROVINCE CODE580	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD522_	HELIUM	
	HEATING VALUE*	1.030
	00501510 00 11 (15)	
	SPECIFIC GRAVITY	0.595
SAMPLE 20630	SPECIFIC GRAVITY COMPONENT, MOLE PCT	0.595
SAMPLE 20630 STATENEW MEXICO_		
STATENEW MEXICO	COMPONENT, MOLE PCT	89.5
STATE	COMPONENT, MOLE PCT METHANE	89.5 7.0
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	89.5 7.0 0.6 0.2
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	89.5 7.0 0.6 0.2 0.1
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	89.5 7.0 0.6 0.2 0.1 0.1
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	89.5 7.0 0.6 0.2 0.1 0.1
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	89.5 7.0 0.6 0.2 0.1 0.1
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 316 API 3004521865 LOCATION SEC. 21. T28N. R12W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	89.5 7.0 0.6 0.2 0.1 0.1 0.1
STATE	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	89.5 7.0 0.6 0.2 0.1 0.1 0.1 0.2
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 316 API 3004521865 LOCATION SEC. 21. T28N. R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 760316	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	89.5 7.0 0.6 0.2 0.1 0.1 0.1 0.2 0.3
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 316 API 3004521865 LOCATION SEC. 21. T28N. R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 760316 SAMPLED 010410	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	89.5 7.0 0.6 0.2 0.1 0.1 0.1 0.2 0.3 0.0
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 316 API 3004521865 LOCATION SEC. 21. T28N. R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 760316 SAMPLED 010410 FORMATION CRET-PICTURED CLIFFS	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	89.5 7.0 0.6 0.2 0.1 0.1 0.2 0.3 0.0 0.0
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 316 API 3004521865 LOCATION SEC. 21. T28N. R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 760316 SAMPLED 010410 FORMATION CRET-PICTURED CLIFFS GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 1373	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	89.5 7.0 0.6 0.2 0.1 0.1 0.1 0.2 0.3 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**	89.5 7.0 0.6 0.2 0.1 0.1 0.1 0.2 0.3 0.0 0.0 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	89.5 7.0 0.6 0.2 0.1 0.1 0.1 0.2 0.3 0.0 0.0 0.0 0.0 2.0
STATE NEW MEXICO COUNTY SAN JUAN FIELD KUTZ W WELL NAME GALLEGOS CANYON UNIT 316 API 3004521865 LOCATION SEC. 21. T28N. R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 760316 SAMPLED 010410 FORMATION CRET-PICTURED CLIFFS GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 1373 MEASURED DEPTH	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	89.5 7.0 0.6 0.2 0.1 0.1 0.1 0.2 0.3 0.0 0.0 0.0 0.0 2.0 0.01

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

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

SAMPLE 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	0.2
SAMPLED	NITROGEN	0.2
FORMATIONCRET-PICTURED CLIFFS	OXYGEN	0.0
GEOLOGIC PROVINCE CODE 580	ARGON	
TRUE VERTICAL DEPTH (FT)1300_	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	0.0
WELLHEAD PRESSURE. PSIG 228	HYDROGEN SULFIDE**	
	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	-
0.4401.5	_	
SAMPLE 20623	COMPONENT, MOLE PCT	00.0
STATENEW MEXICO	METHANE	
COUNTYSAN JUAN	ETHANE	
	DDODANE	
FIELD KUTZ W	PROPANE	0.9
	N-BUTANE	0.9
WELL NAMEGALLEGOS CANYON UNIT 318	N-BUTANEISOBUTANE	0.9 0.3 0.2
WELL NAME	N-BUTANEISOBUTANEN-PENTANE	0.9 0.3 0.2 0.1
WELL NAME	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	0.9 0.3 0.2 0.1 0.1
WELL NAME GALLEGOS CANYON UNIT 318 API 3004524799 LOCATION SEC. 28. T28N, R12W OWNER BP AMERICA PRODUCTION CO.	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE	0.9 0.3 0.2 0.1 0.1
WELL NAME GALLEGOS CANYON UNIT 318 API 3004524799 LOCATION SEC. 28. T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 810408	N-BUTANEISOBUTANEISOPENTANECYCLOPENTANEHEXANES PLUS	0.9 0.3 0.2 0.1 0.1
WELL NAME GALLEGOS CANYON UNIT 318 API 3004524799 LOCATION SEC. 28, T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 810408 SAMPLED 010410	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANEHEXANES PLUS	0.9 0.3 0.2 0.1 0.1 0.1 0.2
WELL NAME GALLEGOS CANYON UNIT 318 API 3004524799 LOCATION SEC. 28, T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 810408 SAMPLED 010410 FORMATION CRET-PICTURED CLIFFS	N-BUTANEISOBUTANEISOPENTANECYCLOPENTANEHEXANES PLUS	0.9 0.3 0.2 0.1 0.1 0.1 0.2
WELL NAME GALLEGOS CANYON UNIT 318 API 3004524799 LOCATION SEC. 28, T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 810408 SAMPLED 010410 FORMATION CRET-PICTURED CLIFFS GEOLOGIC PROVINCE CODE 580	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.9 0.3 0.2 0.1 0.1 0.1 0.2 0.0
WELL NAME GALLEGOS CANYON UNIT 318 API 3004524799 LOCATION SEC. 28, T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 810408 SAMPLED 010410 FORMATION CRET-PICTURED CLIFFS GEOLOGIC PROVINCE CODE 580	N-BUTANE	0.9 0.3 0.2 0.1 0.1 0.1 0.2 0.0
SAMPLED	N-BUTANE	0.9 0.3 0.2 0.1 0.1 0.1 0.2 0.0 0.0
WELL NAME GALLEGOS CANYON UNIT 318 API 3004524799 LOCATION SEC. 28. T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 810408 SAMPLED 010410 FORMATION CRET-PICTURED CLIFFS GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 1396	N-BUTANE	0.9 0.3 0.2 0.1 0.1 0.1 0.2 0.0 0.0 0.0 0.0
WELL NAME GALLEGOS CANYON UNIT 318 API 3004524799 LOCATION SEC. 28. T28N, R12W OWNER BP AMERICA PRODUCTION CO. COMPLETED 810408 SAMPLED 010410 FORMATION CRET-PICTURED CLIFFS GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 1396 MEASURED DEPTH	N-BUTANE	0.9 0.3 0.2 0.1 0.1 0.1 0.2 0.0 0.0 0.0 0.0 3.0
WELL NAME	N-BUTANE	0.9 0.3 0.2 0.1 0.1 0.1 0.2 0.0 0.0 0.0 0.0 0.00 0.0

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

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

SAMPLE	20620	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	89.6
	SAN JUAN	ETHANE	4.4
<u>'</u>		PROPANE	1.0
	KUTZ W	N-BUTANE	0.3
	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	0.0
	H (FT)1490	ARGON + OXYGEN	
	1450	HYDROGEN	0.0
		HYDROGEN SULFIDE**	
	E, PSIG448_	CARBON DIOXIDE	
OPEN FLOW, MCFD	887	HELIUM	
		HEATING VALUE*	
CAMPLE	00000	SPECIFIC GRAVITY	0.639
SAMPLE	20639	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	
COUNTY	SAN JUAN	ETHANE	
FIELD	KUTZ W	PROPANE	
WELL NAME	GALLEGOS CANYON UNIT 233	N-BUTANE ISOBUTANE	
API	3004511686	N-PENTANE	
•	SEC. 27, T28N, R12W	ISOPENTANE	
	BP AMERICA PRODUCTION CO.	CYCLOPENTANE	
`		HEXANES PLUS	
•	971208	NITROGEN	
·	010411	OXYGEN	
·	CRET-PICTURED CLIFFS	ARGON	
GEOLOGIC PROVINCE	CODE	ARGON + OXYGEN	
TRUE VERTICAL DEPT	H (FT)1439_	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE	E, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	410_	HELIUM	0.03
OPEN FLOW, MCFD	410	HELIUM HEATING VALUE*	

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

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

SAMPLE 20640	COMPONENT, MOLE PCT	
STATENEW MEXICO.	METHANE	91.2
	ETHANE	1.7
COUNTY SAN JUAN	PROPANE	0.6
FIELD KUTZ W	N-BUTANE	0.2
WELL NAME GALLEGOS CANYON UNIT 267	ISOBUTANE	0.1
API 3004522235	N-PENTANE	0.1
LOCATION SEC. 23, T28N, R12W	ISOPENTANE	
OWNERBP AMERICA PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.1
SAMPLED	NITROGEN	3.5
FORMATIONCRET-PICTURED CLIFFS	OXYGEN	0.8
GEOLOGIC PROVINCE CODE580	ARGON	0.0
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD337_	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 21606	COMPONENT. MOLE PCT	
	COMI CIVELVI, MICEL I CI	
STATENEW MEXICO	METHANE	90.4
	METHANE	4.3
COUNTY SAN JUAN	METHANE	4.3
COUNTY SAN JUAN FIELD KUTZ W. PINON N	METHANE ETHANE PROPANE N-BUTANE	4.3 1.9 0.6
COUNTY SAN JUAN FIELD KUTZ W. PINON N WELL NAME GALLEGOS CANYON UNIT 517	METHANE ETHANE PROPANE	4.3 1.9 0.6
COUNTY SAN JUAN FIELD KUTZ W. PINON N WELL NAME GALLEGOS CANYON UNIT 517 API 3004528156	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.3 1.9 0.6 0.4 0.2
COUNTY SAN JUAN FIELD KUTZ W. PINON N WELL NAME GALLEGOS CANYON UNIT 517 API 3004528156 LOCATION SEC 18. T28N. R11W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.3 1.9 0.6 0.4 0.2 0.3
COUNTY SAN JUAN FIELD KUTZ W. PINON N WELL NAME GALLEGOS CANYON UNIT 517 API 3004528156 LOCATION SEC 18. T28N. R11W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	4.3 1.9 0.6 0.4 0.2 0.3
COUNTY SAN JUAN FIELD KUTZ W, PINON N WELL NAME GALLEGOS CANYON UNIT 517 API 3004528156 LOCATION SEC 18. T28N. R11W OWNER BP AMERICA PRODUCTION CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.3 1.9 0.6 0.4 0.2 0.3
COUNTY SAN JUAN FIELD KUTZ W. PINON N WELL NAME GALLEGOS CANYON UNIT 517 API 3004528156 LOCATION SEC 18. T28N. R11W OWNER BP AMERICA PRODUCTION CO. COMPLETED 020920 SAMPLED 070626	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.3 1.9 0.6 0.4 0.2 0.3 0.4 0.9
COUNTY SAN JUAN FIELD KUTZ W. PINON N WELL NAME GALLEGOS CANYON UNIT 517 API 3004528156 LOCATION SEC 18. T28N. R11W OWNER BP AMERICA PRODUCTION CO. COMPLETED 020920 SAMPLED 070626	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.3 1.9 0.6 0.4 0.2 0.3 0.4 0.9
COUNTY SAN JUAN FIELD KUTZ W, PINON N WELL NAME GALLEGOS CANYON UNIT 517 API 3004528156 LOCATION SEC 18, T28N, R11W OWNER BP AMERICA PRODUCTION CO. COMPLETED 020920 SAMPLED 070626 FORMATION CRET-PICTURED CLIFFS, FRUITLAND	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.3 1.9 0.6 0.4 0.2 0.3 0.4 0.9
COUNTY SAN JUAN FIELD KUTZ W. PINON N WELL NAME GALLEGOS CANYON UNIT 517 API 3004528156 LOCATION SEC 18. T28N. R11W OWNER BP AMERICA PRODUCTION CO. COMPLETED 020920 SAMPLED 070626 FORMATION CRET-PICTURED CLIFFS. FRUITLAND GEOLOGIC PROVINCE CODE 580	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	4.3 1.9 0.6 0.4 0.2 0.3 0.4 0.9
COUNTY SAN JUAN FIELD KUTZ W. PINON N. WELL NAME GALLEGOS CANYON UNIT 517 API 3004528156 LOCATION SEC 18. T28N. R11W OWNER BP AMERICA PRODUCTION CO. COMPLETED 020920 SAMPLED 070626 FORMATION CRET-PICTURED CLIFFS. FRUITLAND GEOLOGIC PROVINCE CODE 580 TRUE VERTICAL DEPTH (FT) 1548	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	4.3 1.9 0.6 0.4 0.2 0.3 0.4 0.9 TRACE 0.0
COUNTY	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	4.3 1.9 0.6 0.4 0.2 0.3 0.4 0.9 TRACE 0.0 0.0
COUNTY	METHANE	4.3 1.9 0.6 0.4 0.2 0.3 0.4 0.9 TRACE 0.0 0.0 0.7
STATE	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	4.3 1.9 0.6 0.4 0.2 0.3 0.4 0.9 TRACE 0.0 0.0 0.7 0.00

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

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

SAMPL	E 21667	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	92.0
	RIO ARRIBA	ETHANE	4.6
•		PROPANE	0.4
•	LA JARA CANYON	N-BUTANE	TRACE
WELL NAME	JICARILLA 29-02-16-1	ISOBUTANE	0.1
API	3003926108	N-PENTANE	0.0
LOCATION	SEC 16, T29N, R2W	ISOPENTANE	TRACE
OWNER	BLACK HILLS GAS RESOURCES	CYCLOPENTANE	
COMPLETED	031010_	HEXANES PLUS	TRACE
SAMPLED	070828	NITROGEN	2.6
FORMATION	EOCE-SAN JOSE, PALE-NACIMIENTO	OXYGEN	
GEOLOGIC PROVINC	E CODE580_	ARGON	
	TH (FT)2814_	ARGON + OXYGEN	
		HYDROGEN	
	RE, PSIG	HYDROGEN SULFIDE**	
	,	CARBON DIOXIDE	
OPEN FLOW, MCFD _	1086	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPL	E 21456	COMPONENT, MOLE PCT	70.0
STATE	NEW MEXICO	METHANE	72.2
COLINITY		ETHANE	
COUNT	EDDY	•	
	EDDY LOVING F	PROPANE	4.7
FIELD	LOVING E	PROPANEN-BUTANE	4.7 1.4
FIELD	LOVING E FATE 34-1	PROPANE N-BUTANE ISOBUTANE	4.7 1.4 0.6
FIELD WELL NAME API	LOVING E FATE 34-1 3001523879	PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.7 1.4 0.6 0.5
FIELD WELL NAME API LOCATION	LOVING E FATE 34-1 3001523879 SEC 34, T23S, R28E	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	4.7 1.4 0.6 0.5 0.4
FIELD WELL NAME API LOCATION OWNER	LOVING E. FATE 34-1 3001523879 SEC 34, T23S, R28E BK EXPLORATION CORP.	PROPANE N-BUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	4.7 1.4 0.6 0.5 0.4
FIELD WELL NAME API LOCATION OWNER COMPLETED	LOVING E. FATE 34-1. 3001523879 SEC 34, T23S, R28E BK EXPLORATION CORP. 980310	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.7 1.4 0.6 0.5 0.4
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	LOVING E. FATE 34-1 3001523879 SEC 34. T23S. R28E BK EXPLORATION CORP. 980310 050519	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.7 1.4 0.6 0.5 0.4 0.7 10.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	LOVING E. FATE 34-1. 3001523879 SEC 34, T23S, R28E BK EXPLORATION CORP. 980310	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.7 1.4 0.6 0.5 0.4 0.7 10.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	LOVING E FATE 34-1 3001523879 SEC 34. T23S. R28E BK EXPLORATION CORP. 980310 050519 PERM-BRUSHY CANYON	PROPANE	4.7 1.4 0.6 0.5 0.4 0.7 10.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE	LOVING E FATE 34-1 3001523879 SEC 34. T23S. R28E BK EXPLORATION CORP. 980310 050519 PERM-BRUSHY CANYON	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	4.7 1.4 0.6 0.5 0.4 0.7 10.0 0.3
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINC	LOVING E FATE 34-1 3001523879 SEC 34. T23S. R28E BK EXPLORATION CORP. 980310 050519 PERM-BRUSHY CANYON E CODE 430	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	4.7 1.4 0.6 0.5 0.4 0.7 10.0 0.3 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINC TRUE VERTICAL DEP MEASURED DEPTH	LOVING E FATE 34-1 3001523879 SEC 34. T23S. R28E BK EXPLORATION CORP. 980310 050519 PERM-BRUSHY CANYON E CODE 430 TH (FT) 6192	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	4.7 1.4 0.6 0.5 0.4 0.7 10.0 0.3 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINC TRUE VERTICAL DEP MEASURED DEPTH _ WELLHEAD PRESSUI	LOVING E FATE 34-1 3001523879 SEC 34. T23S. R28E BK EXPLORATION CORP. 980310 050519 PERM-BRUSHY CANYON E CODE 430 TH (FT) 6192	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	4.7 1.4 0.6 0.5 0.4 0.7 10.0 0.3 0.0 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINC TRUE VERTICAL DEP MEASURED DEPTH _ WELLHEAD PRESSUI	LOVING E FATE 34-1 3001523879 SEC 34. T23S. R28E BK EXPLORATION CORP. 980310 050519 PERM-BRUSHY CANYON E CODE 430 TH (FT) 6192 RE, PSIG 200	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	4.7 1.4 0.6 0.5 0.4 0.7 10.0 0.3 0.0 0.0 0.3

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

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

SAMPLE	20585	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	89.9
•	<u> </u>	ETHANE	1.7
COUNTY		PROPANE	0.8
FIELD		N-BUTANE	0.4
WELL NAME		ISOBUTANE	0.1
API	<u> </u>	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	
WELLHEAD PRESSURE, PSIG _	<u> </u>	HYDROGEN SULFIDE**	
, -		CARBON DIOXIDE	
OPEN FLOW, MCFD	1339	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20582	COMPONENT, MOLE PCT	
		METHANE	
STATE	NEW MEXICO	METHANE	2.2
STATE	NEW MEXICO_	METHANE ETHANE PROPANE	2.2 0.7
STATECOUNTY	NEW MEXICO CHAVES PECOS SLOPE	METHANE ETHANE PROPANE N-BUTANE	2.2 0.7 0.3
STATE COUNTY FIELD WELL NAME	NEW MEXICO CHAVES PECOS SLOPE LEWIS ABN FEDERAL NO. 1	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	2.2 0.7 0.3 0.1
STATE COUNTY FIELD WELL NAME	NEW MEXICO CHAVES PECOS SLOPE LEWIS ABN FEDERAL NO. 1 3000562248	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	2.2 0.7 0.3 0.1 0.1
STATE COUNTY FIELD WELL NAME API LOCATION	NEW MEXICO CHAVES PECOS SLOPE LEWIS ABN FEDERAL NO. 1 3000562248 SEC. 21. T8S. R23E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	2.2 0.7 0.3 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	NEW MEXICO CHAVES PECOS SLOPE LEWIS ABN FEDERAL NO. 1 3000562248 SEC. 21. T8S. R23E LIME ROCK RESOURCES	METHANE ETHANE PROPANE N-BUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	2.2 0.7 0.3 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	NEW MEXICO CHAVES PECOS SLOPE LEWIS ABN FEDERAL NO. 1 3000562248 SEC. 21. T8S. R23E LIME ROCK RESOURCES 850329	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	2.2 0.7 0.3 0.1 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	NEW MEXICO CHAVES PECOS SLOPE LEWIS ABN FEDERAL NO. 1 3000562248 SEC. 21. T8S. R23E LIME ROCK RESOURCES 850329 010226	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	2.2 0.7 0.3 0.1 0.1 TRACE 0.1 6.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	NEW MEXICO CHAVES PECOS SLOPE LEWIS ABN FEDERAL NO. 1 3000562248 SEC. 21. T8S. R23E LIME ROCK RESOURCES 850329 010226	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	2.2 0.7 0.3 0.1 0.1 TRACE 0.1 6.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	NEW MEXICO CHAVES PECOS SLOPE LEWIS ABN FEDERAL NO. 1 3000562248 SEC. 21. T8S. R23E LIME ROCK RESOURCES 850329 010226 PERM-ABO 430	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	2.2 0.7 0.3 0.1 0.1 TRACE 0.1 6.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	NEW MEXICO CHAVES PECOS SLOPE LEWIS ABN FEDERAL NO. 1 3000562248 SEC. 21. T8S. R23E LIME ROCK RESOURCES 850329 010226 PERM-ABO 430	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	2.2 0.7 0.3 0.1 TRACE 0.1 6.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	NEW MEXICO CHAVES PECOS SLOPE LEWIS ABN FEDERAL NO. 1 3000562248 SEC. 21. T8S. R23E LIME ROCK RESOURCES 850329 010226 PERM-ABO 430 3067	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	2.2 0.7 0.3 0.1 0.1 TRACE 0.1 6.0 0.0
STATE	NEW MEXICO CHAVES PECOS SLOPE LEWIS ABN FEDERAL NO. 1 3000562248 SEC. 21. T8S. R23E LIME ROCK RESOURCES 850329 010226 PERM-ABO 430 3067	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	2.2 0.7 0.3 0.1 0.1 TRACE 0.1 6.0 0.0 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	NEW MEXICO CHAVES PECOS SLOPE LEWIS ABN FEDERAL NO. 1 3000562248 SEC. 21. T8S. R23E LIME ROCK RESOURCES 850329 010226 PERM-ABO 430 3067	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	2.2 0.7 0.3 0.1 TRACE 0.1 6.0 0.0 0.1 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	NEW MEXICO CHAVES PECOS SLOPE LEWIS ABN FEDERAL NO. 1 3000562248 SEC. 21. T8S. R23E LIME ROCK RESOURCES 850329 010226 PERM-ABO 430 3067	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	2.2 0.7 0.3 0.1 0.1 TRACE 0.1 6.0 0.0 1.1 TRACE 0.0 0.1 TRACE 0.0 0.7 0.7

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

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

NEW MEXICO	METHANE	89.4
	ETHANE	2.5
·	PROPANE	1.1
_	N-BUTANE	0.5
	ISOBUTANE	0.2
3000561914	N-PENTANE	0.2
SEC. 6, T7S, R23E	ISOPENTANE	0.1
LIME ROCK RESOURCES	CYCLOPENTANE	
830703	HEXANES PLUS	0.2
010227	NITROGEN	5.4
PERM-ABO	OXYGEN	0.0
430	ARGON	0.0
	ARGON + OXYGEN	
	HYDROGEN	0.1
_		
_	CARBON DIOXIDE	0.0
3100	<u></u>	
	SPECIFIC GRAVITY	0.618
20584	COMPONENT, MOLE PCT	
NEW MEXICO	METHANE	90.0
	ETHANE	2.1
_	PROPANE	8.0
	N-BUTANE	0.4
	ISOBUTANE	0.1
	\ <u></u>	
LIME DOOK DESCURSES	CYCLOPENTANE	
LIME ROCK RESOURCES		
LIME ROCK RESOURCES 800303	HEXANES PLUS	0.2
	HEXANES PLUS NITROGEN	0.2 5.5
800303	HEXANES PLUS NITROGEN OXYGEN	0.2 5.5 0.0
800303 010226	HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 5.5 0.0 TRACE
800303 010226 PERM-ABO 430	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.2 5.5 0.0 TRACE
800303 010226 PERM-ABO 430 3363	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.2 5.5 0.0 TRACE
800303 010226 PERM-ABO 430 3363	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.2 5.5 0.0 TRACE TRACE 0.0
800303 010226 PERM-ABO 430 3363	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.2 5.5 0.0 TRACE TRACE 0.0
800303 010226 PERM-ABO 430 3363	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.2 5.5 0.0 TRACE TRACE 0.0 0.0
	CHAVES PECOS SLOPE W MACHO FEDERAL NO. 13 3000561914 SEC. 6, T7S, R23E LIME ROCK RESOURCES 830703 010227 PERM-ABO 430 2947 760 3100 20584 NEW MEXICO CHAVES PECOS SLOPE W ROCK FEDERAL NO. 1 3000560600 SEC. 7, T8S, R23E	CHAVES PECOS SLOPE W MACHO FEDERAL NO. 13 3000561914 SEC. 6, T7S, R23E LIME ROCK RESOURCES 830703 010227 PERM-ABO 430 ARGON 430 ARGON 2947 HYDROGEN SULFIDE** 760 CARBON DIOXIDE HEATING VALUE* SPECIFIC GRAVITY 20584 ROCK FEDERAL NO. 1 SEC. 6, T7S, R23E LIME ROCK RESOURCES CYCLOPENTANE B30703 HEXANES PLUS NITROGEN OXYGEN ARGON ARGON ARGON HYDROGEN HYDROGEN SULFIDE** SPECIFIC GRAVITY COMPONENT, MOLE PCT METHANE ETHANE PECOS SLOPE W N-BUTANE ROCK FEDERAL NO. 1 3000560600 N-PENTANE SEC. 7, T8S, R23E ISOPENTANE

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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	
STATE	NEW MEXICO	METHANE	74.5
	SAN JUAN	ETHANE	12.1
		PROPANE	7.0
-	PINON, BASIN	N-BUTANE	2.0
	T L RHODES B 1E.	ISOBUTANE	0.7
API	3004526130	N-PENTANE	0.5
LOCATION	SEC 20, T28N, R11W	ISOPENTANE	0.5
OWNER ROBERT	L. BAYLESS PRODUCERS, LLC.	CYCLOPENTANE	
COMPLETED	970321	HEXANES PLUS	0.8
SAMPLED	070516	NITROGEN	1.3
FORMATION	CRET-GALLUP, DAKOTA	OXYGEN	
GEOLOGIC PROVINCE CODE	580_	ARGON	
	6212	ARGON + OXYGEN	0.1
	<u> </u>	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
	G	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21664	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	95.2
	SAN JUAN	ETHANE	2.8
	<u> </u>		
	POTWIN	PROPANE	
\A/ELL	POTWIN POWERS 1	PROPANEN-BUTANE	
	BOWERS 1	N-BUTANE	TRACE 0.1
API	BOWERS 1 3004525486	N-BUTANEISOBUTANEN-PENTANE	TRACE 0.1 TRACE
API	BOWERS 1 3004525486 SEC 17. T24N. R8W	N-BUTANEISOBUTANEISOPENTANEISOPENTANE	TRACE 0.1 TRACE TRACE
API	BOWERS 1 3004525486	N-BUTANEISOBUTANEISOPENTANE ISOPENTANECYCLOPENTANE	TRACE 0.1 TRACE TRACE
API LOCATION OWNER	BOWERS 1 3004525486 SEC 17. T24N. R8W	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	TRACE 0.1 TRACE TRACE TRACE
API LOCATION OWNER COMPLETED	BOWERS 1 3004525486 SEC 17, T24N, R8W DUGAN PRODUCTION CORP.	N-BUTANEISOBUTANEISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	TRACE 0.1 TRACE TRACE TRACE TRACE
API LOCATION OWNER COMPLETED SAMPLED	BOWERS 1 3004525486 SEC 17. T24N. R8W DUGAN PRODUCTION CORP. 850621	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	TRACE 0.1 TRACE TRACE TRACE 1.1
API LOCATION OWNER COMPLETED SAMPLED	BOWERS 1 3004525486 SEC 17. T24N. R8W DUGAN PRODUCTION CORP. 850621 070809 CRET-PICTURED CLIFFS	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE 0.1 TRACE TRACE TRACE 1.1
API LOCATION OWNER COMPLETED SAMPLED FORMATION	BOWERS 1 3004525486 SEC 17. T24N. R8W DUGAN PRODUCTION CORP. 850621 070809 CRET-PICTURED CLIFFS 580	N-BUTANE	TRACE 0.1 TRACE TRACE TRACE 1.1 TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	BOWERS 1 3004525486 SEC 17. T24N. R8W DUGAN PRODUCTION CORP. 850621 070809 CRET-PICTURED CLIFFS 580 1990	N-BUTANE	TRACE 0.1 TRACE TRACE TRACE 1.1 TRACE 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	BOWERS 1 3004525486 SEC 17. T24N. R8W DUGAN PRODUCTION CORP. 850621 070809 CRET-PICTURED CLIFFS 580 1990	N-BUTANE	TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	BOWERS 1 3004525486 SEC 17. T24N. R8W DUGAN PRODUCTION CORP. 850621 070809 CRET-PICTURED CLIFFS 580 1990	N-BUTANE	TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIC	BOWERS 1 3004525486 SEC 17. T24N. R8W DUGAN PRODUCTION CORP. 850621 070809 CRET-PICTURED CLIFFS 580 1990	N-BUTANE	TRACE 0.1 TRACE TRACE TRACE 1.1 TRACE 0.0 0.0 0.6 0.00

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

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

SAMPLE 21608	COMPONENT, MOLE PCT	
STATENEW MEXICO_	METHANE	84.9
	ETHANE	5.5
COUNTY RIO ARRIBA	PROPANE	2.7
FIELD PUERTO CHIQUITO E	N-BUTANE	1.1
WELL NAMEE PUERTO CHIQUITO MANCOS UNIT 37	ISOBUTANE	0.4
API	N-PENTANE	0.3
LOCATION SEC 8C, T26N, R1E	ISOPENTANE	0.4
OWNER BENSON-MONTIN-GREER DRILLING CORP.	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	0.6
SAMPLED	NITROGEN	1.2
FORMATIONCRET-NIBRARA, MANCOS	OXYGEN	
GEOLOGIC PROVINCE CODE580	ARGON	
TRUE VERTICAL DEPTH (FT) 2752	ARGON + OXYGEN	0.1
· ,	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.03
SAMPLE 20696	COMPONENT, MOLE PCT	
STATENEW MEXICO	METHANE	
COUNTY <u>EDDY</u>	ETHANE	
FIELD SHUGART N	PROPANE	
FIELD SHUGART N. WELL NAME PATON B FEDERAL NO. 1	N-BUTANE	1.9
WELL NAMEPATON B FEDERAL NO. 1	N-BUTANE	1.9 0.7
WELL NAME	N-BUTANEISOBUTANEN-PENTANE	1.9 0.7 0.6
WELL NAME PATON B FEDERAL NO. 1 API 3001525953 LOCATION SEC. 9. T18S, R31E	N-BUTANEISOBUTANE N-PENTANEISOPENTANE	1.9 0.7 0.6 0.6
WELL NAME PATON B FEDERAL NO. 1 API 3001525953 LOCATION SEC. 9. T18S. R31E OWNER ANADARKO PETROLEUM CORP.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	1.9 0.7 0.6 0.6
WELL NAME PATON B FEDERAL NO. 1 API 3001525953 LOCATION SEC. 9. T18S, R31E	N-BUTANEISOBUTANEISOPENTANEISOPENTANE CYCLOPENTANE	1.9 0.7 0.6 0.6
WELL NAME PATON B FEDERAL NO. 1 API 3001525953 LOCATION SEC. 9. T18S. R31E OWNER ANADARKO PETROLEUM CORP.	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.9 0.7 0.6 0.6 1.2 3.4
WELL NAME PATON B FEDERAL NO. 1 API 3001525953 LOCATION SEC. 9. T18S. R31E OWNER ANADARKO PETROLEUM CORP. COMPLETED 990813 SAMPLED 010619	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.9 0.7 0.6 0.6 1.2 3.4 0.0
WELL NAME PATON B FEDERAL NO. 1 API 3001525953 LOCATION SEC. 9. T18S. R31E OWNER ANADARKO PETROLEUM CORP. COMPLETED 990813 SAMPLED 010619 FORMATION PERM-BONE SPRING	N-BUTANE	1.9 0.7 0.6 0.6 1.2 3.4 0.0
WELL NAME PATON B FEDERAL NO. 1 API 3001525953 LOCATION SEC. 9. T18S. R31E OWNER ANADARKO PETROLEUM CORP. COMPLETED 990813 SAMPLED 010619 FORMATION PERM-BONE SPRING	N-BUTANE	1.9 0.7 0.6 0.6 1.2 3.4 0.0
WELL NAME PATON B FEDERAL NO. 1 API 3001525953 LOCATION SEC. 9. T18S. R31E OWNER ANADARKO PETROLEUM CORP. COMPLETED 990813 SAMPLED 010619 FORMATION PERM-BONE SPRING GEOLOGIC PROVINCE CODE 430	N-BUTANE	1.9 0.7 0.6 0.6 1.2 3.4 0.0 0.0
WELL NAME	N-BUTANE	1.9 0.7 0.6 0.6 1.2 3.4 0.0 0.0 0.0
WELL NAME	N-BUTANE	1.9 0.7 0.6 0.6 1.2 3.4 0.0 0.0 0.0
WELL NAME	N-BUTANE	1.9 0.7 0.6 0.6 1.2 3.4 0.0 0.0 0.0 0.0

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

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

SAMPLE	20638	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	67.4
	SAN JUAN	ETHANE	10.6
•	SIMPSON	PROPANE	4.7
		N-BUTANE	
	GALLEGOS CANYON UNIT 83E	ISOBUTANE	
·	3004526011	N-PENTANE	0.2
	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	
GEOLOGIC PROVINCE	CODE580_	ARGON	
TRUE VERTICAL DEPTH	1 (FT)5200	ARGON + OXYGEN	
		HYDROGEN	
		HYDROGEN SULFIDE**	
	, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	300	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20678	COMPONENT, MOLE PCT	
		METHANE	74.2
<u> </u>	NEW MEXICO	ETHANE	
COUNTY	<u>LEA</u>	PROPANE	
FIELD	YOUNG N	N-BUTANE	1.5
WELL NAME	CHEVRON 12 FEDERAL NO. 1	ISOBUTANE	0.5
API	3002529747	N-PENTANE	
LOCATION	SEC. 12, T18S, R32E	ISOPENTANE	0.4
OWNER	HARVEY E. YATES CO.	CYCLOPENTANE	
COMPLETED	860930	HEXANES PLUS	0.8
SAMPLED	010618	NITROGEN	3.4
FORMATION	PERM-BONE SPRING	OXYGEN	0.0
	CODE	ARGON	0.0
	H (FT) 8443	ARGON + OXYGEN	
		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.4
	, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	81_	HELIUM	
		HEATING VALUE*	1,200
		SPECIFIC GRAVITY	0.763

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

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

SAMPLE	20683	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	73.9
•		ETHANE	12.8
COUNTY		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	
, , _		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.9
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.761
SAMPLE	20690	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	
STATE	_	ETHANE	12.5
COUNTY	LEA	ETHANEPROPANE	12.5 5.5
COUNTY	LEA YOUNG N	ETHANEPROPANEN-BUTANE	12.5 5.5 1.7
COUNTY FIELD WELL NAME	LEA YOUNG N YOUNG DEEP UNIT NO. 38	ETHANEPROPANEN-BUTANEISOBUTANE	12.5 5.5 1.7 0.6
COUNTY FIELD WELL NAME API	LEA YOUNG N YOUNG DEEP UNIT NO. 38 3002533864	ETHANEPROPANEN-BUTANEISOBUTANEN-PENTANE	12.5 5.5 1.7 0.6 0.5
COUNTY FIELD WELL NAME API LOCATION	LEA YOUNG N YOUNG DEEP UNIT NO. 38 3002533864 SEC. 10. T18S. R32E	ETHANEPROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	12.5 5.5 1.7 0.6 0.5 0.4
COUNTY FIELD WELL NAME API	LEA YOUNG N YOUNG DEEP UNIT NO. 38 3002533864 SEC. 10. T18S. R32E	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	12.5 5.5 1.7 0.6 0.5 0.4
COUNTY FIELD WELL NAME API LOCATION	LEA YOUNG N. YOUNG DEEP UNIT NO. 38 3002533864 SEC. 10. T18S. R32E HARVEY E. YATES CO.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	12.5 5.5 1.7 0.6 0.5 0.4
COUNTY FIELD WELL NAME API LOCATION OWNER	LEA YOUNG N YOUNG DEEP UNIT NO. 38 3002533864 SEC. 10. T18S. R32E HARVEY E. YATES CO. 971231	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	12.5 5.5 1.7 0.6 0.5 0.4 1.3
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	LEA YOUNG N YOUNG DEEP UNIT NO. 38 3002533864 SEC. 10. T18S. R32E HARVEY E. YATES CO. 971231 010619	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	12.5 5.5 1.7 0.6 0.5 0.4 1.3 3.6
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	LEA YOUNG N. YOUNG DEEP UNIT NO. 38 3002533864. SEC. 10. T18S. R32E HARVEY E. YATES CO. 971231. 010619 PERM-BONE SPRING	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	12.5 5.5 1.7 0.6 0.5 0.4 1.3 3.6 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	LEA YOUNG N YOUNG DEEP UNIT NO. 38 3002533864 SEC. 10. T18S. R32E HARVEY E. YATES CO. 971231 010619 PERM-BONE SPRING 430	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN	12.5 5.5 1.7 0.6 0.5 0.4 1.3 3.6 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	LEA YOUNG N YOUNG DEEP UNIT NO. 38 3002533864 SEC. 10. T18S. R32E HARVEY E. YATES CO. 971231 010619 PERM-BONE SPRING 430 8892	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN	12.5 5.5 1.7 0.6 0.5 0.4 1.3 3.6 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	LEA YOUNG N YOUNG DEEP UNIT NO. 38 3002533864 SEC. 10. T18S. R32E HARVEY E. YATES CO. 971231 010619 PERM-BONE SPRING 430 8892	ETHANE	12.5 5.5 1.7 0.6 0.5 0.4 1.3 3.6 0.0 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	LEA YOUNG N YOUNG DEEP UNIT NO. 38 3002533864 SEC. 10. T18S. R32E HARVEY E. YATES CO. 971231 010619 PERM-BONE SPRING 430 8892	ETHANE	12.5 5.5 1.7 0.6 0.5 0.4 1.3 3.6 0.0 0.0 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	LEA YOUNG N YOUNG DEEP UNIT NO. 38 3002533864 SEC. 10. T18S. R32E HARVEY E. YATES CO. 971231 010619 PERM-BONE SPRING 430 8892	ETHANE	12.5 5.5 1.7 0.6 0.5 0.4 1.3 3.6 0.0 0.0 0.0 0.0 0.2 0.03

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

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

SAMPLE	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**	0.4
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	-
OAMBI E	00007	SPECIFIC GRAVITY	0.808
SAMPLE	20687	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	
COUNTY	LEA	ETHANE	
FIELD	YOUNG N	PROPANE	
WELL NAME	YOUNG DEEP UNIT NO. 36	N-BUTANE	
API		ISOBUTANE N-PENTANE	
LOCATION		ISOPENTANE	
OWNER		CYCLOPENTANE	
		HEXANES PLUS	
COMPLETED	_	NITROGEN	
SAMPLED		OXYGEN	
FORMATION		ARGON	0.0
GEOLOGIC PROVINCE CODE _	430	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	8832	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	85	HELIUM	0.04
		HEATING VALUE*	1,341

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

SAMPLE	20701	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	70.4
	LEA.	ETHANE	13.5
	_	PROPANE	6.4
	YOUNG N	N-BUTANE	1.9
•	YOUNG DEEP UNIT NO. 1	ISOBUTANE	0.7
API	3002526813	N-PENTANE	0.7
LOCATION	SEC. 8, T18S, R32E	ISOPENTANE	0.5
OWNER	HARVEY E. YATES CO.	CYCLOPENTANE	
COMPLETED	840306	HEXANES PLUS	
SAMPLED	010619	NITROGEN	
FORMATION	PERM-BONE SPRING	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430	ARGON	
TRUE VERTICAL DEPTH (FT)	8791	ARGON + OXYGEN	
` '		HYDROGEN	
	3	HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20691	COMPONENT, MOLE PCT	
07475	NEWNEWOO	METHANE	69.2
	NEW MEXICO	ETHANE	13.1
	<u>EDDY</u>	PROPANE	7.1
FIELD	YOUNG N	N-BUTANE	2.6
WELL NAME	AMOCO EAST 2 STATE NO. 2	ISOBUTANE	0.9
	3002528711	N-PENTANE	0.8
LOCATION	SEC. 2, T18S, R32E	ISOPENTANE	0.7
OWNER	HARVEY E. YATES CO.	CYCLOPENTANE	
COMPLETED	840823_	HEXANES PLUS	1.4
SAMPLED	010619	NITROGEN	
FORMATION	PERM-BONE SPRING	OXYGEN	
		ARGON	0.0
GEOLOGIC PROVINCE CODE	430_		
GEOLOGIC PROVINCE CODE		ARGON + OXYGEN	
GEOLOGIC PROVINCE CODE	8568	ARGON + OXYGEN HYDROGEN	0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	8568	ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG		ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.0 0.4
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	8568	ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.0 0.0 0.4 0.05

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

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

SAMPLE	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		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	<u> </u>	HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	214	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.737
SAMPLE	20692	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	69.0
COUNTY	I FA	ETHANE	13.9
FIELD		PROPANE	
WELL NAME		N-BUTANE	
_		ISOBUTANE	
API	•	N-PENTANE	
LOCATION	SEC. 10, 118S, R32E	ISOPENTANE	0.7
		0)(0) 005117115	
OWNER	HARVEY E. YATES CO.	CYCLOPENTANE	
OWNER		HEXANES PLUS	1.5
	900503	HEXANES PLUS	 1.5 3.5
COMPLETED	900503 010619	HEXANES PLUS NITROGEN OXYGEN	1.5 3.5 0.0
COMPLETEDSAMPLED	900503 010619	HEXANES PLUS NITROGEN OXYGEN ARGON	1.5 3.5 0.0 0.0
COMPLETEDSAMPLEDFORMATION	900503 010619 PERM-BONE SPRING 430	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	1.5 3.5 0.0 0.0
COMPLETEDSAMPLEDFORMATIONGEOLOGIC PROVINCE CODE _	900503 010619 PERM-BONE SPRING 430 9012	HEXANES PLUS	1.5 3.5 0.0 0.0 TRACE
COMPLETED	900503 010619 PERM-BONE SPRING 430 9012	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	1.5 3.5 0.0 0.0 TRACE
COMPLETED	900503 010619 PERM-BONE SPRING 430 9012	HEXANES PLUS	1.5 3.5 0.0 0.0 TRACE 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	900503 010619 PERM-BONE SPRING 430 9012	HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	1.5 3.5 0.0 0.0 TRACE 0.0 0.2

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

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

SAMPLE	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	
FORMATION	PERM-BONE SPRING	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	430_	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
·		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _	_	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	
SAMPLE	20077	SPECIFIC GRAVITY COMPONENT, MOLE PCT	0.000
SAMPLE	20677	, , ,	68.9
STATE	NEW MEXICO	METHANE ETHANE	
COUNTY	LEA_	PROPANE	
FIELD	YOUNG N	N-BUTANE	
WELL NAME	AMOCO 1 FEDERAL NO. 2	ISOBUTANE	
API	3002529848	N-PENTANE	
LOCATION	SEC. 1, T18S, R32E	ISOPENTANE	
			0.6
OWNER			
·	HARVEY E. YATES CO.	CYCLOPENTANE	
OWNER	HARVEY E. YATES CO. 870416	CYCLOPENTANE	0.8
COMPLETEDSAMPLED	HARVEY E. YATES CO. 870416 010618	CYCLOPENTANE	0.8 2.7
COMPLETEDSAMPLEDFORMATION	HARVEY E. YATES CO. 870416 010618 PERM-BONE SPRING	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.8 2.7
COMPLETEDSAMPLEDFORMATIONGEOLOGIC PROVINCE CODE _	HARVEY E. YATES CO. 870416 010618 PERM-BONE SPRING 430	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.8 2.7 0.0 0.0
COMPLETEDSAMPLEDFORMATION	HARVEY E. YATES CO. 870416 010618 PERM-BONE SPRING 430	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.8 2.7 0.0 0.0
COMPLETEDSAMPLEDFORMATIONGEOLOGIC PROVINCE CODE _	HARVEY E. YATES CO. 870416 010618 PERM-BONE SPRING 430 8425	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.8 2.7 0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	HARVEY E. YATES CO. 870416 010618 PERM-BONE SPRING 430 8425	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.8 2.7 0.0 0.0 0.0 0.4
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	HARVEY E. YATES CO. 870416 010618 PERM-BONE SPRING 430 8425	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.8 2.7 0.0 0.0 0.0 0.4 2.4
COMPLETED	HARVEY E. YATES CO. 870416 010618 PERM-BONE SPRING 430 8425	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.8 2.7 0.0 0.0 0.0 0.4 2.4 0.09

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

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

SAMPLE	20689	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	64.2
COUNTY	<u>'</u>	ETHANE	17.5
	_	PROPANE	9.0
FIELD		N-BUTANE	2.6
WELL NAME	YOUNG DEEP UNIT NO. 30	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**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	349_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.849
SAMPLE	20682	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	58.1
COUNTY	LEA	ETHANE	
FIELD	YOUNG N	PROPANE	
	_	N-BUTANE	0.0
WELL NAME			
ADI	FEDERAL AF NO. 1	ISOBUTANE	1.2
API	3002527406	N-PENTANE	1.2 0.8
LOCATION	3002527406 SEC. 8, T18S, R32E	N-PENTANE	1.2 0.8 0.8
•	3002527406 SEC. 8, T18S, R32E	N-PENTANE ISOPENTANE CYCLOPENTANE	1.2 0.8 0.8
LOCATION	3002527406 SEC. 8, T18S, R32E HARVEY E. YATES CO.	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS	1.2 0.8 0.8 1.0
LOCATION	3002527406 SEC. 8, T18S, R32E HARVEY E. YATES CO. 010106	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.2 0.8 0.8 1.0 10.5
LOCATIONOWNERCOMPLETED	3002527406 SEC. 8, T18S, R32E HARVEY E. YATES CO. 010106 010618	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.2 0.8 0.8 1.0 10.5 0.0
LOCATION OWNER COMPLETED SAMPLED	3002527406 SEC. 8, T18S, R32E HARVEY E, YATES CO. 010106 010618 PERM-DELAWARE	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	1.2 0.8 0.8 1.0 10.5 0.0
LOCATION OWNER COMPLETED SAMPLED FORMATION	3002527406 SEC. 8, T18S, R32E HARVEY E. YATES CO. 010106 010618 PERM-DELAWARE 430	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	1.2 0.8 0.8 1.0 10.5 0.0 0.0
LOCATION	3002527406 SEC. 8, T18S, R32E HARVEY E. YATES CO. 010106 010618 PERM-DELAWARE 430 5008	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN HYDROGEN	1.2 0.8 0.8 1.0 10.5 0.0 0.0
LOCATION	3002527406 SEC. 8, T18S, R32E HARVEY E, YATES CO. 010106 010618 PERM-DELAWARE 430 5008	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	1.2 0.8 0.8 1.0 10.5 0.0 0.0 0.0
LOCATION	3002527406 SEC. 8, T18S, R32E HARVEY E. YATES CO. 010106 010618 PERM-DELAWARE 430 5008	N-PENTANE	1.2 0.8 0.8 1.0 10.5 0.0 0.0 0.0 0.0
LOCATION	3002527406 SEC. 8, T18S, R32E HARVEY E. YATES CO. 010106 010618 PERM-DELAWARE 430 5008	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	1.2 0.8 0.8 1.0 10.5 0.0 0.0 0.0 0.1 0.06

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

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

SAMPLE	20685	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	60.7
•	LEA.	ETHANE	14.4
	YOUNG N	PROPANE	9.3
•		N-BUTANE	2.8
'	AMOCO CP FEDERAL NO. 1	ISOBUTANE	1.1_
	3002527680	N-PENTANE	0.8
LOCATION	SEC. 8, T18S, R32E	ISOPENTANE	
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	DE430_	ARGON	
	Г)	ARGON + OXYGEN	
,		HYDROGEN	
	_	HYDROGEN SULFIDE**	
,	ilG	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20686	COMPONENT, MOLE PCT	
STATE	NEW MEXICO	METHANE	58.7
		ETHANE	17.3
	<u>LEA</u>	PROPANE	10.5
·	YOUNG N	N-BUTANE	2.8
WELL NAME	YOUNG 8 FEDERAL, WEST NO. 1	ISOBUTANE	1.1
	3002530503	N-PENTANE	0.7
LOCATION	SEC. 8. T18S. R32E	ISOPENTANE	0.7
OWNER	HARVEY E. YATES CO.	CYCLOPENTANE	
COMPLETED	890307	HEXANES PLUS	0.9
SAMPLED	010818	NITROGEN	7.2
FORMATION	PERM-DELAWARE	OXYGEN	0.0
GEOLOGIC PROVINCE COD	DE430_	ARGON	0.0
	T)	ARGON + OXYGEN	
,	0020	HYDROGEN	
		HYDROGEN SULFIDE**	
	ilG	CARBON DIOXIDE	
OPEN FLOW, MCFD	<u>150</u>	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.875

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

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

SAMPLE	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		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 _		ARGON	0.0
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 AHOMA	METHANE	53.0
COUNTY		ETHANE	4.4
FIELD		PROPANE	3.4
		N-BUTANE	1.3
WELL NAME		ISOBUTANE	0.6
API		N-PENTANE	
LOCATION		ISOPENTANE	
OWNER	BAY PETROLEUM CORP.	CYCLOPENTANE	
COMPLETED	050610	HEXANES PLUS	
SAMPLED	050822	NITROGEN	
FORMATION	MISS-MISSISSIPPIAN	OXYGEN	
GEOLOGIC PROVINCE CODE _	355	ARGON LOVYCEN	
		ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	4226	HADDOCEN	
_		HYDROGEN	
TRUE VERTICAL DEPTH (FT)		HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG _		HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 TRACE
TRUE VERTICAL DEPTH (FT)		HYDROGEN SULFIDE**	0.0 TRACE 0.00

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

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

SAMPLE	50611	COMPONENT, MOLE PCT	
STATE	OKI VHOWV	METHANE	76.0
		ETHANE	9.3
COUNTY	_	PROPANE	4.6
FIELD		N-BUTANE	1.6
WELL NAME		ISOBUTANE	0.5
API	3508123643	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**	0.0
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	0.1
OPEN FLOW, MCFD	25_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	
SAMPLE	21508	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	84.4
COUNTY	HUGHES	ETHANE	6.5
FIELD	_	PROPANE	
WELL NAME	_	N-BUTANE	
		ISOBUTANE	
API	_	N-PENTANE	
LOCATION		ISOPENTANE	
OWNER	CROWN ENERGY CO.	CYCLOPENTANE	
COMPLETED	801024	HEXANES PLUS	
SAMPLED	051104	NITROGEN	
FORMATION	PENN-BARTLESVILLE	OXYGEN	
GEOLOGIC PROVINCE CODE _	355	ARGON	
TRUE VERTICAL DEPTH (FT)	1675	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN CHI FIDE**	
WELLHEAD PRESSURE, PSIG _	_	HYDROGEN SULFIDE**	
OPEN FLOW, MCFD	_	CARBON DIOXIDE	
OF LINT LOVY, MIOFD		HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.667

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

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

SAMPLE	21507	COMPONENT, MOLE PCT	
CTATE	OKLAHOMA	METHANE	83.4
•	HUGHES	ETHANE	7.2
		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 PEN	NN-RED FORK, BARTLESVILLE	OXYGEN	
GEOLOGIC PROVINCE CODE	355_	ARGON	
	1605	ARGON + OXYGEN	TRACE
` , -	1000	HYDROGEN	
		HYDROGEN SULFIDE**	
•	30	CARBON DIOXIDE	
OPEN FLOW, MCFD	8	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE			
SAWII EE	21518	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	74.7
STATE	OKLAHOMA		
STATE	OKLAHOMA GRADY	METHANE	9.5
STATECOUNTY	OKLAHOMA GRADY ALEX NW	METHANE	9.5 6.9
STATE COUNTY FIELD WELL NAME	OKLAHOMA GRADY ALEX NW BURTON 1-11	METHANE ETHANE PROPANE	9.5 6.9 2.8
STATE COUNTY FIELD WELL NAME	OKLAHOMA GRADY ALEX NW BURTON 1-11 3505123174	METHANE ETHANE PROPANE N-BUTANE	9.5 6.9 2.8 1.4
STATE COUNTY FIELD WELL NAME	OKLAHOMA GRADY ALEX NW BURTON 1-11	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	9.5 6.9 2.8 1.4 1.0
STATE COUNTY FIELD WELL NAME API LOCATION	OKLAHOMA GRADY ALEX NW BURTON 1-11 3505123174	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	9.5 6.9 2.8 1.4 1.0 0.7
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	OKLAHOMA GRADY ALEX NW BURTON 1-11 3505123174 SEC 11. T5N. R6W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	9.5 6.9 2.8 1.4 1.0 0.7
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	OKLAHOMA GRADY ALEX NW BURTON 1-11 3505123174 SEC 11. T5N. R6W WARD PETROLEUM CORP.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	9.5 6.9 2.8 1.4 1.0 0.7 1.4 0.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	OKLAHOMA GRADY ALEX NW BURTON 1-11 3505123174 SEC 11. T5N. R6W WARD PETROLEUM CORP. 040709	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE HEXANES PLUS	9.5 6.9 2.8 1.4 1.0 0.7 1.4 0.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	OKLAHOMA GRADY ALEX NW BURTON 1-11 3505123174 SEC 11. T5N. R6W WARD PETROLEUM CORP. 040709 060302 ORDO-BROMIDE 1 & 2	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	9.5 6.9 2.8 1.4 1.0 0.7 1.4 0.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE .	OKLAHOMA GRADY ALEX NW BURTON 1-11 3505123174 SEC 11. T5N. R6W WARD PETROLEUM CORP. 040709 060302 ORDO-BROMIDE 1 & 2	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN	9.5 6.9 2.8 1.4 1.0 0.7 1.4 0.5 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	OKLAHOMA GRADY ALEX NW BURTON 1-11 3505123174 SEC 11. T5N. R6W WARD PETROLEUM CORP. 040709 060302 ORDO-BROMIDE 1 & 2 360	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	9.5 6.9 2.8 1.4 1.0 0.7 1.4 0.5 TRACE
STATE	OKLAHOMA GRADY ALEX NW BURTON 1-11 3505123174 SEC 11. T5N. R6W WARD PETROLEUM CORP. 040709 060302 ORDO-BROMIDE 1 & 2 360	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	9.5 6.9 2.8 1.4 1.0 0.7 1.4 0.5 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	OKLAHOMA GRADY ALEX NW BURTON 1-11 3505123174 SEC 11. T5N. R6W WARD PETROLEUM CORP. 040709 060302 ORDO-BROMIDE 1 & 2 360 17092 4000	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	9.5 6.9 2.8 1.4 1.0 0.7 1.4 0.5 TRACE 0.0 0.0
STATE	OKLAHOMA GRADY ALEX NW BURTON 1-11 3505123174 SEC 11. T5N. R6W WARD PETROLEUM CORP. 040709 060302 ORDO-BROMIDE 1 & 2 360 17092 4000	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	9.5 6.9 2.8 1.4 1.0 0.7 1.4 0.5 TRACE 0.0 0.0 1.2

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

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

SAMPLE	21517	COMPONENT, MOLE PCT	
CTATE	OKLAHOMA	METHANE	92.7
		ETHANE	3.5
	KINGFISHER	PROPANE	1.5
	ALTONA.	N-BUTANE	0.4
WELL NAME	JUSTICE 9A	ISOBUTANE	0.3
API	3507324394	N-PENTANE	0.2
LOCATION	SEC 9, T15N, R9W	ISOPENTANE	0.2
OWNER	CHESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	971224	HEXANES PLUS	0.4
SAMPLED	060130	NITROGEN	0.4
FORMATION PENN-INOLA,A	TOKA.MORROW.MISS-CHESTER	OXYGEN	
GEOLOGIC PROVINCE CODI	= 360_	ARGON	
	8826	ARGON + OXYGEN	
•		HYDROGEN	0.0
	0 00	HYDROGEN SULFIDE**	
	G23	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	2.8
	ALTONA	PROPANE	1.3
		N-BUTANE	0.4
· ·	GALILEO 1-20	ISOBUTANE	0.2
	3507324475	N-PENTANE	0.1
LOCATION	SEC 20, T15N, R9W	ISOPENTANE	0.2
OWNER	RANGE PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	040816_	HEXANES PLUS	0.3
SAMPLED	060123	NITROGEN	
FORMATION	PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODI	E360	ARGON	
	9003	ARGON + OXYGEN	0.1
MEASURED DEPTH	,	HYDROGEN	
· · · · · · · · · · · · · · · · · · ·		HYDROGEN SULFIDE**	
	G	CARBON DIOXIDE	
OPEN FLOW, MCFD	600	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.62

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

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

SAMPLE	21515	COMPONENT, MOLE PCT	
CTATE	OKLAHOMA.	METHANE	90.3
		ETHANE	4.2
·	KINGFISHER	PROPANE	1.9
•	ALTONA.	N-BUTANE	0.6
WELL NAME	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	
FORMATION P	PENN-RED FORK, MISS-CHESTER	OXYGEN	
GEOLOGIC PROVINCE COD	DE360_	ARGON	
	Γ)8556_	ARGON + OXYGEN	
•		HYDROGEN	
	_	HYDROGEN SULFIDE**	
	IIG	CARBON DIOXIDE	0.4
OPEN FLOW, MCFD	100_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.631
SAMPLE	21573	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	85.5
·	GRADY	ETHANE	6.4
<u> </u>	AMBER NE	PROPANE	3.3
•		N-BUTANE	
	CAMPBELL FARMS 1-25	ISOBUTANE	
·	3505123097	N-PENTANE	0.5
LOCATION	SEC. 25, T9N, R6W	ISOPENTANE	0.4
OWNER	LINN ENERGY, LLC	CYCLOPENTANE	
COMPLETED	031117	HEXANES PLUS	0.9
SAMPLED	061024	NITROGEN	0.7
FORMATION	ORDO-BROMIDE	OXYGEN	
GEOLOGIC PROVINCE COD	DE360_	ARGON	
TRUE VERTICAL DEPTH (F1		ARGON + OXYGEN	
,	,——	HYDROGEN	0.0
	450	HYDROGEN SULFIDE**	
	IG 450	CARBON DIOXIDE	
OPEN FLOW, MCFD	116_	HELIUM	
		HEATING VALUE*	1,196
		SPECIFIC GRAVITY	0.688

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

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

SAMPLE	21525	COMPONENT, MOLE PCT	
STATE	OKI VHOWV	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	811113	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**	
,	<u> </u>	CARBON DIOXIDE	
OPEN FLOW, MCFD	1730_	HELIUM	
		HEATING VALUE*	-
		SPECIFIC GRAVITY	0.573
SAMPLE	21566	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	
COUNTY	CREEK	ETHANE	
FIELD	BIG POND	PROPANE	
WELL NAME		N-BUTANE	
API		ISOBUTANE	
		N-PENTANE	
LOCATION		ISOPENTANE	
OWNER	TUSCANY OIL & GAS, LLC	CYCLOPENTANE	
COMPLETED	870225	HEXANES PLUS	
SAMPLED	060915	NITROGEN	
FORMATION	PENN-PRUE	OXYGEN ARGON	
	255	ARGON - OXYGEN	
GEOLOGIC PROVINCE CODE _	300_		U. I
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	·		0.0
_	2477	HYDROGEN	
TRUE VERTICAL DEPTH (FT)	2477	HYDROGEN HYDROGEN SULFIDE**	0.0
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	2477	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.1
TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	2477	HYDROGEN HYDROGEN SULFIDE**	0.0 0.1 0.07

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

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

MEASURED DEPTH	SAMPLE	21563	COMPONENT, MOLE PCT	
COUNTY OKFUSKEE FIELD BIGHAM SW. PROPANE 3.6 FIELD BIGHAM SW. WELL NAME MATTHEW 1 ISOBUTANE 0.5 M.BUTANE 0.5	STATE	OKLAHOMA	METHANE	79.8
PROPANE 3.6			ETHANE	6.6
WELL NAME			PROPANE	3.6
API 3510722273 N-PENTANE 0.2 LOCATION SEC 3. T10N.R10E ISOPENTANE 0.2 LOCATION PENN-SKINNER ARGON 0.3 LOCATION MCFD 3.55 LOCATION MCFD 3.55 LOCATION MCFD 7.0 LOCATION MCFD 7.0 LOCATION MCFD 8.1 LINGS 9.15 LOCATION SEC 15. T23N. R2W. LOCATION SEC 15. T23N. R2W. LOCATION SEC 15. T23N. R2W. LOCATION PENN-HASKELL TONKAWA L				
SEC 3. T10N, R10E SOPENTANE	·			
OWNER	•			
READ				
SAMPLED	OWNER	KENDOL EXPLORATION, INC.		
SAMPLE	COMPLETED	860523		
PENNSKINER SECULOGIC PROVINCE CODE 355 ARGON OXYGEN TRACE TRUE VERTICAL DEPTH (FT) 1802 HYDROGEN SULFIDE** 0.0	SAMPLED	060700		
ARGON + OXYGEN TRACE TRUE VERTICAL DEPTH (FT) 1802 MEASURED DEPTH HOUSE SURE, PSIG 50 CARBON DIOXIDE 0.2 OPEN FLOW, MCFD 70 HELIUM 0.15 HEATING VALUE* 1.100 SPECIFIC GRAVITY 0.692 STATE OKLAHOMA ETHANE 15.6 COUNTY NOBLE BILLINGS N-BUTANE 2.5 WELL NAME BILLINGS 9.15 ISOBUTANE 1.2 API 3510323850 N-PENTANE 0.5 OWNER CHESAPEAKE OPERATING. INC. CYCLOPENTANE 0.5 SAMPLE 0.60321 NITROGEN 9.4 SAMPLE 0.60321 NITROGEN 9.4 GEOLOGIC PROVINCE CODE 355 TRUE VERTICAL DEPTH (FT) 2741 HYDROGEN SULFIDE** 0.0 WELL HEAD PRESSURE, PSIG 200 CARBON DIOXIDE 0.2 OPEN FLOW, MCFD 253 HELIUM 0.06 WELLHEAD PRESSURE, PSIG 200 CARBON DIOXIDE 0.2 OPEN FLOW, MCFD 253 HELIUM 0.06 HEATING VALUE* 1.345	FORMATION	PENN-SKINNER	· · · · · · · · · · · · · · · · · · ·	
TRUE VERTICAL DEPTH (FT)	GEOLOGIC PROVINCE CODE _	355		
MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG 50 CARBON DIOXIDE 0.2 OPEN FLOW, MCFD 70 HELIUM 0.15 HEATING VALUE* 1.100 SPECIFIC GRAVITY 0.692 SAMPLE 21524 COMPONENT, MOLE PCT METHANE 58.7 STATE OKLAHOMA ETHANE 15.0 COUNTY NOBLE PROPANE 10.2 FIELD BILLINGS N-BUTANE 2.5 WELL NAME BILLINGS.9-15 ISOBUTANE 1.2 API 3510323850 N-PENTANE 0.7 LOCATION SEC 15. T23N, R2W ISOPENTANE 0.5 OWNER CHESAPEAKE OPERATING, INC. CYCLOPENTANE COMPLETED 041213 HEXANES PLUS 1.1 SAMPLED 060321 NITROGEN 9.2 SAMPLED 07YGEN GEOLOGIC PROVINCE CODE 355 ARGON + OXYGEN TRACE TRUE VERTICAL DEPTH (FT) 2741 HYDROGEN	TRUE VERTICAL DEPTH (FT)	1802		
WELLHEAD PRESSURE, PSIG	MEASURED DEPTH			
OPEN FLOW, MCFD	WELLHEAD PRESSURE. PSIG	50		
HEATING VALUE*				
SAMPLE 21524 COMPONENT, MOLE PCT STATE OKLAHOMA ETHANE 58.7 COUNTY NOBLE PROPANE 10.2 FIELD BILLINGS N-BUTANE 2.9 WELL NAME BILLINGS 9-15 ISOBUTANE 1.2 API 3510323850 N-PENTANE 0.7 LOCATION SEC 15. T23N. R2W ISOPENTANE 0.8 OWNER CHESAPEAKE OPERATING. INC. CYCLOPENTANE 1.2 SAMPLED 060321 NITROGEN 9.4 FORMATION PENN-HASKELL TONKAWA ARGON ——— GEOLOGIC PROVINCE CODE 355 TRUE VERTICAL DEPTH (FT) 2741 HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG 200 CARBON DIOXIDE 0.2 OPEN FLOW, MCFD 253 HELIUM 0.06 HEATING VALUE* 1.345	or Eith 2011, mor B			
SAMPLE 21524 COMPONENT, MOLE PCT STATE OKLAHOMA ETHANE 58.7 COUNTY NOBLE PROPANE 10.2 FIELD BILLINGS N-BUTANE 2.9 WELL NAME BILLINGS 9-15 ISOBUTANE 1.2 API 3510323850 N-PENTANE 0.7 LOCATION SEC 15. T23N. R2W ISOPENTANE 0.5 COMPLETED 041213 HEXANES PLUS 1.0 SAMPLED 060321 NITROGEN 9.4 FORMATION PENN-HASKELL TONKAWA ARGON				
STATE	SAMPLE	21524	COMPONENT, MOLE PCT	
NOBLE	07475		METHANE	58.7
PROPANE			ETHANE	15.0
WELL NAME BILLINGS 9-15 N-BUTANE 2.5 API 3510323850 N-PENTANE 0.7 LOCATION SEC 15, T23N, R2W ISOPENTANE 0.5 OWNER CHESAPEAKE OPERATING, INC. CYCLOPENTANE COMPLETED 041213 HEXANES PLUS 1.0 SAMPLED 060321 NITROGEN 9.4 SAMPLED 060321 OXYGEN FORMATION PENN-HASKELL, TONKAWA OXYGEN GEOLOGIC PROVINCE CODE 355 ARGON + OXYGEN TRACE TRUE VERTICAL DEPTH (FT) 2741 HYDROGEN 0.0 MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG 200 CARBON DIOXIDE 0.2 OPEN FLOW, MCFD 253 HELIUM 0.06 HEATING VALUE* 1.349	•	_	PROPANE	10.2
API	FIELD	BILLINGS	N-BUTANE	2.9
SEC 15. T23N. R2W ISOPENTANE 0.5	WELL NAME	BILLINGS 9-15	ISOBUTANE	1.2
OWNER CHESAPEAKE OPERATING. INC. CYCLOPENTANE	API	3510323850	N-PENTANE	0.7
COMPLETED 041213 HEXANES PLUS 1.0 SAMPLED 060321 NITROGEN 9.4 FORMATION PENN-HASKELL TONKAWA OXYGEN GEOLOGIC PROVINCE CODE 355 ARGON + OXYGEN TRACE TRUE VERTICAL DEPTH (FT) 2741 HYDROGEN 0.0 MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG 200 CARBON DIOXIDE 0.2 OPEN FLOW, MCFD 253 HELIUM 0.06 HEATING VALUE* 1.349	LOCATION	SEC 15, T23N, R2W	ISOPENTANE	0.5
SAMPLED	OWNERCH	IESAPEAKE OPERATING. INC.	CYCLOPENTANE	
DOUGST D	COMPLETED	041213	HEXANES PLUS	1.0
ARGON	SAMPLED	060321	NITROGEN	9.4
ARGON STRUCK ST	FORMATION	PENN-HASKELL. TONKAWA	OXYGEN	
TRUE VERTICAL DEPTH (FT) 2741 ARGON + OXYGEN IRACE MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG 200 CARBON DIOXIDE 0.2 OPEN FLOW, MCFD 253 HELIUM 0.06 HEATING VALUE* 1.349				
MEASURED DEPTH			ARGON + OXYGEN	TRACE
WELLHEAD PRESSURE, PSIG 200 CARBON DIOXIDE 0.0 OPEN FLOW, MCFD 253 HELIUM 0.06 HEATING VALUE* 1.349	` '-		·	
OPEN FLOW, MCFD 253 HELIUM 0.06 HEATING VALUE* 1.349				
HEATING VALUE*1.34\$				
	OPEN FLOW, MCFD	<u>253</u>		
SPECIFIC GRAVITY				-

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

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

SAMPLE	21583	COMPONENT, MOLE PCT	
CTATE	OKI AHOMA	METHANE	96.4
	OKLAHOMA.	ETHANE	0.7
	LE FLORE	PROPANE	TRACE
•	BOKOSHE S	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 PROVINC	E CODE345	ARGON	
	TH (FT)	ARGON + OXYGEN	
	2930	HYDROGEN	
_	RE, PSIG131_	HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD _	100	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	<u> </u>	COMPONENT, MOLE PCT	
		METHANE	82.8
•	OKLAHOMA.	ETHANE	5.2
	BEAVER_	PROPANE	3.7
FIELD	BOYD S	N-BUTANE	1.2
WELL NAME	HANLON 1-26	ISOBUTANE	0.5
API	3500722778	N-PENTANE	0.3
LOCATION	SEC 26, T3N, R20E	ISOPENTANE	0.3
OWNER	KAISER FRANCIS OIL CO.	CYCLOPENTANE	
COMPLETED	840622	HEXANES PLUS	0.6
SAMPLED	070313	NITROGEN	4.9
	MISS-MISSISSIPPIAN	OXYGEN	
GEOLOGIC PROVINC		ARGON	
		ARGON + OXYGEN	TRACE
	, ,	HYDROGEN	0.0
	DE DOIO 570	HYDROGEN SULFIDE**	0.0
	RE, PSIG573_	CARBON DIOXIDE	
OPEN FLOW, MCFD _	865	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.689

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

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

SAMPLE	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)	13160	ARGON + OXYGEN	
MEASURED DEPTH	_	HYDROGEN	
	_	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _	_	CARBON DIOXIDE	
OPEN FLOW, MCFD	<u>115</u>	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21587	COMPONENT, MOLE PCT	
07.77	0/4 1/10111	METHANE	85.8
STATE		ETHANE	7.3
COUNTY	_	PROPANE	3.0
FIELD	BRAY SE	N-BUTANE	0.9
WELL NAME	LUBELL BI 1	ISOBUTANE	0.6
API	3513730064	N-PENTANE	0.3
LOCATION	SEC. 30, T2N, R5W	ISOPENTANE	0.3
OWNER	MERIT ENERGY CO.	CYCLOPENTANE	
COMPLETED	660303	HEXANES PLUS	0.6
SAMPLED	070313	NITROGEN	0.6
FORMATION	PENN-SPRINGER	OXYGEN	
GEOLOGIC PROVINCE CODE	350	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	TRACE
MEASURED DEPTH	-	HYDROGEN	
		HYDROGEN SULFIDE**	
MELLIEAD DDECOLUDE DOLO		CARBON DIOXIDE	0.5
WELLHEAD PRESSURE, PSIG _			
WELLHEAD PRESSURE, PSIG OPEN FLOW, MCFD		HELIUM	0.03
· —			0.03 1,178

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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 CODE	345	ARGON	
	4496	ARGON + OXYGEN	TRACE
` '	++30	HYDROGEN	
		HYDROGEN SULFIDE**	
,	G <u>92</u>	CARBON DIOXIDE	
OPEN FLOW, MCFD	180	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.577
SAMPLE	21580	COMPONENT, MOLE PCT	
STATE	OKLAHOMA.	METHANE	96.1
		ETHANE	
	HASKELL	LITIANL	0.8
•	HASKELL BROOKEN	PROPANE	
FIELD	BROOKEN	PROPANEN-BUTANE	0.1
FIELD	BROOKEN WAGNON CREEK 1	PROPANE N-BUTANE ISOBUTANE	0.1 0.0 0.0
FIELD WELL NAMEAPI	BROOKEN WAGNON CREEK 1. 3506120484	PROPANEN-BUTANE	0.1 0.0 0.0
FIELD WELL NAMEAPI	BROOKEN WAGNON CREEK 1	PROPANE N-BUTANE ISOBUTANE	0.1 0.0 0.0 0.0
FIELD WELL NAME API LOCATION	BROOKEN WAGNON CREEK 1. 3506120484	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.1 0.0 0.0 0.0 0.0
FIELD WELL NAME API LOCATION OWNER	BROOKEN WAGNON CREEK 1 3506120484 SEC 25, T9N, R18E	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.0 0.0 0.0 0.0
FIELD WELL NAME API LOCATION OWNER COMPLETED	BROOKEN. WAGNON CREEK 1. 3506120484. SEC 25, T9N, R18E. HANNA OIL & GAS CO.	PROPANE	0.1 0.0 0.0 0.0 0.0 0.0 0.0
FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	BROOKEN. WAGNON CREEK 1. 3506120484 SEC 25, T9N, R18E HANNA OIL & GAS CO. 811127	PROPANE	0.1 0.0 0.0 0.0 0.0 0.0 0.0 1.6
FIELD	BROOKEN WAGNON CREEK 1. 3506120484 SEC 25, T9N, R18E HANNA OIL & GAS CO. 811127 061221	PROPANE	0.1 0.0 0.0 0.0 0.0 0.0 1.6
FIELD	BROOKEN. WAGNON CREEK 1. 3506120484 SEC 25, T9N, R18E. HANNA OIL & GAS CO. 811127 061221 DEVO-HUNTON. 345	PROPANE	0.1 0.0 0.0 0.0 0.0 0.0 1.6 TRACE
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	BROOKEN. WAGNON CREEK 1. 3506120484. SEC 25, T9N, R18E. HANNA OIL & GAS CO. 811127. 061221. DEVO-HUNTON. 345. 5538.	PROPANE	0.1 0.0 0.0 0.0 0.0 0.0 1.6 TRACE
FIELD	BROOKEN. WAGNON CREEK 1. 3506120484 SEC 25, T9N, R18E HANNA OIL & GAS CO. 811127 061221 DEVO-HUNTON 345 5538	PROPANE	0.1 0.0 0.0 0.0 0.0 0.0 1.6 TRACE 0.0
FIELD	BROOKEN. WAGNON CREEK 1. 3506120484 SEC 25. T9N. R18E. HANNA OIL & GAS CO. 811127 061221 DEVO-HUNTON. 345 5538	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON HYDROGEN LYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.0 0.0 0.0 0.0 0.0 1.6 TRACE 0.0
FIELD	BROOKEN. WAGNON CREEK 1. 3506120484 SEC 25. T9N. R18E. HANNA OIL & GAS CO. 811127 061221 DEVO-HUNTON. 345 5538	PROPANE	0.1 0.0 0.0 0.0 0.0 1.6 TRACE 0.0 0.0 1.4 0.08

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

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

ATE OKLAHOMA UNTY GARFIELD BROWN MIDDLE N-BI LL NAME FICKEN 1 3504722316 N-PI CATION SEC 28. T20N. R4W INCR HAMMER OIL PROPERTIES. INC. MPLETED 801013 MPLED 071025 RMATION PENN-OSWEGO, MISS-MISSISSIPPIAN ASURED DEPTH (FT) 6074 ASURED DEPTH HEATING LLHEAD PRESSURE, PSIG 1040 CAMPBELL N-BI LLL NAME HIBBS 1-11 SOM SEC 211. T23N. R16W INCR CHESAPEAKE OPERATING. INC. MPLETED 950329 MITT MALION PROVINCE CODE 950329 MPLETED 1600 MISS-CHESTER. MERAMEC ARC OKLAHOMA 1500 MET 15	NENT, MOLE PCT	
SAMPLE S	THANE	80.2
BROWN MIDDLE	HANE	9.1
SAMPLE 21429 SAMPLE SA	OPANE	4.4
3504722316 N-PI	BUTANE	1.3
SEC 28, T20N, R4W ISOI	BUTANE	0.4
MPLETED	PENTANE	0.4
MPLETED	PENTANE	0.2
MPLED	CLOPENTANE	
RMATION	XANES PLUS	0.5
PENN-USWEGU, MISS-MISSISSIPPIAN ARC	ROGEN	3.1
OLOGIC PROVINCE CODE	YGEN	
ARC HYE ASURED DEPTH (FT)	GON	
ASURED DEPTH	GON + OXYGEN	
SAMPLE 21429 COMPON	DROGEN	
EN FLOW, MCFD HEI HEATING SPECIFIC SAMPLE 21429 COMPON ATE OKLAHOMA ETH UNITY MAJOR LD CAMPBELL N-BI ELL NAME HIBBS 1-11 SOI 3509324342 N-PI CATION SEC 11, T23N, R16W INCR CHESAPEAKE OPERATING, INC. MPLETED 040129 MPLETED 050329 NITTE RMATION MISS-CHESTER, MERAMEC OLOGIC PROVINCE CODE 360 ARG ASURED DEPTH HIP ELLHEAD PRESSURE, PSIG 100 CAR	DROGEN SULFIDE**	
SAMPLE 21429 COMPON ATE	RBON DIOXIDE	
SAMPLE 21429 COMPON ATE OKLAHOMA ETH UNTY MAJOR PRO CAMPBELL NAME HIBBS 1-11 ISOI 3509324342 N-PI CATION SEC 11, T23N, R16W ISOI (NER CHESAPEAKE OPERATING, INC. CYC MPLETED 040129 HEX MPLETED 050329 NITE RMATION MISS-CHESTER, MERAMEC OXY OLOGIC PROVINCE CODE 360 ARC ASURED DEPTH HYD CALIBEAD PRESSURE, PSIG 100 CAR CARDON COMPON MET OKLAHOMA ETH MET OKLAHOMA ETH OKLAHOMA OKLAHOMA ETH OKLAHOMA	ELIUM	
SAMPLE 21429 COMPON ATE OKLAHOMA ETH UNTY MAJOR PRO LD CAMPBELL N-BI ELL NAME HIBBS 1-11 ISOI 3509324342 N-PI CATION SEC 11, T23N, R16W ISOI (NER CHESAPEAKE OPERATING, INC. CYC MPLETED 040129 HEX MPLED 050329 NITE RMATION MISS-CHESTER, MERAMEC OXY OLOGIC PROVINCE CODE 360 ARG ASURED DEPTH HYD ELLHEAD PRESSURE, PSIG 100 CAR	G VALUE*	
UNTY	NENT, MOLE PCT	
UNTY	THANE	89.9
CAMPBELL N-BI	HANE	2.9
SELL NAME	OPANE	1.1
3509324342 N-PI CATION	BUTANE	0.5
SEC 11, T23N, R16W ISOI	BUTANE	0.2
WINER CHESAPEAKE OPERATING, INC. CYC MPLETED 040129 HEX MPLED 050329 NITF RMATION MISS-CHESTER, MERAMEC OXY OLOGIC PROVINCE CODE 360 ARG UE VERTICAL DEPTH (FT) 7186 HYE ASURED DEPTH HYE HYE ELLHEAD PRESSURE, PSIG 100 CAR	PENTANE	0.2
MPLETED	PENTANE	0.1
MPLED	CLOPENTANE	
MPLED USUS29 RMATION MISS-CHESTER, MERAMEC OXY OLOGIC PROVINCE CODE 360 ARG UE VERTICAL DEPTH (FT) 7186 HYE ASURED DEPTH HYE HYE ELLHEAD PRESSURE, PSIG 100 CAR	XANES PLUS	0.3
ARG OLOGIC PROVINCE CODE	ROGEN	4.1
OLOGIC PROVINCE CODE 360 UE VERTICAL DEPTH (FT) 7186 ASURED DEPTH HYE ELLHEAD PRESSURE, PSIG 100 CAR	YGEN	
ARG WE VERTICAL DEPTH (FT) 7186 HYD ASURED DEPTH HYD ELLHEAD PRESSURE, PSIG 100 CAR	GON	
ASURED DEPTH HYD SILHEAD PRESSURE, PSIG 100 CAF	GON + OXYGEN	
ELLHEAD PRESSURE, PSIG	DROGEN	
	DROGEN SULFIDE**	
EN ELOW MOED	RBON DIOXIDE	
	ELIUM	
	G VALUE* IC GRAVITY	

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

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

GEOLOGIC PROVINCE CODE 360 ARGON + OXYGEN — TRUE VERTICAL DEPTH (FT) 6607 HYDROGEN TRACE MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG CARBON DIOXIDE 0.8 OPEN FLOW, MCFD 17500 HELIUM 0.16 HEATING VALUE* 1.232	SAMPLE	21434	COMPONENT, MOLE PCT	
BEAVER FIHANE 114 115	STATE		METHANE	42.4
PROPANE 155		_	ETHANE	11.6
WELL NAME	·		PROPANE	15.8
API			N-BUTANE	7.4
SEC 27. TIN. R20E ISOPENTANE 1.5	WELL NAMECAMRIG	CK CENTRAL TANK BATTERY	ISOBUTANE	3.5
OWNER CHAPARRAL ENERGY LLC CYCLOPENTANE — COMPLETED HEXANES PLUS 3.3 SAMPLED 050329 NITROGEN 2.5 FORMATION PENN-MORROW ARGON TRACE GEOLOGIC PROVINCE CODE 360 ARGON + OXYGEN — ARGON + OXYGEN — — MEASURED DEPTH HYDROGEN SULFIDE** 0.6 WELLHEAD PRESSURE, PSIG 970 CARBON DIOXIDE 0.6 OPEN FLOW, MCFD HELIUM 0.16 HEATING VALUE* 1.72 1.72 STATE OKLAHOMA METHANE 80 STATE OKLAHOMA METHANE 8.0 STATE OKLAHOMA ETHANE 7.6 STATE OKLAHOMA ETHANE 8.0 COUNTY TEXAS PROPANE 5.1 FIELD CAMRICK N-BUTANE 1.7 WELL NAME COX ROBINSON NO. 1. ISOBUTANE 0.6 LOCATION SEC. 23. TZN. R19E ISOPENTANE 0.3 <td></td> <td></td> <td>N-PENTANE</td> <td>2.3</td>			N-PENTANE	2.3
December Completed Compl	LOCATION	SEC 27, T1N, R20E	ISOPENTANE	1.5
SAMPLED	OWNER	CHAPARRAL ENERGY LLC	CYCLOPENTANE	
SAMPLE	COMPLETED		HEXANES PLUS	3.1
ARGON	SAMPLED	050329	NITROGEN	2.5
ARGON + OXYGEN	FORMATION	PENN-MORROW	OXYGEN	0.0
ARGON + OXYGEN	GEOLOGIC PROVINCE CODE	360	ARGON	TRACE
MEASURED DEPTH	_	_		
WELLHEAD PRESSURE, PSIG			HYDROGEN	9.7
DOPEN FLOW, MCFD	-	_	HYDROGEN SULFIDE**	0.0
HEATING VALUE*	· -	_		
SAMPLE 20748 COMPONENT, MOLE PCT STATE OKLAHOMA ETHANE 80.6 COUNTY TEXAS PROPANE 5.7 FIELD CAMRICK N-BUTANE 1.7 WELL NAME COX ROBINSON NO. 1 ISOBUTANE 0.6 API 3513935592 N-PENTANE 0.3 LOCATION SEC. 23. T2N. R19E ISOPENTANE 0.3 COMPLETED 560718 HEXANES PLUS 0.7 COMPLETED 560718 HEXANES PLUS 0.7 FORMATION PENN-MORROW ARGON 0.6 GEOLOGIC PROVINCE CODE 360 ARGON + OXYGEN 0.6 GEOLOGIC PROVINCE CODE 360 ARGON + OXYGEN 1.6 MEASURED DEPTH HITTORY ARGON 1.7 WELLHEAD PRESSURE, PSIG CARBON DIOXIDE 0.5 OPEN FLOW, MCFD 17500 HELIUM 0.16 HEATING VALUE* 1.23	OPEN FLOW, MCFD			
SAMPLE 20748 COMPONENT, MOLE PCT STATE OKLAHOMA ETHANE 80.6 COUNTY TEXAS PROPANE 5.7 FIELD CAMRICK N-BUTANE 1.7 WELL NAME COX ROBINSON NO. 1 ISOBUTANE 0.6 API 3513935592 N-PENTANE 0.5 LOCATION SEC. 23. T2N. R19E ISOPENTANE 0.3 COMPLETED 560718 HEXANES PLUS 0.7 COMPLETED 560718 HEXANES PLUS 0.7 FORMATION PENN-MORROW ARGON 0.6 GEOLOGIC PROVINCE CODE 360 ARGON + OXYGEN 0.6 MEASURED DEPTH (FT) 6607 HYDROGEN SULFIDE** 0.6 MEASURED DEPTH (FT) 6607 HYDROGEN SULFIDE** 0.6 MEASURED DEPTH (FT) 6607 HYDROGEN SULFIDE** 0.6 MELIHEAD PRESSURE, PSIG CARBON DIOXIDE 0.5 OPEN FLOW, MCFD 17500 HELIUM 0.16 HEATING VALUE* 1.232			•	
OKLAHOMA			SPECIFIC GRAVITY	1.032
TEXAS	SAMPLE	20748	COMPONENT, MOLE PCT	
TEXAS	STATE	OKLAHOMA	METHANE	80.6
FIELD	•		ETHANE	7.6
WELL NAME COX ROBINSON NO. 1 ISOBUTANE 1.7 API 3513935592 N-PENTANE 0.6 LOCATION SEC. 23. T2N. R19E ISOPENTANE 0.3 OWNER CHAPARRAL ENERGY LLC CYCLOPENTANE COMPLETED 560718 HEXANES PLUS 0.7 SAMPLED 010730 NITROGEN 1.6 FORMATION PENN-MORROW OXYGEN 0.0 GEOLOGIC PROVINCE CODE 360 ARGON 0.0 TRUE VERTICAL DEPTH (FT) 6607 HYDROGEN TRACE MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG CARBON DIOXIDE 0.5 OPEN FLOW, MCFD 17500 HELIUM 0.16 HEATING VALUE* 1.232			PROPANE	5.7
API	·			
SEC. 23. T2N. R19E ISOPENTANE 0.3	•		ISOBUTANE	0.6
OWNER CHAPARRAL ENERGY LLC CYCLOPENTANE COMPLETED 560718 HEXANES PLUS 0.7 SAMPLED 010730 NITROGEN 1.6 FORMATION PENN-MORROW ARGON 0.0 GEOLOGIC PROVINCE CODE 360 ARGON 0.0 TRUE VERTICAL DEPTH (FT) 6607 HYDROGEN TRACE MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG CARBON DIOXIDE 0.5 OPEN FLOW, MCFD 17500 HELIUM 0.16 HEATING VALUE* 1.232			N-PENTANE	0.5
COMPLETED 560718 HEXANES PLUS 0.7 SAMPLED 010730 NITROGEN 1.6 FORMATION PENN-MORROW OXYGEN 0.0 GEOLOGIC PROVINCE CODE 360 ARGON 0.0 TRUE VERTICAL DEPTH (FT) 6607 HYDROGEN TRACE MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG CARBON DIOXIDE 0.5 OPEN FLOW, MCFD 17500 HELIUM 0.16 HEATING VALUE* 1.232	LOCATION	SEC. 23, T2N, R19E	ISOPENTANE	0.3
SAMPLED	OWNER	CHAPARRAL ENERGY LLC		
DID730	COMPLETED	560718		
ARGON	SAMPLED	010730		
GEOLOGIC PROVINCE CODE 360 ARGON + OXYGEN — TRUE VERTICAL DEPTH (FT) 6607 HYDROGEN TRACE MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG CARBON DIOXIDE 0.8 OPEN FLOW, MCFD 17500 HELIUM 0.16 HEATING VALUE* 1.232	FORMATION	PENN-MORROW		
TRUE VERTICAL DEPTH (FT) 6607 HYDROGEN TRACE MEASURED DEPTH HYDROGEN SULFIDE** 0.0 WELLHEAD PRESSURE, PSIG CARBON DIOXIDE 0.5 OPEN FLOW, MCFD 17500 HELIUM 0.16 HEATING VALUE* 1.232	GEOLOGIC PROVINCE CODE _	360_		
MEASURED DEPTH	TRUE VERTICAL DEPTH (FT)	6607		
WELLHEAD PRESSURE, PSIG CARBON DIOXIDE 0.5 OPEN FLOW, MCFD 17500 HELIUM 0.16 HEATING VALUE* 1.232	· · · —	<u> </u>		
OPEN FLOW, MCFD				
HEATING VALUE*1.232	· -			
	OPEN FLOW, MICFU	17500		
			HEATING VALUE* SPECIFIC GRAVITY	

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

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

SAMPLE	20755	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	82.0
•	TEXAS	ETHANE	6.8
•		PROPANE	4.7
	<u>CAMRICK</u>	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	
SAMPLED	010731	NITROGEN	1.9
FORMATION	PENN-MORROW	OXYGEN	0.0
GEOLOGIC PROVINCE COL	DE360_	ARGON	0.0
TRUE VERTICAL DEPTH (F	T)6367_	ARGON + OXYGEN	
•		HYDROGEN	
	SIG	HYDROGEN SULFIDE**	
•		CARBON DIOXIDE	
OPEN FLOW, MICFD	5876	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20754	COMPONENT, MOLE PCT	
-		METHANE	95.8
	OKLAHOMA.	ETHANE	2.1
COUNTY	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
GEOLOGIC PROVINCE COI		ARGON	0.0
	T)	ARGON + OXYGEN	
•		HYDROGEN	
	210	HYDROGEN SULFIDE**	
	SIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	1650	HELIUM	
		HEATING VALUE*	1.038
		SPECIFIC GRAVITY	

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

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

	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
	3503921387	N-PENTANE	0.1
LOCATION	SEC. 23, T12N, R20W	ISOPENTANE	0.2
OWNER	LINN ENERGY, LLC	CYCLOPENTANE	
COMPLETED	901001	HEXANES PLUS	
SAMPLED	010709	NITROGEN	0.4
FORMATION	PENN-RED FORK	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
TRUE VERTICAL DEPTH (ET)	14180	ARGON + OXYGEN	
MEASURED DEPTH	_	HYDROGEN	
		HYDROGEN SULFIDE**	
	8000	CARBON DIOXIDE	
OPEN FLOW, MCFD	1410	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21426	COMPONENT, MOLE PCT	
STATE		METHANE	
SIMIE	<u>OKLAHOMA</u>	· · · · · · · · · · · · · · · · · · ·	
	_	ETHANE	
COUNTY	ROGER MILLS	ETHANEPROPANE	6.1 2.1
COUNTY	ROGER MILLS CARPENTER	ETHANE PROPANE N-BUTANE	6.1 2.1 0.6
COUNTY FIELD WELL NAME	ROGER MILLS CARPENTER HALL 1-2	ETHANE PROPANE N-BUTANE ISOBUTANE	6.1 2.1 0.6 0.4
COUNTY FIELD WELL NAME API	ROGER MILLS CARPENTER HALL 1-2 3512922529	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	6.1 2.1 0.6 0.4 0.2
COUNTY FIELD WELL NAME API LOCATION	ROGER MILLS CARPENTER HALL 1-2 3512922529 SEC 2. T11N, R23W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	6.1 2.1 0.6 0.4 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION	ROGER MILLS CARPENTER HALL 1-2 3512922529	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	6.1 2.1 0.6 0.4 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER ST. MAR	ROGER MILLS CARPENTER HALL 1-2 3512922529 SEC 2. T11N, R23W	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	6.1 2.1 0.6 0.4 0.2 0.2 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER ST. MAR COMPLETED	ROGER MILLS CARPENTER HALL 1-2 3512922529 SEC 2. T11N, R23W RY LAND & EXPLORATION CO.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	6.1 2.1 0.6 0.4 0.2 0.2 0.2 0.3
COUNTY FIELD WELL NAME API LOCATION OWNER ST. MAF COMPLETED SAMPLED	ROGER MILLS CARPENTER. HALL 1-2 3512922529 SEC 2. T11N, R23W RY LAND & EXPLORATION CO. 040204	ETHANE	6.1 2.1 0.6 0.4 0.2 0.2 0.3 2.3
COUNTY FIELD WELL NAME API LOCATION OWNER ST. MAR COMPLETED SAMPLED FORMATION PI	ROGER MILLS CARPENTER HALL 1-2 3512922529 SEC 2. T11N. R23W RY LAND & EXPLORATION CO. 040204 050311	ETHANE	6.1 2.1 0.6 0.4 0.2 0.2 0.3 2.3 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER ST. MAR COMPLETED SAMPLED FORMATION PI	ROGER MILLS CARPENTER. HALL 1-2 3512922529 SEC 2, T11N, R23W RY LAND & EXPLORATION CO. 040204 050311 ENN-MARMATON, CHEROKEE. 360	ETHANE	6.1 2.1 0.6 0.4 0.2 0.2 0.3 2.3 0.0 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER ST. MAF COMPLETED SAMPLED FORMATION PI GEOLOGIC PROVINCE CODE	ROGER MILLS CARPENTER HALL 1-2 3512922529 SEC 2. T11N. R23W RY LAND & EXPLORATION CO. 040204 050311 ENN-MARMATON. CHEROKEE 360 14348	ETHANE	6.1 2.1 0.6 0.4 0.2 0.2 0.3 2.3 0.0 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER ST. MAF COMPLETED SAMPLED FORMATION PI GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	ROGER MILLS CARPENTER HALL 1-2 3512922529 SEC 2. T11N, R23W RY LAND & EXPLORATION CO. 040204 050311 ENN-MARMATON, CHEROKEE 360 14348	ETHANE	6.1 2.1 0.6 0.4 0.2 0.2 0.3 2.3 0.0 0.2 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER ST. MAF COMPLETED SAMPLED FORMATIONP GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG .	ROGER MILLS CARPENTER. HALL 1-2 3512922529 SEC 2, T11N, R23W RY LAND & EXPLORATION CO. 040204 050311 ENN-MARMATON, CHEROKEE 360 14348	ETHANE	6.1 2.1 0.6 0.4 0.2 0.2 0.3 2.3 0.0 0.2 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER ST. MAF COMPLETED SAMPLED FORMATIONPI GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	ROGER MILLS CARPENTER. HALL 1-2 3512922529 SEC 2, T11N, R23W RY LAND & EXPLORATION CO. 040204 050311 ENN-MARMATON, CHEROKEE 360 14348	ETHANE	6.1 2.1 0.6 0.4 0.2 0.2 0.3 2.3 0.0 0.2 0.0 0.0 0.0 0.7

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

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

SAMPLE	20712	COMPONENT, MOLE PCT	
CTATE	OKLAHOMA	METHANE	88.3
	-	ETHANE	7.0
·	CUSTER	PROPANE	2.0
•	CARPENTER NE	N-BUTANE	0.4
WELL NAME	MALSON NO. 1-5	ISOBUTANE	0.4
`	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 _	360	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
	7000	CARBON DIOXIDE	
OPEN FLOW, MCFD	3111	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.64
SAMPLE	20703	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	86.0
COUNTY	CUSTER	ETHANE	7.7
	CARPENTER NE	PROPANE	3.1
•	MOUSE NO. 1-32	N-BUTANE	
·		ISOBUTANE	
·	3503920713	N-PENTANE	
·	SEC. 32, T13N, R19W	ISOPENTANE	
OWNER	EL PASO PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	821121	HEXANES PLUS	
	821121 010709	NITROGEN	0.4
	010709	NITROGEN	0.4
SAMPLED	010709	NITROGENOXYGENARGON	0.4 0.0 0.0
SAMPLED	010709 PENN-RED FORK 360	NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.4 0.0 0.0
SAMPLED	010709 PENN-RED FORK 360 12882	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.4 0.0 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	010709 PENN-RED FORK 360 12882	NITROGENOXYGEN ARGONARGON + OXYGEN HYDROGENHYDROGEN SULFIDE**	0.4 0.0 0.0 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	010709 PENN-RED FORK 360 12882	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.4 0.0 0.0 0.0 0.0 1.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	010709 PENN-RED FORK 360 12882	NITROGENOXYGEN ARGONARGON + OXYGEN HYDROGENHYDROGEN SULFIDE**	0.4 0.0 0.0 0.0 0.0 1.0

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

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

	21452	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	
COUNTY	GRADY	ETHANE	
FIELD	CHITWOOD SOUTH	PROPANE	
WELL NAME	MACK FARMS 1-19	N-BUTANE	
API		ISOBUTANE N-PENTANE	
LOCATION		ISOPENTANE	
OWNERCHE	· · · · · · · · · · · · · · · · · · ·	CYCLOPENTANE	
COMPLETED		HEXANES PLUS	
·		NITROGEN	
SAMPLED		OXYGEN	
FORMATION		ARGON	
GEOLOGIC PROVINCE CODE	_	ARGON + OXYGEN	0.1
TRUE VERTICAL DEPTH (FT)		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG _	700	CARBON DIOXIDE	0.6
OPEN FLOW, MCFD	731	HELIUM	0.04
		HEATING VALUE*	1.027
		SPECIFIC GRAVITY	0.611
SAMPLE	21438	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	88.6
COUNTY	-	ETHANE	4.1
•	_	PROPANE	2.3
FIELD		N-BUTANE	0.8
WELL NAME		ISOBUTANE	0.4
API		N-PENTANE	0.3
LOCATION		ISOPENTANE	
OWNER	CHAPARRAL ENERGY LLC	CYCLOPENTANE	
	=00=10	HEXANES PLUS	0.6
COMPLETED	790510		
COMPLETEDSAMPLED		NITROGEN	2.3
•	050329	NITROGENOXYGEN	2.3 0.0
SAMPLED	050329	NITROGENOXYGEN	2.3 0.0 0.0
SAMPLED	050329 MISS-CHESTER 360	NITROGENOXYGENARGON + OXYGEN	2.3 0.0 0.0
SAMPLED	050329 MISS-CHESTER 360 6660	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	2.3 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	050329 MISS-CHESTER 360 6660	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	2.3 0.0 0.0 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	050329 MISS-CHESTER 360 6660	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	2.3 0.0 0.0 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	050329 MISS-CHESTER 360 6660	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	2.3 0.0 0.0 0.0 0.0 0.0 0.2

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

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

SAMPLE	21437	COMPONENT, MOLE PCT	
STATE	OKI VHOWV	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	0.0
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21435	COMPONENT. MOLE PCT	
	21400	COMPONENT, MOLL FOR	
STATE		METHANE	86.3
STATE	OKLAHOMA.	,	
COUNTY	OKLAHOMA TEXAS	METHANE	4.6
COUNTY	OKLAHOMA. TEXAS. DOMBEY W	METHANE	4.6 3.1
COUNTY	OKLAHOMA. TEXAS. DOMBEY W	METHANE ETHANE PROPANE	4.6 3.1 1.1
COUNTY	OKLAHOMA TEXAS DOMBEY W MENG 1-11	METHANE ETHANE PROPANE N-BUTANE	4.6 3.1 1.1 0.5
COUNTY FIELD WELL NAME	OKLAHOMA TEXAS DOMBEY W MENG 1-11 3513923371	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	4.6 3.1 1.1 0.5 0.4
COUNTY FIELD WELL NAME API	OKLAHOMA. TEXAS DOMBEY W MENG 1-11 3513923371 SEC 11. T4N. R19E	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	4.6 3.1 1.1 0.5 0.4 0.3
COUNTY FIELD WELL NAME API LOCATION	OKLAHOMA TEXAS DOMBEY W MENG 1-11 3513923371 SEC 11, T4N, R19E CHAPARRAL ENERGY LLC	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	4.6 3.1 1.1 0.5 0.4 0.3
COUNTY FIELD WELL NAME API LOCATION OWNER	OKLAHOMA TEXAS DOMBEY W MENG 1-11 3513923371 SEC 11. T4N. R19E CHAPARRAL ENERGY LLC 011218	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	4.6 3.1 1.1 0.5 0.4 0.3 0.6 2.8
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	OKLAHOMA TEXAS DOMBEY W MENG 1-11 3513923371 SEC 11. T4N. R19E CHAPARRAL ENERGY LLC 011218 050329	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE EYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	4.6 3.1 1.1 0.5 0.4 0.3 0.6 2.8
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	OKLAHOMA TEXAS DOMBEY W MENG 1-11 3513923371 SEC 11. T4N. R19E CHAPARRAL ENERGY LLC 011218 050329	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	4.6 3.1 1.1 0.5 0.4 0.3 0.6 2.8 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	OKLAHOMA TEXAS DOMBEY W MENG 1-11 3513923371 SEC 11. T4N. R19E CHAPARRAL ENERGY LLC 011218 050329 MISS-CHESTER 360	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	4.6 3.1 1.1 0.5 0.4 0.3 0.6 2.8 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	OKLAHOMA TEXAS DOMBEY W MENG 1-11 3513923371 SEC 11. T4N. R19E CHAPARRAL ENERGY LLC 011218 050329 MISS-CHESTER 360 6646	METHANE	4.6 3.1 1.1 0.5 0.4 0.3 0.6 2.8 0.0 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	OKLAHOMA TEXAS DOMBEY W MENG 1-11 3513923371 SEC 11. T4N. R19E CHAPARRAL ENERGY LLC 011218 050329 MISS-CHESTER 360 6646	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	4.6 3.1 1.1 0.5 0.4 0.3 0.6 2.8 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	OKLAHOMA TEXAS DOMBEY W MENG 1-11 3513923371 SEC 11. T4N. R19E CHAPARRAL ENERGY LLC 011218 050329 MISS-CHESTER 360 6646	METHANE	4.6 3.1 1.1 0.5 0.4 0.3 0.6 2.8 0.0 0.0 0.0 0.0 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	OKLAHOMA TEXAS DOMBEY W MENG 1-11 3513923371 SEC 11. T4N. R19E CHAPARRAL ENERGY LLC 011218 050329 MISS-CHESTER 360 6646	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	4.6 3.1 1.1 0.5 0.4 0.3 0.6 2.8 0.0 0.0 0.0 0.0 0.0 0.2

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

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

SAMPLE	21436	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	81.6
	TEXAS.	ETHANE	5.3
		PROPANE	3.4
•	DOMBEY W	N-BUTANE	1.1
	MYERS 1-13	ISOBUTANE	0.5
•	3513922596	N-PENTANE	0.4
	SEC 13, T4N, R19E	ISOPENTANE	
OWNER	CHAPARRAL ENERGY LLC	CYCLOPENTANE	
COMPLETED	951115	HEXANES PLUS	
SAMPLED	050329	NITROGEN	
FORMATIONMI	SS-CHESTER. PENN-LANSING-KC	OXYGEN	
GEOLOGIC PROVINCE COI	DE360_	ARGON	
TRUE VERTICAL DEPTH (F	T)	ARGON + OXYGEN	
MEASURED DEPTH	<u> </u>	HYDROGEN	
	SIG80_	HYDROGEN SULFIDE** CARBON DIOXIDE	
,		HELIUM	
o. 2 2011, mo. 2		HEATING VALUE*	
		SPECIFIC GRAVITY	
SAMPLE	21439	COMPONENT, MOLE PCT METHANE	85.5
	OKLAHOMA_	ETHANE	4.8
	<u>TEXAS</u>	PROPANE	3.6
•	DOMBEY W	N-BUTANE	1.2
WELL NAME	PAUL MENDENHALL 1-11	ISOBUTANE	0.6
API	3513921225	N-PENTANE	0.4
LOCATION	SEC 11, T4N, R19E	ISOPENTANE	0.4
OWNER	CHAPARRAL ENERGY LLC	CYCLOPENTANE	
COMPLETED	791107	HEXANES PLUS	0.7
SAMPLED	050329	NITROGEN	2.5
FORMATION PE	ENN-KEYES. MISS-MISSISSIPPIAN	OXYGEN	
GEOLOGIC PROVINCE COI	DE360_	ARGON	
TRUE VERTICAL DEPTH (F	T)6720	ARGON + OXYGEN	
,	,-	HYDROGEN	
	SIG	HYDROGEN SULFIDE**	
		CARBON DIOXIDE HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	
		31 LOII 10 OIXAVII 1	0.001

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

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

SAMPLE	21432	COMPONENT, MOLE PCT	
STATE		METHANE	86.4
·		ETHANE	4.6
COUNTY		PROPANE	3.1
FIELD		N-BUTANE	1.0
WELL NAME	MYERS WD 1-2	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	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	•
		SPECIFIC GRAVITY	0.667
SAMPLE	21433	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	76.0
COUNTY	TEXAS	ETHANE	
FIELD		PROPANE	
WELL NAME	_	N-BUTANE	
API	•	ISOBUTANE	
		N-PENTANE	
LOCATION	· · · · · · · · · · · · · · · · · · ·	ISOPENTANE	
OWNER		CYCLOPENTANE	
COMPLETED	040203	HEXANES PLUS	
SAMPLED	050329	NITROGEN	
FORMATION	PENN-TORONTO	OXYGEN	0.0
GEOLOGIC PROVINCE CODE _	360	ARGON + OYYGEN	
TRUE VERTICAL DEPTH (FT)	4457	ARGON + OXYGEN HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _	123	CARBON DIOXIDE	
· -		HELIUM	
OPEN FLOW, MICFD			
OPEN FLOW, MCFD	_	HEATING VALUE*	

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

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

SAMPLE	20738	COMPONENT, MOLE PCT	
STATE		METHANE	78.2
•		ETHANE	8.3
COUNTY	_	PROPANE	4.3
FIELD		N-BUTANE	1.5
WELL NAME		ISOBUTANE	0.5
API	3513922108	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		ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	4650	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	•
SAMPLE	20886	COMPONENT, MOLE PCT	
STATE		METHANE	74.3
		ETHANE	6.6
COUNTY		PROPANE	3.7
FIELD		N-BUTANE	1.1
WELL NAME	HAZE NO. 1	ISOBUTANE	0.5
API	3513900463	N-PENTANE	0.3
			0.0
LOCATION	SEC. 35, T1N, R13E	ISOPENTANE	
OWNER		ISOPENTANE	0.2
	CONOCOPHILLIPS CO.		0.2
OWNER	CONOCOPHILLIPS CO. 440810	CYCLOPENTANE	0.2
OWNER	CONOCOPHILLIPS CO. 440810 011030	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.2 0.3 12.4 0.0
OWNERCOMPLETEDSAMPLED	CONOCOPHILLIPS CO. 440810 011030	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.3 12.4 0.0 0.1
OWNER COMPLETED SAMPLED FORMATION	CONOCOPHILLIPS CO. 440810 011030 PERM-CHASE GROUP 360	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	CONOCOPHILLIPS CO. 440810 011030 PERM-CHASE GROUP 360 2930	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) MEASURED DEPTH	CONOCOPHILLIPS CO. 440810 011030 PERM-CHASE GROUP 360 2930 2930	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 WELLHEAD PRESSURE, PSIG	CONOCOPHILLIPS CO. 440810 011030 PERM-CHASE GROUP 360 2930 2930	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	CONOCOPHILLIPS CO. 440810 011030 PERM-CHASE GROUP 360 2930 2930	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 0.1 0.44

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

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

SAMPLE	20885	COMPONENT, MOLE PCT	
STATE	OKI VHOMV	METHANE	73.4
COUNTY		ETHANE	6.4
		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**	0.0
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
STATE		METHANE	
COUNTY	TEXAS.		6.5
COUNTY	TEXAS_ GUYMON-HUGOTON	ETHANEPROPANEN-BUTANE	6.5 3.7 1.1
COUNTY FIELD WELL NAME	TEXAS. GUYMON-HUGOTON RIFFE NO. B-1.	ETHANE PROPANE N-BUTANE ISOBUTANE	6.5 3.7 1.1 0.4
COUNTY FIELD WELL NAME API	TEXAS GUYMON-HUGOTON RIFFE NO. B-1 3513901785	ETHANEPROPANEN-BUTANEISOBUTANEN-PENTANE	6.5 3.7 1.1 0.4 0.3
COUNTY FIELD WELL NAME API LOCATION	TEXAS. GUYMON-HUGOTON RIFFE NO. B-1. 3513901785 SEC. 32, T1N, R13E	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	6.5 3.7 1.1 0.4 0.3 0.2
COUNTY FIELD WELL NAME API	TEXAS. GUYMON-HUGOTON RIFFE NO. B-1. 3513901785 SEC. 32, T1N, R13E	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	6.5 3.7 1.1 0.4 0.3 0.2
COUNTY FIELD WELL NAME API LOCATION	TEXAS GUYMON-HUGOTON RIFFE NO. B-1 3513901785 SEC. 32, T1N, R13E CONOCOPHILLIPS CO.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	6.5 3.7 1.1 0.4 0.3 0.2
COUNTY FIELD WELL NAME API LOCATION OWNER	TEXAS. GUYMON-HUGOTON RIFFE NO. B-1. 3513901785 SEC. 32, T1N, R13E. CONOCOPHILLIPS CO. 480109	ETHANEPROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	6.5 3.7 1.1 0.4 0.3 0.2 0.3 13.2
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	TEXAS GUYMON-HUGOTON RIFFE NO. B-1 3513901785 SEC. 32, T1N, R13E CONOCOPHILLIPS CO. 480109 011030	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	6.5 3.7 1.1 0.4 0.3 0.2 0.3 13.2 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	TEXAS GUYMON-HUGOTON RIFFE NO. B-1 3513901785 SEC. 32, T1N, R13E CONOCOPHILLIPS CO. 480109 011030 PERM-CHASE GROUP	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	6.5 3.7 1.1 0.4 0.3 0.2 0.3 13.2 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	TEXAS GUYMON-HUGOTON RIFFE NO. B-1 3513901785 SEC. 32. T1N. R13E CONOCOPHILLIPS CO. 480109 011030 PERM-CHASE GROUP 360	ETHANE	6.5 3.7 1.1 0.4 0.3 0.2 0.3 13.2 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	TEXAS GUYMON-HUGOTON RIFFE NO. B-1 3513901785 SEC. 32, T1N, R13E CONOCOPHILLIPS CO. 480109 011030 PERM-CHASE GROUP 360 2932	ETHANE	6.5 3.7 1.1 0.4 0.3 0.2 0.3 13.2 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	TEXAS GUYMON-HUGOTON RIFFE NO. B-1 3513901785 SEC. 32, T1N, R13E CONOCOPHILLIPS CO. 480109 011030 PERM-CHASE GROUP 360 2932 2975	ETHANE	6.5 3.7 1.1 0.4 0.3 0.2 0.3 13.2 0.0 0.1
COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	TEXAS GUYMON-HUGOTON RIFFE NO. B-1 3513901785 SEC. 32, T1N, R13E CONOCOPHILLIPS CO. 480109 011030 PERM-CHASE GROUP 360 2932 2975	ETHANE	6.5 3.7 1.1 0.4 0.3 0.2 0.3 13.2 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	TEXAS GUYMON-HUGOTON RIFFE NO. B-1 3513901785 SEC. 32, T1N, R13E CONOCOPHILLIPS CO. 480109 011030 PERM-CHASE GROUP 360 2932 2975	ETHANE	6.5 3.7 1.1 0.4 0.3 0.2 0.3 13.2 0.0 0.1 0.0 0.1 0.47

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

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

SAMPLE	20888	COMPONENT, MOLE PCT	
STATE		METHANE	70.0
·		ETHANE	6.4
COUNTY		PROPANE	3.8
FIELD		N-BUTANE	1.1
WELL NAME	ORV NO. 2	ISOBUTANE	0.5
API		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	
GEOLOGIC PROVINCE CODE	360_	ARGON	
TRUE VERTICAL DEPTH (FT)	2695	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG _		HYDROGEN SULFIDE**	
OPEN FLOW, MCFD		CARBON DIOXIDE	
OPEN FLOW, MICFD	43_	HELIUM HEATING VALUE*	
		SPECIFIC GRAVITY	
SAMPLE	20890	COMPONENT, MOLE PCT	¥., <u>=</u> .
o, <u>22</u>	20000	METHANE	65.5
STATE		ETHANE	
COUNTY	<u>TEXAS</u>	PROPANE	
FIELD	GUYMON-HUGOTON	N-BUTANE	
WELL NAME	STONEBRAKER NO. AA-1	ISOBUTANE	
API	3513900683	N-PENTANE	
LOCATION	SEC. 10, T2N, R12E	ISOPENTANE	0.2
OWNER	OXY USA. INC.	CYCLOPENTANE	
COMPLETED	521128	HEXANES PLUS	0.3
SAMPLED		NITROGEN	21.8
FORMATION		OXYGEN	0.0
		ARGON	0.1
	360	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	15800	HELIUM	0.68
		HEATING VALUE*	944
		SPECIFIC GRAVITY	0.746

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

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

SAMPLE	20889	COMPONENT, MOLE PCT	
STATE		METHANE	64.7
•	_	ETHANE	5.8
COUNTY	-	PROPANE	3.8
FIELD		N-BUTANE	1.2
WELL NAME	STONEBRAKER NO. Y-1	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		ARGON	0.1
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH	_	HYDROGEN	0.0
· · · · · · · · · · · · · · · · · · ·		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	26600	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.75
SAMPLE	20881	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	68.0
COUNTY		ETHANE	
	TEXAS		
FIELD	_	PROPANE	3.8
FIELD	GUYMON-HUGOTON	PROPANE	3.8 1.2
WELL NAME	GUYMON-HUGOTON BERGNER NO. 1-B	PROPANEN-BUTANEISOBUTANE	3.8 1.2 0.5
WELL NAME	GUYMON-HUGOTON BERGNER NO. 1-B 3513901879	PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.8 1.2 0.5 0.3
WELL NAMEAPILOCATION	GUYMON-HUGOTON BERGNER NO. 1-B 3513901879 SEC. 33. T1N. R11E	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.8 1.2 0.5 0.3 0.2
WELL NAME API LOCATION OWNER	GUYMON-HUGOTON BERGNER NO. 1-B 3513901879 SEC. 33. T1N. R11E CONOCOPHILLIPS CO.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.8 1.2 0.5 0.3 0.2
WELL NAMEAPILOCATION	GUYMON-HUGOTON BERGNER NO. 1-B 3513901879 SEC. 33. T1N. R11E CONOCOPHILLIPS CO.	PROPANE	3.8 1.2 0.5 0.3 0.2 0.3
WELL NAME API LOCATION OWNER	GUYMON-HUGOTON BERGNER NO. 1-B 3513901879 SEC. 33. T1N. R11E CONOCOPHILLIPS CO. 550531	PROPANE	3.8 1.2 0.5 0.3 0.2 0.3 18.6
WELL NAME API LOCATION OWNER COMPLETED	GUYMON-HUGOTON BERGNER NO. 1-B 3513901879 SEC. 33. T1N. R11E CONOCOPHILLIPS CO. 550531	PROPANE	3.8 1.2 0.5 0.3 0.2 0.3 18.6
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	GUYMON-HUGOTON BERGNER NO. 1-B 3513901879 SEC. 33. T1N. R11E CONOCOPHILLIPS CO. 550531	PROPANE	3.8 1.2 0.5 0.3 0.2 0.3 18.6 0.0
WELL NAME	GUYMON-HUGOTON BERGNER NO. 1-B 3513901879 SEC. 33. T1N. R11E CONOCOPHILLIPS CO. 550531 011030 PERM-CHASE GROUP 360	PROPANE	3.8 1.2 0.5 0.3 0.2 0.3 18.6 0.0
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	GUYMON-HUGOTON BERGNER NO. 1-B. 3513901879 SEC. 33. T1N. R11E CONOCOPHILLIPS CO. 550531 011030 PERM-CHASE GROUP 360 2763	PROPANE	3.8 1.2 0.5 0.3 0.2 0.3 18.6 0.0 0.1
WELL NAME	GUYMON-HUGOTON BERGNER NO. 1-B. 3513901879 SEC. 33. T1N. R11E CONOCOPHILLIPS CO. 550531 011030 PERM-CHASE GROUP 360 2763	PROPANE	3.8 1.2 0.5 0.3 0.2 0.3 18.6 0.0 0.1 0.0
WELL NAME	GUYMON-HUGOTON BERGNER NO. 1-B. 3513901879 SEC. 33. T1N. R11E CONOCOPHILLIPS CO. 550531 011030 PERM-CHASE GROUP 360 2763	PROPANE	3.8 1.2 0.5 0.3 0.2 0.3 18.6 0.0 0.1 0.0 0.0
WELL NAME	GUYMON-HUGOTON BERGNER NO. 1-B. 3513901879 SEC. 33. T1N. R11E CONOCOPHILLIPS CO. 550531 011030 PERM-CHASE GROUP 360 2763	PROPANE	3.8 1.2 0.5 0.3 0.2 0.3 18.6 0.0 0.1 0.0 0.0 0.1 0.79

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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		METHANE	66.4
COUNTY		ETHANE	6.1
		PROPANE	3.9
FIELD		N-BUTANE	1.2
WELL NAME		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	
	<u> </u>	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	<u> </u>	PROPANE	3.8
WELL NAME	_	N-BUTANE	
·		ISOBUTANE	
API		N-PENTANE	0.3
LOCATION		ISOPENTANE	
OWNER	OXY USA, INC.	CYCLOPENTANE	
COMPLETED	521113	HEXANES PLUS	
SAMPLED	010511	NITROGEN	27.6
	010011		
FORMATION		OXYGEN	
FORMATION GEOLOGIC PROVINCE CODE		ARGON	0.1
•	PERM-CHASE GROUP	ARGON ARGON + OXYGEN	0.1
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	PERM-CHASE GROUP 360 2656	ARGON ARGON + OXYGEN HYDROGEN	0.1 0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PERM-CHASE GROUP 360 2656	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.1 0.0 0.0
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	PERM-CHASE GROUP 360 2656	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.0 0.0 0.1
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	PERM-CHASE GROUP 360 2656	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM	0.1 0.0 0.0 0.1 1.06
GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	PERM-CHASE GROUP 360 2656	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.0 0.0 0.1 1.06 878

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

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

SAMPLE	20877	COMPONENT, MOLE PCT	
STATE	OKI VHOMV	METHANE	59.3
		ETHANE	5.4
COUNTY		PROPANE	3.9
FIELD		N-BUTANE	1.3
WELL NAME		ISOBUTANE	0.5
API		N-PENTANE	0.3
LOCATION	SEC. 36, T1N, R10E	ISOPENTANE	0.2
OWNER	FIRST NATIONAL OIL. INC.	CYCLOPENTANE	
COMPLETED	800122	HEXANES PLUS	0.3
SAMPLED	011030	NITROGEN	26.8
FORMATION	PERM-CHASE GROUP	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	0.1
TRUE VERTICAL DEPTH (FT)	2630	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG _		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	154_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20891	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	58.9
COUNTY		ETHANE	4.7
FIELD	_	PROPANE	
WELL NAME	-	N-BUTANE	
•		ISOBUTANE	
API	_	N-PENTANE	
LOCATION		ISOPENTANE	
OWNER	OXY USA, INC.	CYCLOPENTANE	
COMPLETED	760110	HEXANES PLUS	0.3
	700119	NUTBOOTH	
•		NITROGEN	
SAMPLED	011030	OXYGEN	0.0
SAMPLED	011030 PERM-COUNCIL GROVE	OXYGEN	0.0 0.1
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	011030 PERM-COUNCIL GROVE 360	OXYGEN ARGON ARGON + OXYGEN	0.0 0.1
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	011030 PERM-COUNCIL GROVE 360 3020	OXYGENARGON ARGON + OXYGEN HYDROGEN	0.0 0.1 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	011030 PERM-COUNCIL GROVE 360 3020	OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.0 0.1 0.0 0.0
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	011030 PERM-COUNCIL GROVE 360 3020	OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 0.1 0.0 0.0 0.2
SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	011030 PERM-COUNCIL GROVE 360 3020	OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.0 0.1 0.0 0.0 0.2 0.73

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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	OKLVHOWV	METHANE	89.2
COUNTY		ETHANE	5.6
•		PROPANE	2.1
	GUYMON-HUGOTON	N-BUTANE	0.7
•	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	360	ARGON	0.0
_	6149	ARGON + OXYGEN	
`		HYDROGEN	TRACE
MEASURED DEPTH		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	1337	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.636
SAMPLE	20704	COMPONENT, MOLE PCT	
STATE	OKI AHOMA	METHANE	84.7
	CUSTER	ETHANE	8.8
	HAMMON E.	PROPANE	3.3
•		N-BUTANE	0.7
	USA WOLLMAN NO. 1-18	ISOBUTANE	0.5
	3503921025	N-PENTANE	0.2
LOCATION	SEC. 18, T13N, R19W	ISOPENTANE	0.2
OWNER	EL PASO PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	840726	HEXANES PLUS	0.3
SAMPLED	010709	NITROGEN	
FORMATION	PENN-RED FORK	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	824	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.671

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

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

SAMPLE	20706	COMPONENT, MOLE PCT	
CTATE		METHANE	85.5
•	OKLAHOMA	ETHANE	8.0
	CUSTER	PROPANE	3.0
	HAMMON E	N-BUTANE	0.7
WELL NAME	LONG NO. 1-2	ISOBUTANE	0.5
API	3503920739	N-PENTANE	0.2
LOCATION	SEC. 2, T13N, R20W	ISOPENTANE	0.3
OWNER	EL PASO PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	820603	HEXANES PLUS	0.5
SAMPLED	010709	NITROGEN	0.3
FORMATION	PENN-RED FORK	OXYGEN	0.0
	360	ARGON	0.0
_	12662	ARGON + OXYGEN	
` ,_	12002	HYDROGEN	0.0
	_	HYDROGEN SULFIDE**	0.0
,	5134	CARBON DIOXIDE	1.1
OPEN FLOW, MCFD	<u>815</u>	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21430	COMPONENT, MOLE PCT	
CTATE		NACTUANIC	
SIAIE	OKLAHOMA	METHANE	88.7
•		METHANE	
COUNTY	CADDO	ETHANEPROPANE	3.5 0.8
COUNTY	CADDO LOOKEBA E	ETHANE PROPANE N-BUTANE	3.5 0.8 0.1
COUNTY FIELD WELL NAME	CADDO LOOKEBA E HAMPTON 1-1	ETHANE PROPANE N-BUTANE ISOBUTANE	3.5 0.8 0.1 0.1
COUNTY FIELD WELL NAME API	CADDO LOOKEBA E HAMPTON 1-1 3501522744	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.5 0.8 0.1 0.1 TRACE
COUNTY FIELD WELL NAME API LOCATION	CADDO LOOKEBA E HAMPTON 1-1 3501522744 SEC 1. T11N. R11W	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.5 0.8 0.1 0.1 TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION	CADDO LOOKEBA E HAMPTON 1-1 3501522744	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	3.5 0.8 0.1 0.1 TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER CH	CADDO LOOKEBA E HAMPTON 1-1 3501522744 SEC 1. T11N. R11W	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.5 0.8 0.1 0.1 TRACE TRACE
COUNTY FIELD WELL NAME API LOCATION OWNER CH COMPLETED	CADDO LOOKEBA E HAMPTON 1-1 3501522744 SEC 1, T11N, R11W HESAPEAKE OPERATING, INC.	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	3.5 0.8 0.1 0.1 TRACE TRACE TRACE 5.3
COUNTY FIELD WELL NAME API LOCATION OWNER CH COMPLETED SAMPLED	CADDO LOOKEBA E HAMPTON 1-1 3501522744 SEC 1. T11N. R11W HESAPEAKE OPERATING, INC. 040327	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	3.5 0.8 0.1 0.1 TRACE TRACE TRACE 5.3
COUNTY FIELD WELL NAME API LOCATION OWNER CH COMPLETED SAMPLED	CADDO LOOKEBA E HAMPTON 1-1 3501522744 SEC 1. T11N. R11W HESAPEAKE OPERATING. INC. 040327 050401	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.5 0.8 0.1 0.1 TRACE TRACE TRACE 5.3 0.5
COUNTY FIELD WELL NAME API LOCATION OWNER CH COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	CADDO LOOKEBA E HAMPTON 1-1 3501522744 SEC 1. T11N. R11W HESAPEAKE OPERATING, INC. 040327 050401 PENN-MORROW	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN	3.5 0.8 0.1 0.1 TRACE TRACE TRACE 5.3 0.5
COUNTY FIELD WELL NAME API LOCATION OWNER CH COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	CADDO LOOKEBA E HAMPTON 1-1 3501522744 SEC 1. T11N. R11W HESAPEAKE OPERATING. INC. 040327 050401 PENN-MORROW 360 12558	ETHANE	3.5 0.8 0.1 0.1 TRACE TRACE TRACE 5.3 0.5 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER CH COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CADDO LOOKEBA E HAMPTON 1-1 3501522744 SEC 1. T11N. R11W HESAPEAKE OPERATING. INC. 040327 050401 PENN-MORROW 360 12558	ETHANE	3.5 0.8 0.1 0.1 TRACE TRACE TRACE 5.3 0.5 0.0
COUNTY FIELD WELL NAME API LOCATION OWNER CH COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	CADDO LOOKEBA E HAMPTON 1-1 3501522744 SEC 1. T11N. R11W HESAPEAKE OPERATING, INC. 040327 050401 PENN-MORROW 360 12558	ETHANE	3.5 0.8 0.1 0.1 TRACE TRACE 5.3 0.5 0.0 0.0 0.9
COUNTY FIELD WELL NAME API LOCATION OWNER CH COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	CADDO LOOKEBA E HAMPTON 1-1 3501522744 SEC 1. T11N. R11W HESAPEAKE OPERATING, INC. 040327 050401 PENN-MORROW 360 12558	ETHANE	3.5 0.8 0.1 0.1 TRACE TRACE 5.3 0.5 0.0 0.0 0.9 0.00

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

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

SAMPLE	21451	COMPONENT, MOLE PCT	
STATE	OKLAHOMA.	METHANE	82.1
	STEPHENS	ETHANE	6.8
•		PROPANE	3.6
	MARLOW DISTRICT	N-BUTANE	1.2
	YOUNG 2-13	ISOBUTANE	0.6
`	3513725998	N-PENTANE	0.4
LOCATION	SEC 13, T2N, R8W	ISOPENTANE	0.3
OWNER	CHESAPEAKE OPERATING, INC.	CYCLOPENTANE	
COMPLETED	040411	HEXANES PLUS	
SAMPLED	050509	NITROGEN	4.1
FORMATION	PENN-HOXBAR L. DEESE	OXYGEN	
GEOLOGIC PROVINCE O	CODE350_	ARGON	
	1 (FT)13716	ARGON + OXYGEN	
	10/10	HYDROGEN	
		HYDROGEN SULFIDE**	
	, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	2485	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	-
SAMPI F	21444		0.000
SAMPLE	21444	COMPONENT, MOLE PCT METHANE	00.0
STATE	OKLAHOMA	ETHANE	
COUNTY	GRADY	PROPANE	
FIELD	MINCO E	N-BUTANE	
WELL NAME	ELAINE 1-18	ISOBUTANE	
API			0.1
	3505121826	· · · · · · · · · · · · · · · · · · ·	
LOCATION		N-PENTANE	0.1
•	SEC 18, T10N, R6W	N-PENTANE	0.1
OWNER	SEC 18, T10N, R6W OKLAND OIL CO.	N-PENTANEISOPENTANECYCLOPENTANE	0.1 0.1
OWNER	SEC 18, T10N, R6W OKLAND OIL CO. 040412	N-PENTANE	0.1 0.1 0.2
OWNERCOMPLETEDSAMPLED	SEC 18, T10N, R6W OKLAND OIL CO. 040412 050407	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS	0.1 0.1 0.2 2.6
OWNER COMPLETED SAMPLED FORMATION	SEC 18. T10N. R6W OKLAND OIL CO. 040412 050407 PENN-COTTAGE GROVE	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.1 0.2 2.6 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C	SEC 18, T10N, R6W OKLAND OIL CO. 040412 050407 PENN-COTTAGE GROVE CODE 360	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.1 0.2 2.6 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C	SEC 18. T10N. R6W OKLAND OIL CO. 040412 050407 PENN-COTTAGE GROVE	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGENARGON	0.1 0.1
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE O	SEC 18, T10N, R6W OKLAND OIL CO. 040412 050407 PENN-COTTAGE GROVE CODE 360	N-PENTANE	0.1 0.1 0.2 2.6 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE OF TRUE VERTICAL DEPTH	SEC 18. T10N. R6W OKLAND OIL CO. 040412 050407 PENN-COTTAGE GROVE CODE 360 I (FT) 8348	N-PENTANE	0.1 0.1 0.2 2.6 0.0 0.0 0.0 0.0
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C TRUE VERTICAL DEPTH MEASURED DEPTH WELLHEAD PRESSURE,	SEC 18, T10N, R6W OKLAND OIL CO. 040412 050407 PENN-COTTAGE GROVE CODE 360 1 (FT) 8348	N-PENTANE	0.1 0.1 0.2 2.6 0.0 0.0 0.0 0.0 0.3
OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE C TRUE VERTICAL DEPTH MEASURED DEPTH WELLHEAD PRESSURE,	SEC 18. T10N. R6W OKLAND OIL CO. 040412 050407 PENN-COTTAGE GROVE CODE 360 H (FT) 8348 PSIG 1320	N-PENTANE	0.1 0.1 0.2 2.6 0.0 0.0 0.0 0.0 0.3 0.07

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

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

SAMPLE	21431	COMPONENT, MOLE PCT	
CTATE	OKLAHOMA	METHANE	84.4
	-	ETHANE	6.8
<u>'</u>	<u>BEAVER</u>	PROPANE	4.2
	MOCANE-LAVERNE GAS AREA	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
	7908	ARGON + OXYGEN	
` , -		HYDROGEN	0.0
•		HYDROGEN SULFIDE**	0.0
	146_	CARBON DIOXIDE	0.6
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	-
		SPECIFIC GRAVITY	0.693
SAMPLE	20709	COMPONENT, MOLE PCT	
STATE	OKLAHOMA_	METHANE	79.7
		ETHANE	10.5
·	CUSTER	PROPANE	5.0
•	MOOREWOOD NE	N-BUTANE	1.4
·	KENNY NO. 3	ISOBUTANE	0.6
API	3503921166	N-PENTANE	0.4
LOCATION	SEC. 15, T15N, R20W	ISOPENTANE	0.4
OWNER	EL PASO PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	851029	HEXANES PLUS	0.7
SAMPLED	010709	NITROGEN	
FORMATION	PENN-CHEROKEE	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	<u>1750</u>	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	

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

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

SAMPLE	20711	COMPONENT, MOLE PCT	
CTATE	OKLAHOMA	METHANE	79.8
•	_	ETHANE	10.5
	CUSTER	PROPANE	5.1
•	MOOREWOOD NE	N-BUTANE	1.4
·	HUTCHESON NO. 22-1	ISOBUTANE	0.6
API	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
GEOLOGIC PROVINCE CODE	360	ARGON	0.0
_	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	
	MOOREWOOD NE	PROPANE	5.1
` <u> </u>	WOOKLWOODINE	N-BUTANE	
	LILITOLIEGON NO. 00.4		
•	HUTCHESON NO. 22-4	ISOBUTANE	
API	3503921733		0.6
API	3503921733 SEC. 22, T15N, R20W	ISOBUTANE N-PENTANE ISOPENTANE	0.6 0.3 0.3
API	3503921733	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	0.6 0.3 0.3
APILOCATION	3503921733 SEC. 22, T15N, R20W	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.6 0.3 0.3 0.5
API LOCATION OWNER COMPLETED	3503921733 SEC. 22. T15N, R20W EL PASO PRODUCTION CO.	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.6 0.3 0.3 0.5 0.4
API LOCATION OWNER COMPLETED SAMPLED	3503921733 SEC. 22. T15N, R20W EL PASO PRODUCTION CO. 980130	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.6 0.3 0.3 0.5 0.4 0.0
API LOCATION OWNER COMPLETED SAMPLED	3503921733 SEC. 22. T15N, R20W EL PASO PRODUCTION CO. 980130 010709 PENN-RED FORK	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.6 0.3 0.3 0.5 0.4 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	3503921733 SEC. 22. T15N, R20W EL PASO PRODUCTION CO. 980130 010709 PENN-RED FORK	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.6 0.3 0.3 0.5 0.4 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _	3503921733 SEC. 22. T15N, R20W EL PASO PRODUCTION CO. 980130 010709 PENN-RED FORK 360 11224	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.6 0.3 0.3 0.5 0.4 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	3503921733 SEC. 22. T15N. R20W EL PASO PRODUCTION CO. 980130 010709 PENN-RED FORK 360 11224	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.6 0.3 0.3 0.5 0.4 0.0 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG	3503921733 SEC. 22. T15N. R20W EL PASO PRODUCTION CO. 980130 010709 PENN-RED FORK 360 11224	ISOBUTANE	0.6 0.3 0.3 0.5 0.4 0.0 0.0 0.0 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	3503921733 SEC. 22. T15N. R20W EL PASO PRODUCTION CO. 980130 010709 PENN-RED FORK 360 11224	ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.6 0.3 0.3 0.5 0.4 0.0 0.0 0.0 0.0 0.9

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

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

SAMPLE	20708	COMPONENT, MOLE PCT	
STATE	OKI VHOMV	METHANE	78.0
COUNTY	<u> </u>	ETHANE	11.3
•		PROPANE	6.3
FIELD		N-BUTANE	1.3
WELL NAME		ISOBUTANE	0.8
API		N-PENTANE	0.3
LOCATION		ISOPENTANE	0.3
OWNER	EL PASO PRODUCTION CO.	CYCLOPENTANE	
COMPLETED	820225	HEXANES PLUS	0.3
SAMPLED	010709	NITROGEN	0.5
FORMATION	PENN-SKINNER	OXYGEN	
GEOLOGIC PROVINCE CODE _	360_	ARGON	
TRUE VERTICAL DEPTH (FT) _	11225	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG	_	HYDROGEN SULFIDE**	
OPEN FLOW, MCFD		CARBON DIOXIDE	
OPEN FLOW, WICFD	3047_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	20717	COMPONENT, MOLE PCT METHANE	93.5
STATE	OKLAHOMA	METHANE	
COUNTY	DEWEY	PROPANE	
FIELD	PUTNAM	N-BUTANE	
WELL NAME	SQUIRES NO. 1	ISOBUTANE	
API	3504321287	N-PENTANE	
LOCATION		ISOPENTANE	
OWNER		CYCLOPENTANE	
COMPLETED	_	HEXANES PLUS	0.2
SAMPLED		NITROGEN	0.9
FORMATION		OXYGEN	0.0
		ARGON	0.0
GEOLOGIC PROVINCE CODE _	360	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	<u> </u>	HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	3620_	CARBON DIOXIDE	3.6
OPEN FLOW, MCFD	770_	HELIUM	0.03
		LIEATING \/ALLIE*	000
		HEATING VALUE*	996

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE 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	6.2 3.1 1.1 0.5 0.3 0.3 0.5 0.5 0.0 0.0 0.0 1.0 0.05 1.166
DEWEY	PROPANE	3.1 1.1 0.5 0.3 0.3 0.5 0.5 0.0 0.0 0.0 0.0 1.0 0.05 1.166
PUTNAM	N-BUTANE	1.1 0.5 0.3 0.3 0.5 0.5 0.0 0.0 0.0 0.0 1.0 0.05
WELL NAME ALLEN ESTATE UNIT NO. 1 API 3504320652 LOCATION SEC. 7, T18N, R16W OWNER CHAPARRAL ENERGY LLC COMPLETED 760714 SAMPLED 010710 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 9548 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 3387 OPEN FLOW, MCFD 2338 SAMPLE 21058 STATE OKLAHOMA COUNTY ROGER MILLS	ISOBUTANE	0.5 0.3 0.3 0.5 0.5 0.0 0.0 0.0 1.0 0.05 1.166
API	N-PENTANE	0.3 0.3 0.5 0.5 0.0 0.0 0.0 0.0 0.0 1.0 0.05 1.166
SEC. 7, T18N, R16W	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY	0.3 0.5 0.5 0.0 0.0 0.0 0.0 1.0 0.05 1.166
OWNER	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY	0.5 0.5 0.0 0.0 0.0 0.0 0.0 1.0 0.05
COMPLETED 760714 SAMPLED 010710 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 9548 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 3387 OPEN FLOW, MCFD 2338 SAMPLE 21058 STATE OKLAHOMA COUNTY ROGER MILLS	HEXANES PLUS	0.5 0.5 0.0 0.0 0.0 0.0 1.0 0.05
SAMPLED 010710 FORMATION PENN-MORROW GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 9548 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 3387 OPEN FLOW, MCFD 2338 SAMPLE 21058 STATE OKLAHOMA COUNTY ROGER MILLS	NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY	0.5 0.0 0.0 0.0 0.0 0.0 1.0 0.05
FORMATION	OXYGENARGONARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY	0.0 0.0 0.0 0.0 0.0 1.0 0.05
GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 9548 MEASURED DEPTH 3387 WELLHEAD PRESSURE, PSIG 3387 OPEN FLOW, MCFD 2338 SAMPLE 21058 STATE OKLAHOMA COUNTY ROGER MILLS	ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY	0.0 0.0 0.0 1.0 0.05 1.166
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY	0.0 0.0 1.0 0.05 1.166
MEASURED DEPTH	HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY	0.0 0.0 1.0 0.05 1.166
MEASURED DEPTH	HYDROGEN SULFIDE** CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY	0.0 1.0 0.05 1.166
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE HELIUM HEATING VALUE* SPECIFIC GRAVITY	1.0 0.05 1,166
SAMPLE 21058 STATE OKLAHOMA COUNTY ROGER MILLS	HELIUM HEATING VALUE* SPECIFIC GRAVITY	0.05 1.166
SAMPLE 21058 STATEOKLAHOMA COUNTYROGER MILLS	HEATING VALUE*SPECIFIC GRAVITY	1,166
STATE OKLAHOMA COUNTY ROGER MILLS	SPECIFIC GRAVITY	
STATE OKLAHOMA COUNTY ROGER MILLS	<u> </u>	0.674
COUNTY ROGER MILLS		
COUNTY ROGER MILLS	METHANE	97.0
	ETHANE	0.6
EIELL) REVION	PROPANE	TRACE
	N-BUTANE	TRACE
WELL NAME PETERSEN NO. 2-17	ISOBUTANE	TRACE
API3512921915_	N-PENTANE	0.0
LOCATION SEC. 17, T13N, R26W	ISOPENTANE	0.0
OWNER BURLINGTON RESOURCES OIL & GAS CO., LP	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	TRACE
SAMPLED	NITROGEN	
FORMATION PENN-MORROW	OXYGEN	
GEOLOGIC PROVINCE CODE	ARGON	
TRUE VERTICAL DEPTH (FT) 15641	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
WELLHEAD PRESSURE, PSIG 7230	HYDROGEN SULFIDE**	
,	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	995

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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	OKLAHOMA	METHANE	89.1
·		ETHANE	4.2
•	STEPHENS	PROPANE	1.9
·	STAGE STAND	N-BUTANE	0.7
•	HLAVATY 2-15A	ISOBUTANE	0.3
·	3513725973	N-PENTANE	0.2
LOCATION	SEC 15, T1N, R8W	ISOPENTANE	0.2
OWNER	ZINKE & TRUMBO, INC.	CYCLOPENTANE	
COMPLETED	031221	HEXANES PLUS	
SAMPLED	050301	NITROGEN	2.9
FORMATION	CAMO-ARBUCKLE U	OXYGEN	
GEOLOGIC PROVINCE COD	E350_	ARGON	
TRUE VERTICAL DEPTH (FT	8460	ARGON + OXYGEN	
•	8460	HYDROGEN	
	IG2100_	HYDROGEN SULFIDE**	
	2319	CARBON DIOXIDE	
OPEN FLOW, MICFD	23.19	HELIUM HEATING VALUE*	
		SPECIFIC GRAVITY	
SAMPLE	21067	COMPONENT, MOLE PCT	
0/ WII EE	21001	METHANE	84 0
STATE	OKLAHOMA	ETHANE	
COUNTY	ROGER MILLS	PROPANE	
FIELD	STRONG CITY	N-BUTANE	
WELL NAME	USA NO. 5-31_	ISOBUTANE	
API	3512922320	N-PENTANE	
LOCATION	SEC. 31, T15N, R22W	ISOPENTANE	0.3
OWNER <u>BURLINGTON</u>	RESOURCES OIL & GAS CO., LP	CYCLOPENTANE	
COMPLETED	010918	HEXANES PLUS	0.5
	021029	NITROGEN	0.3
	PENN-DESMOINESIAN	OXYGEN	0.0
GEOLOGIC PROVINCE COD		ARGON	TRACE
		ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT		HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
	IG	CARBON DIOXIDE	1.1
OPEN FLOW, MCFD	4068	HELIUM	0.06
		HEATING VALUE*	1,168
		SPECIFIC GRAVITY	0.676

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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	
07475		METHANE	89.5
	OKLAHOMA.	ETHANE	6.0
·	ROGER MILLS	PROPANE	1.7
•	STRONG CITY	N-BUTANE	0.3
WELL NAME	ROBERTS RANCH NO. 1-18	ISOBUTANE	0.3
•	3512921523	N-PENTANE	0.1
LOCATION	SEC. 18, T14N, R22W	ISOPENTANE	0.1
OWNER <u>BURLINGTON R</u>	ESOURCES OIL & GAS CO., LP	CYCLOPENTANE	
COMPLETED	900922	HEXANES PLUS	0.3
SAMPLED	021029	NITROGEN	0.3
FORMATION	PENN-RED FORK	OXYGEN	
GEOLOGIC PROVINCE CODE	360	ARGON	
	12411	ARGON + OXYGEN	
`		HYDROGEN	
		HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MCFD	2400	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	-
SAMPLE	21066	COMPONENT, MOLE PCT	
CTATE	OKLAHOMA	METHANE	90.0
•	_	ETHANE	5.8
COUNTY			0.0
		PROPANE	
FIELD	STRONG CITY	PROPANE N-BUTANE	1.6
FIELD	STRONG CITY ROBERTS RANCH NO. 3-18	· · · · · · · · · · · · · · · · · · ·	1.6 0.3
FIELD WELL NAMEAPI	STRONG CITY ROBERTS RANCH NO. 3-18 3512921647	N-BUTANE	1.6 0.3 0.3
FIELD WELL NAME API	STRONG CITY ROBERTS RANCH NO. 3-18	N-BUTANE	1.6 0.3 0.3 0.1
FIELD WELL NAME API LOCATION	STRONG CITY ROBERTS RANCH NO. 3-18 3512921647	N-BUTANE ISOBUTANE N-PENTANE	1.6 0.3 0.3 0.1 0.1
FIELD WELL NAME API LOCATION OWNER BURLINGTON R	STRONG CITY ROBERTS RANCH NO. 3-18 3512921647 SEC. 18, T14N, R22W	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	1.6 0.3 0.3 0.1 0.1
FIELD WELL NAME API LOCATION OWNER BURLINGTON R COMPLETED	STRONG CITY ROBERTS RANCH NO. 3-18 3512921647 SEC. 18, T14N, R22W ESOURCES OIL & GAS CO., LP	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	1.6 0.3 0.3 0.1 0.1 0.2 0.3
FIELD WELL NAME API LOCATION OWNER BURLINGTON RI COMPLETED SAMPLED	STRONG CITY ROBERTS RANCH NO. 3-18 3512921647 SEC. 18, T14N, R22W ESOURCES OIL & GAS CO., LP 990714	N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	1.6 0.3 0.3 0.1 0.1 0.2 0.3 0.0
FIELD WELL NAME API LOCATION OWNER BURLINGTON RI COMPLETED SAMPLED	STRONG CITY ROBERTS RANCH NO. 3-18 3512921647 SEC. 18. T14N, R22W ESOURCES OIL & GAS CO., LP 990714 021029 PENN-RED FORK	N-BUTANE	1.6 0.3 0.1 0.1 0.2 0.3 0.0
FIELD WELL NAME API LOCATION OWNERBURLINGTON RI COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	STRONG CITY ROBERTS RANCH NO. 3-18 3512921647 SEC. 18. T14N, R22W ESOURCES OIL & GAS CO., LP 990714 021029 PENN-RED FORK	N-BUTANE	1.6 0.3 0.3 0.1 0.1 0.2 0.3 0.0
FIELD WELL NAME API LOCATION OWNER BURLINGTON R COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) _	STRONG CITY ROBERTS RANCH NO. 3-18 3512921647 SEC. 18. T14N, R22W ESOURCES OIL & GAS CO., LP 990714 021029 PENN-RED FORK 360	N-BUTANE	1.6 0.3 0.1 0.1 0.2 0.3 0.0 0.0
FIELD WELL NAME API LOCATION OWNERBURLINGTON RI COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	STRONG CITY ROBERTS RANCH NO. 3-18 3512921647 SEC. 18. T14N. R22W ESOURCES OIL & GAS CO., LP 990714 021029 PENN-RED FORK 360 12330	N-BUTANE	1.6 0.3 0.1 0.1 0.2 0.3 0.0 0.0
FIELD	STRONG CITY ROBERTS RANCH NO. 3-18 3512921647 SEC. 18, T14N, R22W ESOURCES OIL & GAS CO., LP 990714 021029 PENN-RED FORK 360 12330	N-BUTANE	1.6 0.3 0.1 0.1 0.2 0.3 0.0 0.0 0.0 0.0
FIELD WELL NAME API LOCATION OWNERBURLINGTON RI COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE . TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	STRONG CITY ROBERTS RANCH NO. 3-18 3512921647 SEC. 18, T14N, R22W ESOURCES OIL & GAS CO., LP 990714 021029 PENN-RED FORK 360 12330	N-BUTANE	1.6 0.3 0.1 0.1 0.2 0.3 0.0 0.0 0.0 0.0

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

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

SAMPLE	21419	COMPONENT, MOLE PCT	
STATE		METHANE	64.6
COUNTY		ETHANE	7.3
•	-	PROPANE	4.1
FIELD		N-BUTANE	1.1
WELL NAME	STATE D5	ISOBUTANE	0.4
API	3513923750	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	0.753
SAMPLE	20739	COMPONENT, MOLE PCT	
STATE	OKLAHOMA	METHANE	77.2
COUNTY	TEXAS	ETHANE	8.1
FIELD	_	PROPANE	
WELL NAME		N-BUTANE	
•	-	ISOBUTANE	
API		N-PENTANE	
LOCATION	SEC. 31, T1N, R13E	ISOPENTANE	0.4
OWNER		CYCLOPENTANE	
OWNER		CYCLOPENTANE HEXANES PLUS	0.7
·	921201	CYCLOPENTANE HEXANES PLUS NITROGEN	0.7 5.8
COMPLETED	921201 010730	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.7 5.8 0.0
COMPLETEDSAMPLED	921201 010730 PENN-MORROW	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.7 5.8 0.0 0.0
COMPLETEDSAMPLEDFORMATION	921201 010730 PENN-MORROW 360	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.7 5.8 0.0 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	921201 010730 PENN-MORROW 360 6763	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.7 5.8 0.0 0.0 TRACE
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	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 0.0
COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	921201 010730 PENN-MORROW 360 6763	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	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 0.0 0.3

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

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

SAMPLE	21526	COMPONENT, MOLE PCT	
STATE	TEYAS	METHANE	88.8
COUNTY		ETHANE	5.7
•	_	PROPANE	2.5
FIELD		N-BUTANE	0.8
WELL NAME	_	ISOBUTANE	0.3
API	4237135177	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)	3767	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG _		HYDROGEN SULFIDE**	
, –	_	CARBON DIOXIDE	
OPEN FLOW, MCFD	1875	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21502	COMPONENT, MOLE PCT	
STATE	TEVAS	METHANE	83.3
	_	ETHANE	
COUNTY	DECOS	ETHANE	6.9
FIEL D	PECOS	PROPANE	
FIELD	ABELL		3.9
WELL NAME	ABELL WAGNER 1	PROPANE	3.9 1.3
	ABELL WAGNER 1	PROPANE	3.9 1.3 0.4
WELL NAME	ABELL WAGNER 1 4237103888	PROPANE N-BUTANE ISOBUTANE	3.9 1.3 0.4 0.5
WELL NAME	ABELL WAGNER 1 4237103888 SEC 23. BLK 9. H&GN SUR	PROPANE N-BUTANE ISOBUTANE N-PENTANE	3.9 1.3 0.4 0.5 0.2
WELL NAMEAPI	ABELL WAGNER 1 4237103888 SEC 23. BLK 9. H&GN SUR JOHN M. CLARK. INC.	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	3.9 1.3 0.4 0.5 0.2
WELL NAME API LOCATION OWNER	ABELL WAGNER 1 4237103888 SEC 23. BLK 9. H&GN SUR JOHN M. CLARK, INC. 850207	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	3.9 1.3 0.4 0.5 0.2
WELL NAME API LOCATION OWNER COMPLETED	ABELL WAGNER 1 4237103888 SEC 23. BLK 9. H&GN SUR JOHN M. CLARK, INC. 850207	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	3.9 1.3 0.4 0.5 0.2 0.7 2.6
WELL NAME API LOCATION OWNER COMPLETED SAMPLED	ABELL WAGNER 1 4237103888 SEC 23. BLK 9. H&GN SUR JOHN M. CLARK, INC. 850207	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	3.9 1.3 0.4 0.5 0.2 0.7 2.6
WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	ABELL WAGNER 1 4237103888 SEC 23. BLK 9. H&GN SUR JOHN M. CLARK, INC. 850207 050914 ORDO-WADDELL 430	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	3.9 1.3 0.4 0.5 0.2 0.7 2.6 TRACE
WELL NAME	ABELL WAGNER 1 4237103888 SEC 23. BLK 9. H&GN SUR JOHN M. CLARK. INC. 850207 050914 ORDO-WADDELL 430 5738	PROPANE	3.9 1.3 0.4 0.5 0.2 0.7 2.6 TRACE 0.0
WELL NAME	ABELL WAGNER 1 4237103888 SEC 23. BLK 9. H&GN SUR JOHN M. CLARK. INC. 850207 050914 ORDO-WADDELL 430 5738	PROPANE	3.9 1.3 0.4 0.5 0.2 0.7 2.6 TRACE 0.0 0.0
WELL NAME	ABELL WAGNER 1 4237103888 SEC 23. BLK 9. H&GN SUR JOHN M. CLARK. INC. 850207 050914 ORDO-WADDELL 430 5738	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	3.9 1.3 0.4 0.5 0.2 0.7 2.6 TRACE 0.0 0.2
WELL NAME	ABELL WAGNER 1 4237103888 SEC 23. BLK 9. H&GN SUR JOHN M. CLARK. INC. 850207 050914 ORDO-WADDELL 430 5738	PROPANE	3.9 1.3 0.4 0.5 0.2 0.7 2.6 TRACE 0.0 0.0 0.2

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

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

SAMPLE	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	
LOCATION	SEC 21, BLK 1, H&TC SUR	ISOPENTANE	0.2
OWNER	INCLINE ENERGY	CYCLOPENTANE	
COMPLETED	720126	HEXANES PLUS	0.4
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 _	200	HYDROGEN SULFIDE**	
OPEN FLOW, MCFD		CARBON DIOXIDE	
OF ENT LOW, MOI D	30_	HELIUM HEATING VALUE*	
		SPECIFIC GRAVITY	
SAMPLE	21496	COMPONENT, MOLE PCT	
O/ WIN EE	21400	METHANE	80.4
STATE	TEXAS	ETHANE	
COUNTY	CRANE	PROPANE	
FIELD	ABELL NW	N-BUTANE	
WELL NAME	GRISHAM 27-1	ISOBUTANE	
API	4210334722	N-PENTANE	
LOCATION	SEC 27, BLK 1, H&TC SUR	ISOPENTANE	
OWNER	EOG RESOURCES, INC.	CYCLOPENTANE	
COMPLETED	000418	HEXANES PLUS	
SAMPLED	_	NITROGEN	10.3
	000020	OXYGEN	
	PERM_CLEAR FORK	OXIGEN	
·	PERM-CLEAR FORK	ARGON	
GEOLOGIC PROVINCE CODE _	430	<u></u>	
GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _	430 3400	ARGON	TRACE
GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	<u>430</u> <u>3400</u>	ARGON + OXYGEN	TRACE
GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	<u>430</u> <u>3400</u>	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE 0.0 0.0 0.8
GEOLOGIC PROVINCE CODE _	430 3400 800	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	TRACE 0.0 0.0 0.8
GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	430 3400 800	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE 0.0 0.0 0.0

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

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

SAMPLE	21516	COMPONENT, MOLE PCT	
STATE	TEVAC	METHANE	75.3
•	_	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
SAMPLE	21504	COMPONENT, MOLE PCT	0.691
SAMPLE STATE			
STATE	TEXAS	COMPONENT, MOLE PCT METHANE ETHANE	20.5 22.2
STATE	TEXAS_ UPTON_	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	20.5 22.2 29.8
STATECOUNTYFIELD	TEXAS. UPTON AMACKER-TIPPETT SW	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	20.5 22.2 29.8 7.0
STATE COUNTY FIELD WELL NAME	TEXAS UPTON AMACKER-TIPPETT SW HALFF ESTATE 20-5	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	20.5 22.2 29.8 7.0 3.6
STATE COUNTY FIELD WELL NAME	TEXAS UPTON AMACKER-TIPPETT SW HALFF ESTATE 20-5 4246134181	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	20.5 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	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	20.5 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.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	20.5 22.2 29.8 7.0 3.6 2.8 2.5
STATE COUNTY FIELD WELL NAME API LOCATION	TEXAS UPTON AMACKER-TIPPETT SW HALFF ESTATE 20-5 4246134181 SEC 20. BLK Y. GC&SF SUR EOG RESOURCES. INC.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	20.5 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	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	20.5 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	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	20.5 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	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	20.5 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	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	20.5 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 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	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	20.5 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) MEASURED DEPTH	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	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	20.5 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	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	20.5 22.2 29.8 7.0 3.6 2.8 2.5 4.0 1.7 0.0 0.0 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	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	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	20.5 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

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

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

SAMPLE	21497	COMPONENT, MOLE PCT	
STATE	TEYAS	METHANE	73.3
•	_	ETHANE	12.0
COUNTY	_	PROPANE	6.8
	AMACKER-TIPPETT W	N-BUTANE	2.0
WELL NAME		ISOBUTANE	0.7
API	4246132851	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)		ARGON + OXYGEN	0.0
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	400	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21500	COMPONENT. MOLE PCT	
57 H.H. <u>22</u>		METHANE	78.5
STATE	<u>TEXAS</u>	ETHANE	
COUNTY	ECTOR_	PROPANE	
FIELD	ANDECTOR	N-BUTANE	
WELL NAME	EMBAR 59	ISOBUTANE	0.6
API	4213535329	N-PENTANE	0.4
LOCATION	SEC 17, BLK 44, T&P SUR	ISOPENTANE	0.4
OWNER	CONOCOPHILLIPS CO.	CYCLOPENTANE	
COMPLETED	951110	HEXANES PLUS	0.6
SAMPLED	050914	NITROGEN	4.8
FORMATION	PERM-GRAYBURG	OXYGEN	
GEOLOGIC PROVINCE CODE _	_	ARGON	
		ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT) _		HYDROGEN	
MEASURED DEPTH	_	HYDROGEN SULFIDE**	0.1
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.1
ODEN ELOW MOED	110	HELIUM	0.05
OPEN FLOW, MCFD	116_	<u> </u>	
OPEN FLOW, MICFD	116	HEATING VALUE*	1,183

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

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

SAMPLE 21501	COMPONENT, MOLE PCT	
STATETEXAS_	METHANE	76.1
	ETHANE	8.8
COUNTY ECTOR	PROPANE	4.6
FIELDANDECTOR	N-BUTANE	1.3
WELL NAMEFRANK B.2	ISOBUTANE	0.5
API4213503102_	N-PENTANE	0.3
LOCATION SEC 6. BLK 44. T&P SUR	ISOPENTANE	0.2
OWNER <u>CONOCOPHILLIPS CO.</u>	CYCLOPENTANE	
COMPLETED940906_	HEXANES PLUS	0.4
SAMPLED	NITROGEN	7.4
FORMATION ORDO-MCKEE	OXYGEN	
GEOLOGIC PROVINCE CODE430_	ARGON	
TRUE VERTICAL DEPTH (FT) 7840	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
WELLHEAD PRESSURE, PSIG300	HYDROGEN SULFIDE**	
OPEN FLOW, MCFD	CARBON DIOXIDE	
OF LINT LOW, INICI D	HELIUM HEATING VALUE*	
	SPECIFIC GRAVITY	
STATE TEXAS	METHANE	
COUNTY IRION	ETHANE	11.4
FIELDANDREW A.	PROPANE	
WELL NAME BURNEY 3086 NO. 1	N-BUTANE	
API 4223531362	ISOBUTANE	
	N-PENTANE	
LOCATION SEC 3086, BLK 28, H&TC SUR	ISOPENTANE	
OWNER MEADCO PROPERTIES	CYCLOPENTANE	
COMPLETED	HEXANES PLUS NITROGEN	
	NITROGEN	
SAMPLED	OYVCEN	
FORMATION	OXYGEN	
	ARGON	
FORMATION PENN-CANYON	ARGON + OXYGEN	 TRACE
FORMATION PENN-CANYON GEOLOGIC PROVINCE CODE 430	ARGON	TRACE 0.0
FORMATION PENN-CANYON GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 7340	ARGON ARGON + OXYGEN HYDROGEN	TRACE 0.0 0.0
FORMATION PENN-CANYON GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 7340 MEASURED DEPTH	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	TRACE 0.0 0.0 0.5
FORMATION PENN-CANYON GEOLOGIC PROVINCE CODE 430 TRUE VERTICAL DEPTH (FT) 7340 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 300	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	TRACE 0.0 0.0 0.5 0.09

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

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

SAMPLE 21528	COMPONENT, MOLE PCT
STATETEXA	METHANE77.6
COUNTY SHERMAI	PROPANE4.1
FIELDANVI	N-BUTANE1.5
WELL NAME HANDLIN	3ISOBUTANE
API	
LOCATION SEC 84, BLK 1C, GH&H SU	R ISOPENTANE0.4
OWNERCONOCOPHILLIPS CO	CYCLOPENTANE
COMPLETED00012	7 HEXANES PLUS
SAMPLED 06052	5 NITROGEN <u>6.7</u>
FORMATION PENN-MORROW	V OXYGEN
GEOLOGIC PROVINCE CODE	ARGON
TRUE VERTICAL DEPTH (FT)663	ARGON + OXYGEN0.1
MEASURED DEPTH	HYDROGENTRACE
	HTDROGEN SOLFIDE
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE
OPEN FLOW, MCFD	
	HEATING VALUE*1.162
OAMPI F	SPECIFIC GRAVITY 0.728
SAMPLE 21530	COMPONENT, MOLE PCT
STATETEXA	
COUNTYHOWARI	ETHANE12.6
FIELDBI	PROPANE
WELL NAMENEWTON	
API 422273418	- ISOBUTANE4.0
LOCATION SEC 12. BLK 33. T&P SUI	
OWNER ENDEAVOR ENERGY RESOURCES, L.F	
COMPLETED 87093	<u> </u>
•	NITROGEN 0.6
SAMPLED 06052	OXYGEN
SAMPLED 06052	OXYGEN
•	OXYGEN
SAMPLED	OXYGEN

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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	
STATE	TEVAC	METHANE	85.7
	-	ETHANE	6.7
COUNTY	_	PROPANE	3.4
FIELD	_	N-BUTANE	1.0
WELL NAME	-	ISOBUTANE	0.4
API		N-PENTANE	0.2
LOCATION <u>SEC 987. BL</u>	(43. H&TC SUR	ISOPENTANE	0.2
OWNER BRACKEN OF	PERATING, LLC.	CYCLOPENTANE	
COMPLETED	940714	HEXANES PLUS	0.3
SAMPLED	071100	NITROGEN	1.5
FORMATIONP	ENN-TONKAWA	OXYGEN	
GEOLOGIC PROVINCE CODE	360_	ARGON	
TRUE VERTICAL DEPTH (FT)	6524	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG	_	HYDROGEN SULFIDE**	
,		CARBON DIOXIDE	
OPEN FLOW, MCFD	623	HELIUM HEATING VALUE*	
			•
SAMPLE 21510		SPECIFIC GRAVITY COMPONENT, MOLE PCT	0.665
		COMPONENT, MOLE PCT	
STATE			89.2
		COMPONENT, MOLE PCT METHANE	89. <u>2</u> 3.3
STATE	CROCKETT	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	89.2 3.3 2.5
STATE	CROCKETT HUNT-BAGGETT	COMPONENT, MOLE PCT METHANE ETHANE	89.2 3.3 2.5 0.8
STATE COUNTY FIELD	CROCKETT HUNT-BAGGETT GETT E.G. 2402	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	89.2 3.3 2.5 0.8 0.2
STATE COUNTY FIELD FAG	CROCKETT HUNT-BAGGETT GETT E.G. 2402 4210536809	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	89.2 3.3 2.5 0.8 0.2 0.1
STATE COUNTY FIELD WELL NAMEBAG API	CROCKETT HUNT-BAGGETT GETT E.G. 2402 4210536809 T.F. GC&SF SUR	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	89.2 3.3 2.5 0.8 0.2 0.1
STATE	CROCKETT HUNT-BAGGETT GETT E.G. 2402 4210536809 C.F. GC&SF SUR PERATING, INC.	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	89.2 3.3 2.5 0.8 0.2 0.1
STATE	CROCKETT HUNT-BAGGETT GETT E.G. 2402 4210536809 CF. GC&SF SUR PERATING, INC. 950323	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	89.2 3.3 2.5 0.8 0.2 0.1 0.1
STATE	CROCKETT HUNT-BAGGETT GETT E.G. 2402 4210536809 A.F. GC&SF SUR PERATING, INC. 950323 051117	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	89.2 3.3 2.5 0.8 0.2 0.1 0.1 0.2 2.8
STATE	CROCKETT HUNT-BAGGETT GETT E.G. 2402 4210536809 GE. GC&SE SUR PERATING. INC. 950323 051117 PENN-STRAWN	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	89.2 3.3 2.5 0.8 0.2 0.1 0.1 0.2 2.8
STATE	CROCKETT HUNT-BAGGETT GETT E.G. 2402 4210536809 GF. GC&SF SUR PERATING. INC. 950323 051117 PENN-STRAWN	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	89.2 3.3 2.5 0.8 0.2 0.1 0.1 0.2 2.8
STATE	CROCKETT HUNT-BAGGETT GETT E.G. 2402 4210536809 CF. GC&SF SUR PERATING, INC. 950323 051117 PENN-STRAWN 430 9423	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	89.2 3.3 2.5 0.8 0.2 0.1 0.1 0.2 2.8 TRACE 0.0
STATE	CROCKETT HUNT-BAGGETT GETT E.G. 2402 4210536809 CF. GC&SF SUR PERATING. INC. 950323 051117 PENN-STRAWN 430 9423	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	89.2 3.3 2.5 0.8 0.2 0.1 0.1 0.2 2.8 TRACE 0.0
STATE	CROCKETT HUNT-BAGGETT GETT E.G. 2402 4210536809 A.F. GC&SF SUR PERATING, INC. 950323 051117 PENN-STRAWN 430 9423	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	89.2 3.3 2.5 0.8 0.2 0.1 0.1 0.2 2.8 TRACE 0.0 0.8
STATE	CROCKETT HUNT-BAGGETT GETT E.G. 2402 4210536809 A.F. GC&SF SUR PERATING, INC. 950323 051117 PENN-STRAWN 430 9423	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	89.2 3.3 2.5 0.8 0.2 0.1 0.1 0.2 2.8 TRACE 0.0 0.0 0.8

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

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

SAMPLE 21022		COMPONENT, MOLE PCT	
STATE	TEVAS	METHANE	88.5
COUNTY		ETHANE	6.6
		PROPANE	1.7
FIELD		N-BUTANE	0.4
WELL NAMECLYDE NICHOI		ISOBUTANE	0.4
API	<u>4212131183</u>	N-PENTANE	0.1
LOCATIONCARMEL MANCHAG	CA SURVEY	ISOPENTANE	0.1
OWNERWAYN	<u>IE HARPER</u>	CYCLOPENTANE	
COMPLETED	020418	HEXANES PLUS	0.1
SAMPLED	020723	NITROGEN	0.7
FORMATIONMISS-BARN	ETT SHALE	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	420	ARGON	0.0
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	1300	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 21677		COMPONENT, MOLE PCT	
STATE	TEXAS	METHANE	78.2
STATE		METHANE	
COUNTY	EASTLAND	•	10.4
COUNTY	EASTLAND RTH RIDGE	ETHANE	10.4 3.7
COUNTY	EASTLAND RTH RIDGE BARNES 5	ETHANEPROPANE	10.4 3.7 0.8
COUNTY	EASTLAND RTH RIDGE BARNES 5	ETHANE PROPANE N-BUTANE	10.4 3.7 0.8 0.3
COUNTY	EASTLAND RTH RIDGE BARNES 5 4213330161	ETHANE PROPANE N-BUTANE ISOBUTANE	10.4 3.7 0.8 0.3 0.2
COUNTY	EASTLAND RTH RIDGE BARNES 5 4213330161 SUR. A-415	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	10.4 3.7 0.8 0.3 0.2 0.1
COUNTY	EASTLAND RTH RIDGE BARNES 5 4213330161 SUR. A-415 DGE CORP.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	10.4 3.7 0.8 0.3 0.2 0.1
COUNTY	EASTLAND RTH RIDGE BARNES 5 4213330161 SUR. A-415 DGE CORP. 050131	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	10.4 3.7 0.8 0.3 0.2 0.1 0.2 5.5
COUNTY	EASTLAND RTH RIDGE BARNES 5 4213330161 SUR. A-415 DGE CORP. 050131 080201	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	10.4 3.7 0.8 0.3 0.2 0.1 0.2 5.5
COUNTY	EASTLAND RTH RIDGE BARNES 5 4213330161 SUR. A-415 DGE CORP. 050131 080201	ETHANE	10.4 3.7 0.8 0.3 0.2 0.1 0.2 5.5
COUNTY	EASTLAND RTH RIDGE BARNES 5 4213330161 SUR. A-415 DGE CORP. 050131 080201 IN-DUFFER 425	ETHANE	10.4 3.7 0.8 0.3 0.2 0.1 0.2 5.5
COUNTY	EASTLAND RTH RIDGE BARNES 5 4213330161 SUR. A-415 DGE CORP. 050131 080201 IN-DUFFER 425 3830	ETHANE	10.4 3.7 0.8 0.3 0.2 0.1 0.2 5.5 0.1 0.0
COUNTY	EASTLAND RTH RIDGE BARNES 5 4213330161 SUR. A-415 DGE CORP. 050131 080201 IN-DUFFER 425 3830	ETHANE	10.4 3.7 0.8 0.3 0.2 0.1 0.2 5.5 0.1 0.0
COUNTY	EASTLAND RTH RIDGE BARNES 5 4213330161 SUR. A-415 DGE CORP. 050131 080201 IN-DUFFER 425 3830	ETHANE	10.4 3.7 0.8 0.3 0.2 0.1 0.2 5.5 0.1 0.0 0.0
COUNTY	EASTLAND RTH RIDGE BARNES 5 4213330161 SUR. A-415 DGE CORP. 050131 080201 IN-DUFFER 425 3830	ETHANE	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

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

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

SAMPLE	21423	COMPONENT, MOLE PCT	
CTATE	TEXAS	METHANE	84.6
•		ETHANE	7.9
·	OCHILTREE	PROPANE	2.5
·	PAN PETRO	N-BUTANE	0.6
WELL NAME	LESLIE 1-222	ISOBUTANE	0.2
API	4235732330	N-PENTANE	0.2
LOCATION	SEC 222, BLK 43, H&TC SUR	ISOPENTANE	0.1
OWNER	COURSON OIL & GAS, INC.	CYCLOPENTANE	
COMPLETED	040427	HEXANES PLUS	0.3
SAMPLED	050302	NITROGEN	2.9
FORMATION	PENN-NOVI	OXYGEN	0.0
GEOLOGIC PROVINCE CO	DDE360_	ARGON	TRACE
	=T) <u>8677</u>	ARGON + OXYGEN	
•	0077	HYDROGEN	0.0
·		HYDROGEN SULFIDE**	
	SIG <u>2150</u>	CARBON DIOXIDE	0.6
OPEN FLOW, MCFD	1005	HELIUM	
		HEATING VALUE*	1,111
		SPECIFIC GRAVITY	0.658
SAMPLE	21446	COMPONENT, MOLE PCT	
STATE	TEXAS	METHANE	54.3
`	COOKE	ETHANE	1.0
<u> </u>	RADIE	PROPANE	0.0
·		N-BUTANE	0.1
	STRAUSS WI-2	ISOBUTANE	TRACE
	4209733248	N-PENTANE	TRACE
	N. TREVINO SURVEY, A-1021	ISOPENTANE	TRACE
OWNER	HEP OIL CO., LTD	CYCLOPENTANE	
COMPLETED	951120	HEXANES PLUS	TRACE
SAMPLED	050414	NITROGEN	43.9
FORMATION	ORDO-ELLENBURGER	OXYGEN	
GEOLOGIC PROVINCE CO	DDE 350	ARGON	0.1
TRUE VERTICAL DEPTH (-T)2168	ARGON + OXYGEN	
•	,	HYDROGEN	
MEASURED DEPTH		HYDROGEN SULFIDE**	
	SIG575	CARBON DIOXIDE	
	1430	HELIUM	0.33
OPEN FLOW, MICFD			
OPEN FLOW, MICFU		HEATING VALUE*	574

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

SAMPLE 21442	COMPONENT, MOLE PCT
STATETEXAS.	METHANE56.1
	ETHANE5.1
COUNTY SHERMAN	PROPANE4.5
FIELD TEXAS HUGOTON	N-BUTANE1.4
WELL NAME STROTHER 1-74	ISOBUTANE0.7
API 4242130064	N-PENTANE0.4
LOCATION SEC 74. BLK 1T. T&NO SUR	ISOPENTANE0.3
OWNERCHAPARRAL ENERGY LLC	CYCLOPENTANE
COMPLETED	HEXANES PLUS0.5
SAMPLED	NITROGEN
FORMATION PERM-HERINGTON	OXYGEN <u>0.0</u>
GEOLOGIC PROVINCE CODE 360	ARGON0.1
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN
MEASURED DEPTH	HYDROGEN TRACE
	HYDROGEN SULFIDE**0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE0.1
OPEN FLOW, MCFD	HELIUM
	HEATING VALUE*890
	SPECIFIC GRAVITY
SAMPLE 21440	COMPONENT, MOLE PCT
SAMPLE 21440 STATE	
STATETEXAS	COMPONENT, MOLE PCT METHANE
STATE	COMPONENT, MOLE PCT METHANE
STATE	COMPONENT, MOLE PCT METHANE
STATE	COMPONENT, MOLE PCT METHANE 61.0 ETHANE 5.2 PROPANE 4.1 N-BUTANE 1.3 ISOBUTANE 0.6
STATE TEXAS COUNTY SHERMAN FIELD TEXAS HUGOTON WELL NAME ROSS 1-72 API 4242130065	COMPONENT, MOLE PCT METHANE
STATE TEXAS COUNTY SHERMAN FIELD TEXAS HUGOTON WELL NAME ROSS 1-72 API 4242130065 LOCATION SEC 72. BLK 1T. T&NO SUR	COMPONENT, MOLE PCT METHANE 61.0 ETHANE 5.2 PROPANE 4.1 N-BUTANE 1.3 ISOBUTANE 0.6 N-PENTANE 0.4 ISOPENTANE 0.3
STATE TEXAS COUNTY SHERMAN FIELD TEXAS HUGOTON WELL NAME ROSS 1-72 API 4242130065 LOCATION SEC 72. BLK 1T. T&NO SUR	COMPONENT, MOLE PCT METHANE 61.0 ETHANE 5.2 PROPANE 4.1 N-BUTANE 1.3 ISOBUTANE 0.6 N-PENTANE 0.4 ISOPENTANE 0.3 CYCLOPENTANE
STATE TEXAS COUNTY SHERMAN FIELD TEXAS HUGOTON WELL NAME ROSS 1-72 API 4242130065 LOCATION SEC 72. BLK 1T. T&NO SUR OWNER CHAPARRAL ENERGY LLC	COMPONENT, MOLE PCT METHANE 61.0 ETHANE 5.2 PROPANE 4.1 N-BUTANE 1.3 ISOBUTANE 0.6 N-PENTANE 0.4 ISOPENTANE 0.3 CYCLOPENTANE HEXANES PLUS 0.5
STATETEXAS	COMPONENT, MOLE PCT METHANE 61.0 ETHANE 5.2 PROPANE 4.1 N-BUTANE 1.3 ISOBUTANE 0.6 N-PENTANE 0.4 ISOPENTANE 0.3 CYCLOPENTANE HEXANES PLUS 0.5 NITROGEN 25.4
STATE	COMPONENT, MOLE PCT METHANE 61.0 ETHANE 5.2 PROPANE 4.1 N-BUTANE 1.3 ISOBUTANE 0.6 N-PENTANE 0.4 ISOPENTANE 0.3 CYCLOPENTANE HEXANES PLUS 0.5 NITROGEN 25.4 OXYGEN 0.0
STATE TEXAS COUNTY SHERMAN FIELD TEXAS HUGOTON WELL NAME ROSS 1-72 API 4242130065 LOCATION SEC 72. BLK 1T. T&NO SUR OWNER CHAPARRAL ENERGY LLC COMPLETED 770709 SAMPLED 050412	COMPONENT, MOLE PCT METHANE 61.0 ETHANE 5.2 PROPANE 4.1 N-BUTANE 1.3 ISOBUTANE 0.6 N-PENTANE 0.4 ISOPENTANE 0.3 CYCLOPENTANE HEXANES PLUS 0.5 NITROGEN 25.4 OXYGEN 0.0 ARGON 0.1
STATE TEXAS COUNTY SHERMAN FIELD TEXAS HUGOTON WELL NAME ROSS 1-72 API 4242130065 LOCATION SEC 72. BLK 1T. T&NO SUR OWNER CHAPARRAL ENERGY LLC COMPLETED 770709 SAMPLED 050412 FORMATION PERM-HERINGTON, KRIDER	COMPONENT, MOLE PCT METHANE 61.0 ETHANE 5.2 PROPANE 4.1 N-BUTANE 1.3 ISOBUTANE 0.6 N-PENTANE 0.4 ISOPENTANE 0.3 CYCLOPENTANE HEXANES PLUS 0.5 NITROGEN 25.4 OXYGEN 0.0 ARGON 0.1 ARGON + OXYGEN
STATE TEXAS COUNTY SHERMAN FIELD TEXAS HUGOTON WELL NAME ROSS 1-72 API 4242130065 LOCATION SEC 72. BLK 1T. T&NO SUR OWNER CHAPARRAL ENERGY LLC COMPLETED 770709 SAMPLED 050412 FORMATION PERM-HERINGTON. KRIDER GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2756	COMPONENT, MOLE PCT METHANE 61.0 ETHANE 5.2 PROPANE 4.1 N-BUTANE 1.3 ISOBUTANE 0.6 N-PENTANE 0.4 ISOPENTANE 0.3 CYCLOPENTANE HEXANES PLUS 0.5 NITROGEN 25.4 OXYGEN 0.0 ARGON 0.1 ARGON + OXYGEN HYDROGEN 0.0
STATE TEXAS COUNTY SHERMAN FIELD TEXAS HUGOTON WELL NAME ROSS 1-72 API 4242130065 LOCATION SEC 72. BLK 1T. T&NO SUR OWNER CHAPARRAL ENERGY LLC COMPLETED 770709 SAMPLED 050412 FORMATION PERM-HERINGTON, KRIDER GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2756 MEASURED DEPTH	COMPONENT, MOLE PCT METHANE 61.0 ETHANE 5.2 PROPANE 4.1 N-BUTANE 1.3 ISOBUTANE 0.6 N-PENTANE 0.4 ISOPENTANE 0.3 CYCLOPENTANE HEXANES PLUS 0.5 NITROGEN 25.4 OXYGEN 0.0 ARGON 0.1 ARGON + OXYGEN HYDROGEN 0.0 HYDROGEN SULFIDE** 0.0
STATE TEXAS COUNTY SHERMAN FIELD TEXAS HUGOTON WELL NAME ROSS 1-72 API 4242130065 LOCATION SEC 72. BLK 1T. T&NO SUR OWNER CHAPARRAL ENERGY LLC COMPLETED 770709 SAMPLED 050412 FORMATION PERM-HERINGTON. KRIDER GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2756 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 12	COMPONENT, MOLE PCT METHANE 61.0 ETHANE 5.2 PROPANE 4.1 N-BUTANE 1.3 ISOBUTANE 0.6 N-PENTANE 0.4 ISOPENTANE 0.3 CYCLOPENTANE HEXANES PLUS 0.5 NITROGEN 25.4 OXYGEN 0.0 ARGON 0.1 ARGON + OXYGEN HYDROGEN 0.0 CARBON DIOXIDE 0.1
STATE TEXAS COUNTY SHERMAN FIELD TEXAS HUGOTON WELL NAME ROSS 1-72 API 4242130065 LOCATION SEC 72. BLK 1T. T&NO SUR OWNER CHAPARRAL ENERGY LLC COMPLETED 770709 SAMPLED 050412 FORMATION PERM-HERINGTON, KRIDER GEOLOGIC PROVINCE CODE 360 TRUE VERTICAL DEPTH (FT) 2756 MEASURED DEPTH	COMPONENT, MOLE PCT METHANE 61.0 ETHANE 5.2 PROPANE 4.1 N-BUTANE 1.3 ISOBUTANE 0.6 N-PENTANE 0.4 ISOPENTANE 0.3 CYCLOPENTANE HEXANES PLUS 0.5 NITROGEN 25.4 OXYGEN 0.0 ARGON 0.1 ARGON + OXYGEN HYDROGEN 0.0 HYDROGEN SULFIDE** 0.0

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

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

STATE TEXAS_ COUNTY SHERMAN_	METHANE	
COUNTYSHERMAN_		<u>57.8</u>
	ETHANE	5.2
TEVAC UNICOTON	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	
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) 2725	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.787
SAMPLE 21441	COMPONENT, MOLE PCT	
STATETEXAS_	METHANE	59.7
COUNTY SHERMAN	ETHANE	5.1
FIELD TEXAS HUGOTON	PROPANE	4.2
	N-BUTANE	1.4
WELL NAME MILES 2-R_	ISOBUTANE	0.7
API4242130414_	N-PENTANE	0.4
LOCATION SEC 38, BLK 1T, T&NO SUR	ISOPENTANE	0.3
OWNER CHAPARRAL ENERGY LLC	CYCLOPENTANE	
COMPLETED	HEXANES PLUS	
SAMPLED	NITROGEN	26.4
FORMATION PERM-KRIDER	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	ARGON	
	ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT) 2720	HYDROGEN	
		0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	
MEASURED DEPTH	CARBON DIOXIDE	0.1
TRUE VERTICAL DEPTH (FT) 2720 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 10 OPEN FLOW, MCFD		0.1 1.20

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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 4221132287	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)11634	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	0.0
	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG6450	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	•
SAMPLE 21416	COMPONENT, MOLE PCT	
STATEUTAH_	METHANE	00.5
STATEUTATE		63.5
COLINITY	ETHANE	
	ETHANEPROPANE	17.1
FIELD BIG FLAT		17.1 10.4
FIELD BIG FLAT	PROPANE	17.1 10.4 2.6
FIELD BIG FLAT WELL NAME KANE SPRINGS FEDERAL 25-19-34-1	PROPANE	17.1 10.4 2.6 1.1
FIELD BIG FLAT WELL NAME KANE SPRINGS FEDERAL 25-19-34-1 API 4301931334	PROPANEN-BUTANEISOBUTANE	17.1 10.4 2.6 1.1 0.5
FIELD BIG FLAT WELL NAME KANE SPRINGS FEDERAL 25-19-34-1 API 4301931334 LOCATION SEC. 34, T25S, R19E	PROPANE N-BUTANE ISOBUTANE N-PENTANE	17.1 10.4 2.6 1.1 0.5 0.4
COUNTY GRAND FIELD BIG FLAT WELL NAME KANE SPRINGS FEDERAL 25-19-34-1 API 4301931334 LOCATION SEC. 34, T25S, R19E OWNER INTREPID OIL & GAS, LLC COMPLETED 930521	PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	17.1 10.4 2.6 1.1 0.5 0.4
FIELD BIG FLAT WELL NAME KANE SPRINGS FEDERAL 25-19-34-1 API 4301931334 LOCATION SEC. 34, T25S, R19E OWNER INTREPID OIL & GAS, LLC	PROPANE	17.1 10.4 2.6 1.1 0.5 0.4 0.6 3.6
FIELD BIG FLAT WELL NAME KANE SPRINGS FEDERAL 25-19-34-1 API 4301931334 LOCATION SEC. 34, T25S, R19E OWNER INTREPID OIL & GAS, LLC COMPLETED 930521	PROPANE	17.1 10.4 2.6 1.1 0.5 0.4 0.6 3.6
FIELD BIG FLAT WELL NAME KANE SPRINGS FEDERAL 25-19-34-1 API 4301931334 LOCATION SEC. 34, T25S, R19E OWNER INTREPID OIL & GAS, LLC COMPLETED 930521 SAMPLED 050131 FORMATION PENN-CANE CREEK	PROPANE	17.1 10.4 2.6 1.1 0.5 0.4 0.6 3.6 0.0
FIELD BIG FLAT WELL NAME KANE SPRINGS FEDERAL 25-19-34-1 API 4301931334 LOCATION SEC. 34, T25S, R19E OWNER INTREPID OIL & GAS, LLC COMPLETED 930521 SAMPLED 050131 FORMATION PENN-CANE CREEK GEOLOGIC PROVINCE CODE 585	PROPANE	17.1 10.4 2.6 1.1 0.5 0.4 0.6 3.6 0.0
BIG FLAT WELL NAME KANE SPRINGS FEDERAL 25-19-34-1 API 4301931334 LOCATION SEC. 34, T25S, R19E OWNER INTREPID OIL & GAS, LLC COMPLETED 930521 SAMPLED 050131 FORMATION PENN-CANE CREEK GEOLOGIC PROVINCE CODE 585 TRUE VERTICAL DEPTH (FT) 7985	PROPANE	17.1 10.4 2.6 1.1 0.5 0.4 0.6 3.6 0.0 0.1
FIELD BIG FLAT WELL NAME KANE SPRINGS FEDERAL 25-19-34-1 API 4301931334 LOCATION SEC. 34, T25S, R19E OWNER INTREPID OIL & GAS, LLC COMPLETED 930521 SAMPLED 050131 FORMATION PENN-CANE CREEK GEOLOGIC PROVINCE CODE 585 TRUE VERTICAL DEPTH (FT) 7985 MEASURED DEPTH 7985	PROPANE	17.1 10.4 2.6 1.1 0.5 0.4 0.6 3.6 0.0 0.1 TRACE
BIG FLAT WELL NAME KANE SPRINGS FEDERAL 25-19-34-1 API 4301931334 LOCATION SEC. 34, T25S, R19E OWNER INTREPID OIL & GAS, LLC COMPLETED 930521 SAMPLED 050131 FORMATION PENN-CANE CREEK GEOLOGIC PROVINCE CODE 585 TRUE VERTICAL DEPTH (FT) 7985 MEASURED DEPTH 7985 WELLHEAD PRESSURE, PSIG 30	PROPANE	17.1 10.4 2.6 1.1 0.5 0.4 0.6 3.6 0.0 0.1 TRACE 0.0
FIELD BIG FLAT WELL NAME KANE SPRINGS FEDERAL 25-19-34-1 API 4301931334 LOCATION SEC. 34, T25S, R19E OWNER INTREPID OIL & GAS, LLC COMPLETED 930521 SAMPLED 050131 FORMATION PENN-CANE CREEK GEOLOGIC PROVINCE CODE 585 TRUE VERTICAL DEPTH (FT) 7985 MEASURED DEPTH 7985	PROPANE	17.1 10.4 2.6 1.1 0.5 0.4 0.6 3.6 0.0 0.1 TRACE 0.0 0.0

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

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

SAMPLE 21457		COMPONENT, MOLE PCT	
OTATE	117411	METHANE	57.7
STATE		ETHANE	15.9
COUNTY		PROPANE	7.0
FIELDC	AJON LAKE	N-BUTANE	0.9
WELL NAMESAND	IA FED 9-44	ISOBUTANE	0.4
API	4303731371	N-PENTANE	TRACE
LOCATIONSEC 9.	T39S, R26E	ISOPENTANE	0.1
OWNERM	AX CULLUM_	CYCLOPENTANE	
COMPLETED	981015	HEXANES PLUS	0.1
SAMPLED	050519	NITROGEN	14.8
FORMATIONP	ENN-ISMAY	OXYGEN	
GEOLOGIC PROVINCE CODE		ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	2.7
· /		HYDROGEN	0.0
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	0.2
OPEN FLOW, MCFD	25	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.808
SAMPLE 21308		COMPONENT, MOLE PCT	
STATE	ΙΙΤΔΗ	METHANE	82.3
		ETHANE	6.8
COUNTY		PROPANE	2.7
FIELD		N-BUTANE	0.9
WELL NAMEUTE	FEE 2-33C6	ISOBUTANE	0.4
API	<u>4301331123</u>	N-PENTANE	0.3
LOCATION SEC 3	3, T3S, R6W	ISOPENTANE	0.3
OWNER EL PASO PRODUCTION OIL	. & GAS CO.	CYCLOPENTANE	
COMPLETED	851223	HEXANES PLUS	0.7
SAMPLED	040428	NITROGEN	4.5
FORMATIONEOCE	-WASATCH_	OXYGEN	0.0
GEOLOGIC PROVINCE CODE	575	ARGON	0.3
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
<u>- </u>		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG		CARBON DIOXIDE	
OPEN FLOW, MCFD	130	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.689

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

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

SAMPLE	21505	COMPONENT, MOLE PCT	
STATE	IITAL	METHANE	74.9
·		ETHANE	11.4
COUNTY		PROPANE	5.1
FIELD		N-BUTANE	1.6
WELL NAME		ISOBUTANE	0.7
API	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 _	585	ARGON	
TRUE VERTICAL DEPTH (FT)		ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
		HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG _		CARBON DIOXIDE	
OPEN FLOW, MCFD	50	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21455	COMPONENT, MOLE PCT	
3, IIII EE	21100	METHANE	57 1
STATE	UTAH_	ETHANE	
COUNTY	SAN JUAN	PROPANE	
FIELD	MONUMENT	N-BUTANE	
WELL NAME	MONUMENT 8N-2	ISOBUTANE	
API	4303731509	N-PENTANE	
LOCATION	SEC 8, T40S, R25E	ISOPENTANE	1.2
OWNER	RIM SOUTHWEST CORP.	CYCLOPENTANE	
COMPLETED	900514	HEXANES PLUS	2.8
SAMPLED		NITROGEN	5.9
		OXYGEN	
FORMATIONF	PENN-ISMAY, DESERT CREEK	OXIGEN	
FORMATIONF	ENN-ISMAY, DESERT CREEK 585	ARGON	
GEOLOGIC PROVINCE CODE _	585	ARGON + OXYGEN	 0.6
GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _	585 6080	ARGON - OXYGEN HYDROGEN	0.6 0.0
GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	585 6080	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.6 0.0 0.0
GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH WELLHEAD PRESSURE, PSIG _	585 6080	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.6 0.0 0.0 0.0
GEOLOGIC PROVINCE CODE _ TRUE VERTICAL DEPTH (FT) _ MEASURED DEPTH	585 6080	ARGONARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.6 0.0 0.0 0.1 0.12

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

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

SAMPLE 21555	COMPONENT, MOLE PCT	
STATE UTAH	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
API 4304731554	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
FORMATION <u>EOCE-GREEN RIVER</u>	OXYGEN	
GEOLOGIC PROVINCE CODE 575	ARGON	
TRUE VERTICAL DEPTH (FT) 5596	ARGON + OXYGEN	
MEASURED DEPTH	HYDROGEN	0.0
	HYDROGEN SULFIDE**	
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	HELIUM	
	HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 21415	COMPONENT, MOLE PCT	
STATE UTAH.	METHANE	52.7
COUNTY GRAND	ETHANE	18.4
	PROPANE	13.8
FIELD PARK ROAD	N-BUTANE	4.0
WELL NAME KANE SPRINGS FEDERAL 19-1A	ISOBUTANE	1.5
API		
	N-PENTANE	0.9
LOCATION SEC. 19. T26S, R20E	ISOPENTANE	
-		0.7
LOCATION SEC. 19. T26S. R20E	ISOPENTANE	0.7
LOCATION SEC. 19, T26S, R20E OWNER INTREPID OIL & GAS, LLC	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.7 1.1 6.6
LOCATION SEC. 19. T26S. R20E OWNER INTREPID OIL & GAS, LLC COMPLETED 911113	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.7 1.1 6.6 0.0
LOCATION SEC. 19. T26S. R20E OWNER INTREPID OIL & GAS. LLC COMPLETED 911113 SAMPLED 050131 FORMATION PENN-CANE CREEK	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.7 1.1 6.6 0.0 0.3
LOCATION SEC. 19. T26S. R20E OWNER INTREPID OIL & GAS. LLC COMPLETED 911113 SAMPLED 050131 FORMATION PENN-CANE CREEK GEOLOGIC PROVINCE CODE 585	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.7 1.1 6.6 0.0 0.3
LOCATION SEC. 19. T26S. R20E OWNER INTREPID OIL & GAS. LLC COMPLETED 911113 SAMPLED 050131 FORMATION PENN-CANE CREEK. GEOLOGIC PROVINCE CODE 585 TRUE VERTICAL DEPTH (FT) 9825	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.7 1.1. 6.6 0.0 0.3 TRACE
LOCATION SEC. 19. T26S. R20E OWNER INTREPID OIL & GAS. LLC COMPLETED 911113 SAMPLED 050131 FORMATION PENN-CANE CREEK GEOLOGIC PROVINCE CODE 585 TRUE VERTICAL DEPTH (FT) 9825 MEASURED DEPTH 9825	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.7 1.1 6.6 0.0 0.3 TRACE 0.0
LOCATION SEC. 19. T26S. R20E OWNER INTREPID OIL & GAS. LLC COMPLETED 911113 SAMPLED 050131 FORMATION PENN-CANE CREEK GEOLOGIC PROVINCE CODE 585 TRUE VERTICAL DEPTH (FT) 9825 MEASURED DEPTH 9825 WELLHEAD PRESSURE, PSIG 25	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.7 1.1 6.6 0.0 0.3 TRACE 0.0
LOCATION SEC. 19. T26S. R20E OWNER INTREPID OIL & GAS. LLC COMPLETED 911113 SAMPLED 050131 FORMATION PENN-CANE CREEK GEOLOGIC PROVINCE CODE 585 TRUE VERTICAL DEPTH (FT) 9825 MEASURED DEPTH 9825	ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.7 1.1 6.6 0.0 0.3 TRACE 0.0 0.1

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

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

SAMPLE	21649	COMPONENT, MOLE PCT	
STATE	UTAH_	METHANE	82.3
•		ETHANE	5.7
·	CARBON	PROPANE	2.0
	PETERS POINT	N-BUTANE	0.5
WELL NAME PETER	RS POINT UNIT FEDERAL 16-35	ISOBUTANE	0.4
API	4300730965	N-PENTANE	0.1
LOCATION	SEC 35, T12S, R16E	ISOPENTANE	0.2
OWNER	BILL BARRETT CORP.	CYCLOPENTANE	
COMPLETED	051213	HEXANES PLUS	0.3
SAMPLED	070803	NITROGEN	7.4
FORMATION	CRET-MESAVERDE	OXYGEN	
	575	ARGON	
	7673	ARGON + OXYGEN	
		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
,		CARBON DIOXIDE	0.4
OPEN FLOW, MCFD	1862	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.667
SAMPLE	21454	COMPONENT, MOLE PCT	
STATE	UTAH	METHANE	047
			64.7
COLINTY		ETHANE	
•	SAN JUAN		15.3
FIELD	SAN JUAN RUNWAY	ETHANE	15.3 8.3
FIELD	SAN JUAN RUNWAY RUNWAY 10C-5A	ETHANEPROPANE	15.3 8.3 2.4
FIELD WELL NAME API	SAN JUAN RUNWAY RUNWAY 10C-5A 4303731597	ETHANEPROPANEN-BUTANE	15.3 8.3 2.4 1.1
FIELD WELL NAME API	SAN JUAN RUNWAY RUNWAY 10C-5A	ETHANE PROPANE N-BUTANE ISOBUTANE	15.3 8.3 2.4 1.1 0.8
FIELD WELL NAME API LOCATION	SAN JUAN RUNWAY RUNWAY 10C-5A 4303731597	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	15.3 8.3 2.4 1.1 0.8 0.6
FIELD	SAN JUAN RUNWAY RUNWAY 10C-5A 4303731597 SEC 10, T40S, R25E	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	15.3 8.3 2.4 1.1 0.8 0.6
FIELD	SAN JUAN RUNWAY RUNWAY 10C-5A 4303731597 SEC 10. T40S, R25E RIM SOUTHWEST CORP.	ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	15.3 8.3 2.4 1.1 0.8 0.6
WELL NAME	SAN JUAN RUNWAY RUNWAY 10C-5A 4303731597 SEC 10, T40S, R25E RIM SOUTHWEST CORP. 910318	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
FIELD	SAN JUAN RUNWAY RUNWAY 10C-5A 4303731597 SEC 10. T40S, R25E RIM SOUTHWEST CORP. 910318 050525 PENN-ISMAY, DESERT CREEK	ETHANE	15.3 8.3 2.4 1.1 0.8 0.6 1.2 5.0
FIELD	SAN JUAN RUNWAY RUNWAY 10C-5A 4303731597 SEC 10, T40S, R25E RIM SOUTHWEST CORP. 910318 050525 PENN-ISMAY, DESERT CREEK 585	ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGONARGON + OXYGEN	15.3 8.3 2.4 1.1 0.8 0.6 1.2 5.0
WELL NAME	SAN JUAN RUNWAY RUNWAY 10C-5A 4303731597 SEC 10, T40S, R25E RIM SOUTHWEST CORP. 910318 050525 PENN-ISMAY, DESERT CREEK 585 6164	ETHANE	15.3 8.3 2.4 1.1 0.8 0.6 1.2 5.0 0.3 0.0
FIELD	SAN JUAN RUNWAY RUNWAY 10C-5A 4303731597 SEC 10, T40S, R25E RIM SOUTHWEST CORP. 910318 050525 PENN-ISMAY, DESERT CREEK 585 6164	ETHANE	15.3 8.3 2.4 1.1 0.8 0.6 1.2 5.0 0.3 0.0
WELL NAME	SAN JUAN RUNWAY RUNWAY 10C-5A 4303731597 SEC 10, T40S, R25E RIM SOUTHWEST CORP. 910318 050525 PENN-ISMAY, DESERT CREEK 585 6164	ETHANE	15.3 8.3 2.4 1.1 0.8 0.6 1.2 5.0 0.3 0.0 0.0
WELL NAME	SAN JUAN RUNWAY RUNWAY 10C-5A 4303731597 SEC 10, T40S, R25E RIM SOUTHWEST CORP. 910318 050525 PENN-ISMAY, DESERT CREEK 585 6164	ETHANE	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

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE ABSORPTION 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
·		PROPANE	3.0
'	UTELAND BUTTE	N-BUTANE	0.9
	STATE 1-16-10-18	ISOBUTANE	0.4
•	4304733807	N-PENTANE	0.4
LOCATION	SEC 16, T10S, R18E	ISOPENTANE	0.2
OWNER PENDRA	AGON 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	0.0
•		HYDROGEN SULFIDE**	
,	G	CARBON DIOXIDE	
OPEN FLOW, MCFD	_	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21448	COMPONENT, MOLE PCT	
		COMPONENT, MOLE PCT METHANE	76.7
STATE	UTAH.		
STATE	UTAH_ SAN JUAN_	METHANE	10.7
STATE COUNTY FIELD	UTAH. SAN JUAN WILD STALLION	METHANE	10.7 4.8
STATE COUNTY FIELD WELL NAME	UTAH SAN JUAN WILD STALLION WILD STALLION UNIT 1	METHANE ETHANE PROPANE	10.7 4.8 1.3
STATE COUNTY FIELD WELL NAME API	UTAH. SAN JUAN WILD STALLION WILD STALLION UNIT 1 4303731426	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	10.7 4.8 1.3 0.6 0.4
STATE 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	10.7 4.8 1.3 0.6 0.4
STATE COUNTY FIELD WELL NAME API LOCATION	UTAH. SAN JUAN WILD STALLION WILD STALLION UNIT 1 4303731426	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	10.7 4.8 1.3 0.6 0.4 0.3
STATE 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 N-PENTANE ISOPENTANE	10.7 4.8 1.3 0.6 0.4 0.3
STATE 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
STATE 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 ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	10.7 4.8 1.3 0.6 0.4 0.3 0.5 4.5
STATE 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
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	UTAH SAN JUAN WILD STALLION WILD STALLION UNIT 1 4303731426 SEC 33, T36S, R23E D.J. SIMMONS COMPANY 880812 050428 PENN-ISMAY	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	10.7 4.8 1.3 0.6 0.4 0.3 0.5 4.5
STATE 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 6308	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
STATE	UTAH SAN JUAN WILD STALLION WILD STALLION UNIT 1 4303731426 SEC 33, T36S, R23E D.J. SIMMONS COMPANY 880812 050428 PENN-ISMAY 585	METHANE	10.7 4.8 1.3 0.6 0.4 0.3 0.5 4.5 0.1 0.0
STATE	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 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 0.1
STATE	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	10.7 4.8 1.3 0.6 0.4 0.3 0.5 4.5 0.1 0.0 0.0 0.0

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

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

SAMPLE	21591	COMPONENT, MOLE PCT	
CTATE	WYOMING	METHANE	84.3
		ETHANE	8.0
•	SWEETWATER	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	E535_	ARGON	
	4352	ARGON + OXYGEN	TRACE
` '		HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
,	G300_	CARBON DIOXIDE	
OPEN FLOW, MCFD	140_	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.685
SAMPLE	21498	COMPONENT, MOLE PCT	
	21498 WYOMING	COMPONENT, MOLE PCT METHANE	89.9
STATE	WYOMING	COMPONENT, MOLE PCT METHANE ETHANE	89.9 4.4
STATE	WYOMING FREMONT	COMPONENT, MOLE PCT METHANE ETHANE PROPANE	89.9 4.4 1.9
STATE COUNTY FIELD	WYOMING FREMONT BEAVER CREEK	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE	89.9 4.4 1.9 0.6
STATE COUNTY FIELD WELL NAME	WYOMING FREMONT BEAVER CREEK BEAVER CREEK UNIT 196	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	89.9 4.4 1.9 0.6 0.3
STATE COUNTY FIELD WELL NAME API	WYOMING FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	89.9 4.4 1.9 0.6 0.3
STATE COUNTY FIELD WELL NAME API LOCATION	WYOMING FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094 SEC 22, T34N, R96W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	89.9 4.4 1.9 0.6 0.3 0.2
STATE COUNTY FIELD WELL NAME API LOCATION	WYOMING FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE	89.9 4.4 1.9 0.6 0.3 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER	WYOMING FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094 SEC 22, T34N, R96W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	89.9 4.4 1.9 0.6 0.3 0.2 0.2
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED	WYOMING FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094 SEC 22. T34N. R96W DEVON ENERGY PRODUCTION	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE ISOPENTANE INTROGEN	89.9 4.4 1.9 0.6 0.3 0.2 0.2 0.3 2.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	WYOMING FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094 SEC 22. T34N. R96W DEVON ENERGY PRODUCTION 040313	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	89.9 4.4 1.9 0.6 0.3 0.2 0.2 0.3 2.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED	WYOMING FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094 SEC 22. T34N, R96W DEVON ENERGY PRODUCTION 040313 050902 CRET-SHANNON	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	89.9 4.4 1.9 0.6 0.3 0.2 0.2 0.3 2.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION	WYOMING FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094 SEC 22, T34N, R96W DEVON ENERGY PRODUCTION 040313 050902 CRET-SHANNON	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	89.9 4.4 1.9 0.6 0.3 0.2 0.2 0.3 2.1
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	WYOMING FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094 SEC 22. T34N. R96W DEVON ENERGY PRODUCTION 040313 050902 CRET-SHANNON 530 5700	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	89.9 4.4 1.9 0.6 0.3 0.2 0.2 0.3 2.1 0.1 0.0
STATE	WYOMING FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094 SEC 22. T34N. R96W DEVON ENERGY PRODUCTION 040313 050902 CRET-SHANNON E 530 5700	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	89.9 4.4 1.9 0.6 0.3 0.2 0.2 0.3 2.1 0.1 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSI	WYOMING FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094 SEC 22, T34N, R96W DEVON ENERGY PRODUCTION 040313 050902 CRET-SHANNON E 530 5700	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE** CARBON DIOXIDE	89.9 4.4 1.9 0.6 0.3 0.2 0.2 0.3 2.1 0.1 0.0 0.0
STATE	WYOMING FREMONT BEAVER CREEK BEAVER CREEK UNIT 196 4901322094 SEC 22, T34N, R96W DEVON ENERGY PRODUCTION 040313 050902 CRET-SHANNON E 530 5700	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	89.9 4.4 1.9 0.6 0.3 0.2 0.2 0.3 2.1 0.1 0.0 0.0 0.02

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

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

SAMPLE	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	
	ODE 535	ARGON	
	(FT)3416_	ARGON + OXYGEN	0.1
	(11) <u>0410</u>	HYDROGEN	0.0
		HYDROGEN SULFIDE**	
	PSIG	CARBON DIOXIDE	
OPEN FLOW, MCFD	571	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.702
SAMPLE	21047	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	
COUNTY	LINCOLN	ETHANE	
FIELD	BIRD CANYON	PROPANE	2.4
		N-BUTANE	
WELL NAME	HAUN FEDERAL NO. 20-5	10.051.1744.15	
•	HAUN FEDERAL NO. 20-5 4902320553	ISOBUTANE	0.4
API	4902320553	N-PENTANE	0.4
API	4902320553 SEC. 5. T26N, R111W	N-PENTANEISOPENTANE	0.4 0.1 0.2
API LOCATION	4902320553 SEC. 5. T26N, R111W ENCANA OIL & GAS (USA), INC.	N-PENTANEISOPENTANECYCLOPENTANE	0.4 0.1 0.2
API LOCATION OWNER COMPLETED	4902320553 SEC. 5. T26N, R111W ENCANA OIL & GAS (USA), INC. 000821	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	0.4 0.1 0.2 0.4
API LOCATION OWNER COMPLETED SAMPLED	4902320553 SEC. 5. T26N. R111W ENCANA OIL & GAS (USA). INC. 000821 021010	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.4 0.1 0.2 0.4 0.5
API LOCATION OWNER COMPLETED SAMPLED	4902320553 SEC. 5. T26N, R111W ENCANA OIL & GAS (USA), INC. 000821	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.4 0.1 0.2 0.4 0.5 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION	4902320553 SEC. 5. T26N. R111W ENCANA OIL & GAS (USA). INC. 000821 021010	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.4 0.1 0.2 0.4 0.5 0.0 0.0
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO	4902320553 SEC. 5. T26N, R111W ENCANA OIL & GAS (USA), INC. 000821 021010 CRET-BEAR RIVER & DAKOTA	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.4 0.1 0.2 0.4 0.5 0.0 0.0
API	4902320553 SEC. 5. T26N. R111W ENCANA OIL & GAS (USA). INC. 000821 021010 CRET-BEAR RIVER & DAKOTA ODE535	N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.4 0.1 0.2 0.4 0.5 0.0 0.0 TRACE
API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CO TRUE VERTICAL DEPTH (MEASURED DEPTH	4902320553 SEC. 5. T26N, R111W ENCANA OIL & GAS (USA), INC. 000821 021010 CRET-BEAR RIVER & DAKOTA ODE535 (FT)9031	N-PENTANE	0.4 0.1 0.2 0.4 0.5 0.0 0.0 TRACE 0.0
API	4902320553 SEC. 5. T26N, R111W ENCANA OIL & GAS (USA), INC. 000821 021010 CRET-BEAR RIVER & DAKOTA ODE535 (FT)9031	N-PENTANE	0.4 0.1 0.2 0.4 0.5 0.0 0.0 TRACE 0.0
API	4902320553 SEC. 5. T26N. R111W ENCANA OIL & GAS (USA). INC. 000821 021010 CRET-BEAR RIVER & DAKOTA ODE	N-PENTANE	0.4 0.1 0.2 0.4 0.5 0.0 0.0 TRACE 0.0 0.4 0.4

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

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

SAMPLE 21046	COMPONENT, MOLE PCT	
STATEWYOMING	METHANE	84.6
	ETHANE	6.9
COUNTY SWEETWATER	PROPANE	4.3
FIELD BLUE FOREST	N-BUTANE	1.2
WELL NAMEFEDERAL NO. 12-4_	ISOBUTANE	0.7
API 4903723536	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 CODE 535	ARGON	0.0
TRUE VERTICAL DEPTH (FT) 11326	ARGON + OXYGEN	
· /-	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG	CARBON DIOXIDE	0.6
OPEN FLOW, MCFD	HELIUM	0.06
	HEATING VALUE*	
	SPECIFIC GRAVITY	0.683
SAMPLE 21491	COMPONENT, MOLE PCT	
STATE WYOMING	METHANE	
COUNTY SWEETWATER	ETHANE	
FIELD BRADY	PROPANE	
WELL NAMENORTH COOPER RIDGE UNIT 9-4	N-BUTANE	
·	ISOBUTANE	
API 4903725607	N-PENTANE	0.1
1.00471011		
LOCATION SEC 9, T17N, R100W	ISOPENTANE	0.1
LOCATION SEC 9, T17N, R100W OWNER ANADARKO E&P CO. LP	CYCLOPENTANE	0.1
	CYCLOPENTANE	0.1 0.1
OWNER ANADARKO E&P CO. LP	CYCLOPENTANE HEXANES PLUS NITROGEN	0.1 0.1 2.7
OWNER ANADARKO E&P CO. LP COMPLETED 031012 SAMPLED 050718	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.1 0.1 2.7
OWNER ANADARKO E&P CO. LP COMPLETED 031012 SAMPLED 050718 FORMATION CRET-ALMOND COAL	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.1 0.1 2.7
OWNER ANADARKO E&P CO. LP COMPLETED 031012 SAMPLED 050718 FORMATION CRET-ALMOND COAL GEOLOGIC PROVINCE CODE 535	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	0.1 0.1 2.7 TRACE
OWNER ANADARKO E&P CO. LP COMPLETED 031012 SAMPLED 050718 FORMATION CRET-ALMOND COAL GEOLOGIC PROVINCE CODE 535	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	0.1 0.1 2.7 TRACE 0.0
OWNER	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.1 0.1 2.7 TRACE 0.0
OWNER	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	0.1 0.1 2.7 TRACE 0.0 0.0
OWNER	CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	0.1 0.1 2.7 TRACE 0.0 0.0 0.9

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

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

	21577	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	93.5
	SWEETWATER	ETHANE	2.5
·		PROPANE	0.4
<u> </u>	CEDAR BREAKS	N-BUTANE	0.1
-	CEDAR CHEST UNIT 7-5	ISOBUTANE	0.1
	4903724260	N-PENTANE	TRACE
LOCATION	SEC 5, T13N, R94W	ISOPENTANE	TRACE
OWNER	EOG RESOURCES, INC.	CYCLOPENTANE	
COMPLETED	000715	HEXANES PLUS	TRACE
SAMPLED	061116	NITROGEN	0.2
FORMATION	CRET-ALMOND	OXYGEN	
GEOLOGIC PROVINCE CODE	535	ARGON	
	12470	ARGON + OXYGEN	TRACE
(/-	12710	HYDROGEN	0.0
		HYDROGEN SULFIDE**	0.0
•	1500	CARBON DIOXIDE	3.1
OPEN FLOW, MCFD	5034	HELIUM	0.00
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.605
SAMPLE	21531	COMPONENT MOLE DOT	
0/ WH EE	21551	COMPONENT, MOLE PCT	
		METHANE	
STATE	WYOMING		
STATE	WYOMING SWEETWATER	METHANE	8.8
STATE COUNTY FIELD	WYOMING SWEETWATER FREWEN	METHANE ETHANE PROPANE N-BUTANE	8.8 5.3 1.2
STATE COUNTY FIELD WELL NAME	WYOMING SWEETWATER FREWEN FREWEN UNIT 16	METHANE ETHANE PROPANE	8.8 5.3 1.2
STATE COUNTY FIELD WELL NAME API	WYOMING SWEETWATER FREWEN FREWEN UNIT 16 4903724438	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	8.8 5.3 1.2 1.3 0.3
STATE COUNTY FIELD WELL NAME API LOCATION	WYOMING SWEETWATER FREWEN FREWEN UNIT 16 4903724438 SEC 16, T19N R94W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE	8.8 5.3 1.2 1.3 0.3
STATE COUNTY FIELD WELL NAME API LOCATION	WYOMING SWEETWATER FREWEN FREWEN UNIT 16 4903724438	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	8.8 5.3 1.2 1.3 0.3 0.4
STATE COUNTY FIELD WELL NAME API LOCATION OWNER B	WYOMING SWEETWATER FREWEN FREWEN UNIT 16 4903724438 SEC 16, T19N R94W	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS	8.8 5.3 1.2 1.3 0.3 0.4 0.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNERB COMPLETED	WYOMING SWEETWATER FREWEN FREWEN UNIT 16 4903724438 SEC 16, T19N R94W BP AMERICA PRODUCTION CO.	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	8.8 5.3 1.2 1.3 0.3 0.4 0.5
STATE COUNTY FIELD WELL NAME API LOCATION OWNERB COMPLETED SAMPLED	WYOMING SWEETWATER FREWEN FREWEN UNIT 16 4903724438 SEC 16, T19N R94W BP AMERICA PRODUCTION CO. 001214	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	8.8 5.3 1.2 1.3 0.3 0.4 0.5 0.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNERB COMPLETED SAMPLED FORMATION	WYOMING SWEETWATER FREWEN FREWEN UNIT 16 4903724438 SEC 16, T19N R94W BP AMERICA PRODUCTION CO. 001214 060530	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	8.8 5.3 1.2 1.3 0.3 0.4 0.5 0.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNERB COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE	WYOMING SWEETWATER FREWEN FREWEN UNIT 16 4903724438 SEC 16, T19N R94W BP AMERICA PRODUCTION CO. 001214 060530 CRET-MESAVERDE 535	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	8.8 5.3 1.2 1.3 0.3 0.4 0.5 0.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNERB COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	WYOMING SWEETWATER FREWEN FREWEN UNIT 16 4903724438 SEC 16, T19N R94W BP AMERICA PRODUCTION CO. 001214 060530 CRET-MESAVERDE 535	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN	8.8 5.3 1.2 1.3 0.3 0.4 0.5 0.6 TRACE
STATE COUNTY FIELD WELL NAME API LOCATION OWNERB COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	WYOMING SWEETWATER FREWEN FREWEN UNIT 16 4903724438 SEC 16, T19N R94W BP AMERICA PRODUCTION CO. 001214 060530 CRET-MESAVERDE 535	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	8.8 5.3 1.2 1.3 0.3 0.4 0.5 0.6 TRACE 0.0
STATE COUNTY FIELD WELL NAME API LOCATION OWNERB COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH WELLHEAD PRESSURE, PSIG	WYOMING SWEETWATER FREWEN FREWEN UNIT 16 4903724438 SEC 16, T19N R94W BP AMERICA PRODUCTION CO. 001214 060530 CRET-MESAVERDE 535 9926	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE** CARBON DIOXIDE	8.8 5.3 1.2 1.3 0.3 0.4 0.5 0.6 TRACE 0.0 0.0 3.6
STATE COUNTY FIELD WELL NAME API LOCATION OWNERB COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT) MEASURED DEPTH	WYOMING SWEETWATER FREWEN FREWEN UNIT 16 4903724438 SEC 16, T19N R94W BP AMERICA PRODUCTION CO. 001214 060530 CRET-MESAVERDE 535 9926	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN SULFIDE**	8.8 5.3 1.2 1.3 0.3 0.4 0.5 0.6 TRACE 0.0 0.0 3.6 0.01

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

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

SAMPLE	21044	COMPONENT, MOLE PCT	
STATE	WYOMING	METHANE	92.9
	SWEETWATER	ETHANE	4.6
<u> </u>		PROPANE	0.9
	MESA.	N-BUTANE	0.1
	MESA FEDERAL NO. 10-30	ISOBUTANE	0.1
	4903723307	N-PENTANE	TRACE
LOCATION	SEC. 30. T24N. R110W	ISOPENTANE	TRACE
OWNER	ENCANA OIL & GAS (USA). INC.	CYCLOPENTANE	
COMPLETED	940717	HEXANES PLUS	
SAMPLED	021010	NITROGEN	
FORMATION	CRET-FRONTIER	OXYGEN	0.0
GEOLOGIC PROVINCE C	CODE535_	ARGON	
TRUE VERTICAL DEPTH	(FT)10230_	ARGON + OXYGEN	
	()	HYDROGEN	
	PSIG1210_	HYDROGEN SULFIDE**	
•		CARBON DIOXIDE	
OPEN FLOW, MCFD	2815	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE	21668	COMPONENT, MOLE PCT	
07475	WWO WING	METHANE	84.2
	WYOMING	ETHANE	9.7
`	LINCOLN	PROPANE	3.0
•	OPAL_	N-BUTANE	0.6
WELL NAME	OPAL 4-21_	ISOBUTANE	0.5
API	4902305070	N-PENTANE	0.1
LOCATION	SEC 21. T22N. R112W	ISOPENTANE	0.2
OWNER	EOG RESOURCES, INC.	CYCLOPENTANE	
COMPLETED	021221_	HEXANES PLUS	0.2
SAMPLED	070913	NITROGEN	0.9
FORMATION	CRET-FRONTIER	OXYGEN	
GEOLOGIC PROVINCE C	CODE535_	ARGON	
TRUE VERTICAL DEPTH	(FT)10749	ARGON + OXYGEN	
MEASURED DEPTH	, ,	HYDROGEN	
	PSIG1800	HYDROGEN SULFIDE**	
		CARBON DIOXIDE	
OPEN FLOW, MICHD	<u>150</u>	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	0.666

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE 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	MYOMING	METHANE	80.0
		ETHANE	11.4
COUNTY		PROPANE	4.0
FIELD OF		N-BUTANE	0.8
WELL NAMEOPAL BENCE		ISOBUTANE	0.9
API		N-PENTANE	0.2
LOCATION SEC 27, T2	2N, R113W	ISOPENTANE	0.3
OWNER CHEVRON	N USA, INC.	CYCLOPENTANE	
COMPLETED	970907	HEXANES PLUS	0.3
SAMPLED	061200	NITROGEN	
FORMATIONCRE	T-DAKOTA	OXYGEN	
GEOLOGIC PROVINCE CODE	535	ARGON	
TRUE VERTICAL DEPTH (FT)	12132	ARGON + OXYGEN	
MEASURED DEPTH		HYDROGEN	
WELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE**	
OPEN FLOW, MCFD		CARBON DIOXIDE	
JPEN FLOW, MICFD	810	HELIUM	
		HEATING VALUE* SPECIFIC GRAVITY	
SAMPLE 21609		COMPONENT, MOLE PCT METHANE	87.8
STATE		ETHANE	
COUNTY		PROPANE	1.4
FIELD OREGON	N BASIN SE	N-BUTANE	0.3
WELL NAME <u>BADGER CREEK US</u>	A 5277 2-24	ISOBUTANE	0.4
API	1902921289	N-PENTANE	0.1
LOCATION SEC 24, T5	0N, R100W	ISOPENTANE	0.1
OWNERSAGA PETROI	LEUM, LLC.	CYCLOPENTANE	
COMPLETED	840126	HEXANES PLUS	0.2
SAMPLED	070701	NITROGEN	1.1
FORMATIONCRET-		OXYGEN	
	520	ARGON	
		ARGON + OXYGEN	
TRUE VERTICAL DEPTH (FT)	49hh	HYDROGEN	
TRUE VERTICAL DEPTH (FT)			
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0
MEASURED DEPTHWELLHEAD PRESSURE, PSIG		HYDROGEN SULFIDE** CARBON DIOXIDE	0.0 1.3
MEASURED DEPTH		HYDROGEN SULFIDE**	0.0 1.3 0.02

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

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

SAMPLE	21574	COMPONENT, MOLE PCT	
CTATE	WYOMING	METHANE	18.2
		ETHANE	TRACE
	SUBLETTE	PROPANE	0.0
	RILEY RIDGE UNIT	N-BUTANE	0.0
-	RILEY RIDGE FEDERAL 10-14	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	
	15337	ARGON + OXYGEN	0.1
, , ,	13037	HYDROGEN	TRACE
		HYDROGEN SULFIDE**	
	530_	CARBON DIOXIDE	
OPEN FLOW, MCFD		HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	1.261
SAMPLE	21576	COMPONENT MOLE DOT	
	21370	COMPONENT, MOLE PCT	
STATE		METHANE	20.2
	WYOMING	,	
COUNTY	WYOMING SUBLETTE	METHANE	TRACE
COUNTY	WYOMING SUBLETTE RILEY RIDGE UNIT	METHANE ETHANE PROPANE N-BUTANE	TRACE 0.0 0.0
COUNTY FIELD WELL NAMERILEY RIDGE	WYOMING SUBLETTE RILEY RIDGE UNIT FEDERAL 8-24 (END OF FLOW)	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	TRACE 0.0 0.0 TRACE
COUNTY FIELD WELL NAME <u>RILEY RIDGE</u> API	WYOMING SUBLETTE RILEY RIDGE UNIT FEDERAL 8-24 (END OF FLOW) 4903520537	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE	TRACE 0.0 0.0 TRACE 0.0
COUNTY FIELD WELL NAMERILEY RIDGE 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 0.0
COUNTY FIELD WELL NAMERILEY RIDGE API LOCATION	WYOMING SUBLETTE RILEY RIDGE UNIT FEDERAL 8-24 (END OF FLOW) 4903520537	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE	TRACE 0.0 0.0 TRACE 0.0 0.0
COUNTY FIELD WELL NAMERILEY RIDGE 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 TRACE 1.0 TRACE
COUNTY FIELD WELL NAMERILEY RIDGE API LOCATION OWNER COMPLETED	WYOMING SUBLETTE RILEY RIDGE UNIT FEDERAL 8-24 (END OF FLOW) 4903520537 SEC 8. T29N. R114W WOLD OIL PROPERTIES	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE N-PENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 7.1
COUNTY FIELD WELL NAMERILEY RIDGE API LOCATION OWNER COMPLETED SAMPLED	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 ISOPENTANE OYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 7.1
COUNTY FIELD WELL NAMERILEY RIDGE 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	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	TRACE 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
COUNTY FIELD WELL NAMERILEY RIDGE 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 CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN	TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 7.1 0.1
COUNTY FIELD WELL NAMERILEY RIDGE API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE CODE TRUE VERTICAL DEPTH (FT)	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
COUNTY FIELD WELL NAMERILEY RIDGE 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 ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 7.1 0.1 0.3 5.2
COUNTY FIELD WELL NAMERILEY RIDGE 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 15120	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON ARGON + OXYGEN HYDROGEN 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
COUNTY FIELD WELL NAMERILEY RIDGE 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 15120	METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON + OXYGEN HYDROGEN HYDROGEN SULFIDE**	TRACE 0.0 0.0 TRACE 0.0 0.0 TRACE 7.1 0.1 0.3 5.2 66.7 0.49

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

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

SAMPLE	21575	COMPONENT, MOLE PCT	
etate.	WYOMING	METHANE	20.7
		ETHANE	TRACE
·	SUBLETTE	PROPANE	0.0
·	RILEY RIDGE UNIT	N-BUTANE	0.0
WELL NAMERILEY RID	GE 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	
	DE535_	ARGON	
		ARGON + OXYGEN	0.1
•)	HYDROGEN	
		HYDROGEN SULFIDE**	0.7
	IG	CARBON DIOXIDE	
OPEN FLOW, MCFD	12300	HELIUM	
		HEATING VALUE*	
		SPECIFIC GRAVITY	1.234
SAMPLE	21568	SPECIFIC GRAVITY COMPONENT, MOLE PCT	1.234
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 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
STATE COUNTY FIELD WELL NAME	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
STATE COUNTY FIELD WELL NAME API LOCATION	WYOMING SUBLETTE RILEY RIDGE UNIT RILEY RIDGE FEDERAL 10-14 4903520603 SEC 10, T29N, R114W	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE	17.2 TRACE 0.0 0.0 0.1
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 ISOPENTANE CYCLOPENTANE	17.2 TRACE 0.0 0.0 0.1 0.0 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 HEXANES PLUS NITROGEN	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	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 COD	WYOMING SUBLETTE RILEY RIDGE UNIT RILEY RIDGE FEDERAL 10-14 4903520603 SEC 10, T29N, R114W WOLD OIL PROPERTIES 810630 060924 MISS-MADISON 0535	COMPONENT, MOLE PCT METHANE ETHANE PROPANE N-BUTANE ISOBUTANE ISOPENTANE ISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON ARGON ARGON + OXYGEN	17.2 TRACE 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 COD TRUE VERTICAL DEPTH (FT	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 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 COD TRUE VERTICAL DEPTH (FT	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 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 COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PS	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 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 73.3
STATE COUNTY FIELD WELL NAME API LOCATION OWNER COMPLETED SAMPLED FORMATION GEOLOGIC PROVINCE COD TRUE VERTICAL DEPTH (FT MEASURED DEPTH WELLHEAD PRESSURE, PS	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 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

^{*} CALCULATED GROSS BTU PER CU FT, DRY, AT 60 DEGREES FAHRENHEIT AND 30 INCHES OF MERCURY ** DUE TO THE 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	00.0
STATE WYOMING	METHANE	
COUNTYCARBON_	ETHANE PROPANE	
FIELDROBBERS GULCH_	N-BUTANE	
WELL NAME HANGOUT RIDGE 5-25-14-93	ISOBUTANE	
API	N-PENTANE	
LOCATIONSEC 25. T14N. R93W	ISOPENTANE	
OWNER DEVON ENERGY PRODUCTION CO., LP.	CYCLOPENTANE	
COMPLETED 051122	HEXANES PLUS	
SAMPLED 070717	NITROGEN	0.4
FORMATION CRET-MESAVERDE	OXYGEN	
GEOLOGIC PROVINCE CODE 535	ARGON	
	ARGON + OXYGEN	TRACE
TRUE VERTICAL DEPTH (FT) 11048	HYDROGEN	0.0
MEASURED DEPTH	HYDROGEN SULFIDE**	0.0
WELLHEAD PRESSURE, PSIG800	CARBON DIOXIDE	3.3
OPEN FLOW, MCFD	HELIUM	0.00
	HEATING VALUE*	-
	SPECIFIC GRAVITY	0.646
SAMPLE 21636	COMPONENT, MOLE PCT	
STATEWYOMING	METHANE	83.2
COUNTY CARBON	ETHANE	6.1
	PROPANE	2.1
FIELD ROBBERS GULCH	N-BUTANE	0.5
	ISOBUTANE	0.5
		0.5
	N-PENTANE	
API4900722348		0.2
API	N-PENTANE	0.2
API	N-PENTANE	0.2 0.2
API	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN	0.2 0.2 0.3 4.0
API	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN	0.2 0.2 0.3 4.0
API	N-PENTANEISOPENTANE CYCLOPENTANE HEXANES PLUS NITROGEN OXYGEN ARGON	0.2 0.2 0.3 4.0
API	N-PENTANE	0.2 0.2 0.3 4.0 TRACE
API 4900722348 LOCATION SEC 23. T14N. R92W OWNER DEVON ENERGY PRODUCTION CO., LP. COMPLETED 031003 SAMPLED 070717 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 535 TRUE VERTICAL DEPTH (FT) 8818	N-PENTANE	0.2 0.2 0.3 4.0 TRACE 0.0
API 4900722348 LOCATION SEC 23. T14N. R92W OWNER DEVON ENERGY PRODUCTION CO., LP. COMPLETED 031003 SAMPLED 070717 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 535 TRUE VERTICAL DEPTH (FT) 8818 MEASURED DEPTH	N-PENTANE	0.2 0.2 0.3 4.0 TRACE 0.0
API 4900722348 LOCATION SEC 23. T14N. R92W OWNER DEVON ENERGY PRODUCTION CO., LP. COMPLETED 031003 SAMPLED 070717 FORMATION CRET-MESAVERDE GEOLOGIC PROVINCE CODE 535 TRUE VERTICAL DEPTH (FT) 8818 MEASURED DEPTH WELLHEAD PRESSURE, PSIG 650	N-PENTANE	0.2 0.2 0.3 4.0 TRACE 0.0 0.0
TRUE VERTICAL DEPTH (FT) 8818 MEASURED DEPTH	N-PENTANE	0.2 0.2 0.3 4.0 TRACE 0.0 0.0 2.9

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

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

SAMPLE 21610	COMPONENT, MOLE PCT
STATE WYOMING	METHANE88.8
COUNTY LINCOLY	ETHANE 5.0
	PROPANE 2.2
FIELD ROCKING CHAIR	N-BUTANE
WELL NAME HYRUM DITCH 11X-2	ISOBUTANE
API	2 N-PENTANE
LOCATION SEC 26, T26N, R113V	Y ISOPENTANE0.2
OWNERXTO ENERGY. INC	CYCLOPENTANE
COMPLETED	
SAMPLED07071	0 NITROGEN1.3
FORMATION CRET-FRONTIER U 1 &	OXYGEN
GEOLOGIC PROVINCE CODE53	ARGON
TRUE VERTICAL DEPTH (FT)	ARGON + OXYGEN
MEASURED DEPTH	HYDROGEN
WELLHEAD PRESSURE, PSIG90	nt DROGEN SOLFIDE
•	CANDON DIOXIDE
OPEN FLOW, MCFD6	
	HEATING VALUE*
SAMPLE 21529	COMPONENT, MOLE PCT
STATE WYOMING	METHANE 94.7
STATE WYOMING	2 WETT/WE
COMPREM	<u> </u>
FIELD WAGENSEI	ETHANE
FIELD WAGENSEN WELL NAME EAGLE 31-30 (FIELD COMPOSITE	G ETHANE TRACE L PROPANE 0.0 N N-BUTANE 0.0 E) ISOBUTANE 0.0
FIELD WAGENSEI WELL NAME FAGLE 31-30 (FIELD COMPOSITE API 490053975	G ETHANE TRACE L PROPANE 0.0 N-BUTANE 0.0 E) ISOBUTANE 0.0 6 N-PENTANE 0.0
FIELD WAGENSEI WELL NAME FAGLE 31-30 (FIELD COMPOSITE API 490053975	G ETHANE TRACE L PROPANE 0.0 N-BUTANE 0.0 E) ISOBUTANE 0.0 6 N-PENTANE 0.0
FIELD WAGENSE WELL NAME FAGLE 31-30 (FIELD COMPOSITE API 490053975 LOCATION SEC 30, T46N, R71V	G ETHANE TRACE L PROPANE 0.0 N-BUTANE 0.0 SOBUTANE 0.0 N-PENTANE 0.0 V ISOPENTANE 0.0
FIELD WAGENSE WELL NAME FAGLE 31-30 (FIELD COMPOSITE API 490053975 LOCATION SEC 30, T46N, R71V OWNER DUNCAN OIL, INC	G ETHANE TRACE L PROPANE 0.0 N N-BUTANE 0.0 E) ISOBUTANE 0.0 6 N-PENTANE 0.0 V ISOPENTANE 0.0 C CYCLOPENTANE 5 HEXANES PLUS 0.0
COUNTY CAMPBEL FIELD WAGENSE! WELL NAME EAGLE 31-30 (FIELD COMPOSITE API 490053975; LOCATION SEC 30, T46N, R71V OWNER DUNCAN OIL, INC COMPLETED 00060; SAMPLED 06052;	ETHANE
FIELD WAGENSE WELL NAME FAGLE 31-30 (FIELD COMPOSITE API 490053975 LOCATION SEC 30, T46N, R71V OWNER DUNCAN OIL, INC COMPLETED 00060 SAMPLED 06052	ETHANE
FIELD WAGENSE WELL NAME EAGLE 31-30 (FIELD COMPOSITE API 490053975 LOCATION SEC 30, T46N, R71V OWNER DUNCAN OIL, INC COMPLETED 00060	ETHANE
FIELD WAGENSE WELL NAME EAGLE 31-30 (FIELD COMPOSITE API 490053975 LOCATION SEC 30, T46N, R71V OWNER DUNCAN OIL, INC COMPLETED 00060 SAMPLED 06052 FORMATION PALE-WYODAK COA	ETHANE
FIELD WAGENSE WELL NAME FAGLE 31-30 (FIELD COMPOSITE API 490053975 LOCATION SEC 30, T46N, R71V OWNER DUNCAN OIL, INC COMPLETED 00060 SAMPLED 06052 FORMATION PALE-WYODAK COA GEOLOGIC PROVINCE CODE 51 TRUE VERTICAL DEPTH (FT) 38	ETHANE
FIELD WAGENSE WELL NAME EAGLE 31-30 (FIELD COMPOSITE API 490053975 LOCATION SEC 30, T46N, R71V OWNER DUNCAN OIL, INC COMPLETED 00060 SAMPLED 06052 FORMATION PALE-WYODAK COA GEOLOGIC PROVINCE CODE 51 TRUE VERTICAL DEPTH (FT) 38 MEASURED DEPTH	ETHANE
FIELD WAGENSE WELL NAME EAGLE 31-30 (FIELD COMPOSITE API 490053975 LOCATION SEC 30, T46N, R71V OWNER DUNCAN OIL, INC COMPLETED 00060 SAMPLED 06052 FORMATION PALE-WYODAK COA GEOLOGIC PROVINCE CODE 51 TRUE VERTICAL DEPTH (FT) 38 MEASURED DEPTH WELLHEAD PRESSURE, PSIG	ETHANE
FIELD WAGENSE WELL NAME EAGLE 31-30 (FIELD COMPOSITE API 490053975 LOCATION SEC 30, T46N, R71V OWNER DUNCAN OIL, INC COMPLETED 00060 SAMPLED 06052 FORMATION PALE-WYODAK COA GEOLOGIC PROVINCE CODE 51 TRUE VERTICAL DEPTH (FT) 38 MEASURED DEPTH WELLHEAD PRESSURE, PSIG	ETHANE

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

Table 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
31ATE	NEW MEXICO	ETHANE	7.1
COUNTY	SAN JUAN_	PROPANE	3.3
EIEL D		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
1 KEGGOKE, 1 GIG	<u></u>	CARBON DIOXIDE	1.4
FLOW, MCFD	522000	HELIUM	0.05
		HEATING VALUE*	1,162
		SPECIFIC GRAVITY	0.676

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

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