PLC 9/8/98

dugan production corp.

8

August 17, 1998

Ms. Lori Wrotenbery, Director
New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, NM 87505

Mr. Ray Powell, Commissioner
New Mexico State Land Office
P. O. Box 1148
Santa Fe, NM 87504-1148

Mr. Lee Otteni, District Manager
Bureau of Land Management
1235 La Plata Highway
Farmington, NM 87401

Re: Request for Surface Commingling, plus
Off-lease Measurement and Sale of Produced Natural Gas
Rusty Chacra Gas Gathering System Operated by Dugan Production Corp.
Sandoval County, New Mexico

Dear Ms. Wrotenbery, Mr. Powell, and Mr. Otteni:

We are writing to request your approvals for the surface commingling, plus off-lease measurement and sale of natural gas production from the 44 wells connected to the Rusty Chacra Gas Gathering System (RCGGS) currently operated by Dugan Production Corp. This gathering system was constructed during 1981 by Dome Petroleum Corp. as a joint project of seven companies that had completed 36 Chacra and Gallup wells in the general vicinity by years end 1981. The gathering system was initially operated by Dome Petroleum Corp. and was placed into service during January, 1982 subject to an operating and ownership agreement dated 1-18-82. On 1-1-90 Dugan Production acquired the interest of Texaco Oil Co., (successor to Dome Petroleum Corp.) in most wells connected to the RCGGS which also included an ownership in and the operatorship of the RCGGS. Subsequent to Dugan's purchase of Texaco's interest we have also acquired other interests and currently the RCGGS is owned jointly by DPC (97.143%) and Hicks Oil and Gas (2.857%). Prior to acquiring our interest from Texaco, DPC had no ownership interest in any of these wells or the Rusty Chacra Gas Gathering System. We have reviewed the files received from Texaco and have not located any formal prior approvals for the operation of this system, but conversations with the Texaco people responsible for field operations leads us to believe that Texaco and/or Dome Petroleum had secured the necessary approvals. Dugan's operation of this system is described in this application and is consistent with Texaco's operation

709 E. MURRAY DR. • P. O. BOX 420 • FARMINGTON, N.M. 87499-0420 • PHONE: (505) 325-1821 • FAX# (505) 327-4613

prior to our purchase of their interest. As of 6-1-98, there were 35 wells currently active and producing into the RCGGS which includes 19 wells on Federal leases, two on State leases and 14 on Navajo Allotted leases. With the exception of one well operated by Hicks Oil and Gas, all wells are operated by Dugan Production Corp. During 1997, the 35 wells currently producing averaged a combined total of 5.7 BOPD plus 378 MCFD from four pools (three oil and one gas), all located in Townships 21N & 22N, Ranges 6W & 7W of Sandoval County, New Mexico.

Attachment No. 1 presents a participation statement for Hicks Oil & Gas, Inc. as the operator of one well delivering gas into the RCGGS operated by Dugan Production. Hicks Oil & Gas also has a 2.857% ownership in the RCGGS which they've held since 2-15-83. Hicks' wells is approximately 1/3 mile from the RCGGS and approximately 3 miles from El Paso's pipeline. Thus the RCGGS provides an important option for the sale of gas from Hick's well, and without the RCGGS, it is unlikely that gas from Hick's well would be sold.

Attachment No. 2 consists of a full scale map which was produced using USGS 7½ minute Quadrangle topography maps and presents the Rusty Chacra Gas Gathering System lines, lease descriptions plus well and system equipment locations. The RCGGS delivers gas to a CDP sales meter on El Paso Field Service's pipeline in the SE NW 12, T-22N, R-7W.

Attachment No. 3 presents well and lease information for the 44 wells connected to the RCGGS which includes 35 wells that are currently producing, three that are shut in and six that have produced but are currently plugged and abandoned. During 1997, total production from all wells averaged 5.7 BOPD plus 378 MCFD for an overall individual well average of 9.9 MCFD for the 29 Chacra wells and 1.0 BOPD plus 15.0 MCFD for the six Gallup wells. All Chacra wells are completed in the Rusty Chacra gas pool while the Gallup wells are completed in the Alamito, Rusty, and South Rusty Gallup oil pools. All wells are considered to be low volume producers with only eight wells averaging more than 15.0 MCFD during 1997 and the well producing the highest rate during 1997 only averaged 32.2 MCFD.

Also presented on Attachment No. 3 is the cumulative production for each well which also indicates the low volume nature of these wells. As of 1-1-98, a total of 2,207,797 MCF have been produced from 37 Chacra wells for an overall average of 59,670 MCF per well. A total of 60,026 bbl of oil plus 635,858 MCF of gas have been produced from seven Gallup wells for an overall per well average of 8,575 bbl oil plus 90,836 MCF of gas. These cumulatives are very low considering that all but two wells have been producing since 1982.

Attachment No. 4 presents a listing of lease and system equipment plus the fuel requirements for each well. In addition, we have included the volumes of gas that are periodically purged when attempting to keep these low volume wells producing and not logging off.

Attachment No. 5 presents a copy of the complete gas analysis for all wells. Based upon these analyses and our experience in the field, all gas streams are believed to be compatible and there does not appear to be any problems resulting from the surface commingling of gas from these four

pools. In addition, since revenues from the gas are allocated back to individual wells using individual well BTU's there should be no loss of value to any well.

Attachment No. 6 presents the allocation procedures for all wells connected to the RCGGS. All gas volumes will be continuously measured at each well using conventional metering equipment or an approved alternate measurement method installed and maintained by Dugan Production. The gas charts recorded at each well are integrated monthly for volumes to be used in determining allocation factors. To date we have had very few problems with line leaks or line freezes which could cause losses of gas from the gathering system. In the event that we have a system gas loss (either as a result of line leaks, venting to clear line freezes, or venting to perform repair or installation of equipment), the gas volumes will be volumetrically calculated using the affected line capacity and accounting for the initial and final pressures within the system. Any gas volume computed in this manner will be allocated to the individual wells that contributed to the gas volume lost. The integrity of our gas gathering system is monitored by periodic surveys of the line utilizing a Flame Pack Model 400 Gas Leak Detector which is owned by Dugan Production Corp. Attachment No. 6 also includes a procedure for allocating liquid hydrocarbons (drip) that may accumulate within the gathering system drips, however it should be noted that to date, there have been no liquid hydrocarbons (drip) recovered from either of the two system drips and we do not anticipate any drip recovery in the future. The drip allocation procedure is included with this application simply to cover any drip recoveries that may occur at some future date.

Attachment No. 7 presents the "Reasons, Justification and Benefits" for the off-lease measurement and surface commingling of gas production in the operation of the RCGGS. The primary reason that surface commingling and off-lease measurement and sale of natural gas is necessary for wells on the RCGGS is the fact that wellhead pipeline connections are not available and if gas sales are to occur, the gas must be gathered and delivered to a central sales meter on El Paso's pipeline. In today's gas market environment, a well operator typically only has two options: A) build and operate a gas gathering system, delivering a commingled gas stream to a central delivery sales meter at some point removed from the lease, or B) vent the casinghead gas on oil wells and shut in gas wells which cannot be vented. Having invested substantial monies in the acquisition of leasehold acreage, plus the drilling, completion and equipping of wells, operators really have only one realistic option; to install and operate a gas gathering system such as the RCGGS!

The economic benefit for individual wells on the RCGGS is presented on Attachment No. 7 using actual production information. During 1997, the average well connected to the RCGGS had a gas revenue of approximately $1.43 for each MCF that the well produced. This value represents the value of all gas sales and should be divided amongst the royalty, overriding royalty and working interest owners based upon their respective interest ownerships.

The economic benefit to the various types of royalty owners is also presented on Attachment No. 7 using actual production information. During 1997, Chacra gas production from the 19 wells on Federal leases averaged 200.8 MCFD of gas for a per well average of 10.6 MCFD and an average

royalty revenue (assuming a 12½% royalty rate) of $2.22 per day per well. This same information is also presented for the one State and nine Navajo Allotted Chacra wells plus the six Gallup wells.

Attachment No. 7 also includes copies of NMOCD Order R-9617 and BLM NTL 92-5 New Mexico which both reflect a recognition that wells producing less than 100 MCFD are considered to be low capacity wells and warrant special considerations pertaining to gas measurement in order to avoid premature abandonment and subsequent loss of hydrocarbon reserves. Both documents also recognize wells producing 15 MCFD or less as not even requiring continuous flow measurement, but some alternate method of determining gas production that is mutually agreeable and equatable to all parties. During 1997, of the 35 wells producing into the RCGGS, there were no wells exceeding the 100 MCFD rate and only eight wells produced rates greater than 15 MCFD.

In summary, Dugan Production Corp. respectfully requests approval for the surface commingling plus off-lease measurement and sale of produced natural gas from the wells connected to the Rusty Chacra Gas Gathering System. With the exception of one well operated by Hicks Oil & Gas, all wells are currently operated by Dugan Production Corp. A tremendous amount of time, effort and money has been expended to provide a means of delivering low volumes of gas produced from these marginal oil and gas wells to a pipeline up to 5 miles away from some wells. All volumes of gas will be measured at each well site using allocation meters or an approved method of alternative measurement and all revenues will be allocated from the CDP sales meter to the individual wells using BTU's so that there should not be any loss of value to any well or interest owner. Without the RCGGS, an average of approximately 378 MCFD of natural gas produced from 35 currently active wells would be shut in or vented rather than sold.

Should there be questions or if additional information is needed, please let us know.

Sincerely,

John D. Roe

John D. Roe
Engineering Manager

JDR/tmf

cc: NMOCD - Aztec
Hicks Oil & Gas

ATTACHMENT NO. 1

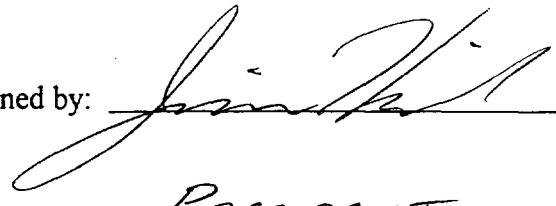
Participation Statement of Hicks Oil & Gas Inc.
Rusty Chacra Gas Gathering System - Operated by Dugan Production Corp.
Sandoval County, New Mexico

Hicks Oil & Gas Inc. is the operator of one well in the vicinity of the Rusty Chacra Gas Gathering System operated by Dugan Production Corp. and desires to use this gas gathering system to transport natural gas produced from our well to a central delivery sales meter located on El Paso Field Service's line in the NW/4 of Section 12, T-22N, R-7W.

We have reviewed Dugan's application for surface commingling and off-lease measurement, which includes our well, along with the proposed allocation procedures and believe the described operation and allocation procedures are consistent with standard industry practices and are acceptable to Hicks Oil & Gas Inc.

We request that approval of Dugan's application for surface commingling and the off-lease measurement and sale of produced natural gas also be an approval for the following well operated by Hicks Oil & Gas Inc:

Well	Location	API No.	State Lease No.
Dana State No. 1	SW NE 16, T22N, R7W	30-043-20165	K04844

Signed by: 

Title: PRESIDENT
For Hicks Oil & Gas Inc.

Date: August 14, 1998

ATTACHMENT NO. 3
WELLS CONNECTED TO THE RUSTY CHACRA GAS GATHERING SYSTEM OPERATED BY DUGAN PRODUCTION CORP. (6-1-98)

Well Name	API # 30-043	Well Location ¼ ¼	Well Location Sec-Twn-Rn	Lease No. For Well Loc.	Lease Type	Communitization Agreement No. (If Established)	Pool	Spacing Unit	Compl. Date	Current Status (1)	Current Average Production (2) BOPD	Current Average Production (2) MCFD	Cumulative Production 1-1-98 bbl	Cumulative Production 1-1-98 MCF
WELLS OPERATED BY DUGAN PRODUCTION														
Chacra #1	20308	NW NW	10-22N-7W	NM25821	FED		RUSTY CHACRA	NW	2-9-78	P	0	17.3	0	27,277
Chacra #2	20309	SW SE	21-22N-7W	NM25821	FED		RUSTY CHACRA	SE	2-21-78	P	0	10.3	0	16,077
Dome Federal 01-21-7 #1	20638	SE NE	1-21N-7W	NM15649	FED		RUSTY CHACRA	NE	7-2-82	P	0	4.7	0	42,967
Dome Federal 10-22-7 #1	20484	SE NE	10-22N-7W	NM6680	FED		RUSTY CHACRA	NE	10-23-80	P	0	12.2	0	81,316
Dome Federal 15-22-7 #1	20281	SE SE	15-22N-7W	NM8899	FED		RUSTY CHACRA	SE	6-15-79	P	0	21.0	0	92,189
Dome Federal 18-22-6 #3	20481	SW NW	18-22N-6W	NM21455	FED		RUSTY CHACRA	NW	10-21-80	P	0	5.0	0	17,800
Dome Federal 19-22-6 #1	20404	SW SW	19-22N-6W	NM21455	FED		RUSTY CHACRA	SW	8-30-79	P	0	3.3	0	59,910
Dome Federal 20-22-6 #2	20482	SE SE	20-22N-6W	NM17008	FED		RUSTY CHACRA	SE	10-15-80	PA 10/96	0	0	0	43,203
Dome Federal 20-22-6 #3	20486	SW NW	20-22N-6W	NM17008	FED		RUSTY CHACRA	NW	11-7-80	PA 10/96	0	0	0	36,457
Dome Federal 29-22-6 #2	20406	NE SW	29-22N-6W	NM6676	FED		RUSTY CHACRA	SW	10-10-80	P	0	10.5	0	96,775
Dome Federal 29-22-6 #3	20483	SE NE	29-22N-6W	NM6676	FED		RUSTY CHACRA	NE	12-31-80	P	0	8.1	0	79,994
Dome Federal 30-22-6 #1	20407	NE NW	30-22N-6W	NM8641	FED		RUSTY CHACRA	NW	8-30-79	P	0	15.4	0	90,171
Dome Navajo 03-22-7 #1	20449	NW SE	3-22N-7W	NOOC14205555	I		ALAMITO GALLUP	NWSE	3-21-80	P	0.7	32.2	7,422	146,436
Dome Navajo 17-22-7 #2	20480	NE SW	17-22N-7W	NOOC14205382	I		RUSTY CHACRA	SW	10-28-80	P	0	3.0	0	17,135
Dome Navajo 18-22-6 #2	20474	SW SE	18-22N-6W	NM5452	FED		RUSTY CHACRA	SE	11-4-80	TA	0	0	0	40,376
Dome Navajo 20-22-7 #1	20408	SE NE	20-22N-7W	NOOC14205595	I		RUSTY CHACRA	NE	7-25-79	P	0	6.1	0	25,433
Dome Navajo 22-22-7 #1	20492	SE SE	22-22N-7W	Note (3)	I		RUSTY GALLUP	SE SE	10-11-80	PA ?/87	0	0	7,408	2,306
Dome Navajo 27-22-6 #1	20475	SW SW	27-22N-6W	NOOC14205046	I		RUSTY CHACRA	SW	1-16-87	P	0	3.2	0	53,761
Dome Navajo 28-22-6 #2	20477	NE SE	28-22N-6W	NOOC14205044	I		RUSTY CHACRA	SE	10-13-80	P	0	9.7	0	99,307
Dome Navajo 28-22-6 #4	20476	NE SW	28-22N-6W	NOOC14205045	I		RUSTY CHACRA	SW	12-31-80	P	0	7.9	0	136,690
Dome Navajo 33-22-6 #1	20663	NE NE	33-22N-6W	NOOC14205050	I		RUSTY CHACRA	NE	12-2-82	P	0	6.2	0	72,719
Dome Navajo 33-22-6 #2	20664	SE SW	33-22N-6W	NOOC14205048	I		RUSTY CHACRA	SW	12-2-82	P	0	8.7	0	151,823
Dome Navajo 34-22-6 #1	20478	NE NW	34-22N-6W	NOOC14205051	I		RUSTY CHACRA	NW	1-23-81	P	0	8.0	0	79,983
Dome Rusty 20-22-7 #1	20319	SE SE	20-22N-7W	NM7262	FED		RUSTY CHACRA	SE	8-28-78	P	0	3.2	0	28,905
Dome Rusty 24-22-7 #1	20320	NW SE	24-22N-7W	NM6680	FED		RUSTY CHACRA	SE	6-30-78	P	0	23.0	0	96,533
Dome Rusty 30-22-6 #1	20318	NW NE	30-22N-6W	NM6676	FED		RUSTY CHACRA	NE	6-30-78	P	0	10.0	0	35,182
Dome State 32-22-6 #2	20470	NE NE	32-22N-6W	LG3923	STATE		RUSTY CHACRA	NE	1-5-81	P	0	15.9	0	203,575
Dome Tesoro 22 #4	20542	NE NW	22-22N-7W	NOOC14205356	I		RUSTY GALLUP	NENW	4-30-81	P	1.0	9.1	9,039	58,257
Dome Tesoro 23 #1	20506	NW SW	23-22N-7W	NOOC14205360	I		RUSTY GALLUP	NWSW	11-29-80	P	2.3	10.3	22,859	25,882

ATTACHMENT NO. 3
WELLS CONNECTED TO THE RUSTY CHACRA GAS GATHERING SYSTEM OPERATED BY DUGAN PRODUCTION CORP. (6-1-98)

Well Name	API #	Well Location		Lease No.	Lease	Communitization Agreement No.	Pool	Spacing	Compl.	Current	Current Average Production (2)		Cumulative Production 1-1-98	
	30-043	¼ ¼	Sec-Twn-Rn	For Well Loc.	Type	(If Established)		Unit	Date	Status (1)	BOPD	MCFD	bbl	MCF
Dome Tesoro 27 #3	20515	NW NW	27-22N-7W	NOOC14205365	I		RUSTY GALLUP	NWNW	2-9-81	P	0.6	11.3	3,273	99,327
Federal 19-22-6 #1	20343	SE NE	19-22N-6W	NM5452	FED		RUSTY CHACRA	NE	7-12-79	PA 10/96	0	0	0	70
Federal 20-22-6 #1	20360	NW SW	20-22N-6W	NM17008	FED		RUSTY CHACRA	E/2	9-17-78	PA 10/96	0	0	0	32,850
Federal 25-22-7 #1	20398	NW NE	25-22N-7W	NM8899	FED		RUSTY CHACRA	NE	9-17-82	P	0	2.1	0	28,462
Federal 26-22-7 #1	20363	NE NE	26-22N-7W	NM8899	FED		RUSTY CHACRA	NE	9-17-78	P	0	13.5	0	83,015
Federal 28-22-6 #1	20358	NW NW	28-22N-6W	NM7008	FED		RUSTY CHACRA	NW	8-14-78	PA 3/91	0	0	0	0
Federal 29-22-6 #1	20344	NE SE	29-22N-6W	NM6676	FED		RUSTY CHACRA	SE	9-19-78	P	0	9.7	0	69,756
Federal 29-22-6 #2	20393	SW NW	29-22N-6W	NM6676	FED		RUSTY CHACRA	NW	9-11-82	P	0	23.7	0	81,698
Federal 31-22-6 #1	20383	NW SE	31-22N-6W	NM7776	FED		RUSTY CHACRA	SE	4-25-79	P	0	4.3	0	15,528
Navajo #1	20797	SE SW	33-22N-6W	NOOC14205048	I	9636	RUSTY SO. GALLUP	SESW	11-19-85	P	0.4	13.1	2,128	136,292
Navajo 10-22-7 #1	20346	SE SW	10-22N-7W	NOOC14205594	I		RUSTY CHACRA	SW	9-15-78	P	0	18.7	0	102,028
Navajo 18-22-6 #1	20286	SE SW	18-22N-6W	NM5452	FED		RUSTY CHACRA	SW	7-16-79	TA	0	0	0	4,696
Navajo 21-22-7 #1	20282	NE NE	21-22N-7W	NM6680	FED		RUSTY CHACRA	NE	6-30-78	P	0	3.5	0	30,949
State 32-22-6 #1	20400	NW NW	32-22N-6W	LG3923	STATE		RUSTY CHACRA	NW	3-11-82	TA	0	0	0	33,187
WELLS OPERATED BY OTHERS														
Hicks Oil - Dana State #1	20165	SW NE	16-22N-7W	K04844	STATE		RUSTY GALLUP	SW NE	7-14-75	P	0.7	13.8	7,897	167,358
TOTALS											5.7	378	60,026	2,843,655

N/A = Not Applicable
NR = None Reported

1 - Status of completed interval 6-1-98
LOC = proposed location
NC = not connected to gathering system
P = producing, includes wells temporarily shut in
PA = plugged & abandoned
TA = temporarily abandoned

2 - Average production during 1997. * = well not producing 12-31-97 and rates are from production and/or testing subsequent to 12-31-97.

3 - Well was P&A by Texaco and disconnected from gathering system prior to acquisition by Dugan Production Corp. Lease type and number are not available in Dugan's records.

ATTACHMENT NO. 4
DUGAN PRODUCTION CORP. - RUSTY CHACRA GATHERING SYSTEM LEASE FUEL AS OF 6-1-98

WELL NAME	Lease Equipment (1) Separator Burner BTU/hr	HP of Engine	Lease Fuel MCFD Summer Months	Lease Fuel MCFD Winter Months	Purged Gas MCF (2)	Current Gas Analysis (3) BTU/CF
WELLS OPERATED BY DUGAN						
Chacra #1	---		0	0	0.19	1,102
Chacra #2	250M		0	1.40	0.15	1,147
Dome Federal 01-21-7 #1	150M		0	.80	0.08	1,104
Dome Federal 10-22-7 #1	250M		0	1.40	0.19	1,068
Dome Federal 15-22-7 #1	125M		0	0.7	0.16	1,122
Dome Federal 18-22-6 #3	125M	7	1.8	2.50	---	1,044
Dome Federal 19-22-6 #1	250M		0	1.4	0.30	1,109
Dome Federal 29-22-6 #2	250M		0	1.4	0.16	1,129
Dome Federal 29-22-6 #3	250M		0	1.4	0.15	1,124
Dome Federal 30-22-6 #1	250M		0	1.4	0.14	1,126
Dome Navajo 03-22-7 #1	250M	10	3.9	3.9	0.09	1,280
Dome Navajo 17-22-7 #2	---		0	0	0.14	1,107
Dome Navajo 18-22-6 #2	125M		0	0.7	0.16	1,073
Dome Navajo 20-22-7 #1	---		0	0	0.15	1,115
Dome Navajo 27-22-6 #1	125M		0	0.7	0.17	1,129
Dome Navajo 28-22-6 #2	125M		0	0.7	0.15	1,124
Dome Navajo 28-22-6 #4	125M		0	0.7	0.15	1,126
Dome Navajo 33-22-6 #1	150M		0	0.8	0.10	1,134
Dome Navajo 33-22-6 #2	150M		0	0.8	0.09	1,093
Dome Navajo 34-22-6 #1	125M		0	0.7	0.16	1,132
Dome Rusty 20-22-7 #1	150M		0	0.8	0.17	1,122
Dome Rusty 24-22-7 #1	150M		0	0.8	0.15	1,121
Dome Rusty 30-22-6 #1	150M		0	0.8	0.08	1,126
Dome State 32-22-6 #2	350M		0	1.9	0.12	1,137
Dome Tesoro 22 #4	350M	7	3.7	3.7	---	1,293
Dome Tesoro 23 #1	350M	32	10.0	10.0	---	1,204
Dome Tesoro 27 #3	350M		1.9	1.9	0.37	1,249
Federal 25-22-7 #1	150M		0	0.8	0.16	1,123

ATTACHMENT NO. 4
DUGAN PRODUCTION CORP. - RUSTY CHACRA GATHERING SYSTEM LEASE FUEL AS OF 6-1-98

WELL NAME	Lease Equipment (1) Separator Burner BTU/hr	HP of Engine	Lease Fuel MCFD Summer Months	Lease Fuel MCFD Winter Months	Purged Gas MCF (2)	Current Gas Analysis (3) BTU/CF
Federal 26-22-7 #1	150M		0	0.8	0.15	1,129
Federal 29-22-6 #1	150M		0	0.8	0.15	1,134
Federal 29-22-6 #2	150M		0	0.8	0.10	1,126
Federal 31-22-6 #1	150M		0	0.8	0.08	1,127
Navajo #1	523M		0	2.8	0.41	1,346
Navajo 10-22-7 #1	150M		0	0.8	0.18	1,140
Navajo 18-22-6 #1	---		0	0	0.16	1,081
Navajo 21-22-7 #1	150M		0	0.8	0.16	1,119
State 32-22-6 #1	---		0	0	---	1,016
WELLS OPERATED BY OTHERS						
Hicks Oil - Dana State #1	250M		0	1.0	---	1,262
GATHERING SYSTEM EQUIPMENT						
Central Compressor	---	156	39.31	39.31	---	

Notes:

1. Gas used on lease as of 6-1-98. As conditions and/or equipment change, fuel uses will also change. Fuel requirements are calculated from burner and horsepower sizes. Summer months = May thru October; Winter months = November thru April.

2. Gas purged to unload accumulated liquids - caluclated using individual well equipment and average wellbore pressures. MCF vented/purged per cycle.

3. Dry BTU/CF @ 14.73 PSIA.

4. Well not currently connected to gathering system.

ATTACHMENT NO. 5
GAS ANALYSIS REPORTS
DUGAN PRODUCTION CORP.'S
RUSTY CHACRA GAS GATHERING SYSTEM

1115 Farmington Avenue
Farm gton, N.M. 87401
(505, 325-6622

Analysis No. DUG60126
Cust. No. 23000-10605

Attachment No. 5
Pg 2 of 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: CHACRA 1	Pressure	: 41 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: 10-22N-07W	Date Sampled	: 12/16/96
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252606	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM-25821

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	1.849	0.0000	0.00	0.0179
CO2	0.061	0.0000	0.00	0.0009
METHANE	89.157	0.0000	902.54	0.4938
ETHANE	5.527	1.4785	98.03	0.0574
PROPANE	2.217	0.6110	55.91	0.0338
I-BUTANE	0.399	0.1305	13.01	0.0080
N-BUTANE	0.424	0.1337	13.86	0.0085
I-PENTANE	0.148	0.0542	5.93	0.0037
N-PENTANE	0.081	0.0293	3.26	0.0020
HEXANES	0.137	0.0598	7.04	0.0044
TOTAL	100.000	2.4970	1099.58	0.6303

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0026
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1102.4
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1083.3
REAL SPECIFIC GRAVITY	0.6317

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: A059
CYLINDER PRESSURE	: 42 PSIG
DATE RUN	: 12/18/96
ANALYSIS RUN BY	: BOB DURBIN

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80379
Cust. No. 23000-10610

Attachment #5
Pg 3 of 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: CHACRA 2	Pressure	: 125 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: 021-22N-07W	Date Sampled	: 03/09/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252755	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM-25821

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	1.803	0.0000	0.00	0.0174
CO2	0.093	0.0000	0.00	0.0014
METHANE	86.311	0.0000	873.73	0.4781
ETHANE	6.650	1.7789	117.95	0.0690
PROPANE	3.015	0.8309	76.04	0.0459
I-BUTANE	0.454	0.1485	14.80	0.0091
N-BUTANE	1.012	0.3191	33.09	0.0203
I-PENTANE	0.280	0.1025	11.23	0.0070
N-PENTANE	0.252	0.0913	10.13	0.0063
HEXANES	0.130	0.0567	6.68	0.0042
TOTAL	100.000	3.3279	1143.64	0.6586

0.7151

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR	(1/Z)	1.0028
BTU/CU.FT. (DRY) CORRECTED FOR	(1/Z)	1146.8
BTU/CU.FT. (WET) CORRECTED FOR	(1/Z)	1126.9
REAL SPECIFIC GRAVITY		0.6602

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: AZT009
CYLINDER PRESSURE	: 130 PSIG
DATE RUN	: 03/10/98
ANALYSIS RUN BY	: CHELLE DURBIN

2030 A on Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80403
Cust. No. 23000-10735

ATTACHMENT #5
PG. 4 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME FEDERAL 1-21-7 #1	Pressure	: 33 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: H01-21N-07W	Date Sampled	: 03/24/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A262253	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM 15649

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	1.467	0.0000		0.00	0.0142
CO2	0.073	0.0000		0.00	0.0011
METHANE	89.573	0.0000		906.75	0.4961
ETHANE	5.645	1.5100		100.13	0.0586
PROPANE	2.116	0.5832		53.36	0.0322
I-BUTANE	0.364	0.1191	0.3589	11.86	0.0073
N-BUTANE	0.397	0.1252		12.98	0.0080
I-PENTANE	0.134	0.0490		5.37	0.0033
N-PENTANE	0.074	0.0268		2.97	0.0018
HEXANES	0.157	0.0685		8.07	0.0051
TOTAL	100.000	2.4818		1101.50	0.6277

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0026
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1104.4
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1085.1
REAL SPECIFIC GRAVITY	0.6291

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: KFL 121
CYLINDER PRESSURE	: 34 PSIG
DATE RUN	: 03/25/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 ton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80375
Cust. No. 23000-10740

ATTACHMENT #5
PG. # 5 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME FEDERAL 10-22-7 #1	Pressure	: 95 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: 10-22N-07W	Date Sampled	: 02/24/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252612	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM-6680

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	3.992	0.0000		0.00	0.0386
CO2	0.073	0.0000		0.00	0.0011
METHANE	88.274	0.0000		893.60	0.4889
ETHANE	4.596	1.2294		81.52	0.0477
PROPANE	1.913	0.5272		48.24	0.0291
I-BUTANE	0.447	0.1462		14.57	0.0090
N-BUTANE	0.358	0.1129	0.3957	11.71	0.0072
I-PENTANE	0.140	0.0512		5.61	0.0035
N-PENTANE	0.066	0.0239		2.65	0.0016
HEXANES	0.141	0.0615		7.25	0.0045
TOTAL	100.000	2.1523		1065.15	0.6312

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR	(1/Z)	1.0024
BTU/CU.FT. (DRY) CORRECTED FOR	(1/Z)	1067.7
BTU/CU.FT. (WET) CORRECTED FOR	(1/Z)	1049.1
REAL SPECIFIC GRAVITY		0.6325

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: K072
CYLINDER PRESSURE	: 98 PSIG
DATE RUN	: 02/25/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80380
Cust. No. 23000-10655

ATTACHMENT # 5
PG. #6 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME FEDERAL 15-22-7 #1	Pressure	: 125 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: P15-22N-07W	Date Sampled	: 03/09/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252674	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM-8899

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	1.148	0.0000		0.00	0.0111
CO2	0.057	0.0000		0.00	0.0009
METHANE	88.855	0.0000		899.48	0.4922
ETHANE	6.111	1.6347		108.39	0.0634
PROPANE	2.496	0.6879		62.95	0.0380
I-BUTANE	0.413	0.1351		13.46	0.0083
N-BUTANE	0.492	0.1551		16.09	0.0099
I-PENTANE	0.165	0.0604	D.4582	6.62	0.0041
N-PENTANE	0.096	0.0348		3.86	0.0024
HEXANES	0.167	0.0728		8.59	0.0054
TOTAL	100.000	2.7808		1119.43	0.6357

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1122.4
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1102.9
REAL SPECIFIC GRAVITY	0.6372

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: AZT039
CYLINDER PRESSURE	: 127 PSIG
DATE RUN	: 03/10/98
ANALYSIS RUN BY	: CHELLE DURBIN

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80397
Cust. No. 23000-10660

ATTACHMENT # 5
Pg. # 7 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME FEDERAL 18-22-6 #3	Pressure	: 25 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: E18-22N-06W	Date Sampled	: 03/17/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252625	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM-21455

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	4.377	0.0000		0.00	0.0423
CO2	0.000	0.0000		0.00	0.0000
METHANE	89.414	0.0000		905.14	0.4953
ETHANE	3.768	1.0079		66.83	0.0391
PROPANE	1.573	0.4335		39.67	0.0240
I-BUTANE	0.429	0.1403	0.2919	13.98	0.0086
N-BUTANE	0.241	0.0760		7.88	0.0048
I-PENTANE	0.111	0.0406		4.45	0.0028
N-PENTANE	0.039	0.0141		1.57	0.0010
HEXANES	0.048	0.0209		2.47	0.0015
TOTAL	100.000	1.7333		1041.99	0.6193

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0023
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1044.4
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1026.2
REAL SPECIFIC GRAVITY	0.6205

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: KFL122
CYLINDER PRESSURE	: 35 PSIG
DATE RUN	: 03/18/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG70324
Cust. No. 23000-10665

ATTACHMENT #5
PG # 8 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME FEDERAL 19-22-6 #1	Pressure	: 62 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: 19-22N-06W	Date Sampled	: 06/30/97
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252621	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM-21455

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	1.283	0.0000	0.00	0.0124
CO2	0.083	0.0000	0.00	0.0013
METHANE	89.507	0.0000	906.08	0.4958
ETHANE	5.775	1.5448	102.43	0.0600
PROPANE	2.232	0.6151	56.29	0.0340
I-BUTANE	0.359	0.1174	11.70	0.0072
N-BUTANE	0.409	0.1290	13.37	0.0082
I-PENTANE	0.133	0.0487	5.33	0.0033
N-PENTANE	0.073	0.0264	2.93	0.0018
HEXANES	0.146	0.0637	7.51	0.0047
TOTAL	100.000	2.5451	1105.65	0.6287

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0026
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1108.5
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1089.2
REAL SPECIFIC GRAVITY	0.6301

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: 046
CYLINDER PRESSURE	: 50 PSIG
DATE RUN	: 07/02/97
ANALYSIS RUN BY	: CHELLE DURBIN

GAS ANALYSIS SERVICE

2030 Af n Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80400
Cust. No. 23000-10745

ATTACHMENT #5
PG # 9 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME FEDERAL 29-22-6 #2	Pressure	: 41 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: K29-22N-06W	Date Sampled	: 03/23/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252736	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM 6676

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	0.916	0.0000		0.00	0.0089
CO2	0.080	0.0000		0.00	0.0012
METHANE	88.758	0.0000		898.50	0.4916
ETHANE	6.282	1.6804		111.42	0.0652
PROPANE	2.559	0.7053		64.54	0.0390
I-BUTANE	0.410	0.1341		13.36	0.0082
N-BUTANE	0.518	0.1633		16.94	0.0104
I-PENTANE	0.169	0.0618	0.4559	6.78	0.0042
N-PENTANE	0.103	0.0373		4.14	0.0026
HEXANES	0.205	0.0894		10.54	0.0066
TOTAL	100.000	2.8716		1126.21	0.6378

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1129.3
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1109.6
REAL SPECIFIC GRAVITY	0.6393

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: AZT 039
CYLINDER PRESSURE	: 40 PSIG
DATE RUN	: 03/24/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80404
Cust. No. 23000-10940

ATTACHMENT #5
PG #10 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME FEDERAL 29-22-6 #3	Pressure	: 41 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: H29-22N-06W	Date Sampled	: 03/24/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252666	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM 6676

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	1.065	0.0000		0.00	0.0103
CO2	0.082	0.0000		0.00	0.0012
METHANE	88.923	0.0000		900.17	0.4925
ETHANE	6.137	1.6416		108.85	0.0637
PROPANE	2.436	0.6714		61.43	0.0371
I-BUTANE	0.390	0.1276	0.4742	12.71	0.0078
N-BUTANE	0.474	0.1495		15.50	0.0095
I-PENTANE	0.157	0.0574		6.30	0.0039
N-PENTANE	0.093	0.0337		3.74	0.0023
HEXANES	0.243	0.1060		12.49	0.0078
TOTAL	100.000	2.7872		1121.19	0.6360

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR	(1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR	(1/Z)	1124.2
BTU/CU.FT. (WET) CORRECTED FOR	(1/Z)	1104.7
REAL SPECIFIC GRAVITY		0.6375

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: 050
CYLINDER PRESSURE	: 38 PSIG
DATE RUN	: 03/25/98
ANALYSIS RUN BY	: DAVE MARTIN

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80393
Cust. No. 23000-10670

ATTACHMENT #5
PG #11 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME FEDERAL 30-22-6 #1	Pressure	: 44 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: 30-22N-06W	Date Sampled	: 03/16/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252670	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: N.M. 8641

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	1.011	0.0000	0.00	0.0098
CO2	0.088	0.0000	0.00	0.0013
METHANE	88.835	0.0000	899.28	0.4921
ETHANE	6.195	1.6572	109.88	0.0643
PROPANE	2.502	0.6896	63.10	0.0381
I-BUTANE	0.405	0.1325	13.20	0.0081
N-BUTANE	0.500	0.1576	16.35	0.0100
I-PENTANE	0.166	0.0607	6.66	0.0041
N-PENTANE	0.099	0.0359	3.98	0.0025
HEXANES	0.199	0.0868	10.23	0.0064
TOTAL	100.000	2.8203	1122.67	0.6367

0.4735

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1125.7
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1106.1
REAL SPECIFIC GRAVITY	0.6382

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: A004
CYLINDER PRESSURE	: 42 PSIG
DATE RUN	: 03/17/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80376
Cust. No. 23000-10615

ATTACHMENT #5
PG #12 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME NAVAJO 3-22-7 #1	Pressure	: 50 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	:	Date Sampled	: 02/19/98
Fld/Formation	: ALAMITO GALLUP	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252623	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NOO-C-14-20-5555

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	1.086	0.0000	0.00	0.0105
CO2	0.204	0.0000	0.00	0.0031
METHANE	78.796	0.0000	797.65	0.4365
ETHANE	10.117	2.7063	179.45	0.1050
PROPANE	5.741	1.5822	144.78	0.0874
I-BUTANE	0.628	0.2054	20.47	0.0126
N-BUTANE	1.765	0.5565	57.71	0.0354
I-PENTANE	0.450	0.1647	18.05	0.0112
N-PENTANE	0.495	0.1793	19.89	0.0123
HEXANES	0.718	0.3132	36.91	0.0231
TOTAL	100.000	5.7076	1274.91	0.7371

1.4191

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0038
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1279.8
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1257.5
REAL SPECIFIC GRAVITY	0.7396

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: KFL153
CYLINDER PRESSURE	: 50 PSIG
DATE RUN	: 02/25/98
ANALYSIS RUN BY	: DAVE MARTIN

Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80390
Cust. No. 23000-10620

ATTACHMENT #5
PG #13 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME NAVAJO 17-22-7 #2	Pressure	: 77 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: 17-22N-07W	Date Sampled	: 03/12/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202E317796	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NOO-C-14-20-5382

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	1.390	0.0000	0.00	0.0134
CO2	0.062	0.0000	0.00	0.0009
METHANE	89.528	0.0000	906.29	0.4959
ETHANE	5.668	1.5162	100.53	0.0588
PROPANE	2.190	0.6036	55.23	0.0333
I-BUTANE	0.375	0.1227	12.22	0.0075
N-BUTANE	0.421	0.1327	13.77	0.0084
I-PENTANE	0.140	0.0512	5.61	0.0035
N-PENTANE	0.079	0.0286	3.17	0.0020
HEXANES	0.147	0.0641	7.56	0.0047
TOTAL	100.000	2.5191	1104.39	0.6284

0.3993

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0026
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1107.3
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1088.0
REAL SPECIFIC GRAVITY	0.6298

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: AZT 034
CYLINDER PRESSURE	: 80 PSIG
DATE RUN	: 03/13/98
ANALYSIS RUN BY	: DAVE MARTIN

1415 FARMINGTON AVENUE - FARMINGTON, NM 87401

(505) 325-6622

GAS ANALYSIS SERVICE

ANALYSIS NO. DUG30124

ATTACHMENT #5
PG # 14 OF 39

WELL/LEASE INFORMATION

COMPANY: DUGAN PRODUCTION CORPORATION

WELL NAME: DOME NAVAJO 18-22-6 #2

LOCATION: RUSTY CHACRA PIPELINE

COUNTY: SANDOVAL

FORMATION: CHACRA

METER NO.: 202A-252627

REMARKS:

LINE PRESSURE: 68 PSIG

SAMPLE TEMP.: 65 DEG.F

WELL FLOWING: YES

DATE SAMPLED: 5/26/93

SAMPLED BY: TERRY ROWELL

MFFB DMN03
PC= 01

6/24/93
SB

ANALYSIS

COMPONENT	MOLE%	GPM
NITROGEN	2.724	0.0000
CO2	0.110	0.0000
METHANE	89.830	0.0000
ETHANE	4.556	1.2187
PROPANE	1.821	0.5019
I-BUTANE	0.403	0.1318
N-BUTANE	0.297	0.0936
I-PENTANE	0.126	0.0461
N-PENTANE	0.049	0.0177
HEXANE+	0.084	0.0366
TOTAL	100.000	2.0466

COMPRESSIBILITY FACTOR	(1/Z)	1.0024
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)		1072.8
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)		1054.2
REAL SPECIFIC GRAVITY		0.6230

6/24/93 fm CPP SB.

ANALYSIS RUN AT 14.73 PSIA & 60 DEGREES F

CYLINDER PRESSURE: 47 PSIG

DATE RUN: 5/27/93

ANALYSIS RUN BY: DENISE NICHOLAS

GAS ANALYSIS SERVICE

2030 A[illegible]on Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80391
Cust. No. 23000-10625

ATTACHMENT #5
PG # 15 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME NAVAJO 20-22-7 #1	Pressure	: 86 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: 20-22N-07W	Date Sampled	: 03/12/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202E317795	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NOO-C-14-20-5595

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	1.000	0.0000		0.00	0.0097
CO2	0.034	0.0000		0.00	0.0005
METHANE	89.770	0.0000		908.74	0.4972
ETHANE	5.742	1.5360		101.85	0.0596
PROPANE	2.214	0.6102		55.83	0.0337
I-BUTANE	0.364	0.1191	0.4294	11.86	0.0073
N-BUTANE	0.451	0.1422		14.75	0.0091
I-PENTANE	0.151	0.0553		6.05	0.0038
N-PENTANE	0.091	0.0330		3.66	0.0023
HEXANES	0.183	0.0798		9.41	0.0059
TOTAL	100.000	2.5756		1112.15	0.6291

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0026
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1115.0
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1095.6
REAL SPECIFIC GRAVITY	0.6305

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: KO 45
CYLINDER PRESSURE	: 84 PSIG
DATE RUN	: 03/13/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 Arton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80409
Cust. No. 23000-10750

ATTACHMENT #5
Pg # 16 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME NAVAJO 27-22-6 #1	Pressure	: 49 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: M27-22N-06W	Date Sampled	: 03/25/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252656	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NOO-C-14-20-5046

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	0.803	0.0000	0.00	0.0078
CO2	0.106	0.0000	0.00	0.0016
METHANE	89.117	0.0000	902.13	0.4936
ETHANE	6.079	1.6261	107.82	0.0631
PROPANE	2.443	0.6733	61.61	0.0372
I-BUTANE	0.398	0.1302	12.97	0.0080
N-BUTANE	0.521	0.1643	17.04	0.0105
I-PENTANE	0.175	0.0640	7.02	0.0044
N-PENTANE	0.112	0.0406	4.50	0.0028
HEXANES	0.246	0.1073	12.65	0.0079
TOTAL	100.000	2.8058	1125.74	0.6368

0.5064

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR	(1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR	(1/Z)	1128.8
BTU/CU.FT. (WET) CORRECTED FOR	(1/Z)	1109.1
REAL SPECIFIC GRAVITY		0.6383

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: AZT039
CYLINDER PRESSURE	: 43 PSIG
DATE RUN	: 03/26/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 [illegible]ton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80410
Cust. No. 23000-10755

ATTACHMENT # 5
pg # 17 of 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME NAVAJO 28-22-6 #2	Pressure	: 50 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: I28-22N-06W	Date Sampled	: 03/25/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252613	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NOO-C-14-20-5044

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	0.922	0.0000		0.00	0.0089
CO2	0.058	0.0000		0.00	0.0009
METHANE	89.106	0.0000		902.02	0.4936
ETHANE	6.143	1.6433		108.96	0.0638
PROPANE	2.469	0.6805		62.27	0.0376
I-BUTANE	0.385	0.1259	0.449%	12.55	0.0077
N-BUTANE	0.483	0.1523		15.79	0.0097
I-PENTANE	0.154	0.0563		6.18	0.0038
N-PENTANE	0.094	0.0340		3.78	0.0023
HEXANES	0.186	0.0811		9.56	0.0060
TOTAL	100.000	2.7734		1121.10	0.6343

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR	(1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR	(1/Z)	1124.1
BTU/CU.FT. (WET) CORRECTED FOR	(1/Z)	1104.6
REAL SPECIFIC GRAVITY		0.6358

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: K083
CYLINDER PRESSURE	: 46 PSIG
DATE RUN	: 03/26/98
ANALYSIS RUN BY	: DAVE MARTIN

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80405
Cust. No. 23000-10760

ATTACHMENT #5
PG # 15 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME NAVAJO 28-22-6 #4	Pressure	: 50 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: K28-22N-06W	Date Sampled	: 03/24/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252629	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NOO-C-14-20-5045

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	0.917	0.0000		0.00	0.0089
CO2	0.070	0.0000		0.00	0.0011
METHANE	88.985	0.0000		900.79	0.4929
ETHANE	6.190	1.6558		109.79	0.0643
PROPANE	2.488	0.6857		62.74	0.0379
I-BUTANE	0.394	0.1289	0.4672	12.84	0.0079
N-BUTANE	0.497	0.1567		16.25	0.0100
I-PENTANE	0.162	0.0593		6.50	0.0040
N-PENTANE	0.098	0.0355		3.94	0.0024
HEXANES	0.199	0.0868		10.23	0.0064
TOTAL	100.000	2.8087		1123.09	0.6358

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1126.1
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1106.5
REAL SPECIFIC GRAVITY	0.6373

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: 033
CYLINDER PRESSURE	: 48 PSIG
DATE RUN	: 03/25/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80411
Cust. No. 23000-10765

ATTACHMENT #5
PG # 19 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME NAVAJO 33-22-6 #1	Pressure	: 55 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: A33-22N-06W	Date Sampled	: 03/25/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A262277	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NOO-C-14-20-5050

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	0.794	0.0000		0.00	0.0077
CO2	0.131	0.0000		0.00	0.0020
METHANE	88.701	0.0000		897.92	0.4913
ETHANE	6.264	1.6756		111.11	0.0650
PROPANE	2.573	0.7091		64.89	0.0392
I-BUTANE	0.425	0.1390		13.85	0.0085
N-BUTANE	0.555	0.1750		18.15	0.0111
I-PENTANE	0.192	0.0703	0.5347	7.70	0.0048
N-PENTANE	0.118	0.0427		4.74	0.0029
HEXANES	0.247	0.1077		12.70	0.0079
TOTAL	100.000	2.9194		1131.05	0.6404

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1134.1
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1114.4
REAL SPECIFIC GRAVITY	0.6419

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: AZT006
CYLINDER PRESSURE	: 51 PSIG
DATE RUN	: 03/26/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80412
Cust. No. 23000-10770

ATTACHMENT #5
PG # 20 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME NAVAJO 33-22-6 #2	Pressure	: 57 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: N33-22N-06W	Date Sampled	: 03/25/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A262272	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NOO-C-14-20-5048

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	1.305	0.0000		0.00	0.0126
CO2	0.013	0.0000		0.00	0.0002
METHANE	90.569	0.0000		916.83	0.5017
ETHANE	5.363	1.4346		95.12	0.0557
PROPANE	1.874	0.5165		47.26	0.0285
I-BUTANE	0.314	0.1027	0.2984	10.23	0.0063
N-BUTANE	0.319	0.1006		10.43	0.0064
I-PENTANE	0.102	0.0373		4.09	0.0025
N-PENTANE	0.050	0.0181		2.01	0.0012
HEXANES	0.091	0.0397		4.68	0.0029
TOTAL	100.000	2.2495		1090.66	0.6179

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0025
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1093.4
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1074.4
REAL SPECIFIC GRAVITY	0.6192

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: 039
CYLINDER PRESSURE	: 50 PSIG
DATE RUN	: 03/26/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80413
Cust. No. 23000-10775

ATTACHMENT # 5
PG # 21 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME NAVAJO 34-22-6 #1	Pressure	: 58 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: C34-22N-06W	Date Sampled	: 03/25/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252628	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NOO-C-14-20-5051

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	0.748	0.0000		0.00	0.0072
CO2	0.115	0.0000		0.00	0.0017
METHANE	89.063	0.0000		901.59	0.4933
ETHANE	6.077	1.6256		107.79	0.0631
PROPANE	2.466	0.6796		62.19	0.0375
I-BUTANE	0.410	0.1341		13.36	0.0082
N-BUTANE	0.542	0.1709	0.5357	17.72	0.0109
I-PENTANE	0.185	0.0677		7.42	0.0046
N-PENTANE	0.120	0.0435		4.82	0.0030
HEXANES	0.274	0.1195		14.09	0.0088
TOTAL	100.000	2.8409		1128.98	0.6383

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1132.0
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1112.3
REAL SPECIFIC GRAVITY	0.6398

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: KFL102
CYLINDER PRESSURE	: 55 PSIG
DATE RUN	: 03/26/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 Arton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80392
Cust. No. 23000-10630

ATTACHMENT #5
PG #22 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME RUSTY 20-22-7 #1	Pressure	: 87 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: 20-22N-07W	Date Sampled	: 03/12/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252607	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM 7262

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	0.844	0.0000		0.00	0.0082
CO2	0.055	0.0000		0.00	0.0008
METHANE	89.646	0.0000		907.49	0.4965
ETHANE	5.821	1.5571		103.25	0.0604
PROPANE	2.270	0.6256		57.25	0.0346
I-BUTANE	0.368	0.1204		11.99	0.0074
N-BUTANE	0.478	0.1507		15.63	0.0096
I-PENTANE	0.159	0.0582	0.4782	6.38	0.0040
N-PENTANE	0.104	0.0377		4.18	0.0026
HEXANES	0.255	0.1112		13.11	0.0082
TOTAL	100.000	2.6609		1119.27	0.6323

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1122.3
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1102.8
REAL SPECIFIC GRAVITY	0.6337

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: 040
CYLINDER PRESSURE	: 85 PSIG
DATE RUN	: 03/13/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80394
Cust. No. 23000-10675

ATTACHMENT #5
PG #23 OF 59

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME RUSTY 24-22-7 #1	Pressure	: 43 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: 24-27N-07W	Date Sampled	: 03/16/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252679	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: N.M. 6680

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	1.147	0.0000	0.00	0.0111
CO2	0.065	0.0000	0.00	0.0010
METHANE	88.983	0.0000	900.78	0.4929
ETHANE	6.055	1.6197	107.40	0.0629
PROPANE	2.430	0.6697	61.28	0.0370
I-BUTANE	0.397	0.1299	12.94	0.0080
N-BUTANE	0.476	0.1501	15.56	0.0096
I-PENTANE	0.159	0.0582	6.38	0.0040
N-PENTANE	0.094	0.0340	3.78	0.0023
HEXANES	0.194	0.0846	9.97	0.0062
TOTAL	100.000	2.7462	1118.09	0.6350

0.4565

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1121.1
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1101.6
REAL SPECIFIC GRAVITY	0.6365

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: AZT 016
CYLINDER PRESSURE	: 40 PSIG
DATE RUN	: 03/17/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80401
Cust. No. 23000-10680

ATTACHMENT #5
PG #24 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME RUSTY 30-22-6 #1	Pressure	: 36 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: B30-22N-06W	Date Sampled	: 03/18/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252619	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM6676

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	1.031	0.0000		0.00	0.0100
CO2	0.083	0.0000		0.00	0.0013
METHANE	88.785	0.0000		898.77	0.4918
ETHANE	6.212	1.6617		110.18	0.0645
PROPANE	2.506	0.6907		63.20	0.0382
I-BUTANE	0.403	0.1318	0.4794	13.14	0.0081
N-BUTANE	0.502	0.1583		16.41	0.0101
I-PENTANE	0.168	0.0615		6.74	0.0042
N-PENTANE	0.101	0.0366		4.06	0.0025
HEXANES	0.209	0.0912		10.74	0.0067
TOTAL	100.000	2.8318		1123.24	0.6373

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1126.3
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1106.7
REAL SPECIFIC GRAVITY	0.6388

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: AO 63
CYLINDER PRESSURE	: 36 PSIG
DATE RUN	: 03/24/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG70329
Cust. No. 23000-10780

ATTACHMENT #5
PG # 25 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME STATE 32-22-6 #2	Pressure	: 65 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: 32-22N-06W	Date Sampled	: 06/30/97
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252749	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM-3923

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	0.803	0.0000	0.00	0.0078
CO2	0.084	0.0000	0.00	0.0013
METHANE	88.843	0.0000	899.36	0.4921
ETHANE	6.137	1.6416	108.85	0.0637
PROPANE	2.505	0.6904	63.17	0.0381
I-BUTANE	0.411	0.1344	13.40	0.0082
N-BUTANE	0.543	0.1712	17.75	0.0109
I-PENTANE	0.186	0.0681	7.46	0.0046
N-PENTANE	0.120	0.0435	4.82	0.0030
HEXANES	0.368	0.1605	18.92	0.0118
TOTAL	100.000	2.9097	1133.74	0.6414

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1136.8
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1117.0
REAL SPECIFIC GRAVITY	0.6429

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: 041
CYLINDER PRESSURE	: 48 PSIG
DATE RUN	: 07/02/97
ANALYSIS RUN BY	: CHELLE DURBIN

GAS ANALYSIS SERVICE

1115 armington Avenue
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG60135
Cust. No. 23000-10640

ATTACHMENT #5
PG #26 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME TESORO 22 #4	Pressure	: 37 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: 22-22N-07W	Date Sampled	: 12/16/96
Fld/Formation	: RUSTY GALLUP	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252609	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NOO-C-14-20-5356

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	1.348	0.0000	0.00	0.0130
CO2	0.169	0.0000	0.00	0.0026
METHANE	78.952	0.0000	799.23	0.4373
ETHANE	8.986	2.4038	159.38	0.0933
PROPANE	5.733	1.5800	144.58	0.0873
I-BUTANE	0.767	0.2509	25.00	0.0154
N-BUTANE	1.909	0.6019	62.42	0.0383
I-PENTANE	0.534	0.1954	21.41	0.0133
N-PENTANE	0.543	0.1967	21.82	0.0135
HEXANES	1.059	0.4619	54.44	0.0341
TOTAL	100.000	5.6906	1288.29	0.7481

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0039
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1293.3
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1270.8
REAL SPECIFIC GRAVITY	0.7507

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: K084
CYLINDER PRESSURE	: 39 PSIG
DATE RUN	: 12/18/96
ANALYSIS RUN BY	: CHELLE DURBIN

GAS ANALYSIS SERVICE

2030 ton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG70318
Cust. No. 23000-10685

ATTACHMENT #5
PG #27 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME TESORO 23 #1	Pressure	: 45 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: 23-22N-07W	Date Sampled	: 06/06/97
Fld/Formation	: RUSTY GALLUP	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252620	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NOO-C-14-20-5360

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	1.273	0.0000		0.00	0.0123
CO2	0.124	0.0000		0.00	0.0019
METHANE	83.720	0.0000		847.50	0.4637
ETHANE	7.806	2.0881		138.46	0.0810
PROPANE	4.162	1.1470		104.96	0.0634
I-BUTANE	0.556	0.1819	1.0177	18.12	0.0112
N-BUTANE	1.239	0.3907		40.51	0.0249
I-PENTANE	0.312	0.1142		12.51	0.0078
N-PENTANE	0.291	0.1054		11.69	0.0072
HEXANES	0.517	0.2255		26.58	0.0166
TOTAL	100.000	4.2528		1200.33	0.6900

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0032
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1204.2
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1183.2
REAL SPECIFIC GRAVITY	0.6919

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: KFL176
CYLINDER PRESSURE	: 38 PSIG
DATE RUN	: 06/12/97
ANALYSIS RUN BY	: DAVE MARTIN

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80382
Cust. No. 23000-10690

ATTACHMENT #5
PG # 25 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DOME TESORO 27 #3	Pressure	: 128 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: D27-22N-07W	Date Sampled	: 03/09/98
Fld/Formation	: RUSTY GALLUP	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252617	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NOO-C-14-20-5365

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	1.129	0.0000		0.00	0.0109
CO2	0.170	0.0000		0.00	0.0026
METHANE	80.400	0.0000		813.89	0.4453
ETHANE	9.433	2.5233		167.31	0.0979
PROPANE	5.226	1.4403		131.79	0.0796
I-BUTANE	0.669	0.2188	1.2357	21.81	0.0134
N-BUTANE	1.887	0.5950		61.70	0.0379
I-PENTANE	0.360	0.1317		14.44	0.0090
N-PENTANE	0.317	0.1148		12.74	0.0079
HEXANES	0.409	0.1784		21.03	0.0132
TOTAL	100.000	5.2023		1244.71	0.7176

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0035
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1249.1
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1227.3
REAL SPECIFIC GRAVITY	0.7198

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: K098
CYLINDER PRESSURE	: 130 PSIG
DATE RUN	: 03/10/98
ANALYSIS RUN BY	: CHELLE DURBIN

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80395
Cust. No. 23000-10695

ATTACHMENT #5
PG # 29 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: FEDERAL 25-22-7 #1	Pressure	: 46 PSIG
County	:	Sample Temp.	: N/A DEG.F
State	:	Well Flowing	: YES
Location	: 25-22N-07W	Date Sampled	: 03/16/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A262273	Foreman/Engr	: TOM BLAIR

Remarks:

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	1.012	0.0000		0.00	0.0098
CO2	0.072	0.0000		0.00	0.0011
METHANE	88.992	0.0000		900.87	0.4929
ETHANE	6.179	1.6529		109.60	0.0642
PROPANE	2.456	0.6769		61.94	0.0374
I-BUTANE	0.392	0.1282	0.4431	12.78	0.0079
N-BUTANE	0.482	0.1520		15.76	0.0097
I-PENTANE	0.154	0.0563		6.18	0.0038
N-PENTANE	0.090	0.0326		3.62	0.0022
HEXANES	0.171	0.0746		8.79	0.0055
TOTAL	100.000	2.7735		1119.52	0.6345

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1122.5
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1103.0
REAL SPECIFIC GRAVITY	0.6360

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: AZT 009
CYLINDER PRESSURE	: 44 PSIG
DATE RUN	: 03/17/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80396
Cust. No. 23000-10700

ATTACHMENT #5
PG # 30 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: FEDERAL 26-22-7 #1	Pressure	: 41 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: 26-22N-07W	Date Sampled	: 03/16/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252667	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: N.M. 8899

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	0.837	0.0000	0.00	0.0081
CO2	0.079	0.0000	0.00	0.0012
METHANE	89.286	0.0000	903.84	0.4946
ETHANE	5.946	1.5906	105.46	0.0617
PROPANE	2.363	0.6512	59.59	0.0360
I-BUTANE	0.387	0.1266	12.61	0.0078
N-BUTANE	0.506	0.1595	16.55	0.0102
I-PENTANE	0.171	0.0626	6.86	0.0043
N-PENTANE	0.112	0.0406	4.50	0.0028
HEXANES	0.313	0.1365	16.09	0.0101
TOTAL	100.000	2.7676	1125.51	0.6367

0.525$

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1128.5
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1108.9
REAL SPECIFIC GRAVITY	0.6382

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: AO 34
CYLINDER PRESSURE	: 38 PSIG
DATE RUN	: 03/17/98
ANALYSIS RUN BY	: DAVE MARTIN

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80407
Cust. No. 23000-10930

ATTACHMENT #5
PG # 31 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: FEDERAL 29-22-6 #1	Pressure	: 51 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: I29-22N-06W	Date Sampled	: 03/24/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252624	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM 6676

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	0.911	0.0000	0.00	0.0088
CO2	0.096	0.0000	0.00	0.0015
METHANE	88.490	0.0000	895.78	0.4901
ETHANE	6.368	1.7034	112.95	0.0661
PROPANE	2.631	0.7251	66.35	0.0401
I-BUTANE	0.422	0.1380	13.76	0.0085
N-BUTANE	0.542	0.1709	17.72	0.0109
I-PENTANE	0.179	0.0655	7.18	0.0045
N-PENTANE	0.109	0.0395	4.38	0.0027
HEXANES	0.252	0.1099	12.96	0.0081
TOTAL	100.000	2.9523	1131.08	0.6412

0.5235

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1134.1
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1114.4
REAL SPECIFIC GRAVITY	0.6427

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: A008
CYLINDER PRESSURE	: 46 PSIG
DATE RUN	: 03/25/98
ANALYSIS RUN BY	: DAVE MARTIN

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80402
Cust. No. 23000-11010

ATTACHMENT #5
PG #32 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: FEDERAL 29-22-6 #2	Pressure	: 41 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: E29-22N-06W	Date Sampled	: 03/23/98
Fld/Formation	:	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252615	Foreman/Engr	: TOM BLAIR

Remarks:

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	1.012	0.0000	0.00	0.0098
CO2	0.076	0.0000	0.00	0.0012
METHANE	88.851	0.0000	899.44	0.4921
ETHANE	6.193	1.6566	109.85	0.0643
PROPANE	2.499	0.6887	63.02	0.0380
I-BUTANE	0.402	0.1315	13.10	0.0081
N-BUTANE	0.499	0.1573	16.32	0.0100
I-PENTANE	0.165	0.0604	6.62	0.0041
N-PENTANE	0.099	0.0359	3.98	0.0025
HEXANES	0.204	0.0890	10.49	0.0066
TOTAL	100.000	2.8194	1122.81	0.6366

0.4741

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1125.8
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1106.3
REAL SPECIFIC GRAVITY	0.6381

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: 039
CYLINDER PRESSURE	: 41 PSIG
DATE RUN	: 03/24/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

203 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80408
Cust. No. 23000-10800

ATTACHMENT #5
PG #33 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: FEDERAL 31-22-6 #1	Pressure	: 36 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: J31-22N-06W	Date Sampled	: 03/24/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A262262	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM 7776

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	0.787	0.0000		0.00	0.0076
CO2	0.094	0.0000		0.00	0.0014
METHANE	89.406	0.0000		905.06	0.4952
ETHANE	5.931	1.5865		105.20	0.0616
PROPANE	2.339	0.6446		58.99	0.0356
I-BUTANE	0.391	0.1279	0.5074	12.74	0.0078
N-BUTANE	0.493	0.1554		16.12	0.0099
I-PENTANE	0.169	0.0618		6.78	0.0042
N-PENTANE	0.105	0.0380		4.22	0.0026
HEXANES	0.285	0.1243		14.65	0.0092
TOTAL	100.000	2.7385		1123.75	0.6350

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0027
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1126.8
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1107.2
REAL SPECIFIC GRAVITY	0.6365

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: 026
CYLINDER PRESSURE	: 36 PSIG
DATE RUN	: 03/25/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80414
Cust. No. 23000-10805

ATTACHMENT #5
PG #34 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: NAVAJO 1	Pressure	: 56 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: N33-22N-06W	Date Sampled	: 03/25/98
Fld/Formation	: RUSTY GALLUP	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 8574	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NOO-C-14-20-5048

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	1.160	0.0000		0.00	0.0112
CO2	0.239	0.0000		0.00	0.0036
METHANE	74.833	0.0000		757.53	0.4145
ETHANE	11.093	2.9674		196.76	0.1152
PROPANE	7.287	2.0083		183.77	0.1110
I-BUTANE	0.882	0.2885	1.8758	28.75	0.0177
N-BUTANE	2.397	0.7558		78.38	0.0481
I-PENTANE	0.603	0.2206		24.18	0.0150
N-PENTANE	0.623	0.2257		25.03	0.0155
HEXANES	0.883	0.3852		45.40	0.0284
TOTAL	100.000	6.8515		1339.80	0.7801

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0043
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1345.6
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1322.1
REAL SPECIFIC GRAVITY	0.7831

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: A063
CYLINDER PRESSURE	: 51 PSIG
DATE RUN	: 03/26/98
ANALYSIS RUN BY	: DAVE MARTIN

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80377
Cust. No. 23000-10645

ATTACHMENT #5
PG #35 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: NAVAJO 10-22-7 #1	Pressure	: 90 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: 10-22N-07W	Date Sampled	: 02/24/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252731	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NOO-C-14-20-5594

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	1.844	0.0000	0.00	0.0178
CO2	0.061	0.0000	0.00	0.0009
METHANE	86.753	0.0000	878.20	0.4805
ETHANE	6.484	1.7345	115.01	0.0673
PROPANE	3.042	0.8384	76.72	0.0463
I-BUTANE	0.465	0.1521	15.16	0.0093
N-BUTANE	0.747	0.2355	24.42	0.0150
I-PENTANE	0.213	0.0779	8.54	0.0053
N-PENTANE	0.167	0.0605	6.71	0.0042
HEXANES	0.224	0.0977	11.52	0.0072
TOTAL	100.000	3.1966	1136.27	0.6537

0.6237

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0028
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1139.5
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1119.6
REAL SPECIFIC GRAVITY	0.6553

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: K073
CYLINDER PRESSURE	: 95 PSIG
DATE RUN	: 02/25/98
ANALYSIS RUN BY	: DAVE MARTIN

GAS ANALYSIS SERVICE

1111 FARMINGTON AVENUE - FARMINGTON, NM 87401

(505) 325-6622

Feb

ANALYSIS NO. DUG30125

ATTACHMENT #5
fb # 36 OF 39

WELL/LEASE INFORMATION

COMPANY: DUGAN PRODUCTION CORPORATION

WELL NAME: NAVAJO 18-22-6 #1

LOCATION: RUSTY CHACRA PIPELINE

COUNTY: SANDOVAL

FORMATION: CHACRA

METER NO.: 202A-18733

REMARKS:

LINE PRESSURE: 57 PSIG

SAMPLE TEMP.: DEG.F

WELL FLOWING: YES

DATE SAMPLED: 5/26/93

SAMPLED BY: TERRY ROWELL

MFFB NAV02

Pc = 01

6/24/93 SB.

ANALYSIS

COMPONENT	MOLE%		GPM
NITROGEN	2.525		0.0000
CO2	0.068		0.0000
METHANE	89.664		0.0000
ETHANE	4.780		1.2787
PROPANE	1.922		0.5297
I-BUTANE	0.410	1.041	0.1341
N-BUTANE	0.323		0.1018
I-PENTANE	0.135		0.0494
N-PENTANE	0.059		0.0214
HEXANE+	0.114		0.0497
TOTAL	100.000		2.1648
COMPRESSIBILITY FACTOR (1/Z)			1.0025
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)			1081.2
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)			1062.4
REAL SPECIFIC GRAVITY			0.6255

6/24/93 for CPD SB

ANALYSIS RUN AT 14.73 PSIA & 60 DEGREES F

CYLINDER PRESSURE: 40 PSIG

DATE RUN: 5/27/93

ANALYSIS RUN BY: DENISE NICHOLAS

GAS ANALYSIS SERVICE

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80383
Cust. No. 23000-10650

ATTACHMENT #5
fG # 37 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: NAVAJO 21-22-7 #1	Pressure	: 125 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: A21-22N-07W	Date Sampled	: 03/09/98
Fld/Formation	: RUSTY CHACRA	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A252630	Foreman/Engr	: TOM BLAIR

Remarks: LEASE: NM-6680

ANALYSIS

COMPONENT	MOLE %	GPM**		B.T.U.*	SP.GR.*
NITROGEN	1.108	0.0000		0.00	0.0107
CO2	0.047	0.0000		0.00	0.0007
METHANE	89.453	0.0000		905.53	0.4955
ETHANE	5.797	1.5507		102.82	0.0602
PROPANE	2.242	0.6179		56.54	0.0341
I-BUTANE	0.375	0.1227	0.4734	12.22	0.0075
N-BUTANE	0.471	0.1485		15.40	0.0095
I-PENTANE	0.162	0.0593		6.50	0.0040
N-PENTANE	0.103	0.0373		4.14	0.0026
HEXANES	0.242	0.1056		12.44	0.0078
TOTAL	100.000	2.6420		1115.60	0.6325

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z)	1.0026
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z)	1118.5
BTU/CU.FT. (WET) CORRECTED FOR (1/Z)	1099.0
REAL SPECIFIC GRAVITY	0.6339

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: 039
CYLINDER PRESSURE	: 129 PSIG
DATE RUN	: 03/10/98
ANALYSIS RUN BY	: CHELLE DURBIN

"Le · Interest in Measurement be our Concern"

PRECISION SERVICE INC.

Flow Measurement Engineers
Analysis Results Summary
Casper, WY 82601

Run No. 402-10
Date Run 04/02/87
Date Sampled 03/19/87

ATTACHMENT #5
PG# 38 OF 39

Analysis For: TEXACO, INC.
Lease: STATE 32-22-6 #1 Producer PITCO
Location RUSTY CHACRA County SANDOVAL State NEW MEXICO
Purpose QUARTERLY Sampled By J. THOMAS
Sampling Temp. 62 °F Atmos Temp. 45 °F
Volume/day 5 MCF Formation CHACRA
Pressure on Bomb 17 PSIG; Line Pressure 28.9 PSIA PSIG

Gas Component Analysis Press. Base: 14.73

	Mol. %	Liq. %	GPM Per MCF
Carbon Dioxide CO_2	.199		
Oxygen O_2			
Nitrogen N_2	1.571		
Hydrogen Sulfide H_2S			
Methane C1	96.039		16.278
Ethane C2	1.941		.519
Propane C3	.175		.048
Iso-Butane IC4	.024		.008
Nor-Butane NC4	.032		.010
Iso-Pentane IC5	.010		.004
Nor-Pentane NC5	.006		.002
lexanes plus	.003		.001
Hexanes C6			
leptanes			
Heptanes Plus C7+			
Total	100.000		16.871
Pentane + G.P.M.			.007
opane + GPM			.073
-lb Gasoline			.010

BTU Dry 1016
BTU Wet 998
Calc. Specific Gravity .576

@ Std. Press. 14.696
BTU Dry 1013
BTU Wet 996

Calc. Vap. Press. #/Sq.In.
Reid Vap. Press. #/Sq.In.

Z Factor .9980
N Value 1.3059
Ave Mol Wt 16.6429
Ave Cu Ft/Gal

Run by JEFFREY A. PROPP
Calculated By JEFFREY A. PROPP

Ethane + GPM .592

marks:

RECEIVED APR 20 1987

Distribution:

2030 Afton Place
Farmington, N.M. 87401
(505) 325-6622

Analysis No. DUG80378
Cust. No. 23000-10635

ATTACHMENT #5
PG #39 OF 39

WELL/LEASE INFORMATION

Company	: DUGAN PRODUCTION CORP.	Source	: METER RUN
Well Name	: DANA STATE 1	Pressure	: 130 PSIG
County	: SANDOVAL	Sample Temp.	: N/A DEG.F
State	: NM	Well Flowing	: YES
Location	: G16-22N-07W	Date Sampled	: 03/09/98
Fld/Formation	: GALLUP	Sampled By	: BILLIE WRIGHT
Cust.Stn.No.	: 202A262282	Foreman/Engr	: TOM BLAIR

Remarks: HICKS OIL & GAS

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP.GR.*
NITROGEN	1.002	0.0000	0.00	0.0097
CO2	0.205	0.0000	0.00	0.0031
METHANE	79.606	0.0000	805.85	0.4409
ETHANE	10.244	2.7403	181.70	0.1064
PROPANE	5.641	1.5547	142.26	0.0859
I-BUTANE	0.575	0.1881	18.74	0.0115
N-BUTANE	1.315	0.4146	43.00	0.0264
I-PENTANE	0.308	0.1127	12.35	0.0077
N-PENTANE	0.328	0.1188	13.18	0.0082
HEXANES	0.776	0.3385	39.90	0.0250
TOTAL	100.000	5.4677	1256.98	0.7247

1.172?

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY
** @ 14.730 & 60 DEG. F

COMPRESSIBILITY FACTOR	(1/Z)	1.0036
BTU/CU.FT. (DRY) CORRECTED FOR	(1/Z)	1261.5
BTU/CU.FT. (WET) CORRECTED FOR	(1/Z)	1239.6
REAL SPECIFIC GRAVITY		0.7270

ANALYSIS RUN AT 14.730 PSIA & 60 DEGREES F

CYLINDER #	: 026
CYLINDER PRESSURE	: 134 PSIG
DATE RUN	: 03/10/98
ANALYSIS RUN BY	: CHELLE DURBIN

Attachment No. 6
Allocation Procedures
Dugan Production Corp.'s
Rusty Chacra Gas Gathering System
CDP = El Paso Field Services - SE NW 12, T22N, R7W
Sandoval County, New Mexico

Base Data for Gas Allocations:

W=Gas Volume (MCF) from Well or Battery Allocation Meter
X=Total Gas Volume (MCF) from CDP Sales Meter
Y=Total BTU's from CDP Sales Meter
Z=Total Gas Revenue ($) from CDP Sales Meter

1. Individual Well Gas Production = A+B+C+D+E

   A = Allocated Sales Volume, MCF.
   = (W/SUM W) x X

   B = On-lease fuel usage, MCF. Determined from equipment specifications, operating conditions, and days operated.

   C = Purged and/or vented gas from well and/or lease equipment, MCF. Calculated using equipment specifications and pressures.

   D = Allocated fuel from gathering system equipment, MCF. The total fuel required to operate gathering system equipment will be allocated to the individual wells benefiting from the equipment using allocation factors determined by (W / Sum W) for the wells involved.

   E = Allocated volume of gas lost and/or vented from the gathering system and/or gathering system equipment, MCF. The total volume will be determined using industry accepted procedures for the conditions existing at the time of the loss. All volumes corresponding to liquid condensation within the gathering system will also be determined. The total volume lost and/or vented will be allocated to the individual wells affected using factors determined by (W / Sum W).

2. Individual Well Allocated BTU's =((W x Individual well BTU) / Sum (W x individual well BTU)) x Y.
   Individual well gas heating values to be determined in accordance with BLM's On Shore Order No. 5. Computations to be based upon dry BTU @ 14.73 psi.

3. Individual Well Allocated Gas Revenues = (Allocated individual well BTU's / sum of allocated individual well BTU's) x Z.

4. Individual Well Allocated Drip Volumes & Revenues. To date no liquid hydrocarbons (drip) have been recovered from any of the system drips and none is anticipated to be recovered in the future, however should any liquid hydrocarbons (drip) ever be

recovered, all volumes and revenues will be allocated to the individual wells producing gas through the drip trap from which the liquid hydrocarbons were recovered using a factor to be determined by dividing the individual well's theoretical liquids by the total theoretical liquids from all wells producing into the system from which liquids were recovered. The theoretical liquids will be calculated by multiplying the individual well's produced gas volumes by the individual well's gas stream liquids content (GPM) of isobutane and heavier. This allocation is to be made at the time the liquids are removed and will be based upon the most recent annual gas volumes produced from the wells involved and an average GPM during the same period. Using annual gas production rather than actual months of production will simplify this calculation and will not significantly affect the accuracy or validity of this factor.

Base Data for Drip Allocations:

S = Volume of drip (bbl) recovered.

T = Revenue resulting from multiplying the volume of drip by the existing posted oil price (adjusted for gravity) in the field at the time of drip removal.

U = GPM (gallons per MCF) of isobutane and heavier from a current individual well gas analysis.

V = Most recent calendar year of gas production from the individual well - MCF. If a full 12 months is not available, an annual volume will be determined using an average production rate from the data available.

F = Individual Well Allocated Drip Volume, bbl

$$F = ((V \times U)/\text{Sum}\ (V \times U)) \times S$$

G = Individual Well Allocated Drip Revenues, $

$$G = (F/\text{Sum}\ F) \times T$$

3. Of the 35 wells currently producing into the Rusty Chacra Gas Gathering System, during 1997 only eight wells averaged gas rates greater than 15 MCFD, and of these eight, only one averaged rates greater than 25 MCFD (reference Attachment No. 3). None of these wells produce sufficient rates to directly connect to the pipeline and thus the only option available to the operators is:

   A. To vent the casinghead gas associated with oil production and to shut in the gas well completions since venting of gas well gas is not allowed and would serve no purpose or,
   B. To utilize the Rusty Chacra Gas Gathering System to deliver gas to a CDP for sale.

4. The marginal nature of wells producing gas volumes of 15 MCFD or smaller is well documented for the San Juan Basin. In the late 1980's, as natural gas prices were declining and pipeline companies looking for ways to reduce operating costs, the New Mexico Oil Conservation Division (NMOCD) organized a committee comprised of representatives from the NMOCD, the Bureau of Land Management (BLM), the New Mexico State Land Office (NMSLO) and the natural gas industry (both producers and pipeline companies) to review the issues and recommend changes in regulations that would help to prevent premature abandonment of low volume wells. This committee concluded that "current metering costs exceed revenues for wells producing at rates of 15 MCFD per day or less". In case No. 10398 held on 10-10-91, the New Mexico Oil Conservation Commission, acting upon the recommendations of this committee issued Order No. R-9617 (copy attached) which amended NMOCD rules to provide special operating procedures for low capacity wells, especially wells producing 15 MCFD or less. In addition, the BLM issued NTL 92-5 New Mexico (copy attached) which also addresses the marginal nature of wells producing 15 MCFD or less.

Benefits:

1. All wells delivering gas into the Rusty Chacra Gas Gathering System will receive some revenue from gas sales which is better than venting the gas or shutting in the wells with no revenues being produced. For 1997, the average daily economic benefit in dollars, for 8/8th interest, from gas sales for any individual well can be approximated by using the average production data presented in Attachment No. 3 and multiplying the produced gas volumes by 1.43. This factor is based upon the following assumptions:

   Average gas sold during 1997 = 78.3% of produced volumes (ranges from 5 to 95%).
   Actual lease fuel requirements are presented in Attachment No. 4.

   Average gas price during 1997 = $1.94/MMBTU (ranged from $1.33 to $3.33)

   Average gas heating value = 1150 BTU/CF (ranges from 1016 to 1346)
   Individual well heating values are presented on Attachment No. 4

   Average gathering system compression charges = 9.2¢/MCF

2. During 1997, the economic benefit of natural gas sales for the various royalty interests in wells connected to the Rusty Chacra Gas Gathering System can be approximated as follows:

Chacra Wells		1997 Average Production				Average Royalty Revenue		
Type	# of	Total All Wells		Average Per Well		$ per day per well		
Lease	Completions	BPD	MCFD	BPD	MCFD	Oil 1	Gas 2	Total
Federal	19	0	200.8	0	10.6	0	2.22	2.22
State	1	0	15.9	0	15.9	0	3.38	3.38
Navajo Allotted	9	0	71.5	0	7.9	0	2.21	2.21
Total/Average	**29**	**0**	**288.2**	**0**	**9.9**	**0**	**2.07**	**2.07**

Gallup Wells		1997 Average Production				Average Royalty Revenue		
Type	# of	Total All Wells		Average Per Well		$ per day per well		
Lease	Completions	BPD	MCFD	BPD	MCFD	Oil 1	Gas 2	Total
Federal	0	0	0	0	0	0	0	0
State	1	0.7	13.8	0.7	13.8	1.68	2.92	4.60
Navajo Allotted	5	5.0	76.0	1.0	15.2	3.20	4.33	7.54
Total/Average	**6**	**5.7**	**89.8**	**1.0**	**15.0**	**2.40**	**3.18**	**5.58**

1 - Oil valued @ 1997 average field price of $19.21/bbl and assumes royalty rates as follows: 12½% Federal, 12½% State, 16-2/3% Navajo Allotted.

2 - Gas valued @ 1997 average field price of $1.94/MMBTU and adjusted for an average BTU content of 1150, 9.2¢/MCF compression and an average of 78.3% of production sold.
Royalty rates assumed: Federal = 12.5%, State = 12.5%, Navajo Allotted = 16-2/3%

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION TO CONSIDER THE APPLICATION OF:

CASE NO. 10398
ORDER NO. R-9617

THE NEW MEXICO OIL CONSERVATION DIVISION TO AMEND RULES 403 AND 1110 OF THE GENERAL RULES AND REGULATIONS OF THE DIVISION TO PROVIDE FOR ALTERNATE METHODS OF MEASURING AND REPORTING GAS PRODUCTION FROM LOW CAPACITY WELLS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 a.m. on October 10, 1991, at Santa Fe, New Mexico before the Oil Conservation Commission of the State of New Mexico, hereinafter referred to as the "Commission".

NOW, on this 23rd day of December, 1991, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and further considering comments submitted pursuant to request of the Commission, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) The New Mexico Oil Conservation Division has filed this application to amend rules 403 and 1110 of the General Rules and Regulations of the Division to provide for alternate methods of measuring and reporting under Rule 403 gas produced from low volume capacity gas wells, and that a new Rule 1110 be adopted to provide for request and approval of such alternate methods on proposed form C-110.

(3) At the time of the hearing the Division advised the Commission that there had previously been in use a form C-110 used as a completion report under an old Rule 1110. Because many well files still have the old form C-110 and the adoption of a new C-110 might lead to confusion, the Division requested that the application for a change to rule 1110 be amended and be a request for the adoption of a new rule 1136 providing for a new form C-136.

Attachment # 7
pg # 4 of 11

(4) Witnesses from the Division, the U.S. Department of the Interior, Bureau of Land Management, pipelines and producer segments of the industry all commented in favor of the proposed rules with some minor corrections. No one appeared in opposition to the proposals.

(5) The proposed changes are recommended because there are several thousand gas wells in the state which produce less than 100 MCF per day ("MCFD") which have significant reserves behind them. These wells can continue to produce for several years if the costs of operation can be reduced.

(6) The costs of maintaining orifice meters for each well are substantial in relation to the volume and value of the gas which is produced, and continuing to require such meters on small volume wells could result in premature abandonment.

(7) There are alternative measurement methods which can be used and which will provide adequate accuracy of measurement of the volume of gas produced by such wells. Some methods are based upon establishing a reasonable periodic, hourly or daily, flow rates for such wells and applying such rates to the period of time the wells are flowing. Another alternative is to permit the surface commingling of gas which is produced from wells on common leases.

(8) The District Supervisor should be able to permit commingling of production from gas wells with a producing capacity of less than 100 MCFD to a central delivery point if those wells are on a single lease with entirely common ownership.

(9) If a well is not capable of producing in excess of 15 MCFD, the operator and transporter should be permitted to establish by annual test the periodic producing rate for such well under normal operating conditions and apply that rate to the time a well is producing. If such well is capable of producing more than 5 MCFD, a device should be attached to the line which will determine the actual period of time the well is flowing. Such measurement method should be approved by the District Supervisor prior to implementation.

(10) Production from wells measured in accordance with the alternate methods provided for in this order should be reported to the Division on forms C-111 and C-115 pursuant to the approval, including the method of allocation in the case of commingling.

(11) If there is any significant change in operating conditions such as line pressure, either party should be able to request a retest, the cost of which should be borne by the party requesting the test unless otherwise agreed between them.

(12) A new Rule 1136 authorizing form C-136 should be adopted for the purpose of obtaining District Supervisor approval of alternate measurement methods authorized by this order.

Attachment #7
Pg 5 of 11

Attachment No. 7
Reasons, Justification and Benefits for
Off-Lease Measurement & Surface Commingling
Rusty Chacra Gas Gathering System Operated by Dugan Production Corp.
Sandoval County, New Mexico

Reasons:

1. For many years (at lease since the early 1980's) pipeline companies in the San Juan Basin have been reluctant to make wellhead pipeline connections for low volume wells especially low volume oil wells. All wells currently connected to the Rusty Chacra Gas Gathering System (RCGGS) were completed between 1975 and 1987 with a majority being completed between 1978 and 1982. Although Dugan Production Corp. (DPC) had no interest in any of these wells at the time of completion (DPC purchased our interest initially 1-1-90 with additional interest acquired subsequent to 1-1-90), based upon information in our files and our own experience attempting to obtain pipeline connections for similar wells during this time, we believe that the operators of these wells were not able to obtain wellhead pipeline connections and the construction and operation of the Rusty Chacra Gas Gathering System was the only option available to collect produced natural gas & deliver this gas to El Paso Natural Gas at their CDP meter which necessitates the surface commingling plus off-lease measurement and sale of produced natural gas.

2. Federal Energy Regulatory Commission (FERC) Order 636 shifted the focus of natural gas pipeline companies from purchasing to the transportation of natural gas. This shift in business focus by the pipeline companies has resulted in even fewer wells (especially the lower volume wells) being connected directly to pipelines and has basically required producers to build and operate their own gathering systems in order to gather and deliver natural gas to the pipeline company at a central delivery site.

Justification:

1. Having completed approximately 30 low volume Chacra gas wells plus six low volume Gallup oil wells by the end of 1981, a group of six companies constructed and placed into service a jointly owned gas gathering system, operated by Dome Petroleum Corp. to gather gas from typically low volume wells and deliver the commingled gas stream to El Paso Field Services (then El Paso Natural Gas) at a central delivery meter in Section 12, T22N, R7W on El Paso's existing pipeline. This provided a gas market for low volume wells that was not otherwise available.

2. Currently the Rusty Chacra Gas Gathering System consists of ±166,600' (31.5 miles) of line and represents an investment of ±$1.5 million. There are 35 wells producing into the RCGGS and during 1997 production from these 35 wells averaged 5.7 BOPD plus 378 MCFD for an overall individual well average of 9.9 MCFD for the 29 Chacra wells and 1.0 BOPD plus 15.0 MCFD for the six Gallup wells. This allowed the sale of 296 MCFD of gas which would not have been possible without the operation of the Rusty Chacra Gas Gathering System.

IT IS THEREFORE ORDERED THAT:

(1) Rule 403 of the Rules and Regulations of the Oil Conservation Division is amended to provide for alternate methods of measuring gas from low capacity wells, and the entire rule as amended is shown in Exhibit A attached hereto and is adopted as new Rule 403.

(2) Rule 1136, as contained in Exhibit B hereto, is hereby adopted as a rule of the Division and shall become part of the Rules and Regulations of the Oil Conservation Division.

(3) Jurisdiction of this cause is retained for entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JAMI BAILEY,
Member

WILLIAM W. WEISS,
Member

WILLIAM J. LEMAY,
Chairman

S E A L

Attachment #11
pg 6 of 11

RULE 403. - NATURAL GAS FROM GAS WELLS TO BE MEASURED

A. All natural gas produced shall be accounted for by metering or other method approved by the Division and reported to the Division by the transporter of the gas. Gas produced from a gas well and delivered to a gas transportation facility shall be reported by the owner or operator of the gas transportation facility. Gas produced from a gas well and required to be reported under this rule, which is not delivered to and reported by a gas transportation facility shall be reported by the operator of the well.

B. An operator may apply to the OCD District Supervisor, using form C-136, for approval of one of the following procedures for measuring gas:

(1) In the event a well is not capable of producing more than 15 MCFD, a measurement method agreed upon by the operator and transporter whereby the parties establish by annual test the producing rate of said well under normal operating conditions and apply that rate to the period of time the well is in a producing status. If such well is capable of producing greater than 5 MCFD, a device shall be attached to the line which will determine the actual time period that the well is flowing.

(2) Any well which has a producing capacity of 100 MCFD or less and which is on a multi-well lease may be produced without being separately metered when the gas is measured using a lease meter at a Central Point Delivery (CPD). The ownership of the lease must be common throughout including working interest, royalty and overriding royalty ownership.

(3) If normal operating conditions change, either party may request a new well test, the cost of which will be borne by the party so requesting unless otherwise agreed upon.

C. Operators and transporters shall report the well volumes on Forms C-115 and C-111 based upon the approved method of measurement and, in the case of a CPD, upon the method of allocation of production to individual wells approved by the District Supervisor.

Exhibit "A"
Order No. R-9617
Case No. 10398

Attachment #7
Pg 7 of 11

Rule 1136 - APPLICATION FOR APPROVAL TO USE AN ALTERNATE GAS MEASUREMENT METHOD (FORM C-136)

A. Form C-136 shall be used to request and approve use of an alternate procedure for measuring gas production from a well which is not capable of producing more than 15 MCFD (Rule 403.B.(1)) or for any well which has a producing capacity of 100 MCFD or less and is on a multi-well lease (Rule 403.B.(2)).

B. All applicable information required on Form C-136 shall be filled out with the required supplemental information attached, and shall be submitted in QUADRUPLICATE to the appropriate district office of the Division.

Exhibit "B"
Order No. R-9617
Case No. 10398

Attachment #7
Pg 8 of 11

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Notice to Lessees and Operators of Federal and Indian Oil and Gas Leases within the Jurisdiction of the New Mexico State Office
(NTL 92-5 New Mexico)

Standards for Meters Measuring Low Gas Volumes

I. Background:

Throughout 1990, members of the New Mexico BLM met with the New Mexico Oil Conservation Division, gas producers, transporters, and purchasers in Santa Fe, NM to address issues concerning the measurement of low volume gas wells. The purpose of these meetings was to develop standards that will ensure satisfactory measurement while preventing premature abandonment of low volume wells due to excessive operating costs. In the San Juan Basin of New Mexico there are approximately 1850 Federal and Indian wells that produce 15 MCF/D or less, accounting for approximately 4.7 BCF of gas production per year. Industry estimates approximately $1,000,000 in annual savings by reducing operating costs.

Options discussed include: Central point delivery meters, allocation of low volume wells based on annual well testing, single gas meter lease measurement, flow-no-flow timers (very low volume meters), commingling, and several alternate methods of measurement.

Gas measurement components covered by this notice include the following:

A. Reduction of calibration frequency from quarterly to semiannually for meters measuring 100 MCF/D or less on a monthly basis.

B. Standardize the requirement of the static pressure recording pen to match the requirement of the differential pressure recording pen

C. Alternate methods of measurement for marginal producing gas wells.

II. Purpose:

The purpose of this NTL is to establish standards for variances to Onshore Order Number 5 which establishes minimum standards for gas measurement. This NTL is an effort to extend the life of marginal gas wells, by reducing operating costs, thereby conserving resources that otherwise would be lost.

III. Definitions:

Low Volume Gas Well Meter. A meter that measures an average of 100 MCF/D or less on a monthly basis.

Attachment #7
Pg 9 of 11

Marginal Gas Well Meter A meter that measures an average of 15 MCF/D or less on a monthly basis.

IV. Calibration Frequency:

Calibration Frequency shall be the same as outlined in Onshore Order Number 5 except for low volume gas well meters. If the operator and purchaser mutually agree, low volume gas well meters may be calibrated semiannually rather than quarterly.

V. Static Pen Requirement:

The static element shall be sized so that the static pressure pen records in the outer 2/3 of the chart range for the majority of the flow period. All meters must meet this standard when originally installed. However, a low volume gas well meter is exempt from this requirement if, after installation, decreasing reservoir/line pressure causes the static pressure to drop below this requirement, if reasonable measurement accuracy is obtained.

VI. Marginal Producing Gas Wells:

The authorized officer may approve alternate methods of measurement if the operator can demonstrate that the allocation method is equatable to all parties and will not result in a loss of royalty. As an example, large uncertainty limits can be created when measuring small volumes (an average of 15 mcf/d or less on a monthly basis). This makes allocation of production an alternative to individual well measurement.

Approval requests must be submitted on a lease basis, but may include multiple leases and should include the following:

A. The reason for the proposal, i.e., economics, environmental, or conservation.

B. Appropriate explanations and diagrams describing the proposed operation in detail:

1. A map showing all lease numbers and location of all leases and wells that will be connected to the proposed off-lease metering facility. All unitized or communitized areas, producing zones, pools, etc. must be clearly illustrated.

2. A schematic diagram or map which clearly locates and identifies all alternative measurement equipment used.

3. Explanation of the proposed allocation method of production to contributing leases/wells.

4. Estimated amounts of gas production from each lease involved.

Any well(s) or lease(s) subsequently added to an approved alternate method of measurement system/facility, must be approved by the Authorized Officer prior to being included in that facility.

Attachment #7
Pg 10 of 11

The operator is advised that an approval for commingling of production, off-lease measurement, or alternate methods of measurement does not relieve the lessee or operator from legal obligations he/she may have regarding consent from other interest holders or State regulatory agencies.

APPROVED:

1-1-92
Date

Larry L. Woodard
New Mexico State Director

Attachment #7
Pg 11 of 11

LARGE FORMAT EXHIBIT HAS BEEN REMOVED AND IS LOCATED IN THE NEXT FILE