

INFORME MENSUAL SOBRE LAS ESPECIFICACIONES DEL GAS NATURAL
(Valores promedio diarios)

PERMISIONARIO:
PUNTO DE MEDICIÓN:
ZONA DE MEDICIÓN:

Compañía Nacional de Gas SA de CV - Permiso G/11/DIS/1997
Cruce Internacional I - Estacion Importacion Rio Bravo
RESTO DEL PAÍS

Fecha	Metano (% vol)	Bióxido de Carbono (% vol)	Nitrógeno (% vol)	Total Inertes (% vol)	Etano (% vol)	Temperatura de Rocío (K)	Humedad (mg/m ³)	Poder Calorífico (MJ/m ³)	Índice Wobbe (MJ/m ³)	Acido Sulfhídrico (mg/m ³)	Azufre total* (mg/m ³)	Oxígeno* (% vol)
01/06/2017	93.4202333	0.13542917	0.12645417	0.26188333	5.2022125	270.338	7.32328043	40.295913	51.8024893	0.17588239	1.442	0.425
02/06/2017	93.9167458	0.11684583	0.12805833	0.24490417	4.92384167	271.318	6.59359818	40.0781013	51.6956901	0.07647061		
03/06/2017	93.6211375	0.11121667	0.12894583	0.2401625	5.28839167	270.754	6.71614024	40.1418261	51.7343501	0.08411767		
04/06/2017	93.61505	0.10322917	0.13013333	0.2333625	5.380675	271.528	7.0656636	40.1259003	51.7310559	0.04588236		
05/06/2017	93.7939667	0.10371667	0.1308125	0.23452917	5.2062875	270.468	6.71196267	40.0681355	51.69868	0.22941182		
06/06/2017	93.9653958	0.0941125	0.1240625	0.218175	5.08713333	270.312	6.38750472	40.0099536	51.6767915	0.18352945		
07/06/2017	93.7061167	0.09589583	0.1213125	0.21720833	5.33374167	270.276	6.03937388	40.0965488	51.724356	0		
08/06/2017	93.7611375	0.08910417	0.12241667	0.21152083	5.33627083	271.348	5.73162621	40.055443	51.706418	0.13000003		
09/06/2017	93.8110208	0.094975	0.12464167	0.21961667	5.23785	281.472	6.17305612	40.0584906	51.7025743	0.53529424		
10/06/2017	93.8930167	0.11619167	0.12716667	0.24335833	5.06810833	271.528	6.19672902	40.0508414	51.6818003	0.252353		
11/06/2017	94.299425	0.118775	0.12815833	0.24693333	4.62651667	270.657	6.851215	39.95223	51.6248372	0.22941182		
12/06/2017	94.5813833	0.124475	0.13160417	0.25607917	4.3505375	270.123	5.69820565	39.862092	51.5695377	0.09941179		
13/06/2017	94.8280333	0.10450417	0.127125	0.23162917	4.1676	270.271	5.53110285	39.7759549	51.5391483	0.15294121		
14/06/2017	94.100025	0.10245417	0.129075	0.23152917	4.891325	271.141	5.64528976	39.9958058	51.6602949	0.2141177		
15/06/2017	94.1457333	0.10195	0.12524167	0.22719167	4.95048333	271.341	5.34589724	39.9303534	51.6271188	0.20647064		
16/06/2017	94.7495417	0.10312917	0.12368333	0.2268125	4.3303	271.159	5.24145798	39.7612352	51.5335849	0		
17/06/2017	93.5767375	0.13084167	0.12329167	0.25413333	5.0445375	271.178	6.18280378	40.2769393	51.7954767	0.13000003		
18/06/2017	93.5846583	0.10206667	0.12613333	0.2282	5.41214583	270.219	7.2439066	40.1381286	51.7402736	0.09941179		
19/06/2017	93.8254417	0.10325417	0.12069583	0.22395	5.21979167	270.312	5.7664393	40.0508159	51.6942606	0.20647064		
20/06/2017	93.2933917	0.089425	0.11912083	0.20854583	5.82122083	270.141	5.53667294	40.1854125	51.7792758	0		
21/06/2017	93.0768208	0.09147083	0.11776667	0.2092375	5.99843333	271.355	4.97270097	40.2641626	51.8215962	0.18352945		
22/06/2017	93.2377625	0.08979167	0.11827917	0.20807083	5.85644583	271.386	5.17740191	40.2066419	51.7910649	0.22176476		
23/06/2017	93.0171833	0.09929583	0.12535417	0.22465	6.05235833	271.277	4.85433648	40.259863	51.8103675	0.08411767		
24/06/2017	92.0641917	0.16455	0.13842917	0.30297917	6.74375417	272.127	5.27487854	40.5587364	51.9217873	0		
25/06/2017	92.567475	0.1692125	0.1307375	0.29995	6.37310417	271.158	5.40299069	40.3685382	51.8183015	0.01835295		
26/06/2017	93.475475	0.10926667	0.12340833	0.232675	5.57935833	270.898	4.34049536	40.1329078	51.7342731	0.00764706		
27/06/2017	93.6913667	0.08947917	0.118975	0.20845417	5.41002917	270.325	4.26112153	40.0676933	51.7146141	0.14529415		
28/06/2017	94.1077583	0.09506667	0.12506667	0.22013333	4.84477917	270.347	4.32378508	39.9995841	51.6694706	0.06882355		
29/06/2017	93.9529542	0.11623333	0.12675833	0.24299167	4.74169583	271.121	4.47139256	40.1357848	51.7272999	0		
30/06/2017	93.2537708	0.11810833	0.12347083	0.24157917	5.44702083	272.138	0	40.3330466	51.8360702	0		
Mínimo	92.0641917	0.08910417	0.11776667	0.20807083	4.1676	270.123	0	39.7612352	51.5335849	0	1.442	0.425
Promedio	93.697765	0.10946889	0.12554597	0.23501486	5.26419833	271.2672	5.56870098	40.1079027	51.718762	0.12602356	1.442	0.425
Máximo	94.8280333	0.1692125	0.13842917	0.30297917	6.74375417	281.472	7.32328043	40.5587364	51.9217873	0.53529424	1.442	0.425
Desv. Est.	0.58298151	0.0198903	0.00452254	0.02323352	0.57793967	2.0117029	1.3625017	0.17112357	0.08785273	0.11490832	0	0

INFORME MENSUAL SOBRE LAS ESPECIFICACIONES DEL GAS NATURAL
(Registros máximos diarios)

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Compañía Nacional de Gas SA de CV - Permiso G/11/DIS/1997
Cruce Internacional I - Estacion Importacion Rio Bravo
RESTO DEL PAÍS

FECHA: (dd/mm/aa)	Metano (% vol)	Bióxido de Carbono (% vol)	Nitrógeno (% vol)	Total Inertes (% vol)	Etano (% vol)	Temperatura de Rocío (K)	Humedad (mg/m ³)	Poder Calorífico (MJ/m ³)	Índice Wobbe (MJ/m ³)	Acido Sulfhídrico (mg/m ³)	Azufre total* (mg/m ³)	Oxígeno* (% vol)
01/06/2017	94.1348	0.1837	0.1434	0.3138	6.2707	270.338	7.32328043	40.9047699	52.1065423	0.17588239	0	0.425
02/06/2017	94.6074	0.1561	0.1596	0.2818	5.2546	271.318	6.59359818	40.3227065	51.8148092	0.07647061	0	0
03/06/2017	94.2539	0.1355	0.1601	0.2592	6.2464	270.754	6.71614024	40.6443723	51.9945585	0.08411767	0	0
04/06/2017	94.1015	0.1091	0.1346	0.2409	5.8527	271.528	7.0656636	40.2731822	51.81159	0.04588236	0	0
05/06/2017	94.1645	0.1146	0.1391	0.2537	5.6887	270.468	6.38750472	40.177584	51.7596518	0.22941182	0	0
06/06/2017	94.3225	0.1094	0.1356	0.2443	5.5092	270.312	6.03937388	40.1216246	51.7475354	0.18352945	0	0
07/06/2017	94.103	0.1062	0.1274	0.2297	5.5784	270.276	5.73162621	40.1741637	51.7692794	0	0	0
08/06/2017	94.3846	0.1229	0.1316	0.2524	5.959	271.348	6.17305612	40.2739143	51.8241312	0.13000003	0	0
09/06/2017	94.6683	0.1216	0.1339	0.249	5.6446	281.472	6.19672902	40.2955885	51.817231	0.53529424	0	0
10/06/2017	94.173	0.1638	0.1308	0.2893	5.7593	271.528	6.851215	40.2572073	51.8058187	0.252353	0	0
11/06/2017	94.6318	0.159	0.1335	0.2898	4.9417	270.657	5.69820565	40.0843322	51.7034401	0.22941182	0	0
12/06/2017	95.0916	0.1698	0.1394	0.304	4.7824	270.123	5.53110285	40.0186227	51.6568709	0	0	0
13/06/2017	95.1493	0.1172	0.1343	0.2505	4.6952	270.271	5.64528976	39.9185341	51.6210171	0	0	0
14/06/2017	95.0566	0.1189	0.1345	0.2533	5.508	271.141	5.34589724	40.2214391	51.7822043	0.2141177	0	0
15/06/2017	95.0125	0.1327	0.131	0.2553	5.5402	271.341	5.24145798	40.0979494	51.724506	0.20647064	0	0
16/06/2017	95.3382	0.128	0.1289	0.2569	4.9863	271.159	6.18280378	40.0886873	51.696715	0	0	0
17/06/2017	94.8544	0.1708	0.1311	0.2916	6.4483	271.178	7.2439066	40.9211692	52.135738	0.13000003	0	0
18/06/2017	94.7491	0.1073	0.1612	0.2586	6.9323	270.219	5.7664393	40.6706042	52.0344623	0.09941179	0	0
19/06/2017	94.5612	0.1141	0.1315	0.2417	6.5471	270.312	5.53667294	40.4990657	51.9300605	0.20647064	0	0
20/06/2017	93.91	0.1034	0.1305	0.2339	6.8185	270.141	4.97270097	40.5073479	51.9596586	0	0	0
21/06/2017	93.4269	0.0983	0.122	0.2168	6.4831	271.355	5.17740191	40.3872972	51.8905853	0.18352945	0	0
22/06/2017	93.5724	0.0967	0.1206	0.2173	6.4935	271.386	4.85433648	40.398583	51.8942403	0.22176476	0	0
23/06/2017	93.5991	0.1312	0.1404	0.2494	6.6905	271.277	5.27487854	40.4612739	51.9187414	0.08411767	0	0
24/06/2017	93.645	0.2707	0.151	0.4076	8.5657	272.127	5.40299069	41.3049289	52.296303	0	0	0
25/06/2017	93.6401	0.2454	0.1397	0.3772	7.5798	271.158	4.34049536	40.7330887	51.9983216	0.01835295	0	0
26/06/2017	93.8316	0.1279	0.137	0.2559	5.9797	270.898	4.26112153	40.2294547	51.7981733	0.00764706	0	0
27/06/2017	94.1862	0.101	0.1215	0.2216	5.7407	270.325	4.32378508	40.1959242	51.7825881	0.14529415	0	0
28/06/2017	94.6628	0.1145	0.1283	0.2428	5.2517	270.347	4.47139256	40.2498824	51.7952038	0.06882355	0	0
29/06/2017	95.016	0.1534	0.1316	0.2842	5.1568	271.121	0	40.4910801	51.8956226	0	0	0
30/06/2017	94.3928	0.1452	0.129	0.2742	6.07	272.138	0	40.6302144	51.9865405	0	0	0
Mínimo	93.4269	0.0967	0.1206	0.2168	4.6952	270.123	0	39.9185341	51.6210171	0	0	0
Promedio	94.3747033	0.13761333	0.13577	0.26655667	5.96583667	271.2672	5.34496889	40.3851531	51.8650713	0.11761179	0	0.014167
Máximo	95.3382	0.2707	0.1612	0.4076	8.5657	281.472	7.32328043	41.3049289	52.296303	0.53529424	0	0.425
Desv. Est.	0.52819044	0.04057401	0.01044767	0.04217878	0.84239167	2.011703	1.68192846	0.30549857	0.15098717	0.11906563	0	0

INFORME MENSUAL SOBRE LAS ESPECIFICACIONES DEL GAS NATURAL
(Registros mínimos diarios)

PERMISIONARIO:
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Cruce Internacional I - Estacion Importacion Rio Bravo
RESTO DEL PAÍS

FECHA: (dd/mm/aa)	Metano (% vol)	Bióxido de Carbono (% vol)	Nitrógeno (% vol)	Total Inertes (% vol)	Etano (% vol)	Temperatura de Rocio (K)	Humedad (mg/m ³)	Poder Calorífico (MJ/m ³)	Índice Wobbe (MJ/m ³)	Acido Sulfhídrico (mg/m ³)	Azufre total* (mg/m ³)	Oxígeno* (% vol)
01/06/2017	91.8639	0.0846	0.1172	0.2058	4.851	270.338	7.32328043	39.9550231	51.6475078	0.17588239	0	0.425
02/06/2017	93.4158	0.0856	0.1222	0.2133	4.5006	271.318	6.59359818	39.7967526	51.5632666	0.07647061	0	0
03/06/2017	92.3229	0.0856	0.1224	0.2133	4.8447	270.754	6.71614024	39.8921332	51.5888966	0.08411767	0	0
04/06/2017	93.1154	0.0955	0.1237	0.2192	4.9425	271.528	7.0656636	39.979881	51.6558835	0.04588236	0	0
05/06/2017	93.3539	0.0883	0.1239	0.2127	4.8156	270.468	6.38750472	39.974088	51.6459616	0.22941182	0	0
06/06/2017	93.5752	0.0825	0.1117	0.1942	4.6666	270.312	6.03937388	39.909302	51.6051897	0.18352945	0	0
07/06/2017	93.4563	0.0872	0.1065	0.1937	5.0065	270.276	5.73162621	39.9673601	51.6666139	0	0	0
08/06/2017	93.0681	0.0043	0.0903	0.0946	5.0135	271.348	6.17305612	39.7138179	51.5966948	0.13000003	0	0
09/06/2017	93.2096	0.0409	0.1093	0.1502	4.8323	281.472	6.19672902	39.6653411	51.5339517	0.53529424	0	0
10/06/2017	93.2194	0.0973	0.1239	0.2242	4.7832	271.528	6.851215	39.925874	51.5814114	0.252353	0	0
11/06/2017	93.9788	0.1088	0.1186	0.2287	4.2904	270.657	5.69820565	39.8531287	51.5699433	0.22941182	0	0
12/06/2017	94.1096	0.1049	0.1238	0.2294	3.8577	270.123	5.53110285	39.7145538	51.494808	0	0	0
13/06/2017	94.3449	0.081	0.1166	0.1976	3.9093	270.271	5.64528976	39.6617557	51.4878929	0	0	0
14/06/2017	93.4208	0.0913	0.1253	0.2171	3.9217	271.141	5.34589724	39.7047773	51.5010563	0.2141177	0	0
15/06/2017	93.565	0.0864	0.1211	0.2084	4.1297	271.341	5.24145798	39.6807191	51.5020026	0.20647064	0	0
16/06/2017	94.065	0.0902	0.1201	0.2124	3.7882	271.159	6.18280378	39.5894534	51.4219232	0	0	0
17/06/2017	91.787	0.0921	0.1172	0.2137	4.2108	271.178	7.2439066	39.7525558	51.5373608	0.13000003	0	0
18/06/2017	91.9098	0.0974	0.1179	0.2176	4.2813	270.219	5.7664393	39.7899234	51.5493133	0.09941179	0	0
19/06/2017	92.3813	0.0861	0.109	0.1989	4.505	270.312	5.53667294	39.7959079	51.5477634	0.20647064	0	0
20/06/2017	92.2419	0.0801	0.1134	0.1954	5.1683	270.141	4.97270097	40.0118873	51.6784211	0	0	0
21/06/2017	92.6124	0.0864	0.1151	0.2015	5.7109	271.355	5.17740191	40.1316338	51.7531391	0.18352945	0	0
22/06/2017	92.6012	0.0833	0.1159	0.1992	5.5091	271.386	4.85433648	40.1163459	51.7439623	0.22176476	0	0
23/06/2017	92.3601	0.0894	0.1171	0.2078	5.5047	271.277	5.27487854	40.0914505	51.7257095	0.08411767	0	0
24/06/2017	89.8339	0.1018	0.1285	0.2323	5.367	272.127	5.40299069	40.0891641	51.6981606	0	0	0
25/06/2017	91.2756	0.1084	0.1236	0.232	5.3806	271.158	4.34049536	40.0909437	51.7003737	0.01835295	0	0
26/06/2017	93.1247	0.0944	0.1127	0.2076	5.2041	270.898	4.26112153	40.0237774	51.6668747	0.00764706	0	0
27/06/2017	93.3043	0.0803	0.1122	0.1999	5.0557	270.325	4.32378508	39.8811553	51.6187257	0.14529415	0	0
28/06/2017	93.4923	0.0784	0.1204	0.1988	4.4285	270.347	4.47139256	39.7973721	51.567786	0.06882355	0	0
29/06/2017	93.1532	0.074	0.1208	0.1948	4.179	271.121	0	39.6647742	51.5029378	0	0	0
30/06/2017	92.4634	0.0788	0.1165	0.1976	4.78	272.138	0	39.8177623	51.5840829	0	0	0
Mínimo	89.8339	0.0043	0.0903	0.0946	3.7882	270.1230	0.0000	39.5895	51.4219	0.0000	0.0000	0.0000
Promedio	92.8875	0.0848	0.1172	0.2037	4.7146	271.2672	5.3450	39.8680	51.5979	0.1176	0.0000	0.0142
Máximo	94.3449	0.1088	0.1285	0.2323	5.7109	281.4720	7.3233	40.1316	51.7531	0.5353	0.0000	0.4250
Desv. Est.	0.945793601	0.019638942	0.007371387	0.02606459	0.533957355	2.011702888	1.681928461	0.157642574	0.083924502	0.119065631	0	0.077594

June 19, 2017

FESCO, Ltd.
1100 Fesco Ave. - Alice, Texas 78332

For: Compania Nacional de Gas S.A. de C.V.
P.O. Box 690
Eagle Pass, Texas 78853

Sample: West Texas Gas - Customs Sales
Station No. 781-009
Composite Gas Sample @ 360 psig & 78 °F

Date Sampled: 06/07/2017

Job Number: 72499.001

CHROMATOGRAPH EXTENDED ANALYSIS - SUMMATION REPORT

COMPONENT	VOL %	L/M ³
Oxygen	0.425	
Hydrogen Sulfide*	< 0.001	
Nitrogen	1.908	
Carbon Dioxide	0.123	
Methane	91.306	
Ethane	5.449	
Propane	0.423	0.01549
Isobutane	0.071	0.00309
n-Butane	0.121	0.00507
2-2 Dimethylpropane	0.001	0.00005
Isopentane	0.051	0.00248
n-Pentane	0.038	0.00183
Hexanes	0.036	0.00197
Heptanes Plus	<u>0.048</u>	<u>0.00257</u>
Totals	100.000	0.03255

Computed Real Characteristics Of Heptanes Plus:

Specific Gravity ----- 3.343 (Air=1)
Molecular Weight ----- 96.62
Gross Heating Value ----- 4984 BTU/CF

Computed Real Characteristics Of Total Sample:

Specific Gravity ----- 0.604 (Air=1)
Compressibility (Z) ----- 0.9978
Molecular Weight ----- 17.45
Gross Heating Value
Dry Basis ----- 1042 BTU/CF 38.84 mJ/M³
Saturated Basis ----- 1025 BTU/CF 38.19 mJ/M³
Wobbe Index ----- 1341 BTU/CF 49.98 mJ/M³

Water Content Provided By: Compania Nacional de Gas S.A. de C.V.
1.0 Lbs/MMCF 16.02 mg/M³

*Hydrogen Sulfide tested on location by: Compania Nacional de Gas S.A. de C.V.

Results: 0.063 Gr/100 CF, 1.0 PPMV, 0.000 Mol % or 1.442 mg/M³

H2S As Total Sulfur: 0.059 Gr/100 CF or 1.347 mg/M³

Base Conditions: 14.650 PSI & 60 Deg F

Sampled By: MSI
Analyst: NG
Processor: dm
Cylinder ID: T-5019

Certified: FESCO, Ltd. - Alice, Texas

David Dannhaus 361-661-7015

**CHROMATOGRAPH EXTENDED ANALYSIS
TOTAL REPORT**

COMPONENT	VOL %	L/M ³	WT %
Oxygen	0.425		0.779
Hydrogen Sulfide*	< 0.001		< 0.001
Nitrogen	1.908		3.063
Carbon Dioxide	0.123		0.310
Methane	91.306		83.937
Ethane	5.449		9.389
Propane	0.423	0.01549	1.069
Isobutane	0.071	0.00309	0.236
n-Butane	0.121	0.00507	0.403
2,2 Dimethylpropane	0.001	0.00005	0.004
Isopentane	0.051	0.00248	0.211
n-Pentane	0.038	0.00183	0.157
2,2 Dimethylbutane	0.002	0.00011	0.010
Cyclopentane	0.000	0.00000	0.000
2,3 Dimethylbutane	0.004	0.00022	0.020
2 Methylpentane	0.011	0.00061	0.054
3 Methylpentane	0.006	0.00033	0.030
n-Hexane	0.013	0.00071	0.064
Methylcyclopentane	0.004	0.00018	0.019
Benzene	0.005	0.00019	0.022
Cyclohexane	0.004	0.00018	0.019
2-Methylhexane	0.003	0.00019	0.017
3-Methylhexane	0.003	0.00018	0.017
2,2,4 Trimethylpentane	0.000	0.00000	0.000
Other C7's	0.005	0.00029	0.028
n-Heptane	0.005	0.00031	0.029
Methylcyclohexane	0.004	0.00021	0.023
Toluene	0.005	0.00022	0.026
Other C8's	0.006	0.00037	0.038
n-Octane	0.002	0.00014	0.013
Ethylbenzene	0.000	0.00000	0.000
M & P Xylenes	0.001	0.00005	0.006
O-Xylene	0.000	0.00000	0.000
Other C9's	0.001	0.00007	0.007
n-Nonane	0.000	0.00000	0.000
Other C10's	0.000	0.00000	0.000
n-Decane	0.000	0.00000	0.000
Undecanes (11)	<u>0.000</u>	<u>0.00000</u>	<u>0.000</u>
Totals	100.000	0.03255	100.000

Computed Real Characteristics Of Total Sample:

Specific Gravity -----	0.604	(Air=1)
Compressibility (Z) -----	0.9978	
Molecular Weight -----	17.45	
Gross Heating Value		
Dry Basis -----	1042	BTU/CF 38.84 mJ/M ³
Saturated Basis -----	1025	BTU/CF 38.19 mJ/M ³
Wobbe Index -----	1341	BTU/CF 49.98 mJ/M ³