

|                                                                                                                                                                             |                                                                                   |                                                                  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |     |  |
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| Calidad de Gas<br>Noviembre 2019                                                                                                                                            |  | TRANSPORTADORA DE GAS DE TRANCOSO S.A. de C.V.                   |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |     |  |
|                                                                                                                                                                             |                                                                                   | Origen                                                           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |     |  |
|                                                                                                                                                                             |                                                                                   | Punto de Interconexión con Gas Natural del Noroeste S.A. de C.V. |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |     |  |
|                                                                                                                                                                             |                                                                                   | Destino                                                          |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |     |  |
|                                                                                                                                                                             |                                                                                   | Trancoso, Zacatecas                                              |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |     |  |
| Nota: La calidad del gas es proporcionada por el Proveedor quincenalmente posterior al periodo de consumo, por lo que la información se actualiza con la misma periodicidad |                                                                                   |                                                                  |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |          |     |  |
| Fecha                                                                                                                                                                       | Viernes                                                                           | SABADO                                                           | DOMINGO   | Lunes     | Martes    | Miércoles | Jueves    | Viernes   | SABADO    | DOMINGO   | Lunes     | Martes    | Miércoles | Jueves    | Viernes   | SABADO    | DOMINGO   | Lunes     | Martes    | Miércoles | Jueves    | Viernes   | SABADO    | DOMINGO   | Lunes     | Martes    | Miércoles | Jueves    | Viernes   | SABADO    |          |     |  |
| Componente                                                                                                                                                                  | 01-nov-19                                                                         | 02-nov-19                                                        | 03-nov-19 | 04-nov-19 | 05-nov-19 | 06-nov-19 | 07-nov-19 | 08-nov-19 | 09-nov-19 | 10-nov-19 | 11-nov-19 | 12-nov-19 | 13-nov-19 | 14-nov-19 | 15-nov-19 | 16-nov-19 | 17-nov-19 | 18-nov-19 | 19-nov-19 | 20-nov-19 | 21-nov-19 | 22-nov-19 | 23-nov-19 | 24-nov-19 | 25-nov-19 | 26-nov-19 | 27-nov-19 | 28-nov-19 | 29-nov-19 | 30-nov-19 |          |     |  |
| Metano                                                                                                                                                                      | Min. 83 %                                                                         | 95.4937%                                                         | 95.2613%  | 95.1483%  | 94.8880%  | 94.7278%  | 95.2399%  | 95.2312%  | 95.0589%  | 94.8449%  | 95.0214%  | 94.9317%  | 94.8751%  | 94.9002%  | 95.0843%  | 95.1247%  | 95.1900%  | 95.0710%  | 94.9408%  | 94.9587%  | 94.9183%  | 95.0447%  | 94.8987%  | 94.6380%  | 94.8994%  | 94.8217%  | 94.7710%  | 94.6237%  | 94.7557%  | 94.6250%  | 94.6474% |     |  |
| Nitrogeno                                                                                                                                                                   | Max. 6.0%                                                                         | 0.7704%                                                          | 0.7944%   | 0.7257%   | 0.4331%   | 0.9073%   | 0.5152%   | 0.5466%   | 0.5889%   | 0.5938%   | 0.5886%   | 0.5497%   | 0.5617%   | 0.5811%   | 0.5591%   | 0.4927%   | 0.5159%   | 0.5590%   | 0.5702%   | 0.5388%   | 0.5288%   | 0.5615%   | 0.6224%   | 0.6219%   | 0.5750%   | 0.5817%   | 0.5709%   | 0.5821%   | 0.6220%   | 0.6399%   |          |     |  |
| Dioxido de carbono                                                                                                                                                          | Max. 3%                                                                           | 0.8388%                                                          | 0.7920%   | 1.0314%   | 0.9670%   | 1.0579%   | 0.8625%   | 0.8609%   | 0.7722%   | 0.7612%   | 0.7741%   | 0.8188%   | 0.8881%   | 0.8721%   | 0.8607%   | 0.8624%   | 0.8671%   | 0.8624%   | 0.8214%   | 0.8717%   | 0.8822%   | 0.8802%   | 0.6543%   | 0.7099%   | 0.7889%   | 0.8544%   | 0.8180%   | 0.8014%   | 0.7618%   | 0.7539%   |          |     |  |
| Etano                                                                                                                                                                       | Max. 11 %                                                                         | 2.6920%                                                          | 2.8595%   | 3.3254%   | 3.4129%   | 3.3323%   | 3.0918%   | 3.1973%   | 3.4027%   | 3.5383%   | 3.4415%   | 3.4847%   | 3.5176%   | 3.5029%   | 3.3181%   | 3.3138%   | 3.2577%   | 3.3679%   | 3.4880%   | 3.4661%   | 3.4773%   | 3.3933%   | 3.5438%   | 3.9252%   | 3.8042%   | 3.6129%   | 3.6598%   | 3.7591%   | 3.6931%   | 3.8209%   | 3.7785%  |     |  |
| Propano                                                                                                                                                                     |                                                                                   | 0.1498%                                                          | 0.1561%   | 0.1868%   | 0.2040%   | 0.2395%   | 0.1438%   | 0.1250%   | 0.1363%   | 0.1321%   | 0.1369%   | 0.1300%   | 0.1182%   | 0.1222%   | 0.1203%   | 0.1089%   | 0.1106%   | 0.1193%   | 0.1214%   | 0.1380%   | 0.1426%   | 0.1397%   | 0.1343%   | 0.1275%   | 0.1406%   | 0.1552%   | 0.1383%   | 0.1714%   | 0.1517%   | 0.1312%   | 0.1381%  |     |  |
| i-Butano                                                                                                                                                                    |                                                                                   | 0.0377%                                                          | 0.0384%   | 0.0281%   | 0.0211%   | 0.0388%   | 0.0385%   | 0.0123%   | 0.0119%   | 0.0114%   | 0.0117%   | 0.0112%   | 0.0087%   | 0.0118%   | 0.0118%   | 0.0104%   | 0.0113%   | 0.0114%   | 0.0114%   | 0.0149%   | 0.0150%   | 0.0154%   | 0.0134%   | 0.0104%   | 0.0111%   | 0.0151%   | 0.0134%   | 0.0184%   | 0.0157%   | 0.0121%   | 0.0144%  |     |  |
| n-Butano                                                                                                                                                                    |                                                                                   | 0.0210%                                                          | 0.0209%   | 0.0270%   | 0.0303%   | 0.0399%   | 0.0181%   | 0.0127%   | 0.0126%   | 0.0113%   | 0.0130%   | 0.0113%   | 0.0095%   | 0.0119%   | 0.0115%   | 0.0087%   | 0.0099%   | 0.0109%   | 0.0106%   | 0.0149%   | 0.0149%   | 0.0150%   | 0.0132%   | 0.0103%   | 0.0116%   | 0.0158%   | 0.0132%   | 0.0192%   | 0.0157%   | 0.0121%   | 0.0147%  |     |  |
| i-Pentano                                                                                                                                                                   |                                                                                   | 0.0081%                                                          | 0.0074%   | 0.0112%   | 0.0128%   | 0.0170%   | 0.0189%   | 0.0045%   | 0.0041%   | 0.0039%   | 0.0042%   | 0.0049%   | 0.0039%   | 0.0045%   | 0.0039%   | 0.0039%   | 0.0045%   | 0.0039%   | 0.0045%   | 0.0049%   | 0.0049%   | 0.0051%   | 0.0044%   | 0.0034%   | 0.0038%   | 0.0047%   | 0.0051%   | 0.0047%   | 0.0059%   | 0.0042%   | 0.0052%  |     |  |
| n-Pentano                                                                                                                                                                   |                                                                                   | 0.0059%                                                          | 0.0050%   | 0.0074%   | 0.0083%   | 0.0110%   | 0.0049%   | 0.0031%   | 0.0029%   | 0.0027%   | 0.0029%   | 0.0027%   | 0.0029%   | 0.0024%   | 0.0025%   | 0.0025%   | 0.0025%   | 0.0025%   | 0.0025%   | 0.0033%   | 0.0034%   | 0.0034%   | 0.0024%   | 0.0025%   | 0.0025%   | 0.0024%   | 0.0025%   | 0.0043%   | 0.0021%   | 0.0029%   | 0.0034%  |     |  |
| Hexano                                                                                                                                                                      |                                                                                   | 0.0042%                                                          | 0.0040%   | 0.0081%   | 0.0084%   | 0.0129%   | 0.0034%   | 0.0017%   | 0.0027%   | 0.0028%   | 0.0029%   | 0.0027%   | 0.0021%   | 0.0031%   | 0.0031%   | 0.0019%   | 0.0019%   | 0.0031%   | 0.0031%   | 0.0039%   | 0.0032%   | 0.0034%   | 0.0020%   | 0.0014%   | 0.0021%   | 0.0020%   | 0.0014%   | 0.0021%   | 0.0021%   | 0.0017%   | 0.0022%  |     |  |
| Heptano                                                                                                                                                                     |                                                                                   | 0.0049%                                                          | 0.0040%   | 0.0078%   | 0.0082%   | 0.0112%   | 0.0049%   | 0.0026%   | 0.0022%   | 0.0024%   | 0.0022%   | 0.0022%   | 0.0017%   | 0.0021%   | 0.0021%   | 0.0011%   | 0.0010%   | 0.0011%   | 0.0011%   | 0.0019%   | 0.0021%   | 0.0019%   | 0.0019%   | 0.0010%   | 0.0010%   | 0.0010%   | 0.0010%   | 0.0016%   | 0.0010%   | 0.0019%   | 0.0019%  |     |  |
| Octano                                                                                                                                                                      |                                                                                   | 0.0022%                                                          | 0.0020%   | 0.0038%   | 0.0037%   | 0.0059%   | 0.0029%   | 0.0013%   | 0.0023%   | 0.0023%   | 0.0030%   | 0.0030%   | 0.0022%   | 0.0022%   | 0.0019%   | 0.0022%   | 0.0022%   | 0.0022%   | 0.0039%   | 0.0039%   | 0.0039%   | 0.0039%   | 0.0027%   | 0.0017%   | 0.0029%   | 0.0024%   | 0.0017%   | 0.0029%   | 0.0024%   | 0.0029%   | 0.0034%  |     |  |
| C9+                                                                                                                                                                         |                                                                                   | 0.0009%                                                          | 0.0009%   | 0.0009%   | 0.0007%   | 0.0010%   | 0.0009%   | 0.0005%   | 0.0009%   | 0.0009%   | 0.0009%   | 0.0009%   | 0.0007%   | 0.0007%   | 0.0003%   | 0.0004%   | 0.0002%   | 0.0003%   | 0.0003%   | 0.0009%   | 0.0009%   | 0.0009%   | 0.0009%   | 0.0007%   | 0.0003%   | 0.0003%   | 0.0003%   | 0.0005%   | 0.0005%   | 0.0005%   | 0.0008%  |     |  |
| Suma                                                                                                                                                                        |                                                                                   | 99.9991%                                                         | 99.9991%  | 99.9991%  | 99.9997%  | 99.9997%  | 99.9997%  | 99.9997%  | 99.9999%  | 99.9997%  | 99.9999%  | 99.9997%  | 99.9997%  | 99.9997%  | 99.9999%  | 99.9997%  | 99.9999%  | 99.9999%  | 99.9991%  | 99.9991%  | 99.9991%  | 99.9991%  | 99.9991%  | 99.9991%  | 99.9991%  | 99.9991%  | 99.9991%  | 99.9997%  | 99.9997%  | 99.9999%  | 99.9999% |     |  |
| Poder calorifico base seco MJ/m3.                                                                                                                                           | PC Caudales POPB                                                                  | 36.244                                                           | 36.303    | 36.593    | 36.579    | 36.547    | 36.388    | 36.404    | 36.469    | 36.508    | 36.481    | 36.473    | 36.483    | 36.540    | 36.411    | 36.407    | 36.411    | 36.441    | 36.481    | 36.493    | 36.493    | 36.463    | 36.516    | 36.549    | 36.594    | 36.557    | 36.549    | 36.607    | 36.560    | 36.585    | 36.582   |     |  |
| Gravedad Especifica                                                                                                                                                         |                                                                                   | 0.581856                                                         | 0.582660  | 0.585419  | 0.586537  | 0.588086  | 0.583665  | 0.582900  | 0.583352  | 0.583789  | 0.583662  | 0.584151  | 0.583751  | 0.583776  | 0.583530  | 0.583458  | 0.583122  | 0.583743  | 0.584148  | 0.584125  | 0.584716  | 0.584060  | 0.584309  | 0.584614  | 0.584610  | 0.584765  | 0.584965  | 0.586009  | 0.585126  | 0.585331  | 0.585304 |     |  |
| Punto de Rocio °C                                                                                                                                                           | -2.00                                                                             | -36.74                                                           | -37.92    | -27.87    | -29.06    | -22.66    | -31.54    | -41.43    | -42.85    | -42.85    | -42.85    | -42.85    | -42.85    | -42.38    | -48.45    | -47.50    | -47.47    | -44.07    | -37.39    | -32.87    | -32.09    | -36.68    | -46.83    | -48.28    | -39.60    | -40.22    | -37.46    | -38.29    | -39.01    | -33.63    |          |     |  |
| H2O (mg/m3)                                                                                                                                                                 | 110.00                                                                            | 26.9077                                                          | 24.0535   | 28.2962   | 29.6119   | 27.5976   | 27.1564   | 26.9442   | 26.3380   | 26.8816   | 26.1987   | 25.1516   | 24.0588   | 23.0770   | 22.7348   | 23.1576   | 24.4079   | 24.2591   | 23.4379   | 23.0468   | 33.8005   | 24.4449   | 24.7436   | 23.6408   | 22.3408   | 23.3662   | 22.9240   | 23.2887   | 23.3763   | 22.3924   | 21.6256  |     |  |
| Wobbe MJ / m3                                                                                                                                                               | 48.20 - 53.20                                                                     | 49.87                                                            | 50.03     | 50.30     | 50.24     | 50.12     | 50.09     | 50.15     | 49.06     | 49.09     | 49.06     | 49.06     | 49.06     | 50.18     | 50.15     | 50.15     | 50.15     | 50.15     | 50.15     | 50.22     | 50.20     | 50.22     | 50.20     | 50.18     | 50.24     | 50.40     | 50.35     | 50.28     | 50.26     | 50.29     | 50.29    |     |  |
| O2 %                                                                                                                                                                        | 0.20%                                                                             | N/A                                                              | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A       | N/A      | N/A |  |
| H2S (mg/m3)                                                                                                                                                                 | 6.00                                                                              | 0.3296                                                           | 0.3934    | 0.4846    | 0.4382    | 0.3624    | 2.5880    | 1.1054    | 0.6457    | 0.5985    | 0.5119    | 1.2385    | 1.2500    | 0.6593    | 1.2934    | 1.5515    | 1.4934    | 1.4953    | 1.4087    | 1.4254    | 1.0303    | 1.6699    | 1.4315    | 1.4710    | 1.5561    | 1.4940    | 1.4671    | 1.5541    | 1.5710    | 1.4612    | 1.5374   |     |  |
| Total de Inertes                                                                                                                                                            | Max. 6.0%                                                                         | 1.60%                                                            | 1.58%     | 1.25%     | 1.39%     | 1.57%     | 1.47%     | 1.41%     | 1.36%     | 1.35%     | 1.36%     | 1.41%     | 1.36%     | 1.43%     | 1.44%     | 1.41%     | 1.40%     | 1.41%     | 1.40%     | 1.39%     | 1.41%     | 1.41%     | 1.38%     | 1.28%     | 1.32%     | 1.36%     | 1.39%     | 1.39%     | 1.39%     | 1.38%     | 1.39%    |     |  |
| Azufre Total (mg/m3)                                                                                                                                                        | 150                                                                               | 0.2574                                                           | 0.8028    | 1.0059    | 0.9418    | 0.2049    | 3.7420    | 0.3313    | 0.3870    | 0.0484    | 0.0500    | 0.0890    | 0.9600    | 0.3960    | 0.5010    | 1.0767    | 1.0601    | 1.0362    | 0.9690    | 0.9884    | 1.2500    | 0.0252    | 0.0046    | 0.0032    | 0.0000    | 0.0134    | 0.0080    | 0.0770    | 0.9638    | 1.0368    | 1.1335   |     |  |