

OBSERVACIONES 0.53

| perforación | Identificación de la muestra |              |               |                   |                 |                 | NF sondeo | Propiedades Índice |         |          |                      |                  |                   | Propiedades Físicas      |      |       |           | Índices de resistencia |       |          |             |             |                     | Compresibilidad |                    |             |              |        | Resistencia al corte |        |              |        |                        |            |        |      |       |
|-------------|------------------------------|--------------|---------------|-------------------|-----------------|-----------------|-----------|--------------------|---------|----------|----------------------|------------------|-------------------|--------------------------|------|-------|-----------|------------------------|-------|----------|-------------|-------------|---------------------|-----------------|--------------------|-------------|--------------|--------|----------------------|--------|--------------|--------|------------------------|------------|--------|------|-------|
|             | Muestra N°                   | Tipo Muestra | Elevación (m) | Prof. Inicial (m) | Prof. Final (m) | Prof. Media (m) |           | % Gravas           | % Arena | % PT 200 | Humedad Natural wn % | Límite Líquido % | Límite Plástico % | Índice de Plasticidad IP | % MO | USCS  | gt (T/m³) | gd (T/m³)              | Gs    | N Golpes | RECOBRO (%) | qu (kg/cm2) | qu_penetr. (kg/cm2) | cu (kg/cm2)     | cu_veleta (kg/cm2) | Eu (kg/cm2) | P'c (kg/cm2) | eo     | Cc                   | Cs     | P'o (kg/cm2) | OCR    | Permeabilidad k (cm/s) | c (kg/cm2) | j (°)  |      |       |
| I4-P1       | 1                            | U            | 2543.25       | 0.5               | 1.00            | 0.75            |           |                    |         | 37.7     |                      |                  |                   |                          |      | 1.846 | 1.342     |                        |       |          |             |             |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 0.1385 |      |       |
|             | 2                            | S            | 2542.75       | 1.0               | 1.50            | 1.25            |           |                    |         | 49.8     | 90                   | 28               | 62                |                          | CH   |       |           |                        | 2.00  | 1-1-1    |             |             |                     |                 |                    |             |              |        |                      |        |              |        |                        | 0.2165     |        |      |       |
|             | 3                            | U            | 2541.25       | 2.5               | 3.00            | 2.75            |           |                    |         | 87.2     | 116                  | 35               | 81                |                          | CH   | 1.469 | 0.781     |                        |       |          | 100         |             |                     |                 |                    |             |              |        |                      |        |              |        |                        | 0.3023     |        |      |       |
|             | 4                            | S            | 2539.25       | 4.5               | 5.00            | 4.75            |           |                    |         | 45.1     | 60                   | 26               | 34                |                          | CH   |       |           |                        | 4.00  | 1-2-2    |             |             |                     |                 |                    |             |              |        |                      |        |              |        |                        | 0.4382     |        |      |       |
|             | 5                            | U            | 2537.75       | 6.0               | 6.50            | 6.25            |           |                    |         | 70.3     |                      |                  |                   |                          |      | 1.577 | 0.926     |                        |       |          | 100         | 1.02        |                     | 0.51            |                    | 26.30       |              |        |                      |        |              |        |                        | 0.5482     |        |      |       |
|             | 6                            | S            | 2537.25       | 6.5               | 7.00            | 6.75            |           |                    |         | 60.9     | 91                   | 27               | 64                |                          | CH   |       |           |                        | 5.00  | 2-3-2    |             |             |                     |                 |                    |             |              |        |                      |        |              |        |                        | 0.5776     |        |      |       |
|             | 7                            | U            | 2535.75       | 8.0               | 8.50            | 8.25            |           |                    |         | 63.9     |                      |                  |                   |                          |      | 1.548 | 0.944     | 2.656                  |       |          |             |             |                     |                 |                    |             | 2.70         | 1.8130 | 1.2172               | 0.1579 | 0.6638       | 4.07   | 3.306E-08              |            |        |      |       |
|             | 8                            | S            | 2535.25       | 8.5               | 9.00            | 8.75            |           |                    |         | 56.9     | 67                   | 19               | 48                | 3.10                     | CH   |       |           |                        | 5.00  | 2-3-2    |             |             |                     |                 |                    |             |              |        |                      |        |              |        |                        | 0.6931     |        |      |       |
|             | 9                            | U            | 2532.75       | 11.0              | 11.50           | 11.25           |           |                    |         | 29.6     |                      |                  |                   |                          |      | 1.892 | 1.460     |                        |       |          | 100         | 1.00        |                     | 0.50            |                    | 24.90       |              |        |                      |        |              |        |                        | 0.8828     |        | 0.28 | 19.90 |
|             | 10                           | S            | 2532.25       | 11.5              | 12.00           | 11.75           |           |                    |         | 48.2     | 56                   | 22               | 34                |                          | CH   |       |           |                        | 4.00  | 2-2-2    |             |             |                     |                 |                    |             |              |        |                      |        |              |        |                        | 0.9222     |        |      |       |
|             | 11                           | U            | 2530.75       | 13.0              | 13.50           | 13.25           |           |                    |         | 41.8     |                      |                  |                   |                          |      | 1.748 | 1.232     |                        |       |          | 96          | 1.54        |                     | 0.77            |                    | 67.90       |              |        |                      |        |              |        |                        | 1.0299     |        |      |       |
|             | 12                           | S            | 2530.25       | 13.5              | 14.00           | 13.75           |           |                    |         | 70.9     | 74                   | 26               | 48                |                          | CH   |       |           |                        | 5.00  | 2-2-3    |             |             |                     |                 |                    |             |              |        |                      |        |              |        |                        | 1.0622     |        |      |       |
|             | 13                           | U            | 2528.75       | 15.0              | 15.50           | 15.25           |           |                    |         | 65.7     |                      |                  |                   |                          |      | 1.571 | 0.948     |                        |       |          | 100         |             |                     |                 |                    |             |              |        |                      |        |              |        |                        | 1.1461     |        |      |       |
|             | 14                           | S            | 2528.25       | 15.5              | 16.00           | 15.75           |           |                    |         | 31.0     | 44                   | 19               | 25                | 1.90                     | CL   |       |           |                        | 11.00 | 9-6-5    |             |             |                     |                 |                    |             |              |        |                      |        |              |        | 1.1819                 |            |        |      |       |
|             | 15                           | S            | 2526.75       | 17.0              | 17.50           | 17.25           |           |                    |         | 28.1     |                      |                  |                   |                          |      |       |           | 2.625                  | 26.00 | 12-12-14 |             |             |                     |                 |                    |             |              |        |                      |        |              |        |                        | 1.3145     |        |      |       |
|             | 16                           | U            | 2525.25       | 18.5              | 19.00           | 18.75           |           |                    |         | 25.8     | 40                   | 16               | 24                |                          | CL   |       |           |                        |       |          | 100         |             |                     |                 |                    |             |              |        |                      |        |              |        | 1.4531                 |            |        |      |       |
|             | 17                           | S            | 2524.75       | 19.0              | 19.50           | 19.25           |           | 0.0                | 42.6    | 57.4     | 18.9                 |                  |                   | 0.80                     |      |       |           | 2.614                  | 75.00 | 15-45-30 |             |             |                     |                 |                    |             |              |        |                      |        |              |        | 1.5037                 |            |        |      |       |
|             | 18                           | U            | 2523.25       | 20.5              | 21.00           | 20.75           |           |                    |         | 34.9     |                      |                  |                   |                          |      | 1.859 | 1.378     | 2.625                  |       |          |             | 100         | 1.43                |                 | 0.72               |             | 26.40        | 5.60   | 0.8330               | 0.1924 | 0.0179       | 1.6493 | 3.40                   | 3.865E-07  |        |      |       |
|             | 19                           | S            | 2522.75       | 21.0              | 21.50           | 21.25           |           | 0.0                | 36.9    | 63.1     | 29.2                 | 40               | 22                | 18                       | 3.20 | CL    |           |                        |       | 19.00    | 8-9-10      |             |                     |                 |                    |             |              |        |                      |        |              | 1.6930 |                        |            |        |      |       |
|             | 20                           | S            | 2520.75       | 23.0              | 23.50           | 23.25           |           | 0.0                | 61.4    | 38.6     | 26.4                 | 29               | 17                | 12                       | 3.00 | SC-CL |           |                        |       | 100.00   | 50-50-50    |             |                     |                 |                    |             |              |        |                      |        |              | 1.8818 |                        |            |        |      |       |
|             | 21                           | U            | 2519.25       | 24.5              | 25.00           | 24.75           |           |                    |         | 52.8     |                      |                  |                   |                          |      | 1.614 | 1.056     |                        |       |          | 100         | 2.34        |                     | 1.17            |                    | 193.80      |              |        |                      |        |              | 2.0029 |                        |            |        |      |       |
|             | 22                           | S            | 2518.75       | 25.0              | 25.50           | 25.25           |           |                    |         | 40.7     | 57                   | 26               | 31                |                          | CH   |       |           |                        | 14.00 | 7-7-7    |             |             |                     |                 |                    |             |              |        |                      |        |              | 2.0371 |                        |            |        |      |       |
|             | 24                           | U            | 2517.25       | 26.5              | 27.00           | 26.75           |           |                    |         | 58.1     |                      |                  |                   |                          |      | 1.748 | 1.105     |                        |       |          | 90          | 2.52        |                     | 1.26            |                    | 108.30      |              |        |                      |        |              | 2.1496 |                        |            |        |      |       |
|             | 25                           | S            | 2516.75       | 27.0              | 27.50           | 27.25           |           |                    |         |          | 126                  | 40               | 86                | 5.40                     | CH   |       |           |                        | 11.00 | 5-5-6    |             |             |                     |                 |                    |             |              |        |                      |        |              | 2.1433 |                        |            |        |      |       |
|             | 26                           | U            | 2515.25       | 28.5              | 29.00           | 28.75           |           |                    |         | 267.0    |                      |                  |                   |                          |      |       |           |                        |       |          | 50          |             |                     |                 |                    |             |              |        |                      |        |              | 2.0794 |                        |            |        |      |       |
|             | 27                           | S            | 2514.80       | 29.0              | 29.40           | 29.20           |           |                    |         |          |                      |                  |                   |                          |      |       |           |                        | 32.00 | 16-16-16 |             |             |                     |                 |                    |             |              |        |                      |        |              | 2.0602 |                        |            |        |      |       |
|             | 28                           | U            | 2513.25       | 30.5              | 31.00           | 30.75           |           |                    |         | 101.4    |                      |                  |                   |                          |      | 1.369 | 0.680     |                        |       |          | 100         | 1.28        |                     | 0.64            |                    | 48.00       |              |        |                      |        |              | 2.0113 |                        |            |        |      |       |
|             | 29                           | S            | 2512.75       | 31.0              | 31.50           | 31.25           |           |                    |         | 105.7    | 112                  | 73               | 39                | 11.10                    | OH   |       |           |                        | 25.00 | 10-12-13 |             |             |                     |                 |                    |             |              |        |                      |        | 2.0309       |        |                        |            |        |      |       |
|             | 30                           | S            | 2511.25       | 32.5              | 33.00           | 32.75           |           |                    |         | 82.3     | 94                   | 62               | 32                |                          | OH   |       |           |                        | 15.00 | 9-8-7    |             |             |                     |                 |                    |             |              |        |                      |        | 2.0991       |        |                        |            |        |      |       |
|             | 31                           | U            | 2509.75       | 34.0              | 34.50           | 34.25           |           |                    |         | 58.8     |                      |                  |                   |                          |      | 1.577 | 0.993     |                        |       |          | 94          |             |                     |                 |                    |             |              |        |                      |        | 2.1796       |        |                        |            |        |      |       |
|             | 32                           | S            | 2509.25       | 34.5              | 35.00           | 34.75           |           |                    |         | 89.9     | 100                  | 54               | 46                | 19.90                    | MH   |       |           |                        | 14.00 | 7-6-8    |             |             |                     |                 |                    |             |              |        |                      |        | 2.2056       |        |                        |            |        |      |       |
|             | 33                           | S            | 2507.75       | 36.0              | 36.50           | 36.25           |           |                    |         | 84.9     |                      |                  |                   |                          |      |       |           |                        | 19.00 | 9-9-10   |             |             |                     |                 |                    |             |              |        |                      |        | 2.2770       |        |                        |            |        |      |       |
|             | 34                           | U            | 2506.25       | 37.5              | 38.00           | 37.75           |           |                    |         | 32.0     |                      |                  |                   |                          |      | 1.910 | 1.447     |                        |       |          | 100         | 2.41        |                     | 1.20            |                    | 363.20      |              |        |                      |        | 2.3817       |        |                        |            |        |      |       |
|             | 35                           | S            | 2505.75       | 38.0              | 38.50           | 38.25           |           |                    |         | 32.0     | 71                   | 27               | 44                | 1.90                     | CH   |       |           |                        | 23.00 | 4-10-13  |             |             |                     |                 |                    |             |              |        |                      | 2.4257 |              |        |                        |            |        |      |       |
|             | 36                           | U            | 2504.25       | 39.5              | 40.00           | 39.75           |           |                    |         | 21.9     |                      |                  |                   |                          |      | 2.071 | 1.698     |                        |       |          | 100         |             |                     |                 |                    |             |              |        |                      |        | 2.5697       |        |                        |            |        |      |       |
|             | 37                           | S            | 2503.25       | 40.5              | 41.00           | 40.75           |           |                    |         | 28.1     | 50                   | 18               | 32                |                          | CL   |       |           |                        | 32.00 | 12-18-24 |             |             |                     |                 |                    |             |              |        |                      | 2.6685 |              |        |                        |            |        |      |       |
|             | 38                           | S            | 2501.75       | 42.0              | 42.50           | 42.25           |           | 0.0                | 42.8    | 57.2     | 16.9                 |                  |                   |                          |      |       |           |                        | 75.00 | 25-50/3  |             |             |                     |                 |                    |             |              |        |                      | 2.8216 |              |        |                        |            |        |      |       |
|             | 39                           | S            | 2500.25       | 43.5              | 44.00           | 43.75           |           |                    |         | 33.4     | 67                   | 35               | 32                |                          | MH   |       |           |                        | 38.00 | 13-19-19 |             |             |                     |                 |                    |             |              |        |                      | 2.9692 |              |        |                        |            |        |      |       |
|             | 40                           | U            | 2498.75       | 45.0              | 45.50           | 45.25           |           |                    |         | 48.6     |                      |                  |                   |                          |      | 1.682 | 1.138     |                        |       |          | 92          | 3.07        |                     | 1.54            |                    | 457.90      |              |        |                      | 3.0828 |              |        |                        |            |        |      |       |
|             | 41                           | S            | 2498.25       | 45.5              | 46.00           | 45.75           |           | 0.0                | 2.5     | 97.5     | 65.2                 | 97               | 46                | 51                       |      | MH    |           | 2.523                  | 14.00 | 5-7-7    |             |             |                     |                 |                    |             |              |        |                      | 3.1142 |              |        |                        |            |        |      |       |
|             | 42                           | U            | 2496.25       | 47.5              | 48.00           | 47.75           |           |                    |         | 43.6     | 100                  | 41               | 59                | 3.40                     | CH   | 1.737 | 1.210     |                        |       |          | 58          | 4.13        |                     | 2.07            |                    | 608.40      |              |        |                      | 3.2456 |              |        |                        |            |        |      |       |
|             | 43                           | S            | 2494.25       | 49.5              | 50.00           | 49.75           |           |                    |         | 43.1     | 73                   | 34               | 39                |                          | CH   |       |           |                        | 48.00 | 11-18-30 |             |             |                     |                 |                    |             |              |        |                      | 3.3923 |              |        |                        |            |        |      |       |

OBSERVACIONES 0.53

| perforación | Identificación de la muestra |              |               |                   |                 |                 | NF sondeo | Propiedades Índice |         |          |                      |                  |                   |                          | Propiedades Físicas |       |           |           | Índices de resistencia |          |             |             |                     |             | Compresibilidad    |             |              |        |        | Resistencia al corte |              |      |                        |            |        |        |       |  |
|-------------|------------------------------|--------------|---------------|-------------------|-----------------|-----------------|-----------|--------------------|---------|----------|----------------------|------------------|-------------------|--------------------------|---------------------|-------|-----------|-----------|------------------------|----------|-------------|-------------|---------------------|-------------|--------------------|-------------|--------------|--------|--------|----------------------|--------------|------|------------------------|------------|--------|--------|-------|--|
|             | Muestra N°                   | Tipo Muestra | Elevación (m) | Prof. Inicial (m) | Prof. Final (m) | Prof. Media (m) |           | % Gravas           | % Arena | % PT 200 | Humedad Natural wn % | Límite Líquido % | Límite Plástico % | Índice de Plasticidad IP | % MO                | USCS  | gt (T/m³) | gd (T/m³) | Gs                     | N Golpes | RECOBRO (%) | qu (kg/cm2) | qu_penetr. (kg/cm2) | cu (kg/cm2) | cu_veleta (kg/cm2) | Eu (kg/cm2) | P'c (kg/cm2) | eo     | Cc     | Cs                   | P'o (kg/cm2) | OCR  | Permeabilidad k (cm/s) | c (kg/cm2) | j (°)  |        |       |  |
| L4-P2       | 1                            | S            | 2539.00       | 0.0               | 0.50            | 0.25            |           |                    |         | 20.2     |                      |                  | 0                 |                          |                     |       |           |           | 27.00                  | 3-10-17  | 100         |             |                     |             |                    |             |              |        |        |                      |              |      |                        | 0.0513     |        |        |       |  |
|             | 2                            | S            | 2537.25       | 1.5               | 2.00            | 1.75            |           |                    |         | 25.5     | 58                   | 21               | 37                |                          | CH                  |       |           |           | 26.00                  | 7-10-16  | 100         |             |                     |             |                    |             |              |        |        |                      |              |      |                        | 0.2762     |        |        |       |  |
|             | 3                            | U            | 2535.75       | 3.0               | 3.50            | 3.25            |           |                    |         | 13.2     | 36                   | 15               | 21                |                          | CL                  | 1.938 | 1.712     |           |                        |          | 100         |             |                     |             |                    |             |              |        |        |                      |              |      |                        | 0.4176     |        | 0.08   | 35.90 |  |
|             | 4                            | S            | 2534.25       | 4.5               | 5.00            | 4.75            |           |                    |         | 12.8     |                      |                  | 0                 |                          |                     |       |           |           | 25.00                  | 9-10-15  | 100         |             |                     |             |                    |             |              |        |        |                      |              |      |                        |            | 0.5834 |        |       |  |
|             | 5                            | U            | 2532.75       | 6.0               | 6.50            | 6.25            |           |                    |         | 85.4     | 132                  | 30               | 102               |                          | CH                  | 1.463 | 0.789     | 2.675     |                        |          | 100         | 0.74        | 0.5-0.75            | 0.37        |                    | 114.30      | 2.00         | 0.6360 | 0.7063 | 0.0802               |              | 2.80 | 4.82E-08               |            |        |        |       |  |
|             | 6                            | S            | 2531.25       | 7.5               | 8.00            | 7.75            |           |                    |         |          |                      |                  | 0                 |                          |                     |       |           |           | 17.00                  | 17-11-6  | 100         |             |                     |             |                    |             |              |        |        |                      |              |      |                        |            | 0.6734 |        |       |  |
|             | 7                            | U            | 2529.75       | 9.0               | 9.50            | 9.25            |           |                    |         | 97.3     | 156                  | 44               | 112               |                          | CH                  | 1.432 | 0.726     |           |                        |          | 100         | 1.63        | 1.50                | 0.81        |                    | 122.10      |              |        |        |                      |              |      |                        | 0.6308     |        |        |       |  |
|             | 8                            | S            | 2528.25       | 10.5              | 11.00           | 10.75           |           |                    |         | 29.3     | 39                   | 20               | 19                |                          | CL                  |       |           |           |                        |          | 100         |             |                     |             |                    |             |              |        |        |                      |              |      |                        |            | 0.7297 |        |       |  |
|             | 9                            | S            | 2526.75       | 12.0              | 12.50           | 12.25           |           |                    |         |          |                      |                  | 0                 |                          |                     |       |           |           |                        |          | 100         |             |                     |             |                    |             |              |        |        |                      |              |      |                        |            |        | 0.7213 |       |  |
|             | 10                           | U            | 2525.25       | 13.5              | 14.00           | 13.75           |           |                    |         | 52.7     | 80                   | 30               | 50                |                          | CH                  | 1.672 | 1.095     |           |                        |          | 100         | 1.86        | 2-2.5               | 0.93        |                    | 153.50      |              |        |        |                      |              |      |                        |            | 0.6967 |        |       |  |
|             | 11                           | U            | 2523.75       | 15.0              | 15.50           | 15.25           |           |                    |         | 74.2     |                      |                  | 0                 |                          |                     |       |           |           |                        |          | 100         |             |                     |             |                    |             |              |        |        |                      |              |      |                        |            |        | 0.7869 |       |  |
|             | 12                           | U            | 2522.25       | 16.5              | 17.00           | 16.75           |           |                    |         | 43.5     | 77                   | 29               | 48                |                          | CH                  | 1.719 | 1.196     |           |                        |          | 100         | 2.25        | 1.75-2              | 1.12        |                    | 185.50      |              |        |        |                      |              |      |                        |            | 0.8807 |        |       |  |
|             | 13                           | U            | 2520.75       | 18.0              | 18.50           | 18.25           |           |                    |         | 54.0     |                      |                  | 0                 |                          |                     |       |           |           |                        |          | 100         |             |                     |             |                    |             |              |        |        |                      |              |      |                        |            |        | 0.9829 |       |  |
|             | 14                           | U            | 2519.25       | 19.5              | 20.00           | 19.75           |           |                    |         | 25.3     |                      |                  | 0                 |                          |                     |       |           |           |                        |          | 100         |             |                     |             |                    |             |              |        |        |                      |              |      |                        |            |        | 1.1025 |       |  |
|             | 15                           | U            | 2518.25       | 20.5              | 21.00           | 20.75           |           |                    |         | 119.6    |                      |                  | 0                 |                          |                     |       |           |           |                        |          | 100         |             |                     |             |                    | 1.50        |              |        |        |                      |              |      |                        |            |        | 1.1688 |       |  |
|             | 16                           | U            | 2517.25       | 21.5              | 22.00           | 21.75           |           |                    |         | 92.9     | 116                  | 39               | 77                | 6.00                     | CH                  | 1.647 | 0.856     |           |                        |          | 100         |             |                     |             |                    |             |              |        |        |                      |              |      |                        |            | 1.2199 |        |       |  |
|             | 17                           | U            | 2515.75       | 23.0              | 23.50           | 23.25           |           |                    |         | 104.4    |                      |                  | 0                 | 26.00                    |                     |       |           |           |                        |          | 100         |             |                     |             |                    | 2.25-2.5    |              |        |        |                      |              |      |                        |            | 1.2931 |        |       |  |
|             | 18                           | U            | 2514.25       | 24.5              | 25.00           | 24.75           |           |                    |         | 38.9     | 59                   | 24               | 35                |                          | CH                  | 1.781 | 1.282     |           |                        |          | 100         | 2.45        |                     | 1.22        |                    | 262.00      |              |        |        |                      |              |      |                        |            | 1.3762 |        |       |  |
|             | 19                           | U            | 2512.75       | 26.0              | 26.50           | 26.25           |           |                    |         | 54.4     |                      |                  | 0                 | 5.60                     |                     |       |           |           |                        |          | 100         |             |                     |             | 1.5-1.75           |             |              |        |        |                      |              |      |                        |            | 1.4829 |        |       |  |
|             | 20                           | U            | 2511.25       | 27.5              | 28.00           | 27.75           |           |                    |         | 62.6     | 92                   | 41               | 51                |                          | OH                  | 1.490 | 0.916     |           |                        |          | 100         | 1.25        |                     | 0.63        |                    | 180.00      |              |        |        |                      |              |      |                        |            | 1.5678 |        |       |  |
|             | 21                           | U            | 2509.25       | 29.5              | 30.00           | 29.75           |           |                    |         | 52.1     |                      |                  | 0                 | 10.00                    |                     |       |           |           |                        |          | 100         |             |                     |             | 1.5-1.75           |             |              |        |        |                      |              |      |                        |            | 1.6826 |        |       |  |
|             | 22                           | U            | 2508.25       | 30.5              | 31.00           | 30.75           |           |                    |         | 172.0    | 113                  | 57               | 56                |                          | OH                  | 1.214 | 0.446     |           |                        |          | 100         | 2.20        | 2.25                | 1.10        |                    | 110.40      |              |        |        |                      |              |      |                        |            | 1.7262 |        |       |  |
|             | 23                           | U            | 2506.75       | 32.0              | 32.50           | 32.25           |           |                    |         | 88.1     |                      |                  | 0                 | 26.90                    |                     |       |           |           |                        |          | 100         |             |                     |             | 0.75-1             |             |              |        |        |                      |              |      |                        |            | 1.7777 |        |       |  |
|             | 24                           | U            | 2505.25       | 33.5              | 34.00           | 33.75           |           |                    |         | 28.1     | 53                   | 23               | 30                |                          | CH                  | 1.818 | 1.365     |           |                        |          | 100         | 1.70        | 2.25-2.5            | 0.85        |                    | 420.00      |              |        |        |                      |              |      |                        |            | 1.8746 |        |       |  |
|             | 25                           | U            | 2503.75       | 35.0              | 35.50           | 35.25           |           |                    |         | 121.3    | 135                  | 76               | 59                |                          | OH                  |       |           |           |                        |          | 100         |             |                     |             | 2.00               |             |              |        |        |                      |              |      |                        |            | 1.9637 |        |       |  |
|             | 26                           | U            | 2502.25       | 36.5              | 37.00           | 36.75           |           |                    |         | 22.6     |                      |                  | 0                 |                          |                     |       |           |           |                        |          | 100         | 3.91        | 3.75                | 1.95        |                    | 478.70      |              |        |        |                      |              |      |                        |            | 2.0631 |        |       |  |
|             | 27                           | U            | 2500.75       | 38.0              | 38.50           | 38.25           |           |                    |         | 25.8     | 57                   | 20               | 37                |                          | CH                  |       |           |           |                        |          | 100         |             |                     |             |                    |             |              |        |        |                      |              |      |                        |            | 2.2053 |        |       |  |
|             | 28                           | U            | 2499.25       | 39.5              | 40.00           | 39.75           |           |                    |         | 90.0     |                      |                  | 0                 |                          |                     |       |           |           |                        |          | 100         | 0.70        |                     | 0.35        |                    | 29.80       |              |        |        |                      |              |      |                        |            | 2.3049 |        |       |  |
|             | 29                           | S            | 2497.75       | 41.0              | 41.50           | 41.25           |           |                    |         | 24.4     |                      |                  | 0                 |                          |                     |       |           |           |                        | 12.00    | 3-4-8       | 100         |                     |             |                    |             |              |        |        |                      |              |      |                        |            |        | 2.4064 |       |  |
|             | 30                           | S            | 2496.25       | 42.5              | 43.00           | 42.75           |           |                    |         | 34.0     |                      |                  | 0                 |                          |                     |       |           |           | 2.605                  | 22.00    | 11-10-12    | 100         |                     |             |                    |             |              |        |        |                      |              |      |                        |            |        | 2.5408 |       |  |
|             | 31                           | S            | 2494.75       | 44.0              | 44.50           | 44.25           |           |                    |         | 31.0     |                      |                  | 0                 |                          |                     |       |           |           |                        | 25.00    | 12-13-12    | 100         |                     |             |                    |             |              |        |        |                      |              |      |                        |            |        | 2.6674 |       |  |
|             | 32                           | S            | 2493.25       | 45.5              | 46.00           | 45.75           |           |                    |         | 32.2     |                      |                  | 0                 |                          |                     |       |           |           | 2.657                  | 24.00    | 10-11-13    | 100         |                     |             |                    |             |              |        |        |                      |              |      |                        |            |        | 2.7957 |       |  |
|             | 33                           | S            | 2491.75       | 47.0              | 47.50           | 47.25           |           |                    |         |          |                      |                  | 0                 |                          |                     |       |           |           |                        | 25.00    | 13-14-11    | 0           |                     |             |                    |             |              |        |        |                      |              |      |                        |            |        | 2.7843 |       |  |
|             | 34                           | S            | 2490.25       | 48.5              | 49.00           | 48.75           |           |                    |         |          |                      |                  | 0                 |                          |                     |       |           |           |                        | 18.00    | 10-10-8     | 100         |                     |             |                    |             |              |        |        |                      |              |      |                        |            |        | 2.6343 |       |  |

OBSERVACIONES 0.53

| perforación | Identificación de la muestra |              |               |                   |                 |                 | NF sondeo | Propiedades Índice |         |          |                      |                  |                   |                          | Propiedades Físicas |       |                                     |                        |          | Índices de resistencia |             |             |                     |             |                    | Compresibilidad |                         |        |        |        | Resistencia al corte    |     |                        |            |        |        |           |           |       |       |  |
|-------------|------------------------------|--------------|---------------|-------------------|-----------------|-----------------|-----------|--------------------|---------|----------|----------------------|------------------|-------------------|--------------------------|---------------------|-------|-------------------------------------|------------------------|----------|------------------------|-------------|-------------|---------------------|-------------|--------------------|-----------------|-------------------------|--------|--------|--------|-------------------------|-----|------------------------|------------|--------|--------|-----------|-----------|-------|-------|--|
|             | Muestra N°                   | Tipo Muestra | Elevación (m) | Prof. Inicial (m) | Prof. Final (m) | Prof. Media (m) |           | % Gravas           | % Arena | % PT 200 | Humedad Natural wn % | Límite Líquido % | Límite Plástico % | Índice de Plasticidad IP | % MO                | USCS  | gt <sub>s</sub> (T/m <sup>3</sup> ) | gd (T/m <sup>3</sup> ) | Gs       | N Golpes               | RECOBRO (%) | qu (kg/cm2) | qu_penetr. (kg/cm2) | cu (kg/cm2) | cu_veleta (kg/cm2) | Eu (kg/cm2)     | P <sub>c</sub> (kg/cm2) | eo     | Cc     | Cs     | P <sub>o</sub> (kg/cm2) | OCR | Permeabilidad k (cm/s) | c (kg/cm2) | j (°)  |        |           |           |       |       |  |
|             |                              |              |               |                   |                 |                 |           |                    |         |          |                      |                  |                   |                          |                     |       |                                     |                        |          |                        |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        |           |           |       |       |  |
| L5-P1       | 1                            | S            | 2549.25       | 0.5               | 1.00            | 0.75            |           |                    |         | 23.4     | 33                   | 19               | 14                | CL                       |                     |       |                                     | 5.00                   | 2-2-3    | 42                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        | 0.1489 |           |           |       |       |  |
|             | 2                            | S            | 2548.25       | 1.5               | 2.00            | 1.75            |           |                    |         | 33.3     |                      |                  | 0                 |                          |                     |       |                                     | 10.00                  | 3-4-6    | 62                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        | 0.3398 |           |           |       |       |  |
|             | 3                            | S            | 2546.75       | 3.0               | 3.50            | 3.25            |           |                    |         | 51.4     | 86                   | 30               | 56                | CH                       |                     |       |                                     | 7.00                   | 3-3-4    | 76                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 0.6020    |           |       |       |  |
|             | 4                            | U            | 2545.25       | 4.5               | 5.00            | 4.75            |           |                    |         | 58.5     |                      |                  | 0                 |                          |                     | 1.612 | 1.017                               |                        |          |                        | 100         | 1.18        |                     | 0.59        |                    | 37.00           |                         |        |        |        |                         |     |                        |            |        |        | 0.8476    |           |       |       |  |
|             | 5                            | S            | 2544.75       | 5.0               | 5.50            | 5.25            |           |                    |         | 52.9     | 83                   | 25               | 58                | CH                       |                     |       |                                     | 10.00                  | 5-6-6    | 90                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 0.9293    |           |       |       |  |
|             | 6                            | U            | 2543.25       | 6.5               | 7.00            | 6.75            |           |                    |         | 50.3     |                      |                  | 0                 |                          |                     | 1.716 | 1.142                               |                        |          |                        | 100         | 1.16        |                     | 0.58        |                    | 73.20           |                         |        |        |        |                         |     |                        |            |        |        | 1.1769    |           |       |       |  |
|             | 7                            | S            | 2542.75       | 7.0               | 7.50            | 7.25            |           |                    |         | 55.0     | 85                   | 27               | 58                | CH                       |                     |       |                                     | 12.00                  | 1-2-1    | 78                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 1.2107    |           |       |       |  |
|             | 8                            | U            | 2541.25       | 8.5               | 9.00            | 8.75            |           |                    |         | 88.5     |                      |                  | 0                 |                          |                     |       |                                     |                        |          |                        | 100         |             | 1.75-2              |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 1.2939    |           |       |       |  |
|             | 9                            | S            | 2540.75       | 9.0               | 9.50            | 9.25            |           |                    |         | 95.2     | 124                  | 32               | 92                | CH                       |                     |       |                                     | 4.00                   | 1-2-2    | 80                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 1.3169    |           |       |       |  |
|             | 10                           | U            | 2539.25       | 10.5              | 11.00           | 10.75           |           |                    |         | 70.4     |                      |                  | 0                 |                          |                     | 1.563 | 0.917                               | 2.625                  |          |                        | 100         | 0.99        |                     | 0.50        |                    | 83.00           | 4.60                    | 1.5140 | 1.0672 | 0.1753 |                         |     |                        |            |        | 1.3927 | 3.30      | 6.404E-08 |       |       |  |
|             | 11                           | S            | 2538.75       | 11.0              | 11.50           | 11.25           |           |                    |         | 63.6     | 82                   | 26               | 56                | CH                       |                     |       |                                     | 8.00                   | 3-4-4    | 93                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 1.4214    |           |       |       |  |
|             | 12                           | U            | 2537.25       | 12.5              | 13.00           | 12.75           |           |                    |         | 82.8     |                      |                  | 0                 |                          |                     | 1.511 | 0.826                               |                        |          |                        | 100         | 0.51        |                     | 0.25        |                    | 19.30           |                         |        |        |        |                         |     |                        |            |        |        | 1.5036    |           | 0.23  | 18.60 |  |
|             | 13                           | S            | 2536.75       | 13.0              | 13.50           | 13.25           |           |                    |         | 60.1     | 70                   | 23               | 47                | CH                       |                     |       |                                     | 14.00                  | 5-8-6    | 100                    |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 1.5315    |           |       |       |  |
|             | 14                           | U            | 2535.75       | 14.0              | 14.50           | 14.25           |           |                    |         | 31.3     |                      |                  |                   |                          |                     | 1.887 | 1.437                               |                        |          |                        | 100         | 2.92        |                     | 1.46        |                    | 176.70          |                         |        |        |        |                         |     |                        |            |        |        | 1.6061    |           |       |       |  |
|             | 15                           | S            | 2534.75       | 15.0              | 15.50           | 15.25           |           |                    |         | 25.6     | 46                   | 16               | 30                | CL                       |                     |       |                                     | 15.00                  | 6-7-8    | 93                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 1.6977    |           |       |       |  |
|             | 16                           | S            | 2533.25       | 16.5              | 17.00           | 16.75           |           |                    |         | 16.8     |                      |                  |                   |                          |                     |       | 2.635                               | 26.00                  | 12-14-26 | 74                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 1.8540    |           |       |       |  |
|             | 17                           | S            | 2532.75       | 17.0              | 17.50           | 17.25           |           |                    |         | 37.5     | 39                   | 15               | 24                | CL                       |                     |       |                                     | 11.00                  | 5-5-6    | 100                    |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 1.9021    |           |       |       |  |
|             | 18                           | U            | 2531.25       | 18.5              | 19.00           | 18.75           |           |                    |         | 51.3     |                      |                  |                   |                          |                     | 1.700 | 1.124                               |                        |          |                        | 100         | 2.47        |                     | 1.24        |                    | 138.50          |                         |        |        |        |                         |     |                        |            |        |        | 2.0135    |           |       |       |  |
|             | 19                           | S            | 2530.75       | 19.0              | 19.50           | 19.25           |           |                    |         | 32.4     | 58                   | 25               | 33                | CH                       |                     |       |                                     | 14.00                  | 8-8-6    | 76                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.0521    |           |       |       |  |
|             | 20                           | U            | 2529.25       | 20.5              | 21.00           | 20.75           |           |                    |         |          |                      |                  |                   |                          |                     |       |                                     |                        |          | 100                    |             |             | 1.75-2              |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.0405    |           |       |       |  |
|             | 21                           | S            | 2528.75       | 21.0              | 21.50           | 21.25           |           |                    |         | 63.0     | 110                  | 30               | 80                | CH                       |                     |       |                                     | 10.00                  | 5-5-5    | 100                    |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.0302    |           |       |       |  |
|             | 22                           | U            | 2527.25       | 22.5              | 23.00           | 22.75           |           |                    |         | 51.4     |                      |                  | 0                 |                          |                     | 1.703 | 1.123                               |                        |          |                        | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.1271    |           |       |       |  |
|             | 23                           | S            | 2526.75       | 23.0              | 23.50           | 23.25           |           |                    |         | 57.2     | 89                   | 24               | 65                | CH                       |                     |       |                                     | 27.00                  | 10-14-13 | 100                    |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.1602    |           |       |       |  |
|             | 24                           | S            | 2525.25       | 24.5              | 25.00           | 24.75           |           | 0.0                | 38.9    | 61.1     | 42.2                 |                  |                   | 0                        |                     |       |                                     | 2.606                  | 29.00    | 16-17-12               | 82          |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        |           | 2.2624    |       |       |  |
|             | 25                           | U            | 2523.75       | 26.0              | 26.50           | 26.25           |           |                    |         | 47.6     |                      |                  | 0                 |                          |                     | 1.676 | 1.024                               |                        |          |                        | 100         | 2.59        |                     | 1.29        |                    | 118.10          |                         |        |        |        |                         |     |                        |            |        |        | 2.3684    |           |       |       |  |
|             | 26                           | S            | 2523.25       | 26.5              | 27.00           | 26.75           |           | 0.0                | 47.7    | 52.3     | 47.6                 |                  | 0                 | 1.90                     |                     |       |                                     | 16.00                  | 9-10-6   | 71                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.4026    |           |       |       |  |
|             | 27                           | U            | 2521.75       | 28.0              | 28.50           | 28.25           |           |                    |         | 45.2     |                      |                  | 0                 |                          |                     | 1.710 | 1.177                               | 2.690                  |          |                        | 100         |             |                     |             |                    |                 | 2.70                    | 1.2360 | 0.4546 | 0.0824 |                         |     |                        |            |        | 2.5078 | 1.08      | 1.656E-08 | 0.43  | 23.70 |  |
|             | 28                           | S            | 2521.25       | 28.5              | 29.00           | 28.75           |           |                    |         | 31.7     |                      |                  | 0                 | 3.50                     |                     |       | 2.583                               | 50.00                  | 28-28-22 | 69                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.5469    |           |       |       |  |
|             | 29                           | S            | 2519.75       | 30.0              | 30.50           | 30.25           |           |                    |         |          |                      |                  | 0                 |                          |                     |       |                                     | 13.00                  | 5-7-6    | 100                    |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.5359    |           |       |       |  |
|             | 30                           | S            | 2519.25       | 30.5              | 31.00           | 30.75           |           |                    |         |          |                      |                  | 0                 |                          |                     |       | 2.625                               | 18.00                  | 8-9-9    | 100                    |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.5342    |           |       |       |  |
|             | 31                           | S            | 2517.75       | 32.0              | 32.50           | 32.25           |           |                    |         |          |                      | 170              | 92                | 78                       | 13.80               | OH    |                                     |                        | 25.00    | 13-13-12               | 76          |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.5291    |           |       |       |  |
|             | 32                           | S            | 2517.25       | 32.5              | 33.00           | 32.75           |           |                    |         | 84.8     |                      |                  | 0                 |                          |                     |       |                                     | 14.00                  | 7-8-6    | 56                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.5162    |           |       |       |  |
|             | 33                           | S            | 2515.75       | 34.0              | 34.50           | 34.25           |           |                    |         |          |                      |                  | 0                 |                          |                     |       |                                     | 14.00                  | 8-8-6    | 87                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.4777    |           |       |       |  |
|             | 34                           | S            | 2515.25       | 34.5              | 35.00           | 34.75           |           |                    |         | 137.8    | 195                  | 100              | 95                | 15.10                    | OH                  |       |                                     | 21.00                  | 12-11-10 | 76                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.4610    |           |       |       |  |
|             | 35                           | S            | 2513.75       | 36.0              | 36.50           | 36.25           |           |                    |         |          |                      |                  | 0                 |                          |                     |       |                                     | 23.00                  | 12-12-11 | 100                    |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.4109    |           |       |       |  |
|             | 36                           | S            | 2513.25       | 36.5              | 37.00           | 36.75           |           |                    |         | 61.0     | 84                   | 41               | 43                | 14.50                    | OH                  |       |                                     | 28.00                  | 13-13-15 | 67                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.4009    |           |       |       |  |
|             | 37                           | S            | 2511.75       | 38.0              | 38.50           | 38.25           |           |                    |         | 51.9     |                      |                  | 0                 | 8.50                     |                     |       |                                     | 9.00                   | 5-4-5    | 80                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.4953    |           |       |       |  |
|             | 38                           | U            | 2510.25       | 39.5              | 40.00           | 39.75           |           |                    |         | 27.3     |                      |                  | 0                 |                          |                     | 1.349 | 0.762                               | 2.685                  |          |                        | 100         |             |                     |             |                    | 5.20            | 2.5250                  | 1.2268 | 0.0957 |        |                         |     |                        |            | 2.5709 | 2.02   | 8.207E-09 | 0.34      | 20.90 |       |  |
|             | 39                           | S            | 2509.75       | 40.0              | 40.50           | 40.25           |           |                    |         | 20.0     | 27                   | 14               | 13                | 2.20                     | CL                  |       |                                     | 27.00                  | 9-13-14  | 93                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        | 2.6061 |           |           |       |       |  |
|             | 40                           | S            | 2508.25       | 41.5              | 42.00           | 41.75           |           |                    |         | 44.6     |                      |                  | 0                 | 3.50                     |                     |       |                                     | 31.00                  | 13-14-17 | 64                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.7391    |           |       |       |  |
|             | 41                           | S            | 2506.75       | 43.0              | 43.50           | 43.25           |           |                    |         | 22.1     | 64                   | 17               | 47                |                          | CH                  |       |                                     | 21.00                  | 8-10-11  | 76                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.8686    |           |       |       |  |
|             | 42                           | S            | 2505.25       | 44.5              | 45.00           | 44.75           |           |                    |         | 47.7     | 62                   | 31               | 31                | 2.70                     | CH                  |       |                                     | 24.00                  | 9-11-13  | 51                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 2.9963    |           |       |       |  |
|             | 43                           | S            | 2503.75       | 46.0              | 46.50           | 46.25           |           |                    |         | 47.7     | 63                   | 31               | 32                |                          | CH                  |       |                                     | 21.00                  | 9-10-11  | 56                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 3.0999    |           |       |       |  |
|             | 44                           | S            | 2502.25       | 47.5              | 48.00           | 47.75           |           |                    |         | 34.6     | 78                   | 34               | 44                |                          | CH                  |       |                                     | 23.00                  | 9-10-13  | 93                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 3.2131    |           |       |       |  |
|             | 45                           | S            | 2500.75       | 49.0              | 49.50           | 49.25           |           |                    |         | 30.3     | 70                   | 32               | 38                |                          | CH                  |       |                                     | 23.00                  | 11-10-13 | 100                    |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 3.3399    |           |       |       |  |
|             | 46                           | S            | 2500.25       | 49.5              | 50.00           | 49.75           |           |                    |         | 42.8     |                      |                  | 0                 |                          |                     |       |                                     | 31.00                  | 14-15-16 | 100                    |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |        |        | 3.3800    |           |       |       |  |





| perforación | Identificación de la muestra |              |               |                   |                 |                 | NF sondeo | Propiedades Índice |         |          |                      |                  |                   |                          | Propiedades Físicas |       |           | Índices de resistencia |       |          |             |             |                     | Compresibilidad |                    |             |              |        | Resistencia al corte |        |              |        |                        |            |          |        |       |       |  |
|-------------|------------------------------|--------------|---------------|-------------------|-----------------|-----------------|-----------|--------------------|---------|----------|----------------------|------------------|-------------------|--------------------------|---------------------|-------|-----------|------------------------|-------|----------|-------------|-------------|---------------------|-----------------|--------------------|-------------|--------------|--------|----------------------|--------|--------------|--------|------------------------|------------|----------|--------|-------|-------|--|
|             | Muestra N°                   | Tipo Muestra | Elevación (m) | Prof. Inicial (m) | Prof. Final (m) | Prof. Media (m) |           | % Gravas           | % Arena | % PT 200 | Humedad Natural wn % | Límite Líquido % | Límite Plástico % | Índice de Plasticidad IP | % MO                | USCS  | gt (T/m³) | gd (T/m³)              | Gs    | N Golpes | RECOBRO (%) | qu (kg/cm2) | qu_penetr. (kg/cm2) | cu (kg/cm2)     | cu_veleta (kg/cm2) | Eu (kg/cm2) | P'c (kg/cm2) | eo     | Cc                   | Cs     | P'o (kg/cm2) | OCR    | Permeabilidad k (cm/s) | c (kg/cm2) | j (°)    |        |       |       |  |
| L6-P1A      | 1                            | S            | 2550.00       | 0.0               | 0.50            | 0.25            |           |                    |         | 23.0     | 80                   | 27               | 53                |                          | CH                  |       |           |                        | 23.00 | 8-10-13  | 73          |             |                     |                 |                    |             |              |        |                      |        |              |        |                        | 0.0498     |          |        |       |       |  |
|             | 2                            | U            | 2548.25       | 1.5               | 2.00            | 1.75            |           |                    |         | 44.4     |                      |                  | 0                 |                          |                     | 1.676 | 1.161     |                        |       |          | 82          | 0.51        | 1.5-1.75            | 0.25            |                    | 135.30      |              |        |                      |        |              |        |                        | 0.2000     |          | 0.32   | 23.10 |       |  |
|             | 3                            | U            | 2546.75       | 3.0               | 3.50            | 3.25            |           |                    |         | 72.3     | 96                   | 36               | 60                |                          | CH                  |       |           |                        |       |          | 62          |             |                     |                 |                    |             |              |        |                      |        |              |        |                        | 0.2912     |          |        |       |       |  |
|             | 4                            | U            | 2545.25       | 4.5               | 5.00            | 4.75            |           |                    |         | 56.5     |                      |                  | 0                 |                          |                     |       |           |                        |       |          | 90          |             | 1.00                |                 |                    |             |              |        |                      |        |              |        |                        |            | 0.3788   |        |       |       |  |
|             | 5                            | U            | 2543.75       | 6.0               | 6.50            | 6.25            |           |                    |         | 63.5     | 86                   | 27               | 59                |                          | CH                  | 1.599 | 0.978     |                        |       |          | 90          | 0.97        |                     | 0.49            |                    | 188.20      |              |        |                      |        |              |        |                        |            | 0.4708   |        |       |       |  |
|             | 6                            | U            | 2542.25       | 7.5               | 8.00            | 7.75            |           |                    |         | 63.6     |                      |                  | 0                 |                          |                     |       |           |                        |       |          | 66          |             | 2-2,1               |                 |                    |             |              |        |                      |        |              |        |                        |            | 0.5596   |        |       |       |  |
|             | 7                            | U            | 2540.75       | 9.0               | 9.50            | 9.25            |           |                    |         |          | 104                  | 32               | 72                |                          | CH                  |       |           |                        |       |          | 46          |             |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 0.5285   |        |       |       |  |
|             | 8                            | U            | 2539.25       | 10.5              | 11.00           | 10.75           |           |                    |         | 59.8     | 93                   | 28               | 65                |                          | CH                  | 1.579 | 0.938     | 2.659                  |       |          | 100         |             |                     |                 |                    |             | 3.10         | 1.7470 | 0.7159               | 0.1157 |              | 0.4969 | 6.24                   | 9.12E-08   | 0.42     | 18.90  |       |       |  |
|             | 9                            | U            | 2537.75       | 12.0              | 12.50           | 12.25           |           |                    |         | 52.1     |                      |                  | 0                 |                          |                     |       |           |                        |       |          | 90          |             | 1.75-2              |                 |                    |             |              |        |                      |        |              |        |                        |            | 0.5897   |        |       |       |  |
|             | 10                           | U            | 2536.25       | 13.5              | 14.00           | 13.75           |           |                    |         | 20.4     |                      |                  | 0                 |                          |                     | 1.622 | 1.347     |                        |       |          | 90          | 3.30        |                     | 1.65            |                    | 231.60      |              |        |                      |        |              |        |                        |            | 0.6856   |        |       |       |  |
|             | 11                           | U            | 2534.75       | 15.0              | 15.50           | 15.25           |           |                    |         | 23.9     |                      |                  | 0                 |                          |                     |       |           |                        |       |          | 50          |             |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 0.8055   |        |       |       |  |
|             | 12                           | U            | 2533.25       | 16.5              | 17.00           | 16.75           |           |                    |         | 38.6     | 44                   | 16               | 28                |                          | CL                  | 1.805 | 1.302     |                        |       |          | 94          | 0.94        |                     | 0.47            |                    | 81.80       |              |        |                      |        |              |        |                        |            | 0.9390   |        |       |       |  |
|             | 13                           | U            | 2531.75       | 18.0              | 18.50           | 18.25           |           |                    |         | 52.5     |                      |                  | 0                 |                          |                     | 1.831 | 1.388     | 2.633                  |       |          | 70          |             |                     |                 |                    |             | 6.80         | 0.8970 | 0.3568               | 0.1201 |              | 1.0617 | 6.40                   | 2.95E-08   |          |        |       |       |  |
|             | 14                           | U            | 2530.25       | 19.5              | 20.00           | 19.75           |           |                    |         |          |                      |                  | 0                 |                          |                     |       |           |                        |       |          | 64          |             |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 1.0490   |        |       |       |  |
|             | 15                           | U            | 2528.75       | 21.0              | 21.50           | 21.25           |           |                    |         | 63.7     |                      |                  | 0                 |                          |                     | 1.602 | 1.012     | 2.606                  |       |          | 100         |             |                     |                 |                    |             | 3.10         | 1.5750 | 0.9808               | 0.1279 |              | 1.0192 | 3.04                   | 3.52E-08   |          |        |       |       |  |
|             | 16                           | U            | 2527.25       | 22.5              | 23.00           | 22.75           |           |                    |         | 51.5     | 80                   | 24               | 56                |                          | CH                  |       |           |                        |       |          | 24          |             |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 1.1140   |        |       |       |  |
|             | 17                           | U            | 2525.75       | 24.0              | 24.50           | 24.25           |           |                    |         | 84.6     |                      |                  | 0                 |                          |                     |       |           |                        |       |          | 20          |             | 1.5-2               |                 |                    |             |              |        |                      |        |              |        |                        |            | 1.2001   |        |       |       |  |
|             | 18                           | U            | 2524.25       | 25.5              | 26.00           | 25.75           |           |                    |         | 39.0     | 76                   | 30               | 46                |                          | CH                  | 1.592 | 1.021     |                        |       |          | 100         |             |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 1.2810   |        | 0.75  | 16.40 |  |
|             | 19                           | S            | 2522.75       | 27.0              | 27.50           | 27.25           |           |                    |         | 42.0     |                      |                  | 0                 |                          |                     |       |           |                        | 11    | 8-5-6    | 59          |             |                     |                 |                    |             |              |        |                      |        |              |        |                        | 1.3810     |          |        |       |       |  |
|             | 20                           | U            | 2521.25       | 28.5              | 29.00           | 28.75           |           | 0.0                | 14.2    | 85.8     | 45.6                 | 69               | 29                | 40                       |                     | CH    | 1.747     | 1.200                  | 2.645 |          |             | 80          | 1.87                |                 | 0.93               |             | 53.90        | 3.15   | 1.2570               | 0.5595 | 0.0547       |        | 1.4925                 | 2.11       | 8.43E-08 |        |       |       |  |
|             | 21                           | S            | 2519.75       | 30.0              | 30.50           | 30.25           |           |                    |         | 46.9     |                      |                  | 0                 |                          |                     |       |           |                        | 15    | 8-9-6    | 100         |             |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 1.6008   |        |       |       |  |
|             | 22                           | S            | 2518.25       | 31.5              | 32.00           | 31.75           |           | 0.0                | 9.9     | 90.1     | 44.1                 | 43               | 28                | 15                       |                     | ML    |           |                        |       |          | 10          | 4-4-6       | 44                  |                 |                    |             |              |        |                      |        |              |        |                        | 1.7072     |          |        |       |       |  |
|             | 23                           | S            | 2516.75       | 33.0              | 33.50           | 33.25           |           |                    |         | 127.0    | 149                  | 82               | 67                |                          | OH                  |       |           |                        |       | 16       | 8-8-8       | 44          |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 1.7881   |        |       |       |  |
|             | 24                           | S            | 2515.25       | 34.5              | 35.00           | 34.75           |           |                    |         | 80.8     |                      |                  | 0                 | 25.80                    |                     |       |           |                        |       | 16       | 8-9-7       | 44          |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 1.8525   |        |       |       |  |
|             | 25                           | S            | 2513.75       | 36.0              | 36.50           | 36.25           |           |                    |         | 99.3     | 135                  | 89               | 46                |                          | OH                  |       |           |                        |       | 14       | 10-7-7      | 78          |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 1.9227   |        |       |       |  |
|             | 26                           | S            | 2512.25       | 37.5              | 38.00           | 37.75           |           |                    |         | 96.8     |                      |                  | 0                 | 33.70                    |                     |       |           |                        |       | 16       | 4-6-10      | 100         |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 1.9884   |        |       |       |  |
|             | 27                           | S            | 2510.75       | 39.0              | 39.50           | 39.25           |           |                    |         | 105.9    | 127                  | 67               | 60                |                          | MH                  |       |           |                        |       | 9        | 4-4-5       | 89          |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 2.0525   |        |       |       |  |
|             | 28                           | S            | 2509.25       | 40.5              | 41.00           | 40.75           |           |                    |         | 114.5    |                      |                  | 0                 | 60.60                    |                     |       |           |                        |       | 10       | 4-4-6       | 84          |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 2.1127   |        |       |       |  |
|             | 29                           | S            | 2507.75       | 42.0              | 42.50           | 42.25           |           |                    |         | 46.9     | 78                   | 27               | 51                |                          | CH                  |       |           |                        |       | 11       | 4-5-6       | 78          |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 2.1941   |        |       |       |  |
|             | 30                           | S            | 2506.25       | 43.5              | 44.00           | 43.75           |           |                    |         |          |                      |                  | 0                 | 1.50                     |                     |       |           |                        |       | 13       | 5-6-7       | 89          |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 2.1715   |        |       |       |  |
|             | 31                           | S            | 2504.75       | 45.0              | 45.50           | 45.25           |           |                    |         | 29.0     | 35                   | 16               | 19                |                          | CL                  |       |           |                        |       | 16       | 6-4-12      | 96          |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 2.1633   |        |       |       |  |
|             | 32                           | S            | 2503.25       | 46.5              | 47.00           | 46.75           |           |                    |         |          |                      |                  | 0                 |                          |                     |       |           |                        |       | 16       | 5-8-10      | 100         |                     |                 |                    |             |              |        |                      |        |              |        |                        |            |          | 2.1552 |       |       |  |
|             | 33                           | S            | 2501.75       | 48.0              | 48.50           | 48.25           |           |                    |         | 83.1     | 94                   | 46               | 48                | 6.20                     | MH                  |       |           |                        |       | 6        | 3-3-3       | 64          |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 2.1171   |        |       |       |  |
|             | 34                           | S            | 2500.25       | 49.5              | 50.00           | 49.75           |           |                    |         | 37.2     | 70                   | 22               | 48                |                          | CH                  |       |           |                        |       | 15       | 6-7-8       | 56          |                     |                 |                    |             |              |        |                      |        |              |        |                        |            | 2.2132   |        |       |       |  |

OBSERVACIONES 0.53

| perforación | Identificación de la muestra |              |               |                   |                 |                 | NF sondeo | Propiedades Índice |         |          |                      |                  |                   |                          | Propiedades Físicas |       |           |           |       | Índices de resistencia |             |             |                     |             |                    | Compresibilidad |              |        |        |    | Resistencia al corte |       |                        |            |        |  |  |
|-------------|------------------------------|--------------|---------------|-------------------|-----------------|-----------------|-----------|--------------------|---------|----------|----------------------|------------------|-------------------|--------------------------|---------------------|-------|-----------|-----------|-------|------------------------|-------------|-------------|---------------------|-------------|--------------------|-----------------|--------------|--------|--------|----|----------------------|-------|------------------------|------------|--------|--|--|
|             | Muestra N°                   | Tipo Muestra | Elevación (m) | Prof. Inicial (m) | Prof. Final (m) | Prof. Media (m) |           | % Gravas           | % Arena | % PT 200 | Humedad Natural wn % | Límite Líquido % | Límite Plástico % | Índice de Plasticidad IP | % MO                | USCS  | gt (T/m³) | gd (T/m³) | Gs    | N Golpes               | RECOBRO (%) | qu (kg/cm2) | qu_penetr. (kg/cm2) | cu (kg/cm2) | cu_veleta (kg/cm2) | Eu (kg/cm2)     | P'c (kg/cm2) | eo     | Cc     | Cs | P'o (kg/cm2)         | OCR   | Permeabilidad k (cm/s) | c (kg/cm2) | j (°)  |  |  |
| L6-P2       | 1                            | U            | 2550.00       | 0.0               | 0.50            | 0.25            |           |                    |         | 36.4     |                      |                  | 0                 |                          |                     | 1.792 | 1.312     |           |       | 100                    |             | 2.25        |                     |             |                    |                 |              |        |        |    |                      |       | 0.0448                 |            |        |  |  |
|             | 2                            | U            | 2548.25       | 1.5               | 2.00            | 1.75            |           |                    |         | 45.5     | 79                   | 27               | 52                |                          | CH                  |       |           |           |       | 100                    |             | 2.50        |                     |             |                    |                 |              |        |        |    |                      |       | 0.2824                 |            |        |  |  |
|             | 3                            | U            | 2546.75       | 3.0               | 3.50            | 3.25            |           |                    |         |          | 108                  | 48               | 60                |                          | MH                  |       |           |           |       | 100                    |             |             |                     |             |                    |                 |              |        |        |    |                      |       | 0.3823                 |            |        |  |  |
|             | 4                            | U            | 2545.25       | 4.5               | 5.00            | 4.75            |           |                    |         | 62.7     | 90                   | 25               | 65                |                          | CH                  | 1.538 | 0.945     |           |       | 100                    |             |             |                     |             |                    |                 |              |        |        |    |                      |       | 0.4695                 |            |        |  |  |
|             | 5                            | U            | 2543.75       | 6.0               | 6.50            | 6.25            |           |                    |         | 50.1     |                      |                  | 0                 |                          |                     | 1.659 | 1.072     | 2.678     |       | 100                    | 1.20        |             | 0.60                |             | 173.40             | 5.60            | 1.1320       | 0.6576 | 0.1686 |    | 0.2657               | 21.08 | 3.599E-08              | 0.56       | 15.70  |  |  |
|             | 6                            | U            | 2542.25       | 7.5               | 8.00            | 7.75            |           |                    |         | 86.4     | 124                  | 30               | 94                |                          | CH                  | 1.481 | 0.794     |           |       | 100                    | 1.23        | 1.50        | 0.61                |             | 133.30             |                 |              |        |        |    |                      |       | 0.6447                 |            |        |  |  |
|             | 7                            | U            | 2540.75       | 9.0               | 9.50            | 9.25            |           |                    |         |          |                      |                  | 0                 |                          |                     |       |           |           |       | 100                    |             |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 0.7164     |        |  |  |
|             | 8                            | U            | 2539.25       | 10.5              | 11.00           | 10.75           |           |                    |         | 89.5     |                      |                  | 0                 |                          |                     |       |           |           |       | 100                    |             |             | 1.25                |             |                    |                 |              |        |        |    |                      |       |                        | 0.7871     |        |  |  |
|             | 9                            | U            | 2537.75       | 12.0              | 12.50           | 12.25           |           |                    |         | 53.4     | 100                  | 27               | 73                |                          | CH                  | 1.584 | 1.033     |           |       | 100                    | 1.46        | 1.25        | 0.73                |             | 62.50              |                 |              |        |        |    |                      |       | 0.8659                 |            |        |  |  |
|             | 10                           | U            | 2536.25       | 13.5              | 14.00           | 13.75           |           |                    |         | 52.4     |                      |                  | 0                 |                          |                     |       |           |           |       | 100                    |             |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 0.9589     |        |  |  |
|             | 11                           | U            | 2534.75       | 15.0              | 15.50           | 15.25           |           |                    |         | 30.7     | 49                   | 19               | 30                |                          | CL                  | 1.907 | 1.459     |           |       | 100                    | 2.61        | 2.25-2.5    | 1.30                |             | 166.00             |                 |              |        |        |    |                      |       | 1.0761                 |            |        |  |  |
|             | 12                           | U            | 2533.25       | 16.5              | 17.00           | 16.75           |           |                    |         | 33.8     |                      |                  | 0                 |                          |                     | 1.860 | 1.390     |           |       | 100                    | 1.74        | 1.50        | 0.87                |             | 124.50             |                 |              |        |        |    |                      |       |                        | 1.2086     |        |  |  |
|             | 13                           | S            | 2531.75       | 18.0              | 18.50           | 18.25           |           |                    |         | 46.6     |                      |                  | 0                 |                          |                     |       |           |           | 10.00 | 3-4-6                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 1.3256     |        |  |  |
|             | 14                           | S            | 2530.25       | 19.5              | 20.00           | 19.75           |           |                    |         | 53.8     |                      |                  | 0                 | 2.10                     |                     |       |           |           | 10.00 | 4-5-5                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 1.4266     |        |  |  |
|             | 15                           | S            | 2528.75       | 21.0              | 21.50           | 21.25           |           |                    |         | 64.4     |                      |                  | 0                 | 4.20                     |                     |       |           |           | 11.00 | 4-5-6                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 1.5186     |        |  |  |
|             | 16                           | S            | 2527.25       | 22.5              | 23.00           | 22.75           |           |                    |         | 57.8     | 94                   | 26               | 68                |                          | CH                  |       |           |           | 15.00 | 3-6-9                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 1.6086     |        |  |  |
|             | 17                           | S            | 2525.75       | 24.0              | 24.50           | 24.25           |           | 0.0                | 44.1    | 55.9     | 39.4                 |                  | 0                 |                          |                     |       |           | 2.588     | 9.00  | 3-4-5                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 1.7125     |        |  |  |
|             | 18                           | S            | 2524.25       | 25.5              | 26.00           | 25.75           |           |                    |         | 36.1     |                      |                  | 0                 |                          |                     |       |           | 2.609     | 26.00 | 11-12-14               | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        |            | 1.8299 |  |  |
|             | 19                           | S            | 2522.75       | 27.0              | 27.50           | 27.25           |           | 7.8                | 80.9    | 11.3     | 14.1                 |                  | 0                 |                          |                     |       |           |           | 68.00 | 25-32-36               | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 1.9818     |        |  |  |
|             | 20                           | S            | 2521.25       | 28.5              | 29.00           | 28.75           |           |                    |         |          |                      |                  | 0                 |                          |                     |       |           |           | 39.00 | 11-18-21               | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 2.1606     |        |  |  |
|             | 21                           | S            | 2519.75       | 30.0              | 30.50           | 30.25           |           | 10.2               | 79.0    | 10.8     | 18.4                 |                  | 0                 |                          |                     |       |           |           | 13.00 | 4-5-8                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 2.3298     |        |  |  |
|             | 22                           | S            | 2518.25       | 31.5              | 32.00           | 31.75           |           |                    |         | 44.9     | 88                   | 24               | 64                | 5.90                     | CH                  |       |           |           | 13.00 | 5-5-8                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 2.4655     |        |  |  |
|             | 23                           | S            | 2516.75       | 33.0              | 33.50           | 33.25           |           |                    |         | 129.1    |                      |                  | 0                 |                          |                     |       |           |           | 12.00 | 7-6-6                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 2.5455     |        |  |  |
|             | 24                           | S            | 2515.25       | 34.5              | 35.00           | 34.75           |           |                    |         | 153.0    | 182                  | 114              | 68                | 54.30                    | OH                  |       |           |           | 16.00 | 7-7-9                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 2.5944     |        |  |  |
|             | 25                           | S            | 2513.75       | 36.0              | 36.50           | 36.25           |           |                    |         | 99.4     |                      |                  | 0                 |                          |                     |       |           |           | 15.00 | 6-7-8                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 2.6495     |        |  |  |
|             | 26                           | S            | 2512.25       | 37.5              | 38.00           | 37.75           |           | 0.0                | 65.8    | 34.2     | 21.4                 |                  | 0                 |                          |                     |       |           |           | 11.00 | 11-7-4                 | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 2.7589     |        |  |  |
|             | 27                           | S            | 2510.75       | 39.0              | 39.50           | 39.25           |           |                    |         | 24.5     |                      |                  | 0                 |                          |                     |       |           | 2.597     | 12.00 | 4-4-8                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 2.9082     |        |  |  |
|             | 28                           | S            | 2509.25       | 40.5              | 41.00           | 40.75           |           |                    |         | 57.4     | 86                   | 32               | 54                |                          | CH                  |       |           |           | 11.00 | 6-7-4                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 3.0272     |        |  |  |
|             | 29                           | S            | 2507.75       | 42.0              | 42.50           | 42.25           |           |                    |         | 76.5     |                      |                  | 0                 |                          |                     |       |           |           | 12.00 | 5-7-5                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 3.1129     |        |  |  |
|             | 30                           | S            | 2506.25       | 43.5              | 44.00           | 43.75           |           |                    |         | 53.1     | 83                   | 31               | 52                |                          | CH                  |       |           |           | 12.00 | 6-6-6                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       | 3.2007                 |            |        |  |  |
|             | 31                           | S            | 2504.75       | 45.0              | 45.50           | 45.25           |           | 0.0                | 0.0     | 100.0    | 59.8                 |                  | 0                 |                          |                     |       |           |           | 14.00 | 6-7-8                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       |                        | 3.2951     |        |  |  |
|             | 32                           | S            | 2503.25       | 46.5              | 47.00           | 46.75           |           |                    |         | 36.3     | 38                   | 19               | 19                | 3.60                     | CL                  |       |           |           | 5.00  | 4-3-2                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       | 3.4005                 |            |        |  |  |
|             | 33                           | S            | 2501.75       | 48.0              | 48.50           | 48.25           |           |                    |         | 32.0     | 46                   | 19               | 27                |                          | CL                  |       |           |           | 23.00 | 8-11-12                | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       | 3.5241                 |            |        |  |  |
|             | 34                           | S            | 2500.25       | 49.5              | 50.00           | 49.75           |           |                    |         | 52.9     | 90                   | 28               | 62                |                          | CH                  |       |           |           | 11.00 | 7-6-5                  | 100         |             |                     |             |                    |                 |              |        |        |    |                      |       | 3.6368                 |            |        |  |  |

OBSERVACIONES 0.53

| perforación | Identificación de la muestra |              |               |                   |                 |                 | NF sondeo | Propiedades Índice |         |          |                      |                  |                   |                          | Propiedades Físicas |       |                                     |                        |       | Índices de resistencia |             |             |                     |             |                    | Compresibilidad |                         |        |        |        | Resistencia al corte    |      |                        |            |       |       |  |
|-------------|------------------------------|--------------|---------------|-------------------|-----------------|-----------------|-----------|--------------------|---------|----------|----------------------|------------------|-------------------|--------------------------|---------------------|-------|-------------------------------------|------------------------|-------|------------------------|-------------|-------------|---------------------|-------------|--------------------|-----------------|-------------------------|--------|--------|--------|-------------------------|------|------------------------|------------|-------|-------|--|
|             | Muestra N°                   | Tipo Muestra | Elevación (m) | Prof. Inicial (m) | Prof. Final (m) | Prof. Media (m) |           | % Gravitas         | % Arena | % PT 200 | Humedad Natural wn % | Límite Líquido % | Límite Plástico % | Índice de Plasticidad IP | % MO                | USCS  | gt <sub>s</sub> (T/m <sup>3</sup> ) | gd (T/m <sup>3</sup> ) | Gs    | N Golpes               | RECOBRO (%) | qu (kg/cm2) | qu_penetr. (kg/cm2) | cu (kg/cm2) | cu_veleta (kg/cm2) | Eu (kg/cm2)     | P <sub>c</sub> (kg/cm2) | eo     | Cc     | Cs     | P <sub>o</sub> (kg/cm2) | OCR  | Permeabilidad k (cm/s) | c (kg/cm2) | j (°) |       |  |
| L6-P3       | 1                            | S            | 2541.78       | 0.0               | 0.50            | 0.25            |           |                    |         | 21.8     |                      |                  | 0                 |                          |                     |       |                                     |                        | 6.00  | 3-3-3                  | 27          |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 0.0504     |       |       |  |
|             | 2                            | S            | 2540.03       | 1.5               | 2.00            | 1.75            |           |                    |         | 31.9     | 87                   | 29               | 58                |                          | CH                  |       |                                     |                        | 7.00  | 4-3-4                  | 53          |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 0.3155     |       |       |  |
|             | 3                            | U            | 2538.53       | 3.0               | 3.50            | 3.25            |           |                    |         | 48.9     |                      |                  | 0                 |                          |                     | 1.633 | 1.097                               |                        |       |                        | 60          | 0.65        |                     | 0.33        |                    | 117.60          |                         |        |        |        |                         |      |                        | 0.4269     |       |       |  |
|             | 4                            | U            | 2537.03       | 4.5               | 5.00            | 4.75            |           |                    |         | 62.9     | 118                  | 32               | 86                |                          | CH                  |       |                                     |                        |       |                        | 100         |             | 1.5-1.75            |             |                    |                 |                         |        |        |        |                         |      |                        | 0.5185     |       |       |  |
|             | 5                            | U            | 2535.53       | 6.0               | 6.50            | 6.25            |           |                    |         | 67.6     | 124                  | 36               | 88                |                          | CH                  | 1.587 | 0.947                               |                        |       |                        | 76          | 1.03        |                     | 0.51        |                    | 185.10          |                         |        |        |        |                         |      |                        | 0.6067     |       |       |  |
|             | 6                            | U            | 2534.03       | 7.5               | 8.00            | 7.75            |           |                    |         | 84.2     | 123                  | 38               | 85                |                          | CH                  |       |                                     |                        |       |                        | 76          |             | 1.25-1.75           |             |                    |                 |                         |        |        |        |                         |      |                        | 0.6874     |       |       |  |
|             | 7                            | S            | 2532.53       | 9.0               | 9.50            | 9.25            |           |                    |         | 72.2     |                      |                  | 0                 |                          |                     |       |                                     |                        | 21.00 | 4-10-11                | 80          |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 0.7645     |       |       |  |
|             | 8                            | S            | 2531.03       | 10.5              | 11.00           | 10.75           |           |                    |         | 106.4    | 179                  | 46               | 133               | 21.00                    | OH                  |       |                                     |                        | 8.00  | 3-4-4                  | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 0.8359     |       |       |  |
|             | 9                            | U            | 2529.53       | 12.0              | 12.50           | 12.25           |           |                    |         | 35.7     |                      |                  | 0                 |                          |                     | 1.794 | 1.321                               |                        |       |                        | 90          |             | 1.50                |             |                    |                 |                         |        |        |        |                         |      |                        | 0.9264     |       |       |  |
|             | 10                           | U            | 2528.03       | 13.5              | 14.00           | 13.75           |           |                    |         | 34.7     | 63                   | 18               | 45                |                          | CH                  |       |                                     |                        |       |                        | 100         |             | 1.75-2.25           |             |                    |                 |                         |        |        |        |                         |      |                        | 1.0471     |       |       |  |
|             | 11                           | U            | 2526.53       | 15.0              | 15.50           | 15.25           |           |                    |         | 42.2     |                      |                  | 0                 |                          |                     | 1.776 | 1.266                               |                        |       |                        | 100         |             | 2.00                |             |                    |                 |                         |        |        |        |                         |      |                        | 1.1666     |       |       |  |
|             | 12                           | U            | 2525.03       | 16.5              | 17.00           | 16.75           |           |                    |         | 54.0     | 74                   | 24               | 50                |                          | CH                  | 1.704 | 1.107                               |                        |       |                        | 74          | 1.71        |                     | 0.86        |                    | 352.90          |                         |        |        |        |                         |      |                        | 1.2776     |       |       |  |
|             | 13                           | U            | 2523.53       | 18.0              | 18.50           | 18.25           |           |                    |         | 49.6     |                      |                  | 0                 |                          |                     | 1.705 | 1.140                               |                        |       |                        | 52          | 1.30        |                     | 0.65        |                    | 231.90          |                         |        |        |        |                         |      |                        | 1.3833     |       |       |  |
|             | 14                           | S            | 2522.03       | 19.5              | 20.00           | 19.75           |           |                    |         | 44.1     | 72                   | 16               | 56                |                          | CH                  |       |                                     |                        | 29.00 | 7-17-12                | 60          |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 1.4902     |       |       |  |
|             | 15                           | U            | 2520.53       | 21.0              | 21.50           | 21.25           |           |                    |         | 54.4     |                      |                  | 0                 |                          |                     | 1.702 | 1.103                               |                        |       |                        | 100         | 1.27        | 1.50                | 0.63        |                    | 74.40           |                         |        |        |        |                         |      |                        | 1.5970     |       |       |  |
|             | 16                           | U            | 2519.03       | 22.5              | 23.00           | 22.75           |           |                    |         | 70.4     | 87                   | 33               | 54                |                          | CH                  |       |                                     |                        |       |                        | 92          |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 1.6908     |       |       |  |
|             | 17                           | S            | 2517.53       | 24.0              | 24.50           | 24.25           |           |                    |         | 35.4     |                      |                  | 0                 |                          |                     |       |                                     | 2.651                  | 14.00 | 4-6-8                  | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 1.7927     |       |       |  |
|             | 18                           | U            | 2516.03       | 25.5              | 26.00           | 25.75           |           |                    |         | 111.4    |                      |                  | 0                 |                          |                     | 1.378 | 0.655                               |                        |       |                        | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 1.8816     |       |       |  |
|             | 19                           | U            | 2514.53       | 27.0              | 27.50           | 27.25           |           |                    |         | 82.0     | 116                  | 34               | 82                |                          | CH                  | 1.940 | 1.066                               |                        |       |                        | 100         | 1.68        | 1.50                | 0.84        |                    | 84.80           |                         |        |        |        |                         |      |                        | 1.9805     |       |       |  |
|             | 20                           | U            | 2513.03       | 28.5              | 29.00           | 28.75           |           |                    |         | 126.4    | 159                  | 85               | 74                |                          | OH                  | 1.187 | 0.501                               |                        |       |                        | 80          |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 2.0650     | 0.56  | 27.70 |  |
|             | 21                           | S            | 2511.53       | 30.0              | 30.50           | 30.25           |           |                    |         | 102.5    |                      |                  | 0                 | 45.70                    |                     |       |                                     |                        | 9.00  | 3-4-5                  | 40          |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 2.1108     |       |       |  |
|             | 22                           | S            | 2510.03       | 31.5              | 32.00           | 31.75           |           |                    |         | 46.9     | 63                   | 30               | 33                |                          | CH                  |       |                                     |                        | 6.00  | 3-3-3                  | 67          |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 2.1949     |       |       |  |
|             | 23                           | S            | 2508.53       | 33.0              | 33.50           | 33.25           |           |                    |         | 76.9     |                      |                  | 0                 | 18.60                    |                     |       |                                     |                        | 6.00  | 3-3-3                  |             |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 2.2861     |       |       |  |
|             | 24                           | S            | 2507.28       | 34.0              | 35.00           | 34.50           |           |                    |         | 63.4     | 97                   | 51               | 46                |                          | OH                  |       |                                     |                        | 9.00  | 3-4-5                  | 38          |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 2.3552     |       |       |  |
|             | 25                           | S            | 2505.53       | 36.0              | 36.50           | 36.25           |           |                    |         | 117.8    |                      |                  | 0                 | 40.60                    |                     |       |                                     |                        | 8.00  | 5-4-4                  | 87          |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 2.4397     |       |       |  |
|             | 26                           | S            | 2504.03       | 37.5              | 38.00           | 37.75           |           |                    |         | 91.2     |                      |                  | 0                 |                          |                     |       |                                     |                        | 6.00  | 3-3-3                  | 80          |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 2.5028     |       |       |  |
|             | 27                           | S            | 2502.53       | 39.0              | 39.50           | 39.25           |           |                    |         | 29.5     |                      |                  | 0                 |                          |                     |       |                                     |                        | 12.00 | 5-6-6                  | 69          |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 2.6038     |       |       |  |
|             | 28                           | S            | 2501.03       | 40.5              | 41.00           | 40.75           |           |                    |         | 21.4     |                      |                  | 0                 |                          |                     |       |                                     | 2.635                  | 48.00 | 8-24-2                 | 87          |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 2.7470     |       |       |  |
|             | 29                           | S            | 2499.53       | 42.0              | 42.50           | 42.25           |           |                    |         | 73.4     | 96                   | 37               | 59                | 12.70                    | OH                  |       |                                     |                        | 7.00  | 4-4-3                  | 62          |             |                     |             |                    |                 |                         |        |        |        |                         |      | 2.8640                 |            |       |       |  |
|             | 30                           | S            | 2498.03       | 43.5              | 44.00           | 43.75           |           |                    |         | 41.5     |                      |                  | 0                 |                          |                     |       |                                     |                        | 15.00 | 6-8-7                  | 67          |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 2.9600     |       |       |  |
|             | 31                           | S            | 2496.53       | 45.0              | 45.50           | 45.25           |           |                    |         | 61.8     | 92                   | 36               | 56                | 9.90                     | CH                  |       |                                     |                        | 8.00  | 4-4-4                  | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |      | 3.0605                 |            |       |       |  |
|             | 32                           | S            | 2495.03       | 46.5              | 47.00           | 46.75           |           |                    |         |          |                      |                  | 0                 |                          |                     |       |                                     |                        | 9.00  | 3-4-5                  | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 3.1539     |       |       |  |
|             | 33                           | S            | 2493.53       | 48.0              | 48.50           | 48.25           |           |                    |         |          |                      | 67               | 31                | 36                       | 8.20                | CH    |                                     |                        |       | 10.00                  | 3-4-6       | 100         |                     |             |                    |                 |                         |        |        |        |                         |      | 3.2571                 |            |       |       |  |
|             | 34                           | S            | 2492.03       | 49.5              | 50.00           | 49.75           |           |                    |         | 46.0     |                      |                  | 0                 |                          |                     |       |                                     |                        | 6.00  | 4-3-3                  | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 3.3644     |       |       |  |
| L7-P1A      | 1                            | U            | 2550.99       | 0.0               | 0.50            | 0.25            |           |                    |         | 36.3     | 75                   | 30               | 45                |                          | CH                  | 1.802 | 1.322                               |                        |       |                        | 100         | 0.61        |                     | 0.31        |                    | 20.00           |                         |        |        |        |                         |      |                        | 0.0451     |       |       |  |
|             | 2                            | U            | 2549.24       | 1.5               | 2.00            | 1.75            |           |                    |         | 47.9     |                      |                  | 0                 |                          |                     |       |                                     |                        |       |                        | 100         |             | 1.25                |             |                    |                 |                         |        |        |        |                         |      |                        | 0.3069     |       |       |  |
|             | 3                            | U            | 2547.74       | 3.0               | 3.50            | 3.25            |           |                    |         | 55.5     | 85                   | 30               | 55                |                          | CH                  |       |                                     |                        |       |                        | 100         |             |                     |             |                    | 150.00          |                         |        |        |        |                         |      |                        | 0.5562     |       |       |  |
|             | 4                            | U            | 2546.24       | 4.5               | 5.00            | 4.75            |           |                    |         | 105.1    |                      |                  | 0                 |                          |                     |       |                                     |                        |       |                        | 100         |             | 1.25                |             |                    |                 |                         |        |        |        |                         |      |                        | 0.6600     |       |       |  |
|             | 5                            | U            | 2544.74       | 6.0               | 6.50            | 6.25            |           |                    |         | 67.0     | 81                   | 30               | 51                |                          | CH                  | 1.602 | 0.959                               |                        |       |                        | 100         | 0.51        |                     | 0.25        |                    | 70.00           |                         |        |        |        |                         |      |                        | 0.7363     |       |       |  |
|             | 6                            | U            | 2543.24       | 7.5               | 8.00            | 7.75            |           |                    |         | 0.0      | 1.0                  | 99.0             | 60.4              |                          |                     |       |                                     |                        |       |                        | 100         |             | 1.75                |             |                    |                 |                         |        |        |        |                         |      |                        | 0.8267     |       |       |  |
|             | 7                            | U            | 2541.74       | 9.0               | 9.50            | 9.25            |           |                    |         | 94.1     | 127                  | 49               | 78                |                          | MH                  | 1.458 | 0.751                               |                        |       |                        | 100         | 0.62        |                     | 0.31        |                    | 40.00           |                         |        |        |        |                         |      |                        | 0.9063     |       |       |  |
|             | 8                            | U            | 2540.24       | 10.5              | 11.00           | 10.75           |           |                    |         | 60.0     | 117                  | 45               | 72                |                          | CH                  | 1.634 | 1.021                               | 2.696                  |       |                        | 100         |             |                     |             |                    |                 | 3.50                    | 1.6650 | 0.9315 | 0.1099 |                         | 3.54 | 2.076E-07              | 0.23       | 23.70 |       |  |
|             | 9                            | U            | 2538.74       | 12.0              | 12.50           | 12.25           |           |                    |         | 71.4     | 107                  | 32               | 75                |                          | CH                  |       |                                     |                        |       |                        | 100         |             | 1.50                |             |                    |                 |                         |        |        |        |                         |      |                        | 1.0766     |       |       |  |
|             | 10                           | U            | 2537.24       | 13.5              | 14.00           | 13.75           |           |                    |         | 69.1     |                      |                  | 0                 |                          |                     | 1.633 | 0.966                               |                        |       |                        | 100         | 1.25        | 1-1.25              | 0.63        |                    | 120.00          |                         |        |        |        |                         |      |                        | 1.1649     |       |       |  |
|             | 11                           | U            | 2535.74       | 15.0              | 15.50           | 15.25           |           |                    |         | 66.7     |                      |                  | 0                 |                          |                     | 1.587 | 0.972                               | 2.490                  |       |                        | 100         | 2.31        | 2.00                | 1.16        |                    | 370.00          |                         |        |        |        |                         |      |                        | 1.2564     |       |       |  |
|             | 12                           | U            | 2534.24       | 16.5              | 17.00           | 16.75           |           |                    |         | 0.0      | 7.6                  | 92.4             | 35.7              |                          |                     | 1.834 | 1.358                               | 2.612                  |       |                        | 100         | 1.67        | 1.25                | 0.84        |                    | 100.00          |                         |        |        |        |                         |      |                        | 1.3630     |       |       |  |
|             | 13                           | U            | 2532.74       | 18.0              | 18.50           | 18.25           |           |                    |         |          |                      |                  | 0                 |                          |                     |       |                                     |                        |       |                        | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        | 1.4807     |       |       |  |
|             | 14                           | U            | 2531.24       | 19.5              | 20.00           | 19.75           |           |                    |         | 53.2     | 115                  | 29               | 86                |                          | CH                  | 1.636 | 1.068                               |                        |       |                        | 100         | 1.36        |                     | 0.68        |                    | 240.00          |                         |        |        |        |                         |      |                        | 1.5835     |       |       |  |
|             | 15                           | U            | 2529.74       | 21.0              | 21.50           | 21.25           |           |                    |         | 58.1     | 103                  | 33               | 70                |                          | CH                  |       |                                     |                        |       |                        | 100         |             | 1.50                |             |                    |                 |                         |        |        |        |                         |      |                        | 1.6775     |       |       |  |
|             | 16                           | U            | 2528.24       | 22.5              | 23.00           | 22.75           |           |                    |         | 60.0     |                      |                  | 0                 |                          |                     | 1.915 | 1.197                               |                        |       |                        | 100         | 0.87        |                     | 0.44        |                    | 30.00           |                         |        |        |        |                         |      |                        | 1.7925     |       |       |  |
|             | 17                           | SC           | 2526.74       | 24.0              | 24.50           | 24.25           |           |                    |         | 55.6     |                      |                  | 0                 |                          |                     | 1.6   | 1.0                                 | 2.6                    | 9.0   | 3-3-6                  | 100         |             |                     |             |                    |                 | 5.05                    | 1.457  | 0.760  | 0.0745 | 1.9                     | 3.54 | 7.05E-09               | 0.6        | 17.2  |       |  |
|             | 18                           | S            |               |                   |                 |                 |           |                    |         |          |                      |                  |                   |                          |                     |       |                                     |                        |       |                        |             |             |                     |             |                    |                 |                         |        |        |        |                         |      |                        |            |       |       |  |





OBSERVACIONES 0.53

| perforación | Identificación de la muestra |              |               |                   |                 |                 | NF sondeo | Propiedades Índice |         |          |                      |                  |                   |                          | Propiedades Físicas |       |           |           |        | Índices de resistencia |             |             |                     |             |                    | Compresibilidad |              |        |        |        | Resistencia al corte |      |                        |            |        |        |  |  |
|-------------|------------------------------|--------------|---------------|-------------------|-----------------|-----------------|-----------|--------------------|---------|----------|----------------------|------------------|-------------------|--------------------------|---------------------|-------|-----------|-----------|--------|------------------------|-------------|-------------|---------------------|-------------|--------------------|-----------------|--------------|--------|--------|--------|----------------------|------|------------------------|------------|--------|--------|--|--|
|             | Muestra N°                   | Tipo Muestra | Elevación (m) | Prof. Inicial (m) | Prof. Final (m) | Prof. Media (m) |           | % Gravas           | % Arena | % PT 200 | Humedad Natural wn % | Límite Líquido % | Límite Plástico % | Índice de Plasticidad IP | % MO                | USCS  | gt (T/m³) | gd (T/m³) | Gs     | N Golpes               | RECOBRO (%) | qu (kg/cm2) | qu_penetr. (kg/cm2) | cu (kg/cm2) | cu_veleta (kg/cm2) | Eu (kg/cm2)     | P'c (kg/cm2) | eo     | Cc     | Cs     | P'o (kg/cm2)         | OCR  | Permeabilidad k (cm/s) | c (kg/cm2) | j (°)  |        |  |  |
| 18-P1       | 1                            | U            | 2552.90       | 0.2               | 0.40            | 0.30            |           |                    |         | 33.8     |                      |                  | 0                 |                          |                     | 1.756 | 1.312     |           |        |                        |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        | 0.0227     |        |        |  |  |
|             | 2                            | S            | 2552.20       | 0.8               | 1.20            | 1.00            |           |                    |         | 26.3     |                      |                  | 0                 |                          |                     |       |           |           | 8.00   | 6-5-3                  |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        | 0.0818     |        |        |  |  |
|             | 3                            | S            | 2551.90       | 1.2               | 1.40            | 1.30            |           |                    |         | 39.3     | 82                   | 24               | 58                |                          | CH                  |       |           |           | 13.00  | 6-6-7                  |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        | 0.1073     |        |        |  |  |
|             | 4                            | U            | 2549.95       | 3.0               | 3.50            | 3.25            |           |                    |         | 49.6     | 94                   | 29               | 65                |                          | CH                  | 1.611 | 1.077     | 2.683     |        |                        |             | 1-1.25      |                     |             |                    |                 |              |        |        |        |                      |      |                        | 0.2416     |        | 23.90  |  |  |
|             | 5                            | S            | 2548.45       | 4.5               | 5.00            | 4.75            |           |                    |         | 76.6     | 109                  | 34               | 75                |                          | CH                  |       |           |           | 4.00   | 2-2-2                  |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        | 0.3264     | 0.22   |        |  |  |
|             | 6                            | U            | 2546.95       | 6.0               | 6.50            | 6.25            |           |                    |         | 69.4     |                      |                  | 0                 |                          |                     | 1.578 | 0.931     |           |        |                        |             | 0.87        |                     | 0.44        |                    | 177.80          |              |        |        |        |                      |      |                        | 0.4088     |        |        |  |  |
|             | 7                            | U            | 2545.45       | 7.5               | 8.00            | 7.75            |           |                    |         | 82.6     |                      |                  | 0                 |                          |                     |       |           |           |        |                        |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 0.4892 |        |  |  |
|             | 8                            | S            | 2544.95       | 8.0               | 8.50            | 8.25            |           |                    |         | 86.6     | 123                  | 33               | 90                |                          | CH                  |       |           |           | 2.00   | 1-1-1                  |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        | 0.5136     |        |        |  |  |
|             | 9                            | U            | 2543.45       | 9.5               | 10.00           | 9.75            |           |                    |         | 57.1     |                      |                  | 0                 |                          |                     | 1.647 | 1.048     | 2.690     |        |                        |             | 0.54        |                     | 0.27        |                    | 58.80           | 5.10         | 1.7178 | 1.3725 | 0.0825 | 0.7980               | 6.39 | 4.893E-08              |            |        |        |  |  |
|             | 10                           | S            | 2542.95       | 10.0              | 10.50           | 10.25           |           |                    |         | 71.7     | 103                  | 28               | 75                |                          | CH                  |       |           |           | 6.00   | 2-3-3                  |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 0.6278 |        |  |  |
|             | 11                           | U            | 2541.45       | 11.5              | 12.00           | 11.75           |           |                    |         | 56.6     |                      |                  | 0                 |                          |                     | 1.637 | 1.043     |           |        |                        |             |             | 1.25                |             |                    |                 |              |        |        |        |                      |      |                        |            | 0.7163 |        |  |  |
|             | 12                           | S            | 2540.95       | 12.0              | 12.50           | 12.25           |           |                    |         | 37.7     |                      |                  | 0                 |                          |                     |       |           | 2.617     | 5.00   | 2-3-3                  |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 0.7518 |        |  |  |
|             | 13                           | S            | 2539.45       | 13.5              | 14.00           | 13.75           |           |                    |         | 15.0     |                      |                  | 0                 |                          |                     |       |           | 2.605     | 32.00  | 17-13-19               |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            |        | 0.9000 |  |  |
|             | 14                           | S            | 2537.95       | 15.0              | 15.50           | 15.25           |           | 0.0                | 9.4     | 90.6     | 51.7                 | 74               | 22                | 52                       | CH                  |       |           |           | 9.00   | 4-4-5                  |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 1.0391 |        |  |  |
|             | 15                           | U            | 2536.45       | 16.5              | 17.00           | 16.75           |           |                    |         | 53.7     |                      |                  | 0                 |                          |                     | 1.633 | 1.063     | 2.675     |        |                        |             | 1.94        |                     | 0.97        |                    | 109.40          | 3.15         | 2.0411 | 1.2958 | 0.1541 | 1.3361               | 2.36 | 2.72E-08               |            |        |        |  |  |
|             | 16                           | S            | 2535.95       | 17.0              | 17.50           | 17.25           |           | 0.0                | 30.5    | 69.5     | 62.0                 | 122              | 31                | 91                       | CH                  |       |           |           | 8.00   | 6-4-4                  |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 1.1668 |        |  |  |
|             | 17                           | S            | 2533.95       | 19.0              | 19.50           | 19.25           |           |                    |         | 36.5     |                      |                  | 0                 |                          |                     |       |           | 2.584     | 8.00   | 6-4-4                  |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            |        | 1.3058 |  |  |
|             | 18                           | S            | 2532.45       | 20.5              | 21.00           | 20.75           |           |                    |         | 21.7     |                      |                  | 0                 |                          |                     |       |           | 2.642     | 62.00  | 18-22-40               |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            |        | 1.4420 |  |  |
|             | 19                           | S            | 2530.95       | 22.0              | 22.50           | 22.25           |           |                    |         | 34.9     | 31                   | 15               | 16                |                          | CL                  |       |           |           | 26.00  | 15-14-12               |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 1.5795 |        |  |  |
|             | 20                           | S            | 2529.45       | 23.5              | 24.00           | 23.75           |           |                    |         | 139.2    | 205                  | 121              | 84                | 46.50                    | OH                  |       |           |           | 10.00  | 4-5-5                  |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 1.6652 |        |  |  |
|             | 21                           | S            | 2527.95       | 25.0              | 25.50           | 25.25           |           |                    |         | 106.5    | 145                  | 72               | 73                |                          | OH                  |       |           |           | 8.00   | 3-4-4                  |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 1.7207 |        |  |  |
|             | 22                           | S            | 2526.45       | 26.5              | 27.00           | 26.75           |           | 2.8                | 13.8    | 83.4     | 74.0                 | 79               | 40                | 39                       | MH                  |       |           | 2.562     | 11.00  | 3-4-7                  |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 1.7915 |        |  |  |
|             | 23                           | S            | 2524.95       | 28.0              | 28.50           | 28.25           |           |                    |         | 28.8     | 40                   | 18               | 22                |                          | CL                  |       |           |           | 11.00  | 5-5-6                  |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 1.8985 |        |  |  |
|             | 24                           | S            | 2523.45       | 29.5              | 30.00           | 29.75           |           |                    |         | 42.1     | 90                   | 25               | 65                |                          | CH                  |       |           |           | 18.00  | 6-8-10                 |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 2.0210 |        |  |  |
|             | 25                           | S            | 2521.95       | 31.0              | 31.50           | 31.25           |           |                    |         | 33.1     | 52                   | 17               | 35                |                          | CH                  |       |           |           | 49.00  | 20-29-20               |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 2.1392 |        |  |  |
|             | 26                           | S            | 2520.45       | 32.5              | 33.00           | 32.75           |           |                    |         | 26.7     |                      |                  | 0                 |                          |                     |       |           |           | 90.00  | 10-40-50               |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 2.2714 |        |  |  |
|             | 27                           | S            | 2519.45       | 33.5              | 34.00           | 33.75           |           |                    |         | 50.9     | 90                   | 38               | 52                |                          | CH                  |       |           |           | 37.00  | 12-17-21               |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 2.3510 |        |  |  |
|             | 28                           | S            | 2517.95       | 35.0              | 35.50           | 35.25           |           |                    |         | 41.7     |                      |                  | 0                 |                          |                     |       |           |           | 34.00  | 14-16-18               |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 2.4568 |        |  |  |
|             | 29                           | S            | 2516.45       | 36.5              | 37.00           | 36.75           |           |                    |         | 25.0     | 51                   | 18               | 33                |                          | CH                  |       |           |           | 41.00  | 7-20-21                |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 2.5842 |        |  |  |
|             | 30                           | S            | 2514.95       | 38.0              | 38.50           | 38.25           |           |                    |         | 24.2     |                      |                  | 0                 |                          | CH                  |       |           | 2.604     | 89.00  | 12-39-50               |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 2.7286 |        |  |  |
|             | 31                           | S            | 2513.45       | 39.5              | 40.00           | 39.75           |           |                    |         | 37.6     | 86                   | 34               | 52                |                          | CH                  |       |           |           | 44.00  | 115-20-24              |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 2.8602 |        |  |  |
|             | 32                           | S            | 2511.95       | 41.0              | 41.50           | 41.25           |           |                    |         | 45.7     |                      |                  | 0                 |                          |                     |       |           |           | 28.00  | 9-12-16                |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 2.9720 |        |  |  |
|             | 33                           | S            | 2510.45       | 42.5              | 43.00           | 42.75           |           |                    |         | 42.8     | 76                   | 39               | 37                |                          | MH                  |       |           |           | 40.00  | 13-17-23               |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        | 3.0800     |        |        |  |  |
|             | 34                           | S            | 2508.95       | 44.0              | 44.50           | 44.25           |           | 0.0                | 22.8    | 77.2     | 33.8                 | 59               | 34                | 25                       | MH                  |       |           | 2.627     | 75.00  | 25-50                  |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        | 3.1971     |        |        |  |  |
|             | 35                           | S            | 2507.45       | 45.5              | 46.00           | 45.75           |           |                    |         | 28.3     | 56                   | 28               | 28                |                          | CH                  |       |           |           | 90.00  | 26-40-50               |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 3.3198 |        |  |  |
|             | 36                           | S            | 2505.95       | 47.0              | 47.50           | 47.25           |           | 10.4               | 24.0    | 65.6     | 48.5                 | 62               | 36                | 26                       | MH                  |       |           |           | 100.00 | 50                     |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 3.4318 |        |  |  |
|             | 37                           | S            | 2504.45       | 48.5              | 49.00           | 48.75           |           |                    |         | 39.4     | 71                   | 43               | 28                |                          | MH                  |       |           |           | 120.00 | 30-50-50               |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 3.5406 |        |  |  |
|             | 38                           | C            | 2503.95       | 49.0              | 49.50           | 49.25           |           |                    |         | 47.1     |                      |                  | 0                 |                          |                     | 1.655 | 1.125     |           |        |                        |             |             |                     |             |                    |                 |              |        |        |        |                      |      |                        |            | 3.5847 |        |  |  |

OBSERVACIONES 0.53

| perforación | Identificación de la muestra |              |               |                   |                 |                 | NF sondeo | Propiedades Índice |         |          |                      |                  |                   |                          | Propiedades Físicas |       |                                     |                        |       | Índices de resistencia |             |             |                     |             |                    | Compresibilidad |                         |        |        |        | Resistencia al corte    |        |                        |            |          |       |       |
|-------------|------------------------------|--------------|---------------|-------------------|-----------------|-----------------|-----------|--------------------|---------|----------|----------------------|------------------|-------------------|--------------------------|---------------------|-------|-------------------------------------|------------------------|-------|------------------------|-------------|-------------|---------------------|-------------|--------------------|-----------------|-------------------------|--------|--------|--------|-------------------------|--------|------------------------|------------|----------|-------|-------|
|             | Muestra N°                   | Tipo Muestra | Elevación (m) | Prof. Inicial (m) | Prof. Final (m) | Prof. Media (m) |           | % Gravas           | % Arena | % PT 200 | Humedad Natural wn % | Límite Líquido % | Límite Plástico % | Índice de Plasticidad IP | % MO                | USCS  | gt <sub>s</sub> (T/m <sup>3</sup> ) | gd (T/m <sup>3</sup> ) | Gs    | N Golpes               | RECOBRO (%) | qu (kg/cm2) | qu_penetr. (kg/cm2) | cu (kg/cm2) | cu_veleta (kg/cm2) | Eu (kg/cm2)     | P <sup>c</sup> (kg/cm2) | eo     | Cc     | Cs     | P <sup>o</sup> (kg/cm2) | OCR    | Permeabilidad k (cm/s) | c (kg/cm2) | j (°)    |       |       |
| L8-P2       | 1                            | S            | 2549.05       | 0.0               | 0.50            | 0.25            |           |                    |         | 21.0     |                      |                  | 0                 |                          | CH                  | 1.662 | 1.094                               |                        | 18.00 | 6-7-11                 | 33          |             |                     |             |                    |                 |                         |        |        |        |                         |        |                        | 0.0258     |          |       |       |
|             | 2                            | U            | 2547.30       | 1.5               | 2.00            | 1.75            |           |                    |         | 52.0     | 68                   | 25               | 43                |                          | CH                  | 1.662 | 1.094                               |                        |       |                        | 100         |             | 1.00                |             |                    |                 |                         |        |        |        |                         |        |                        | 0.1530     |          |       |       |
|             | 3                            | U            | 2545.80       | 3.0               | 3.50            | 3.25            |           |                    |         | 61.8     | 87                   | 34               | 53                |                          | CH                  | 1.498 | 0.929                               |                        |       |                        | 36          |             |                     |             |                    |                 |                         |        |        |        |                         |        |                        | 0.2400     |          | 0.52  | 23.80 |
|             | 4                            | U            | 2544.30       | 4.5               | 5.00            | 4.75            |           | 0.0                | 5.9     | 94.1     | 56.6                 |                  |                   | 0                        |                     |       | 1.638                               | 1.061                  |       |                        |             | 100         |                     | 2.25        |                    |                 |                         |        |        |        |                         |        |                        | 0.3252     |          |       |       |
|             | 5                            | U            | 2542.80       | 6.0               | 6.50            | 6.25            |           |                    |         |          | 59.8                 | 86               | 29                | 57                       |                     | CH    | 1.529                               | 0.956                  | 2.685 |                        |             | 100         |                     |             |                    |                 | 5.80                    | 1.8070 | 1.2201 | 0.1323 |                         |        | 0.2981                 | 19.46      | 1.37E-07 |       |       |
|             | 6                            | U            | 2541.30       | 7.5               | 8.00            | 7.75            |           |                    |         |          | 48.0                 |                  |                   | 0                        |                     |       | 1.741                               | 1.176                  |       |                        |             | 32          | 0.76                |             | 0.38               |                 | 88.50                   |        |        |        |                         |        |                        | 0.2787     |          |       |       |
|             | 7                            | U            | 2539.80       | 9.0               | 9.50            | 9.25            |           |                    |         |          | 96.4                 | 129              | 43                | 86                       |                     | CH    | 1.359                               | 0.683                  |       |                        |             | 90          |                     | 0.75-1      |                    |                 |                         |        |        |        |                         |        |                        | 0.3612     |          |       |       |
|             | 8                            | U            | 2538.30       | 10.5              | 11.00           | 10.75           |           |                    |         |          | 84.1                 |                  |                   | 0                        |                     |       | 1.452                               | 0.789                  |       |                        |             | 100         | 0.62                |             | 0.31               |                 | 88.20                   |        |        |        |                         |        |                        | 0.4220     |          |       |       |
|             | 9                            | U            | 2536.80       | 12.0              | 12.50           | 12.25           |           |                    |         |          | 63.9                 | 93               | 25                | 68                       |                     | CH    | 1.641                               | 1.032                  |       |                        |             | 100         | 2.05                | 1.75        | 1.02               |                 | 176.50                  |        |        |        |                         |        |                        | 0.5040     |          |       |       |
|             | 10                           | U            | 2535.30       | 13.5              | 14.00           | 13.75           |           |                    |         |          | 62.3                 | 132              | 38                | 94                       |                     | CH    | 1.619                               | 0.998                  |       |                        |             | 60          | 4.37                | 4.00        | 2.18               |                 | 312.40                  |        |        |        |                         |        |                        | 0.5985     |          |       |       |
|             | 11                           | U            | 2533.80       | 15.0              | 15.50           | 15.25           |           |                    |         |          | 76.7                 | 148              | 44                | 104                      |                     | CH    | 1.388                               | 0.754                  | 2.666 |                        |             | 60          |                     |             |                    |                 | 5.50                    | 2.0460 | 1.6167 | 0.1688 |                         | 0.7740 | 7.11                   | 4.57E-08   | 0.64     | 13.00 |       |
|             | 12                           | U            | 2532.30       | 16.5              | 17.00           | 16.75           |           |                    |         |          | 52.7                 | 102              | 29                | 73                       |                     | CH    |                                     |                        |       |                        |             | 70          |                     |             |                    |                 |                         |        |        |        |                         |        |                        | 0.7521     |          |       |       |
|             | 13                           | U            | 2530.80       | 18.0              | 18.50           | 18.25           |           |                    |         |          | 36.7                 |                  |                   | 0                        |                     |       | 1.855                               | 1.357                  |       |                        |             | 100         |                     | 1.75        |                    |                 |                         |        |        |        |                         |        |                        | 0.8653     |          |       |       |
|             | 14                           | U            | 2529.30       | 19.5              | 20.00           | 19.75           |           |                    |         |          | 52.0                 | 77               | 26                | 51                       |                     | CH    |                                     |                        |       |                        |             | 100         |                     |             |                    |                 |                         |        |        |        |                         |        |                        | 0.9788     |          |       |       |
|             | 15                           | U            | 2527.80       | 21.0              | 21.50           | 21.25           |           |                    |         |          | 45.4                 |                  |                   | 0                        |                     |       | 1.684                               | 1.158                  |       |                        |             | 100         | 1.64                |             | 0.82               |                 | 285.30                  |        |        |        |                         |        |                        | 1.0795     |          |       |       |
|             | 16                           | U            | 2526.30       | 22.5              | 23.00           | 22.75           |           |                    |         |          | 62.3                 | 105              | 28                | 77                       |                     | CH    |                                     |                        |       |                        |             | 100         |                     |             |                    |                 |                         |        |        |        |                         |        |                        | 1.1752     |          |       |       |
|             | 17                           | S            | 2524.80       | 24.0              | 24.50           | 24.25           |           |                    |         |          | 49.0                 |                  |                   | 0                        | 1.00                |       |                                     |                        |       | 13.00                  | 10-6-7      | 100         |                     |             |                    |                 |                         |        |        |        |                         |        | 1.2707                 |            |          |       |       |
|             | 18                           | U            | 2523.30       | 25.5              | 26.00           | 25.75           |           |                    |         |          | 84.9                 | 104              | 31                | 73                       |                     | CH    | 1.508                               | 0.807                  | 2.701 |                        |             |             |                     |             |                    |                 | 3.60                    | 2.1650 | 1.1732 | 0.1933 |                         | 1.4599 | 2.47                   | 1.58E-08   | 0.52     | 17.80 |       |
|             | 19                           | S            | 2521.80       | 27.0              | 27.50           | 27.25           |           |                    |         |          | 21.8                 |                  |                   | 0                        |                     |       |                                     |                        |       | 78.00                  | 16-28-50    | 89          |                     |             |                    |                 |                         |        |        |        |                         |        |                        | 1.4742     |          |       |       |
|             | 20                           | S            | 2520.30       | 28.5              | 29.00           | 28.75           |           |                    |         |          | 34.9                 |                  |                   | 0                        |                     |       |                                     |                        | 2.716 | 9.00                   | 4-4-5       | 100         |                     |             |                    |                 |                         |        |        |        |                         |        |                        | 1.6116     |          |       |       |
|             | 21                           | S            | 2517.80       | 31.0              | 31.50           | 31.25           |           |                    |         |          | 33.8                 |                  |                   | 0                        |                     |       |                                     |                        |       | 39.00                  | 7-15-14     | 44          |                     |             |                    |                 |                         |        |        |        |                         |        |                        | 1.8168     |          |       |       |
|             | 22                           | S            | 2516.30       | 32.5              | 33.00           | 32.75           |           |                    |         |          | 50.1                 |                  |                   | 0                        |                     |       |                                     | 2.774                  | 10.00 | 5-6-4                  | 89          |             |                     |             |                    |                 |                         |        |        |        |                         |        |                        | 1.9293     |          |       |       |
|             | 23                           | S            | 2514.80       | 34.0              | 34.50           | 34.25           |           |                    |         |          | 133.7                | 165              | 75                | 90                       | 65.80               | OH    |                                     |                        |       |                        | 16.00       | 7-8-8       | 33                  |             |                    |                 |                         |        |        |        |                         |        |                        | 2.0053     |          |       |       |
|             | 24                           | S            | 2513.30       | 35.5              | 36.00           | 35.75           |           |                    |         |          | 150.4                |                  |                   | 0                        |                     |       |                                     |                        |       | 12.00                  | 4-6-6       | 56          |                     |             |                    |                 |                         |        |        |        |                         |        |                        | 2.0538     |          |       |       |
|             | 25                           | S            | 2511.80       | 37.0              | 37.50           | 37.25           |           |                    |         |          | 160.4                | 173              | 102               | 71                       | 75.40               | OH    |                                     |                        |       |                        | 11.00       | 4-5-6       | 40                  |             |                    |                 |                         |        |        |        |                         |        |                        | 2.0983     |          |       |       |
|             | 26                           | S            | 2510.30       | 38.5              | 39.00           | 38.75           |           |                    |         |          | 40.1                 |                  |                   | 0                        |                     |       |                                     |                        |       | 7.00                   | 3-4-3       | 44          |                     |             |                    |                 |                         |        |        |        |                         |        |                        | 2.1767     |          |       |       |
|             | 27                           | S            | 2508.80       | 40.0              | 40.50           | 40.25           |           |                    |         |          | 18.5                 | 19               | 17                | 2                        | 0.40                | ML    |                                     |                        |       |                        | 17.00       | 10-8-9      | 82                  |             |                    |                 |                         |        |        |        |                         |        |                        | 2.3156     |          |       |       |
|             | 28                           | S            | 2507.30       | 41.5              | 42.00           | 41.75           |           |                    |         |          | 82.7                 | 99               | 54                | 45                       |                     | OH    |                                     |                        |       |                        | 8.00        | 4-4-4       | 100                 |             |                    |                 |                         |        |        |        |                         |        |                        | 2.4346     |          |       |       |
|             | 29                           | S            | 2505.80       | 43.0              | 43.50           | 43.25           |           |                    |         |          | 87.8                 |                  |                   | 0                        | 28.00               |       |                                     |                        |       |                        | 7.00        | 3-3-4       | 100                 |             |                    |                 |                         |        |        |        |                         |        |                        | 2.5072     |          |       |       |
|             | 30                           | S            | 2504.30       | 44.5              | 45.00           | 44.75           |           |                    |         |          | 52.0                 |                  |                   | 0                        |                     |       |                                     |                        |       | 15.00                  | 8-7-8       | 67          |                     |             |                    |                 |                         |        |        |        |                         |        |                        | 2.5922     |          |       |       |
|             | 31                           | S            | 2503.80       | 45.0              | 45.50           | 45.25           |           |                    |         |          | 24.0                 | 44               | 19                | 25                       |                     | CL    |                                     |                        |       |                        | 9.00        | 3-4-5       |                     |             |                    |                 |                         |        |        |        |                         |        | 2.6330                 |            |          |       |       |
|             | 32                           | S            | 2501.30       | 47.5              | 48.00           | 47.75           |           | 0.0                | 6.2     | 93.8     | 46.4                 |                  |                   | 0                        |                     |       |                                     |                        |       |                        | 9.00        | 3-4-5       | 100                 |             |                    |                 |                         |        |        |        |                         |        |                        | 2.8424     |          |       |       |
|             | 33                           | S            | 2499.30       | 49.5              | 50.00           | 49.75           |           |                    |         |          | 41.5                 | 67               | 23                | 44                       |                     | CH    |                                     |                        |       |                        | 19.00       | 8-9-10      | 73                  |             |                    |                 |                         |        |        |        |                         |        |                        | 2.9871     |          |       |       |

OBSERVACIONES 0.53

| perforación | Identificación de la muestra |              |               |                   |                 |                 | NF sondeo | Propiedades Índice |         |          |                      |                  |                   | Propiedades Físicas      |      |       |           | Índices de resistencia |        |          |             |             |                     | Compresibilidad |                    |             |              |        | Resistencia al corte |        |              |          |                        |            |         |  |      |       |
|-------------|------------------------------|--------------|---------------|-------------------|-----------------|-----------------|-----------|--------------------|---------|----------|----------------------|------------------|-------------------|--------------------------|------|-------|-----------|------------------------|--------|----------|-------------|-------------|---------------------|-----------------|--------------------|-------------|--------------|--------|----------------------|--------|--------------|----------|------------------------|------------|---------|--|------|-------|
|             | Muestra N°                   | Tipo Muestra | Elevación (m) | Prof. Inicial (m) | Prof. Final (m) | Prof. Media (m) |           | % Gravas           | % Arena | % PT 200 | Humedad Natural wn % | Límite Líquido % | Límite Plástico % | Índice de Plasticidad IP | % MO | USCS  | gt (T/m³) | gd (T/m³)              | Gs     | N Golpes | RECOBRO (%) | qu (kg/cm2) | qu_penetr. (kg/cm2) | cu (kg/cm2)     | cu_veleta (kg/cm2) | Eu (kg/cm2) | P'c (kg/cm2) | eo     | Cc                   | Cs     | P'o (kg/cm2) | OCR      | Permeabilidad k (cm/s) | c (kg/cm2) | j (°)   |  |      |       |
| I9-P1       | 1                            | U            | 2554.44       | 0.0               | 0.50            | 0.25            |           |                    |         | 26.3     |                      |                  | 0                 |                          |      | 1.853 | 1.462     |                        |        | 70       |             |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 0.0213  |  |      |       |
|             | 2                            | S            | 2553.69       | 0.5               | 1.00            | 0.75            |           |                    |         | 31.9     | 65                   | 20               | 45                |                          | CH   |       |           |                        | 6.00   | 1-3-3    | 33          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 0.0639  |  |      |       |
|             | 3                            | U            | 2552.19       | 2.0               | 2.50            | 2.25            |           |                    |         | 50.4     |                      |                  | 0                 |                          |      | 1.666 | 1.107     |                        |        | 54       | 0.34        |             | 0.17                |                 | 19.60              |             |              |        |                      |        |              |          |                        |            | 0.1777  |  |      |       |
|             | 4                            | S            | 2551.09       | 3.1               | 3.60            | 3.35            |           |                    |         | 63.2     | 104                  | 32               | 72                |                          | CH   |       |           |                        | 9.00   | 2-1-8    | 100         |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 0.2467  |  |      |       |
|             | 5                            | U            | 2549.74       | 4.5               | 4.90            | 4.70            |           |                    |         | 66.9     |                      |                  | 0                 |                          |      | 1.534 | 0.919     | 2.697                  |        |          | 92          | 0.66        |                     | 0.33            |                    | 37.20       | 5.50         | 1.8960 | 1.1875               | 0.1419 |              | 13.02    | 3.322E-07              |            |         |  |      |       |
|             | 6                            | S            | 2549.19       | 5.0               | 5.50            | 5.25            |           |                    |         | 68.1     | 104                  | 34               | 70                |                          | CH   |       |           |                        | 2.00   | 1-1-1    | 93          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 0.3525  |  |      |       |
|             | 7                            | U            | 2547.69       | 6.5               | 7.00            | 6.75            |           |                    |         | 92.4     | 120                  | 37               | 83                |                          | CH   | 1.456 | 0.757     |                        |        |          | 52          | 0.58        |                     | 0.29            |                    | 23.30       |              |        |                      |        |              |          |                        |            | 0.4287  |  | 0.18 | 24.50 |
|             | 8                            | S            | 2546.69       | 7.6               | 7.90            | 7.75            |           |                    |         | 78.9     | 121                  | 35               | 86                |                          | CH   |       |           |                        |        |          | 100         |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 0.4770  |  |      |       |
|             | 9                            | U            | 2545.24       | 9.0               | 9.40            | 9.20            |           |                    |         | 60.4     |                      |                  | 0                 |                          |      | 1.609 | 1.003     |                        |        |          | 64          | 1.04        |                     | 0.52            |                    | 51.10       |              |        |                      |        |              |          |                        |            | 0.5582  |  |      |       |
|             | 10                           | S            | 2544.09       | 10.1              | 10.60           | 10.35           |           |                    |         | 69.0     |                      |                  | 0                 |                          |      |       |           |                        | 6.00   | 3-3-3    | 100         |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 0.6252  |  |      |       |
|             | 11                           | U            | 2542.69       | 11.5              | 12.00           | 11.75           |           |                    |         | 52.8     | 86                   | 28               | 58                |                          | CH   | 1.637 | 1.071     | 2.629                  |        |          | 100         |             |                     |                 |                    | 5.80        | 1.4550       | 1.1192 | 0.1136               |        | 7.17         | 1.39E-07 |                        |            | 0.8087  |  |      |       |
|             | 12                           | S            | 2542.19       | 12.0              | 12.50           | 12.25           |           |                    |         | 53.4     |                      |                  | 0                 |                          |      |       |           | 2.602                  | 13.00  | 5-6-7    | 89          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 0.5853  |  |      |       |
|             | 13                           | U            | 2540.69       | 13.5              | 14.00           | 13.75           |           |                    |         | 55.8     |                      |                  | 0                 |                          |      | 1.652 | 1.061     |                        |        |          | 56          | 1.16        |                     | 0.58            |                    | 74.50       |              |        |                      |        |              |          |                        |            | 0.6829  |  |      |       |
|             | 14                           | S            | 2540.19       | 14.0              | 14.50           | 14.25           |           |                    |         | 51.8     | 88                   | 29               | 59                | 4.40                     | CH   |       |           |                        | 11.00  | 4-6-5    | 100         |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 0.7157  |  |      |       |
|             | 15                           | S            | 2538.69       | 15.5              | 16.00           | 15.75           |           |                    |         | 39.2     | 52                   | 17               | 35                |                          | CH   |       |           |                        | 21.00  | 11-12-9  | 100         |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 0.8227  |  |      |       |
|             | 16                           | S            | 2537.19       | 17.0              | 17.50           | 17.25           |           |                    |         | 22.7     |                      |                  | 0                 |                          |      |       |           | 2.632                  | 93.00  | 42-43-50 | 67          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 0.9552  |  |      |       |
|             | 17                           | S            | 2535.69       | 18.5              | 19.00           | 18.75           |           |                    |         | 27.4     |                      |                  | 0                 |                          |      |       |           |                        | 50.00  | 50       | 0           |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 1.0988  |  |      |       |
|             | 18                           | S            | 2534.19       | 20.0              | 20.50           | 20.25           |           |                    |         | 0.0      | 80.6                 | 19.4             | 27.4              |                          |      |       |           |                        | 2.321  | 9.00     | 6-5-4       | 100         |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 1.2220  |  |      |       |
|             | 19                           | S            | 2532.69       | 21.5              | 22.00           | 21.75           |           |                    |         | 37.4     |                      |                  | 0                 |                          |      |       |           |                        | 14.00  | 6-7-7    | 100         |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 1.3355  |  |      |       |
|             | 20                           | S            | 2531.19       | 23.0              | 23.50           | 23.25           |           |                    |         | 0.0      | 36.6                 | 63.4             | 86.4              |                          |      |       |           |                        | 8.00   | 4-5-3    | 96          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 1.4305  |  |      |       |
|             | 21                           | S            | 2530.19       | 24.0              | 24.50           | 24.25           |           |                    |         | 0.0      | 38.8                 | 61.2             | 27.9              |                          |      |       |           | 2.633                  | 17.00  | 6-8-9    | 67          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 1.4998  |  |      |       |
|             | 22                           | S            | 2528.19       | 26.0              | 26.50           | 26.25           |           |                    |         | 15.8     | NL                   | NP               |                   | 0.70                     |      |       |           |                        | 95.00  | 32-45-50 | 51          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 1.7075  |  |      |       |
|             | 23                           | S            | 2526.69       | 27.5              | 28.00           | 27.75           |           |                    |         | 0.0      | 77.8                 | 22.2             | 18.7              |                          |      |       |           | 2.682                  | 83.00  | 37-45-38 | 51          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 1.8767  |  |      |       |
|             | 24                           | S            | 2525.19       | 29.0              | 29.50           | 29.25           |           |                    |         | 52.8     |                      | 75               | 26                | 49                       |      | CH    |           |                        |        | 12.00    | 4-5-7       | 100         |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 2.0072  |  |      |       |
|             | 25                           | S            | 2523.69       | 30.5              | 31.00           | 30.75           |           |                    |         | 0.0      | 14.6                 | 85.4             | 55.5              |                          |      |       |           |                        | 9.00   | 4-5-4    | 10          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        | 2.1038     |         |  |      |       |
|             | 26                           | S            | 2522.19       | 32.0              | 32.50           | 32.25           |           |                    |         | 29.4     |                      | 67               | 24                | 43                       |      | CH    |           |                        |        | 13.00    | 5-6-7       | 100         |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 2.2178  |  |      |       |
|             | 27                           | S            | 2521.69       | 32.5              | 33.00           | 32.75           |           |                    |         |          |                      |                  | 0                 |                          |      |       |           |                        | 100.00 | 50       |             |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 2.2149  |  |      |       |
|             | 28                           | S            | 2520.69       | 33.5              | 34.00           | 33.75           |           |                    |         |          |                      |                  | 0                 |                          |      |       |           |                        | 100.00 | 50       |             |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 2.1149  |  |      |       |
|             | 29                           | C            | 2519.94       | 34.0              | 35.00           | 34.50           |           |                    |         | 10.4     |                      |                  | 0                 |                          |      |       | 2.157     | 2.146                  |        |          |             |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 2.1292  |  |      |       |
|             | 30                           | C            | 2518.69       | 35.0              | 36.50           | 35.75           |           |                    |         | 9.7      |                      |                  | 0                 |                          |      |       |           |                        |        |          | 85          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 2.3044  |  |      |       |
|             | 31                           | S            | 2516.69       | 37.5              | 38.00           | 37.75           |           |                    |         | 15.6     |                      |                  | 0                 |                          |      |       |           |                        | 80.00  |          | 82          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 2.5638  |  |      |       |
|             | 32                           | C            | 2515.94       | 38.0              | 39.00           | 38.50           |           |                    |         | 20.4     |                      |                  | 0                 |                          |      |       |           |                        |        |          | 69          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 2.6472  |  |      |       |
|             | 33                           | S            | 2515.19       | 39.0              | 39.50           | 39.25           |           |                    |         | 16.5     |                      |                  | 0                 |                          |      |       |           |                        | 100.00 |          |             |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 2.7295  |  |      |       |
|             | 34                           | S            | 2513.69       | 40.5              | 41.00           | 40.75           |           |                    |         | 15.4     |                      |                  | 0                 |                          |      |       |           |                        | 100.00 |          | 44          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 2.9041  |  |      |       |
|             | 35                           | C            | 2512.94       | 41.0              | 42.00           | 41.50           |           |                    |         | 14.6     |                      |                  | 0                 |                          |      |       |           |                        |        |          | 15          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 2.9936  |  |      |       |
|             | 36                           | C            | 2511.94       | 42.0              | 43.00           | 42.50           |           |                    |         | 19.9     |                      |                  | 0                 |                          |      |       |           |                        |        |          | 17          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 3.1069  |  |      |       |
|             | 37                           | C            | 2510.69       | 43.0              | 44.50           | 43.75           |           |                    | 34.0    | 23.1     | 42.9                 | 27.7             |                   | 0                        |      |       |           |                        |        |          | 29          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 3.2300  |  |      |       |
|             | 38                           | C            | 2509.19       | 44.5              | 46.00           | 45.25           |           |                    | 87.2    | 3.3      | 9.5                  | 14.6             |                   | 0                        |      |       |           |                        |        |          | 30          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | 3.3889  |  |      |       |
|             | 39                           | C            | 2507.69       | 46.0              | 47.50           | 46.75           |           |                    |         |          |                      | 32.2             |                   | 0                        |      |       |           |                        |        |          | 17          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | -4.6750 |  |      |       |
|             | 40                           | C            | 2506.19       | 47.5              | 49.00           | 48.25           |           |                    |         | 29.2     |                      |                  | 0                 |                          |      |       |           |                        |        |          | 45          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | -4.8250 |  |      |       |
|             | 41                           | C            | 2504.94       | 49.0              | 50.00           | 49.50           |           |                    |         | 8.6      |                      |                  | 0                 |                          |      |       |           |                        |        |          | 10          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | -4.9500 |  |      |       |
|             | 42                           | C            | 2503.69       | 50.0              | 51.50           | 50.75           |           |                    |         | 8.9      |                      |                  | 0                 |                          |      | 2.331 | 2.138     |                        |        |          | 47          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | -5.0750 |  |      |       |
|             | 43                           | C            | 2502.19       | 51.5              | 53.00           | 52.25           |           |                    |         | 11.0     |                      |                  | 0                 |                          |      |       |           |                        |        |          | 23          |             |                     |                 |                    |             |              |        |                      |        |              |          |                        |            | -5.2250 |  |      |       |

OBSERVACIONES 0.53

| perforación | Identificación de la muestra |              |               |                   |                 |                 | NF sondeo | Propiedades Índice |         |          |                      |                  |                   |                          | Propiedades Físicas |       |                                     |                                     |        | Índices de resistencia |             |             |                     |             |                    | Compresibilidad |                         |        |        |        | Resistencia al corte    |          |                        |            |       |  |
|-------------|------------------------------|--------------|---------------|-------------------|-----------------|-----------------|-----------|--------------------|---------|----------|----------------------|------------------|-------------------|--------------------------|---------------------|-------|-------------------------------------|-------------------------------------|--------|------------------------|-------------|-------------|---------------------|-------------|--------------------|-----------------|-------------------------|--------|--------|--------|-------------------------|----------|------------------------|------------|-------|--|
|             | Muestra N°                   | Tipo Muestra | Elevación (m) | Prof. Inicial (m) | Prof. Final (m) | Prof. Media (m) |           | % Gravas           | % Arena | % PT 200 | Humedad Natural wn % | Límite Líquido % | Límite Plástico % | Índice de Plasticidad IP | % MO                | USCS  | gt <sub>s</sub> (T/m <sup>3</sup> ) | gd <sub>s</sub> (T/m <sup>3</sup> ) | Gs     | N Golpes               | RECOBRO (%) | qu (kg/cm2) | qu_penetr. (kg/cm2) | cu (kg/cm2) | cu_veleta (kg/cm2) | Eu (kg/cm2)     | P <sub>c</sub> (kg/cm2) | eo     | Cc     | Cs     | P <sub>o</sub> (kg/cm2) | OCR      | Permeabilidad k (cm/s) | c (kg/cm2) | j (°) |  |
| L9-P2       | 1                            | U            | 2554.49       | 0.5               | 1.00            | 0.75            |           |                    |         | 35.9     | 84                   | 25               | 59                | CH                       | 1.813               | 1.337 |                                     |                                     |        | 44                     |             | 1.25        |                     |             |                    |                 |                         |        |        |        |                         |          | 0.0610                 |            |       |  |
|             | 2                            | U            | 2552.99       | 2.0               | 2.50            | 2.25            |           |                    |         | 49.6     |                      |                  | 0                 |                          |                     | 1.690 | 1.130                               |                                     |        |                        | 88          | 1.11        | 1.25                | 0.55        |                    | 165.70          |                         |        |        |        |                         |          | 0.1737                 |            |       |  |
|             | 3                            | U            | 2551.49       | 3.5               | 4.00            | 3.75            |           |                    |         | 71.8     | 101                  | 31               | 70                | CH                       | 1.548               | 0.894 | 2.694                               |                                     |        | 76                     |             | 1.25        |                     |             |                    |                 |                         |        |        |        |                         |          | 0.2666                 |            |       |  |
|             | 4                            | U            | 2549.99       | 5.0               | 5.50            | 5.25            |           |                    |         | 45.2     |                      |                  | 0                 |                          |                     | 1.666 | 1.147                               | 2.653                               |        |                        | 74          |             |                     |             |                    |                 |                         |        |        |        |                         |          | 0.3576                 |            |       |  |
|             | 5                            | U            | 2547.49       | 7.5               | 8.00            | 7.75            |           |                    |         | 86.0     | 119                  | 31               | 88                | CH                       | 1.486               | 0.806 |                                     |                                     |        | 98                     |             | 0.75-1      |                     |             |                    |                 |                         |        |        |        |                         |          | 0.5016                 | 0.36       | 25.00 |  |
|             | 6                            | U            | 2545.99       | 9.0               | 9.50            | 9.25            |           |                    |         | 65.9     | 98                   | 27               | 71                | CH                       | 1.546               | 0.932 | 2.624                               |                                     |        | 98                     |             |             |                     |             |                    |                 | 3.80                    | 1.8150 | 1.2146 | 0.1496 | 1.0290                  | 3.69     | 1.28E-07               |            |       |  |
|             | 7                            | U            | 2544.49       | 10.5              | 11.00           | 10.75           |           |                    |         | 62.0     | 98                   | 26               | 72                | CH                       | 1.607               | 0.985 |                                     |                                     |        | 94                     |             | 1.75-2.35   |                     |             |                    |                 |                         |        |        |        |                         |          | 0.6656                 |            |       |  |
|             | 8                            | U            | 2542.99       | 12.0              | 12.50           | 12.25           |           |                    |         | 49.2     |                      |                  | 0                 |                          |                     | 1.669 | 1.118                               |                                     |        |                        | 98          | 0.66        |                     | 0.33        |                    | 200.00          |                         |        |        |        |                         |          | 0.7613                 |            |       |  |
|             | 9                            | U            | 2541.49       | 13.5              | 14.00           | 13.75           |           |                    |         | 0.0      | 3.7                  | 96.3             | 55.7              | 111                      | 24                  | 87    | CH                                  | 1.625                               | 1.025  |                        |             | 100         | 2.52                |             | 1.26               |                 | 155.90                  |        |        |        |                         |          |                        | 0.8583     |       |  |
|             | 10                           | U            | 2539.99       | 15.0              | 15.50           | 15.25           |           |                    |         | 54.7     | 127                  | 31               | 96                | CH                       | 1.583               | 1.024 | 2.685                               |                                     |        | 98                     |             |             |                     |             |                    | 8.00            | 1.6230                  | 1.2064 | 0.1916 | 1.3988 | 5.72                    | 9.53E-09 |                        |            |       |  |
|             | 11                           | U            | 2538.49       | 16.5              | 17.00           | 16.75           |           |                    |         | 0.0      | 64.6                 | 35.4             | 29.3              |                          | 0                   |       | 1.914                               | 1.524                               |        |                        | 80          |             |                     |             |                    |                 |                         |        |        |        |                         |          | 1.0892                 |            |       |  |
|             | 12                           | S            | 2536.99       | 18.0              | 18.50           | 18.25           |           |                    |         | 56.1     |                      |                  | 0                 |                          |                     |       |                                     | 2.610                               | 10.00  | 6-5-5                  | 51          |             |                     |             |                    |                 |                         |        |        |        |                         |          | 1.2050                 |            |       |  |
|             | 13                           | S            | 2535.49       | 19.5              | 20.00           | 19.75           |           |                    |         | 37.2     |                      |                  | 0                 |                          |                     |       |                                     |                                     | 34.00  | 5-18-16                | 96          |             |                     |             |                    |                 |                         |        |        |        |                         |          | 1.3114                 |            |       |  |
|             | 14                           | S            | 2533.99       | 21.0              | 21.50           | 21.25           |           |                    |         | 60.3     |                      |                  | 0                 |                          |                     |       |                                     | 2.556                               | 9.00   | 4-4-9                  | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |          | 1.4158                 |            |       |  |
|             | 15                           | S            | 2532.49       | 22.5              | 23.00           | 22.75           |           |                    |         | 0.0      | 31.9                 | 68.1             | 31.2              | 44                       | 23                  | 21    | CL                                  |                                     |        | 49.00                  | 7-17-32     | 100         |                     |             |                    |                 |                         |        |        |        |                         |          | 1.5257                 |            |       |  |
|             | 16                           | S            | 2530.99       | 24.0              | 24.50           | 24.25           |           |                    |         | 22.7     |                      |                  | 0                 | 2.60                     |                     |       |                                     | 2.608                               | 19.00  | 32-11-8                | 71          |             |                     |             |                    |                 |                         |        |        |        |                         | 1.6651   |                        |            |       |  |
|             | 17                           | S            | 2529.49       | 25.5              | 26.00           | 25.75           |           |                    |         | 0.6      | 16.2                 | 83.2             | 34.7              | 45                       | 20                  | 25    | CL                                  |                                     |        | 72.00                  | 9-31-41     |             |                     |             |                    |                 |                         |        |        |        |                         | 1.8013   |                        |            |       |  |
|             | 18                           | S            | 2527.99       | 27.0              | 27.50           | 27.25           |           |                    |         |          |                      |                  | 37.3              |                          |                     |       |                                     |                                     | 14.00  | 5-7-9                  | 62          |             |                     |             |                    |                 |                         |        |        |        |                         | 1.9216   |                        |            |       |  |
|             | 19                           | S            | 2526.49       | 28.5              | 29.00           | 28.75           |           |                    |         |          |                      |                  | 35.7              | 44                       | 21                  | 23    | CL                                  |                                     |        | 100.00                 | 27-50-50    | 100         |                     |             |                    |                 |                         |        |        |        |                         | 2.0410   |                        |            |       |  |
|             | 20                           | S            | 2524.99       | 30.0              | 30.50           | 30.25           |           |                    |         | 0.7      | 75.3                 | 24.0             | 16.8              |                          |                     |       |                                     |                                     | 100.00 | 50                     | 33          |             |                     |             |                    |                 |                         |        |        |        |                         | 2.1868   |                        |            |       |  |
|             | 21                           | S            | 2523.49       | 31.5              | 32.00           | 31.75           |           |                    |         |          |                      |                  | 30.2              | 52                       | 22                  | 30    | CH                                  |                                     |        | 100.00                 | 41-50       | 62          |                     |             |                    |                 |                         |        |        |        |                         | 2.3377   |                        |            |       |  |
|             | 22                           | C            | 2522.49       | 32.0              | 33.50           | 32.75           |           |                    |         |          |                      |                  | 20.5              |                          |                     |       |                                     |                                     |        | 10                     | 10          |             |                     |             |                    |                 |                         |        |        |        |                         | 2.4337   |                        |            |       |  |
|             | 23                           | C            | 2520.24       | 33.5              | 36.50           | 35.00           |           |                    |         | 0.0      | 11.1                 | 88.9             | 33.5              |                          |                     |       |                                     |                                     |        | 40                     |             |             |                     |             |                    |                 |                         |        |        |        |                         | 2.6448   |                        |            |       |  |
|             | 24                           | C            | 2517.24       | 36.5              | 39.50           | 38.00           |           |                    |         | 0.0      | 2.2                  | 97.8             | 35.9              |                          |                     |       |                                     |                                     |        | 76                     |             |             |                     |             |                    |                 |                         |        |        |        |                         | 2.8898   |                        |            |       |  |
| L9-P3       | 1                            | S            | 2551.25       | 0.0               | 0.50            | 0.25            |           |                    |         | 24.10    |                      |                  | 0.00              |                          |                     |       |                                     |                                     | 31.00  | 1-20-11                | 27/50       |             |                     |             |                    |                 |                         |        |        |        | 0.0493                  |          |                        |            |       |  |
|             | 2                            | S            | 2549.50       | 1.5               | 2.00            | 1.75            |           |                    |         | 27.90    | 46.00                | 20.00            | 26.00             | CL                       |                     |       |                                     |                                     | 15.00  | 6-7-8                  | 38/50       |             |                     |             |                    |                 |                         |        |        |        | 0.3403                  |          |                        |            |       |  |
|             | 3                            | S            | 2548.00       | 3.0               | 3.50            | 3.25            |           |                    |         | 63.00    |                      |                  | 0.00              |                          |                     |       |                                     |                                     | 7.00   | 4-4-3                  | 36/50       |             |                     |             |                    |                 |                         |        |        |        | 0.6025                  |          |                        |            |       |  |
|             | 4                            | U            | 2546.50       | 4.5               | 5.00            | 4.75            |           |                    |         | 62.60    | 101.00               | 27.00            | 74.00             | CH                       | 1.54                | 0.95  |                                     |                                     |        |                        | 0.69        | 0.5-1       | 0.34                |             | 164.30             |                 |                         |        |        |        | 0.8372                  |          |                        |            |       |  |
|             | 5                            | U            | 2545.00       | 6.0               | 6.50            | 6.25            |           |                    |         | 86.00    |                      |                  | 0.00              |                          |                     |       |                                     |                                     | 1.53   | 0.81                   |             | 32/50       |                     |             |                    |                 |                         |        |        |        | 1.0674                  |          | 0.09                   | 25.50      |       |  |
|             | 6                            | U            | 2543.50       | 7.5               | 8.00            | 7.75            |           |                    |         | 50.20    | 72.00                | 23.00            | 49.00             | CH                       | 1.69                | 1.14  |                                     |                                     |        |                        | 33/50       |             | 1.50                |             |                    |                 |                         |        |        |        | 1.3086                  |          |                        |            |       |  |
|             | 7                            | U            | 2542.00       | 9.0               | 9.50            | 9.25            |           |                    |         | 78.70    |                      |                  | 0.00              |                          |                     |       |                                     |                                     | 1.51   | 0.84                   |             | 36/50       | 0.46                | 0.5-0.75    | 0.23               | 125.00          |                         |        |        |        | 1.5482                  |          |                        |            |       |  |
|             | 8                            | U            | 2540.50       | 10.5              | 11.00           | 10.75           |           |                    |         | 46.50    | 77.00                | 28.00            | 49.00             | CH                       | 1.72                | 1.17  |                                     |                                     |        |                        | 50/50       |             | 2.50                |             |                    |                 |                         |        |        |        | 1.6654                  |          |                        |            |       |  |
|             | 9                            | U            | 2539.00       | 12.0              | 12.50           | 12.25           |           |                    |         | 60.60    | 99.00                | 28.00            | 71.00             | CH                       | 1.56                | 0.98  | 2.68                                |                                     |        |                        | 23/50       |             |                     |             |                    | 4.10            | 1.7520                  | 0.9592 | 0.1425 | 1.7618 | 2.33                    | 1.15E-08 | 0.18                   | 20.80      |       |  |
|             | 10                           | U            | 2537.50       | 13.5              | 14.00           | 13.75           |           |                    |         | 70.50    | 114.00               | 27.00            | 87.00             | CH                       | 1.54                | 0.90  |                                     |                                     |        |                        | 30/50       | 2.66        | 0.5-0.75            | 1.33        | 289.30             |                 |                         |        |        |        | 1.8446                  |          |                        |            |       |  |
|             | 11                           | S            | 2536.00       | 15.0              | 15.50           | 15.25           |           |                    |         | 50.80    | 74.00                | 26.00            | 48.00             | CH                       |                     |       |                                     | 8.00                                | 3-4-4  | 40/50                  |             |             |                     |             |                    |                 |                         |        |        |        | 1.9352                  |          |                        |            |       |  |
|             | 12                           | U            | 2534.50       | 16.5              | 17.00           | 16.75           |           |                    |         | 52.60    |                      |                  | 0.00              |                          |                     |       |                                     |                                     | 1.69   | 1.11                   |             | 19/50       | 2.62                |             | 1.31               | 185.50          |                         |        |        |        | 2.0371                  |          |                        |            |       |  |
|             | 13                           | U            | 2533.00       | 18.0              | 18.50           | 18.25           |           |                    |         | 56.50    | 94.00                | 28.00            | 66.00             | CH                       | 1.61                | 1.03  | 2.69                                |                                     |        |                        | 50/50       |             |                     |             |                    | 3.02            | 1.6220                  | 0.9891 | 0.1878 | 2.1346 | 1.41                    | 7.68E-09 |                        |            |       |  |
|             | 14                           | U            | 2531.50       | 19.5              | 20.00           | 19.75           |           |                    |         | 33.60    |                      |                  | 0.00              |                          |                     |       |                                     |                                     | 1.83   | 1.37                   |             | 19/50       |                     | 2.25        |                    |                 |                         |        |        |        | 2.2420                  |          |                        |            |       |  |
|             | 15                           | U            | 2530.00       | 21.0              | 21.50           | 21.25           |           |                    |         | 61.50    | 78.00                | 19.00            | 59.00             | CH                       | 1.62                | 1.00  |                                     |                                     |        |                        | 42/50       | 1.56        |                     | 0.78        | 67.70              |                 |                         |        |        | 2.3503 |                         |          |                        |            |       |  |
|             | 16                           | S            | 2528.50       | 22.5              | 23.00           | 22.75           |           |                    |         | 24.60    |                      |                  | 0.00              |                          |                     |       |                                     | 2.63                                | 62.00  | 9-22-40                | 40/50       |             |                     |             |                    |                 |                         |        |        |        | 2.4689                  |          |                        |            |       |  |
|             | 17                           | S            | 2527.00       | 24.0              | 24.50           | 24.25           |           |                    |         | 46.40    |                      |                  | 0.00              |                          |                     |       |                                     |                                     | 50.00  | 20-30-20               | 38/50       |             |                     |             |                    |                 |                         |        |        |        | 2.5937                  |          |                        |            |       |  |
|             | 18                           | S            | 2525.50       | 25.5              | 26.00           | 25.75           |           |                    |         | 20.20    |                      |                  | 0.00              |                          |                     |       |                                     |                                     | 74.00  | 24-50-24               | 38/50       |             |                     |             |                    |                 |                         |        |        |        | 2.7252                  |          |                        |            |       |  |
|             | 19                           | S            | 2524.00       | 27.0              | 27.50           | 27.25           |           |                    |         | 0.00     | 0.00                 | 100.00           | 182.30            |                          |                     |       |                                     | 58.00                               | 19.00  | 6-9-10                 | 27/50       |             |                     |             |                    |                 |                         |        |        |        | 2.8229                  |          |                        |            |       |  |
|             | 20                           | S            | 2522.50       | 28.5              | 29.00           | 28.75           |           |                    |         | 180.10   | 184.00               | 112.00           | 72.00             | 76.60                    | OH                  |       |                                     |                                     | 15.00  | 6-7-8                  | 34/50       |             |                     |             |                    |                 |                         |        |        | 2.8608 |                         |          |                        |            |       |  |
|             | 21                           | S            | 2521.00       | 30.0              | 30.50           | 30.25           |           |                    |         | 28.80    |                      |                  | 0.00              |                          |                     |       |                                     | 2.66                                | 53.00  | 6-8-45                 | 33/50       |             |                     |             |                    |                 |                         |        |        |        | 2.9469                  |          |                        |            |       |  |
|             | 22                           | S            | 2519.50       | 31.5              | 32.00           | 31.75           |           |                    |         | 26.80    |                      |                  | 0.00              |                          |                     |       |                                     |                                     | 21.00  | 12-11-10               | 35/50       |             |                     |             |                    |                 |                         |        |        |        | 3.0834                  |          |                        |            |       |  |
|             | 23                           | S            | 2518.00       | 33.0              | 33.50           | 33.25           |           |                    |         | 24.50    |                      |                  | 0.00              |                          |                     |       |                                     | 2.63                                | 44.00  | 7-12-32                | 50/50       |             |                     |             |                    |                 |                         |        |        |        | 3.2252                  |          |                        |            |       |  |
|             | 24                           | S            | 2516.50       | 34.5              | 35.00           | 34.75           |           |                    |         | 40.50    | 79.00                | 26.00            | 53.00             | CH                       |                     |       |                                     | 20.00                               | 7-8-12 | 27/50                  |             |             |                     |             |                    |                 |                         |        |        |        | 3.3541                  |          |                        |            |       |  |
|             | 25                           | S            | 2515.00       | 36.0              | 36.50           | 36.25           |           |                    |         | 24.50    |                      |                  | 0.00              |                          |                     |       |                                     | 2.70                                | 60.00  | 9-20-40                | 50/50       |             |                     |             |                    |                 |                         |        |        |        | 3.4830                  |          |                        |            |       |  |
|             | 26                           | S            | 2513.50       | 37.5              | 38.00           | 37.75           |           |                    |         |          |                      |                  | 0.00              |                          |                     |       |                                     |                                     | 11.00  | 6-4-7                  | 39/50       |             |                     |             |                    |                 |                         |        |        |        | 3.4804                  |          |                        |            |       |  |
|             | 27                           | S            | 2512.00       | 39.0              | 39.50           | 39.25           |           |                    |         | 18.10    |                      |                  | 0.00              |                          |                     |       |                                     | 2.63                                | 10.00  | 30-31-50               | 34/50       |             |                     |             |                    |                 |                         |        |        |        | 3.4881                  |          |                        |            |       |  |
|             | 28                           | S            | 2510.50       | 40.5              | 41.00           | 40.75           |           |                    |         | 18.70    |                      |                  | 0.00              |                          |                     |       |                                     |                                     | 100.00 | 45-50                  | 24/50       |             |                     |             |                    |                 |                         |        |        |        | 3.6524                  |          |                        |            |       |  |
|             | 29                           | S            | 2509.00       | 42.0              | 42.50           | 42.25           |           |                    |         | 16.30    |                      |                  | 0.00              |                          |                     |       |                                     | 2.63                                | 65.00  | 30-35-30               | 38/50       |             |                     |             |                    |                 |                         |        |        |        | 3.8205                  |          |                        |            |       |  |
|             | 30                           |              |               |                   |                 |                 |           |                    |         |          |                      |                  |                   |                          |                     |       |                                     |                                     |        |                        |             |             |                     |             |                    |                 |                         |        |        |        |                         |          |                        |            |       |  |

| perforación | Identificación de la muestra |              |               |                   |                 |                 | NF sondeo | Propiedades Índice |         |          |                      |                  |                   |                          | Propiedades Físicas |       |                                     |                                     |        | Índices de resistencia |             |             |                     |             |                    | Compresibilidad |                         |        |        |        | Resistencia al corte    |     |                        |            |          |        |       |  |  |
|-------------|------------------------------|--------------|---------------|-------------------|-----------------|-----------------|-----------|--------------------|---------|----------|----------------------|------------------|-------------------|--------------------------|---------------------|-------|-------------------------------------|-------------------------------------|--------|------------------------|-------------|-------------|---------------------|-------------|--------------------|-----------------|-------------------------|--------|--------|--------|-------------------------|-----|------------------------|------------|----------|--------|-------|--|--|
|             | Muestra N°                   | Tipo Muestra | Elevación (m) | Prof. Inicial (m) | Prof. Final (m) | Prof. Media (m) |           | % Gravas           | % Arena | % PT 200 | Humedad Natural wn % | Límite Líquido % | Límite Plástico % | Índice de Plasticidad IP | % MO                | USCS  | gt <sup>3</sup> (T/m <sup>3</sup> ) | gd <sup>3</sup> (T/m <sup>3</sup> ) | Gs     | N Golpes               | RECOBRO (%) | qu (kg/cm2) | qu_penetr. (kg/cm2) | cu (kg/cm2) | cu_veleta (kg/cm2) | Eu (kg/cm2)     | P <sub>c</sub> (kg/cm2) | eo     | Cc     | Cs     | P <sub>o</sub> (kg/cm2) | OCR | Permeabilidad k (cm/s) | c (kg/cm2) | j (°)    |        |       |  |  |
| L10 P-1     | 1                            | S            | 2542.93       | 0.0               | 0.50            | 0.25            |           |                    |         | 22.2     | 49                   | 20               | 29                | CL                       |                     |       |                                     | 17.00                               | 6-7-10 | 27                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        | 0.0252     |          |        |       |  |  |
|             | 2                            | U            | 2541.18       | 1.5               | 2.00            | 1.75            |           |                    |         | 73.1     |                      |                  | 0                 |                          |                     | 1.586 | 0.916                               |                                     |        |                        | 86          |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 0.1448   |        |       |  |  |
|             | 3                            | S            | 2539.68       | 3.0               | 3.50            | 3.25            |           |                    |         | 23.9     | NL                   | NP               | #VALUE!           |                          |                     |       |                                     |                                     | 18.00  | 9-11-7                 | 67          |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |          | 0.2619 |       |  |  |
|             | 4                            | U            | 2538.18       | 4.5               | 5.00            | 4.75            |           |                    |         | 104.3    |                      |                  | 0                 |                          |                     | 1.488 | 0.729                               |                                     |        |                        | 86          | 0.45        |                     | 0.23        |                    | 39.00           |                         |        |        |        |                         |     |                        |            | 0.3717   |        |       |  |  |
|             | 5                            | U            | 2536.68       | 6.0               | 6.50            | 6.25            |           |                    |         | 112.1    | 124                  | 39               | 85                | CH                       |                     | 1.381 | 0.649                               | 2.645                               |        |                        | 98          |             |                     |             |                    |                 | 2.50                    | 2.8560 | 1.6100 | 0.1904 |                         |     | 4.66                   | 7.33E-08   | 0.26     | 21.90  |       |  |  |
|             | 6                            | U            | 2535.18       | 7.5               | 8.00            | 7.75            |           |                    |         | 95.3     | 138                  | 51               | 87                | CH                       |                     | 1.446 | 0.741                               |                                     |        |                        | 56          | 0.76        |                     | 0.38        |                    | 100.00          |                         |        |        |        |                         |     |                        |            | 0.4989   |        |       |  |  |
|             | 7                            | U            | 2533.68       | 9.0               | 9.50            | 9.25            |           |                    |         | 66.1     | 131                  | 34               | 97                | CH                       |                     |       |                                     |                                     |        |                        | 86          |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 0.5752   |        |       |  |  |
|             | 8                            | U            | 2532.18       | 10.5              | 11.00           | 10.75           |           |                    |         | 74.5     | 139                  | 37               | 102               | CH                       |                     | 1.556 | 0.900                               |                                     |        |                        | 70          | 0.69        |                     | 0.34        |                    | 72.90           |                         |        |        |        |                         |     |                        |            | 0.6598   |        |       |  |  |
|             | 9                            | U            | 2530.68       | 12.0              | 12.50           | 12.25           |           |                    |         | 35.1     | 49                   | 19               | 30                | CL                       |                     |       |                                     |                                     |        |                        | 68          |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 0.7624   |        |       |  |  |
|             | 10                           | U            | 2529.18       | 13.5              | 14.00           | 13.75           |           |                    |         | 33.6     |                      |                  | 0                 | 2.80                     |                     |       |                                     |                                     |        |                        | 92          |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 0.8855   |        |       |  |  |
|             | 11                           | S            | 2527.68       | 15.0              | 15.50           | 15.25           |           |                    |         | 52.8     | 90                   | 27               | 63                | CH                       |                     |       |                                     |                                     | 8.00   | 3-3-5                  | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 0.9967   |        |       |  |  |
|             | 12                           | U            | 2526.18       | 16.5              | 17.00           | 16.75           |           |                    |         | 77.9     |                      |                  | 0                 |                          |                     |       |                                     |                                     |        |                        | 60          |             | 2.00                |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.0842   |        |       |  |  |
|             | 13                           | U            | 2524.68       | 18.0              | 18.50           | 18.25           |           |                    |         | 65.0     | 100                  | 31               | 69                | CH                       |                     | 1.627 | 0.986                               |                                     |        |                        | 98          | 1.32        |                     | 0.66        |                    | 88.80           |                         |        |        |        |                         |     |                        |            | 1.1698   |        |       |  |  |
|             | 14                           | U            | 2523.18       | 19.5              | 20.00           | 19.75           |           |                    |         | 91.3     |                      |                  | 0                 |                          |                     |       |                                     |                                     |        |                        | 100         |             | 1.25                |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.2515   |        |       |  |  |
|             | 15                           | U            | 2521.68       | 21.0              | 21.50           | 21.25           |           |                    |         | 43.7     | 40                   | 16               | 24                | CL                       |                     | 1.756 | 1.222                               |                                     |        |                        | 100         | 1.46        |                     | 0.73        |                    | 102.90          |                         |        |        |        |                         |     |                        |            | 1.3427   |        |       |  |  |
|             | 16                           | S            | 2520.18       | 22.5              | 23.00           | 22.75           |           |                    |         | 57.5     |                      |                  | 0                 |                          |                     |       |                                     |                                     | 15.00  | 9-8-7                  | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.4461   |        |       |  |  |
|             | 17                           | S            | 2518.68       | 24.0              | 24.50           | 24.25           |           |                    |         | 203.5    | 300                  | 171              | 129               | 79.60                    | PT                  |       |                                     |                                     | 10.00  | 5-4-6                  | 49          |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.5092   |        |       |  |  |
|             | 18                           | S            | 2517.18       | 25.5              | 26.00           | 25.75           |           |                    |         | 0.0      | 71.9                 | 28.1             | 24.7              | 0                        | 3.50                |       |                                     |                                     |        | 35.00                  | 8-14-21     | 100         |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.5978   |        |       |  |  |
|             | 19                           | S            | 2515.68       | 27.0              | 27.50           | 27.25           |           |                    |         | 23.7     |                      |                  | 0                 |                          |                     |       |                                     | 2.626                               | 80.00  | 40-40-40               | 51          |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.7433   |        |       |  |  |
|             | 20                           | S            | 2514.18       | 28.5              | 29.00           | 28.75           |           |                    |         | 0.0      | 9.0                  | 91.0             | 51.0              | 0                        |                     |       |                                     |                                     | 11.00  | 4-6-5                  | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.8667   |        |       |  |  |
|             | 21                           | S            | 2513.18       | 29.5              | 30.00           | 29.75           |           |                    |         | 20.7     |                      |                  | 0                 |                          |                     |       |                                     | 2.607                               | 40.00  | 12-16-24               | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.9520   |        |       |  |  |
| L11-P1      | 1                            | U            | 2556.96       | 0.5               | 1.00            | 0.75            |           |                    |         | 30.3     | 68                   | 22               | 46                | CH                       | 1.859               | 1.424 |                                     |                                     |        | 100                    |             | 2.75-3.25   |                     |             |                    |                 |                         |        |        |        |                         |     |                        | 0.1394     |          |        |       |  |  |
|             | 2                            | U            | 2554.96       | 2.5               | 3.00            | 2.75            |           |                    |         | 56.9     | 97                   | 33               | 64                | CH                       | 1.596               | 1.017 | 2.648                               |                                     |        | 90                     | 1.04        |             | 0.52                |             | 128.30             |                 |                         |        |        |        |                         |     |                        | 0.3099     |          |        |       |  |  |
|             | 3                            | U            | 2552.96       | 4.5               | 5.00            | 4.75            |           |                    |         | 44.6     | 72                   | 25               | 47                | CH                       | 1.730               | 1.194 |                                     |                                     |        | 90                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        | 0.4425     |          | 0.35   | 30.70 |  |  |
|             | 4                            | U            | 2550.96       | 6.5               | 7.00            | 6.75            |           |                    |         | 71.7     | 107                  | 30               | 77                | CH                       | 1.574               | 0.916 |                                     |                                     |        | 90                     | 0.81        | 1.00        | 0.40                |             | 108.30             |                 |                         |        |        |        |                         |     |                        | 0.5729     |          |        |       |  |  |
|             | 5                            | U            | 2548.96       | 8.5               | 9.00            | 8.75            |           |                    |         | 69.7     | 111                  | 30               | 81                | CH                       | 1.557               | 0.918 |                                     |                                     |        | 90                     | 1.51        | 1.75        | 0.75                |             |                    |                 |                         |        |        |        |                         |     |                        | 0.6860     |          |        |       |  |  |
|             | 6                            | S            | 2547.46       | 10.0              | 10.50           | 10.25           |           |                    |         | 58.3     | 95                   | 26               | 69                | CH                       |                     |       |                                     | 5.00                                | 2-2-3  | 100                    |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 0.7740   |        |       |  |  |
|             | 7                            | U            | 2545.46       | 12.0              | 12.50           | 12.25           |           |                    |         | 61.6     | 112                  | 30               | 82                | CH                       | 1.538               | 0.952 | 2.628                               |                                     |        | 100                    |             |             |                     |             |                    |                 | 6.50                    | 1.7620 | 1.1901 | 0.1641 |                         |     | 7.31                   | 8.07E-08   |          |        |       |  |  |
|             | 8                            | S            | 2544.46       | 13.0              | 13.50           | 13.25           |           |                    |         | 46.3     | 90                   | 34               | 56                | CH                       |                     |       |                                     | 20.00                               | 3-7-13 | 100                    |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 0.9515   |        |       |  |  |
|             | 9                            | S            | 2543.46       | 14.0              | 14.50           | 14.25           |           |                    |         | 20.2     |                      |                  | 0                 |                          |                     |       |                                     | 2.626                               | 33.00  | 29-19-14               | 44          |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.0392   |        |       |  |  |
|             | 10                           | S            | 2541.46       | 16.0              | 16.50           | 16.25           |           |                    |         | 0.0      | 26.2                 | 73.8             | 53.6              | 0                        |                     |       |                                     | 2.355                               | 9.00   | 3-4-5                  | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.2091   |        |       |  |  |
|             | 11                           | S            | 2539.96       | 17.5              | 18.00           | 17.75           |           |                    |         | 74.6     | 118                  | 49               | 69                | 14.70                    | MH                  |       |                                     |                                     | 51.00  | 6-33-18                | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.2974   |        |       |  |  |
|             | 12                           | S            | 2538.46       | 19.0              | 19.50           | 19.25           |           |                    |         | 116.9    |                      |                  | 0                 |                          |                     |       |                                     |                                     | 10.00  | 5-5-5                  | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.3657   |        |       |  |  |
|             | 13                           | S            | 2536.96       | 20.5              | 21.00           | 20.75           |           |                    |         | 70.2     | 95                   | 35               | 60                | 12.60                    | CH                  |       |                                     |                                     | 2.00   | 1-1-1                  | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        | 1.4356     |          |        |       |  |  |
|             | 14                           | U            | 2535.46       | 22.0              | 22.50           | 22.25           |           |                    |         | 35.9     |                      |                  | 0                 |                          |                     | 1.274 | 0.703                               | 2.671                               |        |                        | 100         |             |                     |             |                    |                 | 1.08                    | 3.0150 | 0.9092 | 0.1111 |                         |     | 1.4975                 | 0.72       | 7.67E-09 | 0.27   | 22.40 |  |  |
|             | 15                           | U            | 2533.96       | 23.5              | 24.00           | 23.75           |           |                    |         | 69.1     | 88                   | 35               | 53                |                          | CH                  | 1.495 | 0.884                               |                                     |        |                        | 76          | 0.45        |                     | 0.23        |                    | 50.00           |                         |        |        |        |                         |     |                        | 1.5551     |          |        |       |  |  |
|             | 16                           | S            | 2532.46       | 25.0              | 25.50           | 25.25           |           |                    |         | 35.2     | 66                   | 22               | 44                |                          | CH                  |       |                                     |                                     |        |                        | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.6531   |        |       |  |  |
|             | 17                           | S            | 2530.96       | 26.5              | 27.00           | 26.75           |           |                    |         | 35.5     |                      |                  | 0                 |                          |                     |       |                                     |                                     | 12.00  | 7-5-7                  | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.7744   |        |       |  |  |
|             | 18                           | S            | 2529.46       | 28.0              | 28.50           | 28.25           |           |                    |         |          |                      |                  | 0                 |                          |                     |       |                                     |                                     | 21.00  | 7-10-12                | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.7600   |        |       |  |  |
|             | 19                           | S            | 2527.96       | 29.5              | 30.00           | 29.75           |           |                    |         |          |                      |                  | 0                 |                          |                     |       |                                     |                                     | 21.00  | 7-9-12                 | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            | 1.6100   |        |       |  |  |
|             | 20                           | S            | 2526.46       | 31.0              | 31.50           | 31.25           |           |                    |         | 0.0      | 1.1                  | 98.9             | 50.3              | 89                       | 30                  | 59    |                                     |                                     | 26.00  | 6-10-11                | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        | 1.5853     |          |        |       |  |  |
|             | 21                           | S            | 2524.96       | 32.5              | 33.00           | 32.75           |           |                    |         | 0.0      | 0.7                  | 99.3             | 44.8              | 0                        |                     |       |                                     | 2.597                               | 51.00  | 12-24-27               | 100         |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        | 1.6893     |          |        |       |  |  |
| L11-P2      | 1                            | SH           | 2552.79       | 0.0               | 0.50            | 0.25            |           |                    |         | 26.90    | 40.00                | 18.00            | 22.00             | CL                       |                     |       |                                     |                                     |        | 90                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     | 0.0481                 |            |          |        |       |  |  |
|             | 2                            | SH           | 2551.04       | 1.5               | 2.00            | 1.75            |           |                    |         | 40.60    |                      |                  | 0.00              |                          |                     | 1.79  | 1.30                                | 2.715                               |        |                        | 64          | 0.74        | 1-1.25              | 0.37        |                    | 90.00           |                         |        |        |        |                         |     |                        | 0.3268     |          |        |       |  |  |
|             | 3                            | SH           | 2549.54       | 3.0               | 3.50            | 3.25            |           |                    |         | 49.10    | 92.00                | 33.00            | 59.00             | CH                       | 1.68                | 1.10  |                                     |                                     |        | 80                     |             |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        | 0.5869     |          | 0.76   | 21.70 |  |  |
|             | 4                            | SH           | 2548.04       | 4.5               | 5.00            | 4.75            |           |                    |         | 53.90    |                      |                  | 0.00              |                          |                     |       |                                     |                                     |        |                        | 76          |             | 1.75-2.25           |             |                    |                 |                         |        |        |        |                         |     |                        | 0.8360     |          |        |       |  |  |
|             | 5                            | SPT          | 2546.54       | 6.0               | 6.50            | 6.25            |           |                    |         | 9.10     |                      |                  | 0.00              |                          |                     |       |                                     | 2.68                                | 27.00  | 6-12-15                | 64          |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        | 1.1185     |          |        |       |  |  |
|             | 6                            | SH           | 2545.04       | 7.5               | 8.00            | 7.75            |           |                    |         | 64.90    | 74.00                | 25.00            | 49.00             | CH                       | 1.60                | 0.97  |                                     |                                     |        | 100                    | 0.83        | 0.5-0.75    | 0.41                |             | 220.00             |                 |                         |        |        |        |                         |     | 1.2725                 |            |          |        |       |  |  |
|             | 7                            | SH           | 2543.54       | 9.0               | 9.50            | 9.25            |           |                    |         |          |                      |                  | 0.00              |                          |                     |       |                                     |                                     |        |                        | 100         |             | 1.5-1.75            |             |                    |                 |                         |        |        |        |                         |     | 1.2423                 |            |          |        |       |  |  |
|             | 8                            | SH           | 2542.04       | 10.5              | 11.00           | 10.75           |           |                    |         | 91.10    |                      |                  | 0.00              |                          |                     | 1.44  | 0.75                                | 2.68                                |        |                        | 10          |             |                     |             |                    |                 |                         |        |        |        |                         |     |                        |            |          |        |       |  |  |

OBSERVACIONES 0.53

| perforación | Identificación de la muestra |              |               |                   |                 |                 | NF sondeo | Propiedades Índice |         |          |                      |                  |                   |                          | Propiedades Físicas |       |           |           |       | Índices de resistencia |             |             |                     |             | Compresibilidad    |             |              |    |    | Resistencia al corte |              |     |                        |            |        |        |        |        |  |  |
|-------------|------------------------------|--------------|---------------|-------------------|-----------------|-----------------|-----------|--------------------|---------|----------|----------------------|------------------|-------------------|--------------------------|---------------------|-------|-----------|-----------|-------|------------------------|-------------|-------------|---------------------|-------------|--------------------|-------------|--------------|----|----|----------------------|--------------|-----|------------------------|------------|--------|--------|--------|--------|--|--|
|             | Muestra N°                   | Tipo Muestra | Elevación (m) | Prof. Inicial (m) | Prof. Final (m) | Prof. Media (m) |           | % Gravitas         | % Arena | % PT 200 | Humedad Natural wn % | Límite Líquido % | Límite Plástico % | Índice de Plasticidad IP | % MO                | USCS  | gt (T/m³) | gd (T/m³) | Gs    | N Golpes               | RECOBRO (%) | qu (kg/cm2) | qu_penetr. (kg/cm2) | cu (kg/cm2) | cu_veleta (kg/cm2) | Eu (kg/cm2) | P'c (kg/cm2) | eo | Cc | Cs                   | P'o (kg/cm2) | OCR | Permeabilidad k (cm/s) | c (kg/cm2) | j (°)  |        |        |        |  |  |
| L13-P1      | 1                            | S            | 2557.68       | 0.0               | 0.50            | 0.25            |           |                    |         | 19.1     |                      |                  | 0                 |                          |                     |       |           | 12.00     | 6-6-6 | 100                    |             |             |                     |             |                    |             |              |    |    |                      |              |     |                        | 0.0519     |        |        |        |        |  |  |
|             | 2                            | U            | 2555.93       | 1.5               | 2.00            | 1.75            |           |                    |         | 33.2     |                      |                  | 0                 |                          |                     | 1.883 | 1.413     |           |       | 100                    | 2.86        |             | 1.43                |             | 326.70             |             |              |    |    |                      |              |     |                        | 0.3490     |        |        |        |        |  |  |
|             | 3                            | U            | 2554.43       | 3.0               | 3.50            | 3.25            |           |                    |         | 50.7     | 99                   | 36               | 63                |                          | CH                  |       |           |           |       | 100                    |             |             |                     |             |                    |             |              |    |    |                      |              |     |                        |            | 0.6153 |        |        |        |  |  |
|             | 4                            | S            | 2552.93       | 4.5               | 5.00            | 4.75            |           |                    |         | 13.3     |                      |                  | 0                 |                          |                     |       |           | 2.634     | 55.00 | 20-25-30               | 100         |             |                     |             |                    |             |              |    |    |                      |              |     |                        |            |        | 0.9095 |        |        |  |  |
|             | 5                            | U            | 2551.43       | 6.0               | 6.50            | 6.25            |           |                    |         |          |                      |                  | 0                 |                          |                     |       |           |           |       | 80                     |             |             |                     |             |                    |             |              |    |    |                      |              |     |                        |            | 1.0785 |        |        |        |  |  |
|             | 6                            | S            | 2549.93       | 7.5               | 8.00            | 7.75            |           |                    |         | 18.5     |                      |                  | 0                 |                          |                     |       |           | 2.593     | 14.00 | 5-6-8                  | 84          |             |                     |             |                    |             |              |    |    |                      |              |     |                        |            |        | 1.1605 |        |        |  |  |
|             | 7                            | S            | 2548.43       | 9.0               | 9.50            | 9.25            |           |                    |         | 24.2     |                      |                  | 0                 |                          |                     |       |           |           | 18.00 | 3-10-8                 | 87          |             |                     |             |                    |             |              |    |    |                      |              |     |                        |            |        | 1.3152 |        |        |  |  |
|             | 8                            | U            | 2546.93       | 10.5              | 11.00           | 10.75           |           |                    |         | 107.5    |                      |                  | 0                 |                          |                     | 1.386 | 0.675     |           |       | 100                    |             |             |                     |             |                    |             |              |    |    |                      |              |     |                        |            |        | 1.4169 |        |        |  |  |
|             | 9                            | U            | 2545.43       | 12.0              | 12.50           | 12.25           |           |                    |         | 95.0     | 133                  | 32               | 101               |                          | CH                  | 1.509 | 0.781     |           |       | 100                    | 1.06        |             | 0.53                |             | 144.70             |             |              |    |    |                      |              |     |                        |            |        | 1.4840 |        |        |  |  |
|             | 10                           | U            | 2543.93       | 13.5              | 14.00           | 13.75           |           |                    |         | 74.0     |                      |                  | 0                 |                          |                     |       |           |           |       | 100                    |             |             | 1.5-2               |             |                    |             |              |    |    |                      |              |     |                        |            |        |        | 1.5621 |        |  |  |
|             | 11                           | U            | 2542.43       | 15.0              | 15.50           | 15.25           |           |                    |         | 52.6     | 96                   | 30               | 66                |                          | CH                  | 1.696 | 1.163     |           |       | 100                    | 0.86        |             | 0.43                |             | 171.60             |             |              |    |    |                      |              |     |                        |            |        |        | 1.6542 |        |  |  |
|             | 12                           | U            | 2540.93       | 16.5              | 17.00           | 16.75           |           |                    |         | 42.7     |                      |                  | 0                 |                          |                     | 1.792 | 1.266     |           |       | 100                    | 1.90        |             | 0.95                |             | 51.70              |             |              |    |    |                      |              |     |                        |            |        |        | 1.7658 |        |  |  |
|             | 13                           | U            | 2539.43       | 18.0              | 18.50           | 18.25           |           |                    |         | 27.0     |                      |                  | 0                 |                          |                     |       |           |           |       | 100                    |             |             | 0.25                |             |                    |             |              |    |    |                      |              |     |                        |            |        |        | 1.8944 |        |  |  |
|             | 14                           | U            | 2537.93       | 19.5              | 20.00           | 19.75           |           |                    |         | 76.5     | 140                  | 33               | 107               |                          | CH                  |       |           |           |       | 100                    |             |             | 1.75                |             |                    |             |              |    |    |                      |              |     |                        |            |        |        | 2.0026 |        |  |  |
|             | 15                           | U            | 2536.43       | 21.0              | 21.50           | 21.25           |           |                    |         | 27.5     |                      |                  | 0                 |                          |                     | 1.724 | 1.251     |           |       | 100                    | 0.75        |             | 0.37                |             | 24.60              |             |              |    |    |                      |              |     |                        |            |        |        | 2.0959 |        |  |  |
|             | 16                           | S            | 2534.93       | 22.5              | 23.00           | 22.75           |           |                    |         | 23.2     |                      |                  | 0                 |                          |                     |       |           |           | 51.00 | 12-20-31               | 100         |             |                     |             |                    |             |              |    |    |                      |              |     |                        |            |        |        | 2.2244 |        |  |  |
|             | 17                           | S            | 2533.43       | 24.0              | 24.50           | 24.25           |           |                    |         | 25.1     |                      |                  | 0                 |                          |                     |       |           |           | 30.00 | 8-10-20                | 100         |             |                     |             |                    |             |              |    |    |                      |              |     |                        |            |        |        | 2.3701 |        |  |  |
|             | 18                           | S            | 2531.93       | 25.5              | 26.00           | 25.75           |           |                    |         | 21.6     |                      |                  | 0                 |                          |                     |       |           |           | 45.00 | 8-20-28                | 100         |             |                     |             |                    |             |              |    |    |                      |              |     |                        |            |        |        | 2.5182 |        |  |  |
|             | 19                           | S            | 2530.43       | 27.0              | 27.50           | 27.25           |           |                    |         | 20.0     |                      |                  | 0                 |                          |                     |       |           | 2.634     | 65.00 | 12-20-45               | 100         |             |                     |             |                    |             |              |    |    |                      |              |     |                        |            |        |        |        | 2.6740 |  |  |
|             | 20                           | S            | 2528.93       | 28.5              | 29.00           | 28.75           |           |                    |         | 19.0     |                      |                  | 0                 |                          |                     |       |           |           | 65.00 | 17-25-40               | 100         |             |                     |             |                    |             |              |    |    |                      |              |     |                        |            |        |        |        | 2.8343 |  |  |
|             | 21                           | S            | 2527.43       | 30.0              | 30.50           | 30.25           |           |                    |         | 23.1     |                      |                  | 0                 |                          |                     |       |           | 2.596     | 45.00 | 15-20-25               | 100         |             |                     |             |                    |             |              |    |    |                      |              |     |                        |            |        |        |        | 2.9896 |  |  |