INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

# ANALISIS GRANULOMETRICOS

MAGNA

| Nº HOJA | EMP. | REC. | Nº MUESTRA | TA | PROFUNDIDAD (m.) |
|---|---|---|---|---|---|
| 0807 | GT | AT | 1474 | | |
| 1–4 | 5–6 | 7–8 | 9–14 | | 15–18 |

19/174 9P

MAGNA 19–22

| GRAVAS | | | ARENA MUY GRUESA | | | | ARENA GRUESA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| >4 | 4 | 2 | 1.682 | 1.414 | 1.189 | 1 | 0'840 | 0'707 | 0'594 | 0'500 | |
| | 014 | 011 | 012 | 007 | 006 | 008 | 006 | 002 | 003 | 006 | 1 |
| 23–26 | 27–30 | 31–34 | 35–38 | 39–42 | 43–46 | 47–50 | 51–54 | 55–58 | 59–62 | 63–66 | 80 |

| ARENA MEDIA | | | |
|---|---|---|---|
| 0'420 | 0'353 | 0'297 | 0'250 |
| 007 | 015 | 001 | 030 |
| 19–22 | 23–26 | 27–30 | 31–34 |

| ARENA FINA | | | | ARENA MUY FINA | | | | LIMOS + ARCILLA | |
|---|---|---|---|---|---|---|---|---|---|
| 0'210 | 0'176 | 0'148 | 0'125 | 0'105 | 0'088 | 0'074 | 0'062 | < 0'062 | |
| 024 | 040 | 043 | 070 | 071 | 079 | 139 | 042 | 9359 | 2 |
| 35–38 | 39–42 | 43–46 | 47–50 | 51–54 | 55–58 | 59–62 | 63–66 | 67–70 | 80 |

EDAD

| S | SS | SR | SSP | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| T | B2 | | | | | | | |
| 19 | | | | | | | | 28 |

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| Q | | | | | | | | |
| 29 | | | | | | | | 38 |

PROCEDIMIENTO DE DATACION

FOSILES Y POSICION ESTRATIGRAFICA — A
FOSILES Y MICROFACIES — B
FOSILES Y LITOLOGIA — C
LITOLOGIA Y POSICION ESTRATIGRAFICA — D
MICROFACIES Y POSICION ESTRATIGRAFICA — G
FOSILES — F
ESTRATIGRAFICA — E
MICROFACIES — M
LITOLOGIA — L

L (39)

VALORACION

BUENA — B
PROBABLE — P
DUDOSA — D

P (40)

AMBIENTE

OBSERVACIONES

INFORMACION ADICIONAL (41) 3 (80)

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

MAGNA

# ANALISIS GRANULOMETRICOS

| Nº HOJA (1–5) | EMP. (5–7) | REC. (7–9) | Nº MUESTRA (9–14) | TA (14–15) | (15–18) | (19–22) |
|---|---|---|---|---|---|---|
| 0807 | GT | AI | 1338 | L1 | | 0066 |

| GRAVAS >4 (23–26) | GRAVAS 4 (27–30) | GRAVAS 2 (31–34) | ARENA MUY GRUESA 1.682 (35–38) | ARENA MUY GRUESA 1.414 (39–42) | ARENA MUY GRUESA 1.189 (43–46) | ARENA MUY GRUESA 1 (47–50) | ARENA GRUESA 0'840 (51–54) | ARENA GRUESA 0'707 (55–58) | ARENA GRUESA 0'594 (59–62) | ARENA GRUESA 0'500 (63–66) | (80) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 010 | 004 | 006 | 005 | 009 | 016 | 003 | 014 | 018 | 1 |

| ARENA MEDIA 0'420 (15–18) | ARENA MEDIA 0'353 (19–22) | ARENA MEDIA 0'297 (23–26) | ARENA MEDIA 0'250 (27–30) |
|---|---|---|---|
| 012 | 030 | 006 | 071 |

| ARENA FINA 0'210 (31–34) | ARENA FINA 0'176 (35–38) | ARENA FINA 0'148 (39–42) | ARENA FINA 0'125 (43–46) | ARENA MUY FINA 0'105 (47–50) | ARENA MUY FINA 0'088 (51–54) | ARENA MUY FINA 0'074 (55–58) | ARENA MUY FINA 0'062 (59–62) | LIMOS+ARCILLA <0'062 (63–66) | (80) |
|---|---|---|---|---|---|---|---|---|---|
| 084 | 228 | 438 | 666 | 506 | 298 | 513 | 141 | 6943 | 2 |

EDAD: PLIOCUATERNARIO

| S (15) | SS | SR | SSR | P | SP | SSP | I | 2 (24) |
|---|---|---|---|---|---|---|---|---|
| T | B | 2 | | | | | | |

| S (25) | SS | SR | SSR | P | SP | SSP | I | 2 (34) |
|---|---|---|---|---|---|---|---|---|
| Q | | | | | | | | |

PROCEDIMIENTO: FOSILES ____ F; ESTRATIGRAFICA ____ E; MICROFACIES ____ M; LITOLOGIA ____ L — [L] (35)

VALORACION: BUENA ____ B; PROBABLE ____ P; DUDOSA ____ D — [P] (36)

AMBIENTE: CONTINENTAL - FLUVIAL

OBSERVACIONES:

INFORMACION ADICIONAL [ ] (37) [3] (80)

## ANALISIS GRANULOMETRICOS - MAGNA

0807GTAI1338L1 0066

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.189 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.250 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 0.000 | 0.100 | 0.040 | 0.060 | 0.050 | 0.090 | 0.160 | 0.030 | 0.140 | 0.130 | 0.120 |
| FREC. ACU. | 0.000 | 0.000 | 0.100 | 0.140 | 0.200 | 0.250 | 0.340 | 0.500 | 0.530 | 0.670 | 0.800 | 0.920 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.149 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.750 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 0.300 | 0.060 | 0.710 | 0.840 | 2.280 | 4.380 | 6.660 | 5.060 | 2.820 | 5.130 | 1.410 | 69.430 |
| FREC. ACU. | 1.220 | 1.280 | 1.990 | 2.830 | 5.110 | 9.490 | 16.150 | 21.210 | 24.030 | 29.160 | 30.570 | 0.000 |

PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.1628 | 0.2177 | 9.1429 | 105.5321 |

MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 2.9176 | 0.7144 | -2.2268 | 11.7609 |

PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| 2.36 | 2.87 | 3.42 | 0.00 | 0.00 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = -1.075

SKEWNESS GRAFICO DE FOLK Y WARD (1957) = 1.000

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = 0.283

CLASIFICACION SEGUN FRIEDMAN (1962) = MODERADAMENTE BIEN CLASIFICADA

0807GTAI1338L1 0066

## HISTOGRAMA Y CURVA ACUMULADA

```
INTERVALOS PHI          10        20        30        40        50        60        70        80        90       100
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I
                        I                                                                                         I
-2.00  - -1.00          I                                                                                         I
                        I                                                                                         I
-1.00  - -0.75          I                                                                                         I
                        I                                                                                         I
-0.75  - -0.50          I                                                                                         I
                        I                                                                                         I
-0.50  - -0.25          I                                                                                         I
                        I                                                                                         I
-0.25  -  0.00          I                                                                                         I
                        I                                                                                         I
 0.00  -  0.25          I                                                                                         I
                        I                                                                                         I
 0.25  -  0.50          IX                                                                                        I
                        I                                                                                         I
 0.50  -  0.75          IX                                                                                        I
                        I                                                                                         I
 0.75  -  1.00          IX                                                                                        I
                        I                                                                                         I
 1.00  -  1.25          IX                                                                                        I
                        I                                                                                         I
 1.25  -  1.50          IX                                                                                        I
                        I                                                                                         I
 1.50  -  1.75          IX                                                                                        I
                        I                                                                                         I
 1.75  -  2.00          I*X                                                                                       I
                        I                                                                                         I
 2.00  -  2.25          I* X                                                                                      I
                        I                                                                                         I
 2.25  -  2.50          I**  X                                                                                    I
                        I                                                                                         I
 2.50  -  2.75          I****    X                                                                                I
                        I                                                                                         I
 2.75  -  3.00          I*******       X                                                                          I
                        I                                                                                         I
 3.00  -  3.25          I*****            X                                                                       I
                        I                                                                                         I
 3.25  -  3.50          I***                 X                                                                    I
                        I                                                                                         I
 3.50  -  3.75          I*****                  X                                                                I
                        I                                                                                         I
 3.75  -  4.00          I*                         X                                                             I
                        I                                                                                         I
                        ---------I---------I---------I---------I---------I---------I---------I---------I---------I
                                 10        20        30        40        50        60        70        80        90       100
```

TODAS LAS FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

MAGNA

# ANALISIS GRANULOMETRICOS

| Nº HOJA | EMP. | REC. | Nº MUESTRA | TA |
|---|---|---|---|---|
| 0807 | GT | AI | 13401 | |
| 1–4 | 5–6 | 7–8 | 9–14 | 15–18 |

9067 (19–22)

| GRAVAS | | | ARENA MUY GRUESA | | | | ARENA GRUESA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| >4 | 4 | 2 | 1.682 | 1.414 | 1.189 | 1 | 0'840 | 0'707 | 0'594 | 0'500 | |
| | 124 | 337 | 105 | 130 | 088 | 109 | 193 | 050 | 113 | 210 | 1 (80) |
| 23–26 | 27–30 | 31–34 | 35–38 | 39–42 | 43–46 | 47–50 | 51–54 | 55–58 | 59–62 | 63–66 | |

| ARENA MEDIA | | | |
|---|---|---|---|
| 0'420 | 0'353 | 0'297 | 0'250 |
| 092 | 347 | 012 | 240 |
| 15–18 | 19–22 | 23–26 | 27–30 |

| ARENA FINA | | | | ARENA MUY FINA | | | | LIMOS+ARCILLA |
|---|---|---|---|---|---|---|---|---|
| 0'210 | 0'176 | 0'148 | 0'125 | 0'105 | 0'088 | 0'074 | 0'062 | < 0'062 |
| 1842 | 2283 | 1688 | 2231 | 1177 | 1127 | 2256 | 0792 | 6422 |
| 31–34 | 35–38 | 39–42 | 43–46 | 47–50 | 51–54 | 55–58 | 59–62 | 63–66 |

2 (80)

EDAD PLIOCUATERNARIO

| | S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|---|
| T | B | 2 | | | | | | | |
| Q | | | | | | | | | |

(T: 15–24; Q: 25–34)

PROCEDIMIENTO: FOSILES F; ESTRATIGRAFICA E; MICROFACIES M; LITOLOGIA L → L (35)

VALORACION: BUENA B; PROBABLE P; DUDOSA D → P (36)

AMBIENTE CONTINENTAL FLUVIAL

OBSERVACIONES

INFORMACION ADICIONAL (37) 3 (80)

# ANALISIS GRANULOMETRICOS - MAGNA

0807GTAI1340L1 0067

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.189 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.250 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 1.240 | 3.370 | 1.050 | 1.300 | 0.880 | 1.090 | 1.930 | 0.500 | 1.130 | 2.100 | 0.920 |
| FREC. ACU. | 0.000 | 0.000 | 3.370 | 4.420 | 5.720 | 6.600 | 7.690 | 9.620 | 10.120 | 11.250 | 13.350 | 14.270 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.149 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.750 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 3.470 | 0.120 | 2.420 | 1.820 | 2.230 | 1.880 | 2.310 | 1.770 | 1.270 | 2.260 | 0.720 | 64.220 |
| FREC. ACU. | 17.740 | 17.860 | 20.280 | 22.100 | 24.330 | 26.210 | 28.520 | 30.290 | 31.560 | 33.820 | 34.540 | 0.000 |

PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.7221 | 0.8687 | 1.7245 | 4.8259 |

MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 1.3839 | 1.5843 | -0.3405 | 2.0279 |

PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| -0.76 | 1.25 | 2.46 | 0.00 | 0.00 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = -0.197

SKEWNESS GRAFICO DE FOLK Y WARD (1957) = 1.000

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = -0.127

CLASIFICACION SEGUN FRIEDMAN (1962) = POBREMENTE CLASIFICADA

0807GTAI1340L1 0067

## HISTOGRAMA Y CURVA ACUMULADA

```
INTERVALOS PHI          10        20        30        40        50        60        70        80        90       100
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I
                        I                                                                                         I
-2.00  - -1.00          I**X                                                                                      I
                        I                                                                                         I
-1.00  - -0.75          I*  X                                                                                     I
                        I                                                                                         I
-0.75  - -0.50          I*    X                                                                                   I
                        I                                                                                         I
-0.50  - -0.25          I*      X                                                                                 I
                        I                                                                                         I
-0.25  -  0.00          I*       X                                                                                I
                        I                                                                                         I
 0.00  -  0.25          I**        X                                                                              I
                        I                                                                                         I
 0.25  -  0.50          I*         X                                                                              I
                        I                                                                                         I
 0.50  -  0.75          I*          X                                                                             I
                        I                                                                                         I
 0.75  -  1.00          I**           X                                                                           I
                        I                                                                                         I
 1.00  -  1.25          I*             X                                                                          I
                        I                                                                                         I
 1.25  -  1.50          I***                 X                                                                    I
                        I                                                                                         I
 1.50  -  1.75          I                    X                                                                    I
                        I                                                                                         I
 1.75  -  2.00          I**                   X                                                                   I
                        I                                                                                         I
 2.00  -  2.25          I**                     X                                                                 I
                        I                                                                                         I
 2.25  -  2.50          I**                      X                                                                I
                        I                                                                                         I
 2.50  -  2.75          I**                        X                                                              I
                        I                                                                                         I
 2.75  -  3.00          I**                         X                                                             I
                        I                                                                                         I
 3.00  -  3.25          I**                          X                                                            I
                        I                                                                                         I
 3.25  -  3.50          I*                            X                                                           I
                        I                                                                                         I
 3.50  -  3.75          I**                            X                                                          I
                        I                                                                                         I
 3.75  -  4.00          I*                              X                                                         I
                        I                                                                                         I
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I
                        10        20        30        40        50        60        70        80        90       100
```

TODAS LAS FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

MAGNA

# ANALISIS GRANULOMETRICOS

| Nº HOJA | EMP. | REC. | Nº MUESTRA | TA |
|---|---|---|---|---|
| 0807 | GT | AI | 13411 | |
| 1–4 | 5–6 | 7–8 | 9–14 | 15–18 |

00168 (19–22)

| GRAVAS | | | ARENA MUY GRUESA | | | | ARENA GRUESA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| >4 | 4 | 2 | 1.682 | 1.414 | 1.189 | 1 | 0'840 | 0'707 | 0'594 | 0'500 | |
| | 226 | 351 | 240 | 239 | 264 | 417 | 080 | 212 | 329 | 131 | 1 |
| 23–26 | 27–30 | 31–34 | 35–38 | 39–42 | 43–46 | 47–50 | 51–54 | 55–58 | 59–62 | 63–66 | 80 |

| ARENA MEDIA | | | |
|---|---|---|---|
| 0'420 | 0'353 | 0'297 | 0'250 |
| 454 | 060 | 431 | 258 |
| 15–18 | 19–22 | 23–26 | 27–30 |

| ARENA FINA | | | | ARENA MUY FINA | | | | LIMOS+ARCILLA | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0'210 | 0'176 | 0'148 | 0'125 | 0'105 | 0'088 | 0'074 | 0'062 | <0'062 | | |
| 323 | 246 | 235 | 146 | 102 | 141 | 042 | 031 | 5042 | 2 | |
| 31–34 | 35–36 | 39–42 | 43–46 | 47–50 | 51–54 | 55–58 | 59–62 | 63–66 | 80 | |

EDAD PLIOCUATERNARIO

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| T | B | 2 | | | | | | |
| 15 | | | | | | | | 24 |

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| Q | | | | | | | | |
| 25 | | | | | | | | 34 |

PROCEDIMIENTO

FOSILES ____ F
ESTRATIGRAFICA ____ E
MICROFACIES ____ M
LITOLOGIA ____ L

L (35)

VALORACION

BUENA ____ B
PROBABLE ____ P
DUDOSA ____ D

P (36)

AMBIENTE CONTINENTAL FLUVIAL

OBSERVACIONES

INFORMACION ADICIONAL (37) 3 (80)

# ANALISIS GRANULOMETRICOS - MAGNA

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0807GTAI1341L1 0068

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| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.189 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.250 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 2.260 | 3.510 | 2.400 | 2.390 | 2.640 | 4.170 | 0.800 | 2.120 | 3.290 | 1.310 | 4.540 |
| FREC. ACU. | 0.000 | 0.000 | 3.510 | 5.910 | 8.300 | 10.940 | 15.110 | 15.910 | 18.030 | 21.320 | 22.630 | 27.170 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.149 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.750 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 0.600 | 4.310 | 2.580 | 3.230 | 2.460 | 2.350 | 1.460 | 1.020 | 1.410 | 0.420 | 0.310 | 50.420 |
| FREC. ACU.. | 27.770 | 32.080 | 34.660 | 37.890 | 40.350 | 42.700 | 44.160 | 45.180 | 46.590 | 47.010 | 47.320 | 0.000 |

PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

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MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.8120 | 0.7901 | 1.5466 | 4.7104 |

MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.9561 | 1.3844 | -0.0465 | 2.0463 |

PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| -1.11 | 0.14 | 1.01 | 0.00 | 0.00 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = 0.135

SKEWNESS GRAFICO DE FOLK Y WARD (1957) = 1.000

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = -0.453

CLASIFICACION SEGUN FRIEDMAN (1962) = MODERADAMENTE CLASIFICADA

0807GTAI1341L1 0068

## HISTOGRAMA Y CURVA ACUMULADA

```
INTERVALOS PHI          10        20        30        40        50        60        70        80        90        100
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I
                        I
-2.00  - -1.00          I***X
                        I
-1.00  - -0.75          I**   X
                        I
-0.75  - -0.50          I**     X
                        I
-0.50  - -0.25          I***      X
                        I
-0.25  -  0.00          I****       X
                        I
 0.00  -  0.25          I*            X
                        I
 0.25  -  0.50          I**             X
                        I
 0.50  -  0.75          I***              X
                        I
 0.75  -  1.00          I*                 X
                        I
 1.00  -  1.25          I*****               X
                        I
 1.25  -  1.50          I*                    X
                        I
 1.50  -  1.75          I****                  X
                        I
 1.75  -  2.00          I***                    X
                        I
 2.00  -  2.25          I***                     X
                        I
 2.25  -  2.50          I**                       X
                        I
 2.50  -  2.75          I**                        X
                        I
 2.75  -  3.00          I*                         X
                        I
 3.00  -  3.25          I*                          X
                        I
 3.25  -  3.50          I*                          X
                        I
 3.50  -  3.75          I                           X
                        I
 3.75  -  4.00          I                           X
                        I
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I
                          10        20        30        40        50        60        70        80        90        100
```

TODAS LAS FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

MAGNA

# ANALISIS GRANULOMETRICOS

| Nº HOJA | EMP. | REC. | Nº MUESTRA | TA | | |
|---|---|---|---|---|---|---|
| 0207 (1–4) | GT (5–6) | AI (7–8) | 3421 (9–12) | L1 (13–14) | (15–16) | |

MAGNA: 0069 (19–22)

| GRAVAS | | | ARENA MUY GRUESA | | | | ARENA GRUESA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| >4 | 4 | 2 | 1.682 | 1.414 | 1.189 | 1 | 0'840 | 0'707 | 0'594 | 0'500 | |
| | 349 (27–30) | 875 (31–34) | 275 (35–38) | 340 (39–42) | 218 (43–46) | 239 (47–50) | 359 (51–54) | 078 (55–58) | 170 (59–62) | 068 (63–66) | 1 (80) |

| ARENA MEDIA | | | |
|---|---|---|---|
| 0'420 | 0'353 | 0'297 | 0'250 |
| 111 (15–18) | 321 (19–22) | 034 (23–26) | 285 (27–30) |

| ARENA FINA | | | | ARENA MUY FINA | | | | LIMOS+ARCILLA |
|---|---|---|---|---|---|---|---|---|
| 0'210 | 0'176 | 0'148 | 0'125 | 0'105 | 0'088 | 0'074 | 0'062 | < 0'062 |
| 182 (31–34) | 236 (35–38) | 208 (39–42) | 222 (43–46) | 167 (47–50) | 133 (51–54) | 214 (55–58) | 088 (59–62) | 4628 (63–66) |

2 (80)

EDAD: PLIOCUATERNARIO

| | S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|---|
| | T | B | 2 | | | | | | |

(15–24)

| | S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|---|
| | Q | | | | | | | | |

(25–34)

PROCEDIMIENTO

FOSILES ____ F
ESTRATIGRAFICA ____ E
MICROFACIES ____ M
LITOLOGIA ____ L

L (35)

VALORACION

BUENA ____ B
PROBABLE ____ P
DUDOSA ____ D

P (36)

AMBIENTE: CONTINENTAL

OBSERVACIONES:

INFORMACION ADICIONAL: (37) 3 (80)

# ANALISIS GRANULOMETRICO - MAGNA

0807GTAI1342L1 0069

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.19 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.25 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 3.490 | 8.750 | 2.750 | 3.400 | 2.10 | 2.390 | 3.590 | 0.780 | 1.700 | 2.680 | 1.110 |
| FREC. ACU. | 0.000 | 0.000 | 8.750 | 11.500 | 14.900 | 17.00 | 19.470 | 23.060 | 23.840 | 25.540 | 28.220 | 29.330 |
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.19 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.75 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 3.210 | 0.340 | 2.850 | 1.820 | 2.360 | 2.00 | 2.220 | 1.670 | 1.330 | 2.140 | 0.880 | 46.280 |
| FREC. ACU. | 32.540 | 32.880 | 35.730 | 37.550 | 39.910 | 41.90 | 44.210 | 45.880 | 47.210 | 49.350 | 50.230 | 0.000 |

PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 1.0597 | 1.0243 | 0.9474 | 2.4940 |

MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.7789 | 1.6770 | 0.1729 | 1.7649 |

PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| 0.00 | -0.50 | 0.55 | 3.81 | 0.00 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = 0.125

SKEWNESS GRAFICO DE FOLK Y WARD (1957) = 0.518

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = 0.000

CLASIFICACION SEGUN FRIEDMAN (1962) = POBREMENTE CLASIFICADA

0807GTAI1342L1 0069

## HISTOGRAMA Y CURVA ACUMULADA

```
INTERVALOS PHI          10        20        30        40        50        60        70        80        90       100
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I
                        I                                                                                         I
-2.00  - -1.00          I********X                                                                                I
                        I                                                                                         I
-1.00  - -0.75          I***      X                                                                               I
                        I                                                                                         I
-0.75  - -0.50          I***        X                                                                             I
                        I                                                                                         I
-0.50  - -0.25          I**           X                                                                           I
                        I                                                                                         I
-0.25  -  0.00          I**             X                                                                         I
                        I                                                                                         I
 0.00  -  0.25          I****             X                                                                       I
                        I                                                                                         I
 0.25  -  0.50          I*                  X                                                                     I
                        I                                                                                         I
 0.50  -  0.75          I**                   X                                                                   I
                        I                                                                                         I
 0.75  -  1.00          I***                    X                                                                 I
                        I                                                                                         I
 1.00  -  1.25          I*                      X                                                                 I
                        I                                                                                         I
 1.25  -  1.50          I***                      X                                                               I
                        I                                                                                         I
 1.50  -  1.75          I                         X                                                               I
                        I                                                                                         I
 1.75  -  2.00          I***                        X                                                             I
                        I                                                                                         I
 2.00  -  2.25          I**                           X                                                           I
                        I                                                                                         I
 2.25  -  2.50          I**                            X                                                          I
                        I                                                                                         I
 2.50  -  2.75          I**                              X                                                        I
                        I                                                                                         I
 2.75  -  3.00          I**                                X                                                      I
                        I                                                                                         I
 3.00  -  3.25          I**                                 (                                                     I
                        I                                                                                         I
 3.25  -  3.50          I*                                    X                                                   I
                        I                                                                                         I
 3.50  -  3.75          I**                                     X                                                 I
                        I                                                                                         I
 3.75  -  4.00          I*                                      X                                                 I
                        I                                                                                         I
                        ----------I---------I---------I---------I---------I---------I---------I---------I---------I
                                  10        20        30        40        50        60        70        80        90       100
```

TODAS LA FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

MAGNA

# ANALISIS GRANULOMETRICOS

Nº HOJA: 0807 (1–5) | EMP.: GT (5–7) | REC.: AI (7–9) | Nº MUESTRA: 13431 (9–14) | TA: (15–18) | 0170 (19–22)

| GRAVAS | | | ARENA MUY GRUESA | | | | ARENA GRUESA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| >4 | 4 | 2 | 1.682 | 1.414 | 1.189 | 1 | 0'840 | 0'707 | 0'594 | 0'500 | |
| | 085 | 266 | 065 | 080 | 058 | 051 | 072 | 010 | 035 | 058 | 1 (80) |
| 23–26 | 27–30 | 31–34 | 35–38 | 39–42 | 43–46 | 47–50 | 51–54 | 55–58 | 59–62 | 63–66 | |

| ARENA MEDIA | | | |
|---|---|---|---|
| 0'420 | 0'353 | 0'297 | 0'250 |
| 0266 | 075 | 010 | 080 |
| 15–18 | 19–22 | 23–26 | 27–30 |

| ARENA FINA | | | | ARENA MUY FINA | | | | LIMOS+ARCILLA |
|---|---|---|---|---|---|---|---|---|
| 0'210 | 0'176 | 0'148 | 0'125 | 0'105 | 0'088 | 0'074 | 0'062 | <0'062 |
| 056 | 074 | 072 | 086 | 089 | 058 | 098 | 047 | 8504 |
| 31–34 | 35–38 | 39–42 | 43–46 | 47–50 | 51–54 | 55–58 | 59–62 | 63–66 |

2 (80)

EDAD: PLIOCUATERNARIO

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| T | B | 2 | | | | | | |

(15–24)

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| Q | | | | | | | | |

(25–34)

PROCEDIMIENTO: FOSILES F; ESTRATIGRAFICA E; MICROFACIES M; LITOLOGIA L — [L] (35)

VALORACION: BUENA B; PROBABLE P; DUDOSA D — [P] (36)

AMBIENTE: CONTINENTAL FLUVIAL

OBSERVACIONES:

INFORMACION ADICIONAL [ ] (37) [3] (80)

# ANALISIS GRANULOMETRICOS - MAGNA

0807GTAI1343L1 0070

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.189 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.250 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 0.850 | 2.260 | 0.650 | 0.800 | 0.520 | 0.510 | 0.720 | 0.100 | 0.350 | 0.530 | 0.220 |
| FREC. ACU. | 0.000 | 0.000 | 2.260 | 2.910 | 3.710 | 4.230 | 4.740 | 5.460 | 5.560 | 5.910 | 6.440 | 6.660 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.149 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.750 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 0.750 | 0.100 | 0.800 | 0.560 | 0.740 | 0.720 | 0.860 | 0.890 | 0.580 | 0.980 | 0.470 | 85.040 |
| FREC. ACU. | 7.410 | 7.510 | 8.310 | 8.870 | 9.610 | 10.330 | 11.190 | 12.080 | 12.660 | 13.640 | 14.110 | 0.000 |

## PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

### MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.9304 | 1.0332 | 1.1148 | 2.7785 |

### MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 1.1663 | 1.8081 | -0.1370 | 1.5906 |

### PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| -0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = 0.005

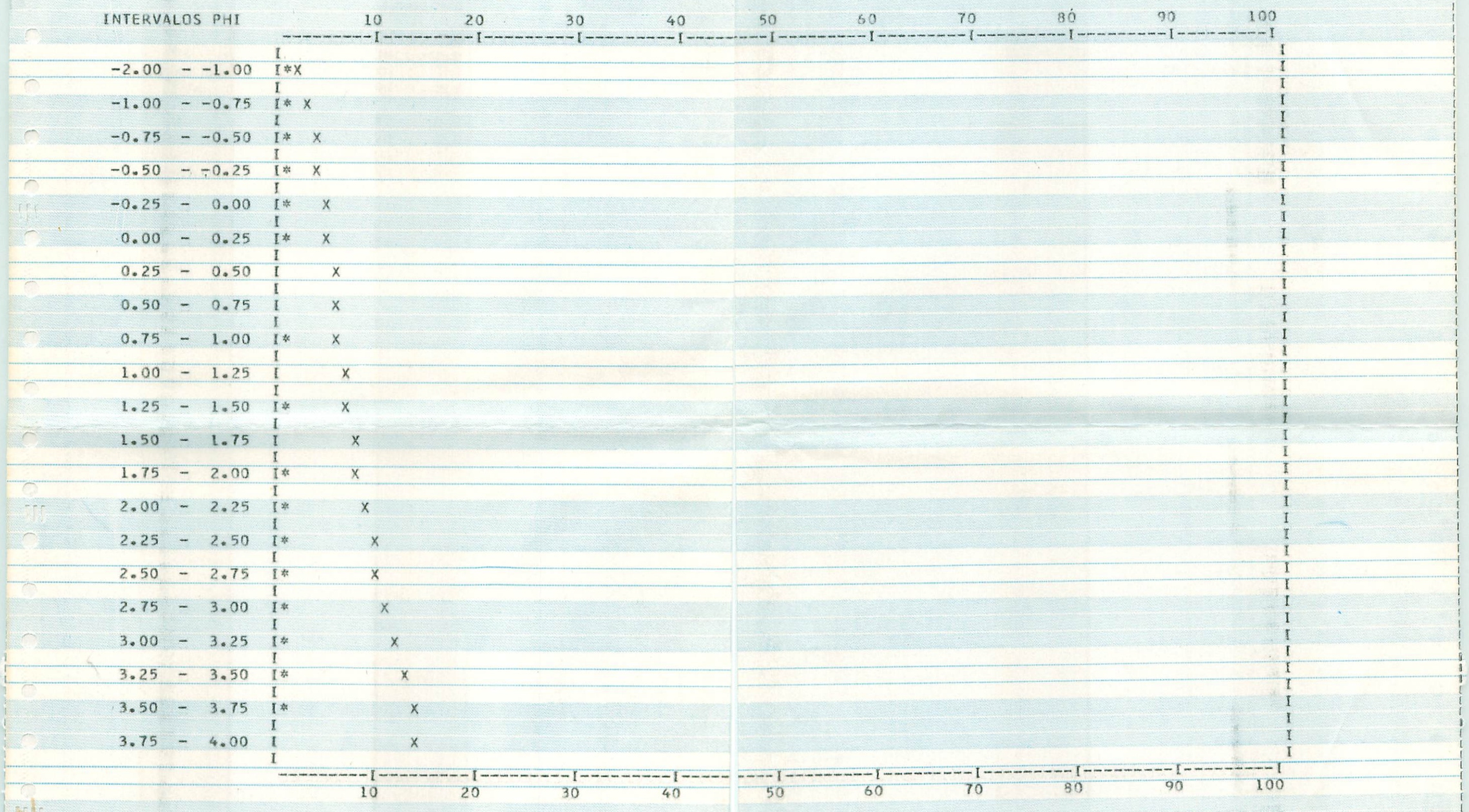
SKEWNESS GRAFICO DE FOLK Y WARD (1957) = 0.500

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = 0.035

CLASIFICACION SEGUN FRIEDMAN (1962) = POBREMENTE CLASIFICADA

0807GTAI1343L1 0070

## HISTOGRAMA Y CURVA ACUMULADA




TODAS LAS FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

# ANALISIS GRANULOMETRICOS

MAGNA

| Nº HOJA | EMP. | REC. | Nº MUESTRA | TA |
|---|---|---|---|---|
| 0807 | GT | AI | 1345 | L1 |

0071

## GRAVAS

| >4 | 4 | 2 |
|---|---|---|
| | 956 | 1288 |

## ARENA MUY GRUESA

| 1.682 | 1.414 | 1.189 | 1 |
|---|---|---|---|
| 346 | 363 | 293 | 272 |

## ARENA GRUESA

| 0'840 | 0'707 | 0'594 | 0'500 |
|---|---|---|---|
| 358 | 075 | 163 | 272 |

1

## ARENA MEDIA

| 0'420 | 0'353 | 0'297 | 0'250 |
|---|---|---|---|
| 112 | 340 | 021 | 285 |

## ARENA FINA

| 0'210 | 0'176 | 0'148 | 0'125 |
|---|---|---|---|
| 205 | 222 | 197 | 218 |

## ARENA MUY FINA

| 0'105 | 0'088 | 0'074 | 0'062 |
|---|---|---|---|
| 153 | 124 | 212 | 068 |

## LIMOS+ARCILLA

| <0'062 |
|---|
| 3454 |

2

EDAD PLIOCUATERNARIO

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| T | B2 | | | | | | | |

15 — 24

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| Q | | | | | | | | |

25 — 34

PROCEDIMIENTO

FOSILES ____ F
ESTRATIGRAFICA ____ E
MICROFACIES ____ M
LITOLOGIA ____ L

L (35)

VALORACION

BUENA ____ B
PROBABLE ____ P
DUDOSA ____ D

P (36)

AMBIENTE CONTINENTAL FLUVIO. LACUSTRE

OBSERVACIONES

INFORMACION ADICIONAL 3

# ANALISIS GRANULOMETRICOS - MAGNA

0807GTAI1345L1 0071

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.189 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.250 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 9.560 | 12.880 | 3.460 | 3.630 | 2.930 | 2.720 | 3.580 | 0.750 | 1.630 | 2.720 | 1.120 |
| FREC. ACU. | 0.000 | 0.000 | 12.880 | 16.340 | 19.970 | 22.900 | 25.620 | 29.200 | 29.950 | 31.580 | 34.300 | 35.420 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.149 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.750 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 3.400 | 0.240 | 2.850 | 2.050 | 2.220 | 1.970 | 2.180 | 1.530 | 1.240 | 2.120 | 0.680 | 34.540 |
| FREC. ACU. | 38.820 | 39.060 | 41.910 | 43.960 | 46.180 | 48.150 | 50.330 | 51.860 | 53.100 | 55.220 | 55.900 | 0.000 |

## PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

### MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 1.2267 | 1.0929 | 0.6640 | 1.9150 |

### MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.5384 | 1.6875 | 0.3411 | 1.8151 |

### PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| 0.00 | -0.94 | -0.18 | 2.84 | 0.00 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = 0.234

SKEWNESS GRAFICO DE FOLK Y WARD (1957) = -2.145

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = 0.000

CLASIFICACION SEGUN FRIEDMAN (1962) = POBREMENTE CLASIFICADA

0807GTAI1345LI 0071

## HISTOGRAMA Y CURVA ACUMULADA

```
INTERVALOS PHI          10        20        30        40        50        60        70        80        90       100
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I
                        I                                                                                         I
-2.00  - -1.00          I**********X                                                                              I
                        I                                                                                         I
-1.00  - -0.75          I***      X                                                                               I
                        I                                                                                         I
-0.75  - -0.50          I****       X                                                                             I
                        I                                                                                         I
-0.50  - -0.25          I***          X                                                                           I
                        I                                                                                         I
-0.25  -  0.00          I***            X                                                                         I
                        I                                                                                         I
 0.00  -  0.25          I****             X                                                                       I
                        I                                                                                         I
 0.25  -  0.50          I*                  X                                                                   I
                        I                                                                                         I
 0.50  -  0.75          I**                   X                                                                 I
                        I                                                                                         I
 0.75  -  1.00          I***                    X                                                               I
                        I                                                                                         I
 1.00  -  1.25          I*                        X                                                             I
                        I                                                                                         I
 1.25  -  1.50          I***                        X                                                           I
                        I                                                                                         I
 1.50  -  1.75          I                           X                                                           I
                        I                                                                                         I
 1.75  -  2.00          I***                      X                                                             I
                        I                                                                                         I
 2.00  -  2.25          I**                       X                                                             I
                        I                                                                                         I
 2.25  -  2.50          I**                                                                                       I
                        I                                                                                         I
 2.50  -  2.75          I**                         X                                                           I
                        I                                                                                         I
 2.75  -  3.00          I**                           X                                                         I
                        I                                                                                         I
 3.00  -  3.25          I**                             X                                                       I
                        I                                                                                         I
 3.25  -  3.50          I*                              X                                                       I
                        I                                                                                         I
 3.50  -  3.75          I**                               X                                                     I
                        I                                                                                         I
 3.75  -  4.00          I*                                X                                                   I
                        I                                                                                         I
                        ---------I---------I---------I---------I---------I---------I---------I---------I---------I
                        10        20        30        40        50        60        70        80        90       100
```

TODAS LAS FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

MAGNA

# ANALISIS GRANULOMETRICOS

Nº HOJA: 0807 (1–5) | EMP.: GT (7–9) | REC.: AJ (9–11) | Nº MUESTRA: 1346 (11–14) | TA: L1 (14–15) | (15–18)

0072 (19–22)

| GRAVAS | | | ARENA MUY GRUESA | | | | ARENA GRUESA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| >4 (23–26) | 4 (27–30) | 2 (31–34) | 1.682 (35–38) | 1.414 (39–42) | 1.189 (43–46) | 1 (47–50) | 0'840 (51–54) | 0'707 (55–58) | 0'594 (59–62) | 0'500 (63–66) | 1 (80) |
| | 617 | 1478 | 484 | 491 | 332 | 278 | 353 | 080 | 159 | 251 | |

| ARENA MEDIA | | | |
|---|---|---|---|
| 0'420 (15–18) | 0'353 (19–22) | 0'297 (23–26) | 0'250 (27–30) |
| 095 | 313 | 088 | 276 |

| ARENA FINA | | | | ARENA MUY FINA | | | | LIMOS+ARCILLA | |
|---|---|---|---|---|---|---|---|---|---|
| 0'210 (31–34) | 0'176 (35–38) | 0'148 (39–42) | 0'125 (43–46) | 0'105 (47–50) | 0'088 (51–54) | 0'074 (55–58) | 0'062 (59–62) | <0'062 (63–66) | 2 (80) |
| 164 | 186 | 163 | 134 | 127 | 000 | 108 | 069 | 3814 | |

EDAD: PLIOCUATERNARIO

S SS SR SSR P SP SSP I 2 (15–24): T B2

S SS SR SSR P SP SSP I 2 (25–34): Q

PROCEDIMIENTO: FOSILES F; ESTRATIGRAFICA E; MICROFACIES M; LITOLOGIA L — [L] (35)

VALORACION: BUENA B; PROBABLE P; DUDOSA D — [P] (36)

AMBIENTE: CONTINENTAL FLUVIAL

OBSERVACIONES:

INFORMACION ADICIONAL [ ] (37) [3] (80)

# ANALISIS GRANULOMETRICOS - MAGNA

0807GTAI1346L1 0072

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.189 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.250 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 6.170 | 14.780 | 4.840 | 4.910 | 3.320 | 2.780 | 3.530 | 0.800 | 1.590 | 2.510 | 0.950 |
| FREC. ACU. | 0.000 | 0.000 | 14.780 | 19.620 | 24.530 | 27.850 | 30.630 | 34.160 | 34.960 | 36.550 | 39.060 | 40.010 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.149 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.750 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 3.130 | 0.280 | 2.760 | 1.640 | 1.860 | 1.610 | 1.340 | 1.270 | 0.000 | 1.080 | 0.690 | 38.140 |
| FREC. ACU. | 43.140 | 43.420 | 46.180 | 47.820 | 49.680 | 51.310 | 52.650 | 53.920 | 53.920 | 55.000 | 55.690 | 0.000 |

PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 1.4088 | 1.0859 | 0.4141 | 1.6803 |

MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.1878 | 1.5561 | 0.6313 | 2.2219 |

PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| 0.00 | -1.34 | -0.59 | 2.42 | 0.00 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = 0.336

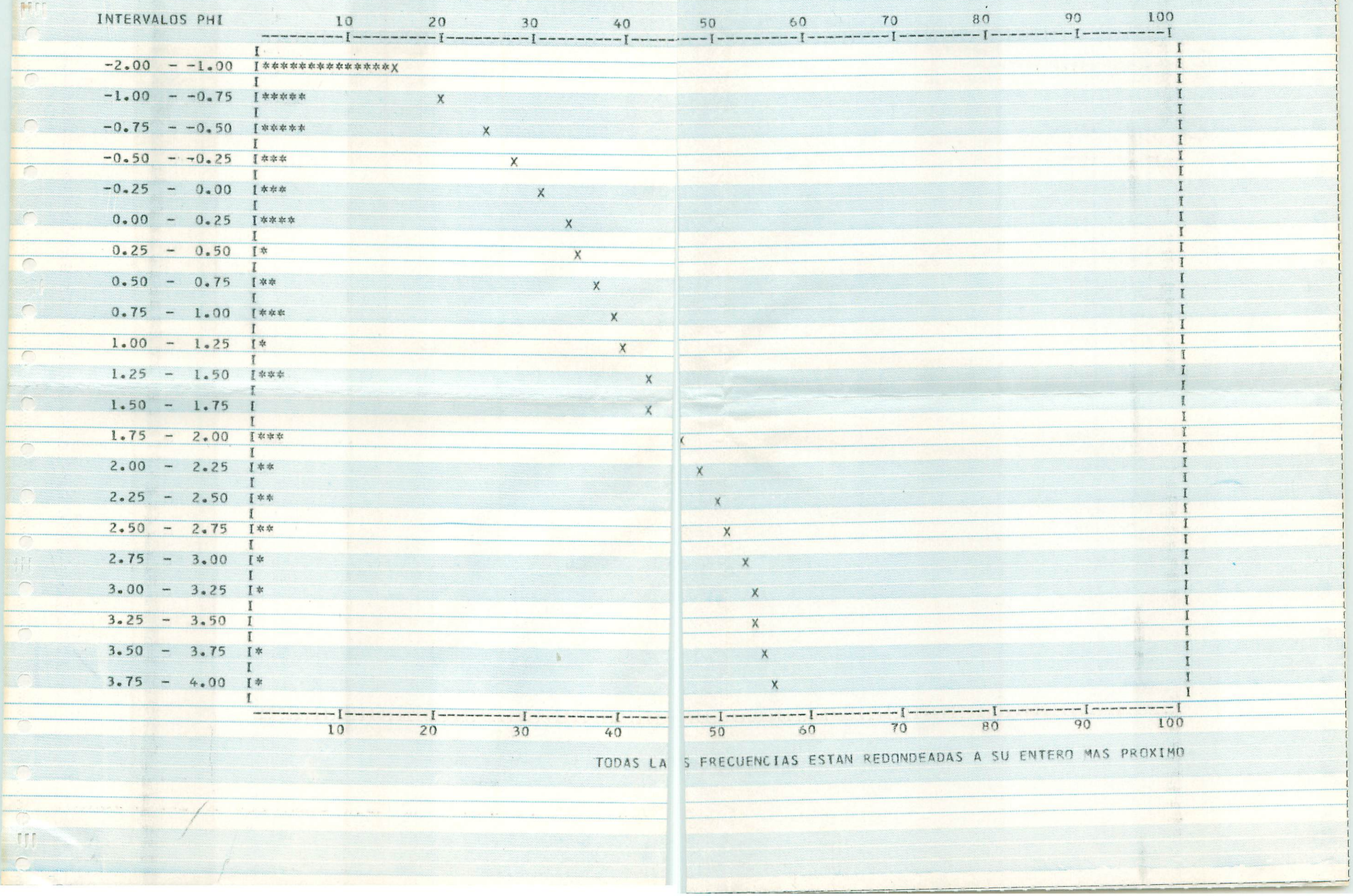
SKEWNESS GRAFICO DE FOLK Y WARD (1957) = -2.542

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = 0.000

CLASIFICACION SEGUN FRIEDMAN (1962) = POBREMENTE CLASIFICADA

0807GTAI1346L1 0072

## HISTOGRAMA Y CURVA ACUMULADA




TODAS LAS FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

MAG

# ANALISIS GRANULOMETRICOS

| Nº HOJA | EMP. | REC. | Nº MUESTRA | TA |
|---|---|---|---|---|
| 0807 | GT | AI | 1402 | L1 |

0073

## GRAVAS

| >4 | 4 | 2 |
|---|---|---|
| | 331 | 957 |

## ARENA MUY GRUESA

| 1.682 | 1.414 | 1.189 | 1 |
|---|---|---|---|
| 307 | 329 | 247 | 257 |

## ARENA GRUESA

| 0'840 | 0'707 | 0'594 | 0'500 |
|---|---|---|---|
| 323 | 075 | 141 | 235 |

1

## ARENA MEDIA

| 0'420 | 0'353 | 0'297 | 0'250 |
|---|---|---|---|
| 091 | 292 | 036 | 244 |

## ARENA FINA

| 0'210 | 0'176 | 0'148 | 0'125 |
|---|---|---|---|
| 155 | 222 | 242 | 285 |

## ARENA MUY FINA

| 0'105 | 0'088 | 0'074 | 0'062 |
|---|---|---|---|
| 216 | 175 | 306 | 093 |

## LIMOS+ARCILLA

| < 0'062 |
|---|
| 4341 |

2

EDAD PLIOCUATERNARIO

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| T | B | 2 | | | | | | |

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| Q | | | | | | | | |

PROCEDIMIENTO

FOSILES ____ F
ESTRATIGRAFICA ____ E
MICROFACIES ____ M
LITOLOGIA ____ L

C

VALORACION

BUENA ____ B
PROBABLE ____ P
DUDOSA ____ D

P

AMBIENTE CONTINENTAL FLUVIAL

OBSERVACIONES

INFORMACION ADICIONAL

# ANALISIS GRANULOMETRICOS - MAGNA

0807GTAI1402L1 0073

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.189 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.250 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 3.310 | 9.570 | 3.070 | 3.290 | 2.470 | 2.570 | 3.230 | 0.750 | 1.410 | 2.350 | 0.910 |
| FREC. ACU. | 0.000 | 0.000 | 9.570 | 12.640 | 15.930 | 18.400 | 20.970 | 24.200 | 24.950 | 26.360 | 28.710 | 29.620 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.149 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.750 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 2.920 | 0.360 | 2.440 | 1.550 | 2.220 | 2.420 | 2.850 | 2.160 | 1.750 | 3.060 | 0.930 | 43.410 |
| FREC. ACU. | 32.540 | 32.900 | 35.340 | 36.890 | 39.110 | 41.530 | 44.380 | 46.540 | 48.290 | 51.350 | 52.280 | 0.000 |

## PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

### MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 1.0688 | 1.0502 | 0.8902 | 2.3512 |

### MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.8405 | 1.7619 | 0.1473 | 1.6364 |

### PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| 0.00 | -0.62 | 0.38 | 3.51 | 0.00 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = 0.154

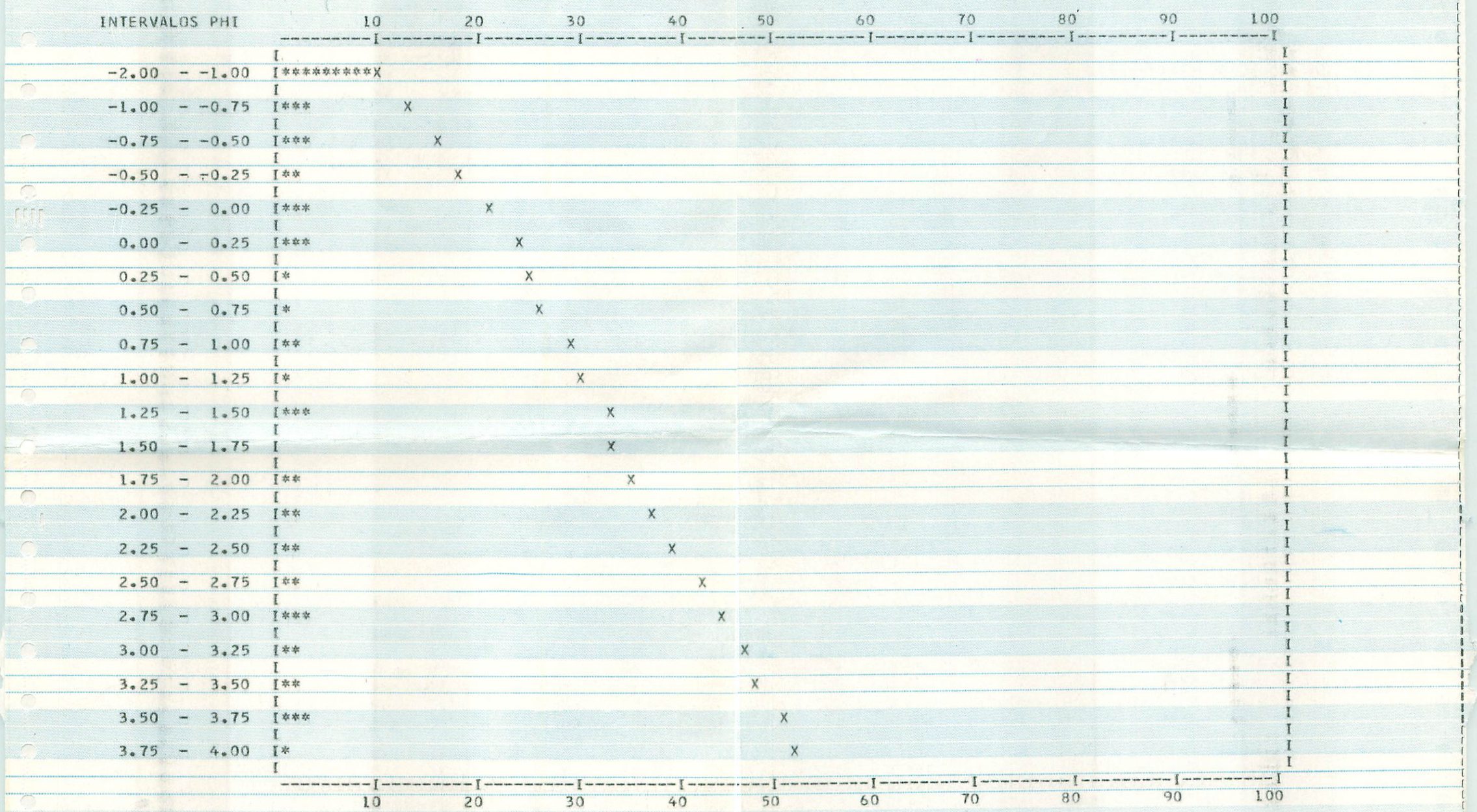
SKEWNESS GRAFICO DE FOLK Y WARD (1957) = -0.841

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = 0.000

CLASIFICACION SEGUN FRIEDMAN (1962) = POBREMENTE CLASIFICADA

0807GTAI1402L1 0073

## HISTOGRAMA Y CURVAACUMULADA




TODAS LAS FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

MAGNA

# ANALISIS GRANULOMETRICOS

| Nº HOJA | EMP. | REC. | Nº MUESTRA | TA |
|---|---|---|---|---|
| 0807 | GT | A1 | 1472 | L1 |
| 1–4 | 5–6 | 7–8 | 9–14 | 15–18 |

0074 (19–22)

## GRAVAS

| >4 | 4 | 2 |
|---|---|---|
| | 209 | 256 |
| 23–26 | 27–30 | 31–34 |

## ARENA MUY GRUESA

| 1.682 | 1.414 | 1.189 | 1 |
|---|---|---|---|
| 076 | 090 | 080 | 087 |
| 35–38 | 39–42 | 43–46 | 47–50 |

## ARENA GRUESA

| 0'840 | 0'707 | 0'594 | 0'500 | |
|---|---|---|---|---|
| 125 | 027 | 055 | 094 | 1 |
| 51–54 | 55–58 | 59–62 | 63–66 | 80 |

## ARENA MEDIA

| 0'420 | 0'353 | 0'297 | 0'250 |
|---|---|---|---|
| 040 | 124 | 025 | 161 |
| 15–18 | 19–22 | 23–26 | 27–30 |

## ARENA FINA

| 0'210 | 0'176 | 0'148 | 0'125 |
|---|---|---|---|
| 127 | 171 | 196 | 181 |
| 31–34 | 35–38 | 39–42 | 43–46 |

## ARENA MUY FINA

| 0'105 | 0'088 | 0'074 | 0'062 |
|---|---|---|---|
| 248 | 151 | 283 | 070 |
| 47–50 | 51–54 | 55–58 | 59–62 |

## LIMOS+ARCILLA

| < 0'062 | |
|---|---|
| 7030 | 2 |
| 63–66 | 80 |

EDAD: PLIOCUATERNARIO

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| T | B | 2 | | | | | | |
| 15 | | | | | | | | 24 |

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| Q | | | | | | | | |
| 25 | | | | | | | | 34 |

PROCEDIMIENTO

FOSILES ____ F
ESTRATIGRAFICA ____ E
MICROFACIES ____ M
LITOLOGIA ____ L

L (35)

VALORACION

BUENA ____ B
PROBABLE ____ P
DUDOSA ____ D

P (36)

AMBIENTE: CONTINENTAL

OBSERVACIONES:

INFORMACION ADICIONAL (37)

3

# ANALISIS GRANULOMETRIOS - MAGNA

0807GTAI1472L1 0074

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.19 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.20 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 2.090 | 2.560 | 0.760 | 0.900 | 0.80 | 0.870 | 1.250 | 0.270 | 0.550 | 0.940 | 0.400 |
| FREC. ACU. | 0.000 | 0.000 | 2.560 | 3.320 | 4.220 | 5.00 | 5.890 | 7.140 | 7.410 | 7.960 | 8.900 | 9.300 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.19 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.70 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 1.240 | 0.250 | 1.610 | 1.270 | 1.710 | 1.90 | 1.810 | 2.420 | 1.510 | 2.830 | 0.700 | 70.300 |
| FREC. ACU. | 10.540 | 10.790 | 12.400 | 13.670 | 15.380 | 17.30 | 19.150 | 21.570 | 23.080 | 25.910 | 26.610 | 0.000 |

PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.6680 | 0.8827 | 1.7610 | 4.8976 |

MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 1.6635 | 1.6869 | -0.5680 | 2.0088 |

PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| -0.38 | 2.45 | 3.54 | 0.00 | 0.00 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = -0.556

SKEWNESS GRAFICO DE FOLK Y WARD (1957) = 1.000

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = -0.044

CLASIFICACION SEGUN FRIEDMAN (1962) = POBREMENTE CLASIFICADA

0807GTAI1472L1 0074

## HISTOGRAMA Y CURVACUMULADA

```
INTERVALOS PHI          10        20        30        40        50        60        70        80        90       100
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I
                        I                                                                                         I
-2.00  - -1.00          I**X                                                                                      I
                        I                                                                                         I
-1.00  - -0.75          I* X                                                                                      I
                        I                                                                                         I
-0.75  - -0.50          I*  X                                                                                     I
                        I                                                                                         I
-0.50  - -0.25          I*   X                                                                                    I
                        I                                                                                         I
-0.25  -  0.00          I*    X                                                                                   I
                        I                                                                                         I
 0.00  -  0.25          I*     X                                                                                  I
                        I                                                                                         I
 0.25  -  0.50          I      X                                                                                  I
                        I                                                                                         I
 0.50  -  0.75          I*      X                                                                                 I
                        I                                                                                         I
 0.75  -  1.00          I*       X                                                                                I
                        I                                                                                         I
 1.00  -  1.25          I        X                                                                                I
                        I                                                                                         I
 1.25  -  1.50          I*         X                                                                             I
                        I                                                                                         I
 1.50  -  1.75          I          X                                                                             I
                        I                                                                                         I
 1.75  -  2.00          I**        X                                                                             I
                        I                                                                                         I
 2.00  -  2.25          I*           X                                                                            I
                        I                                                                                         I
 2.25  -  2.50          I**          X                                                                            I
                        I                                                                                         I
 2.50  -  2.75          I**           X                                                                           I
                        I                                                                                         I
 2.75  -  3.00          I**            X                                                                          I
                        I                                                                                         I
 3.00  -  3.25          I**             X                                                                         I
                        I                                                                                         I
 3.25  -  3.50          I**              X                                                                        I
                        I                                                                                         I
 3.50  -  3.75          I***              X                                                                       I
                        I                                                                                         I
 3.75  -  4.00          I*                X                                                                     I
                        I                                                                                         I
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I
                        10        20        30        40        50        60        70        80        90       100
```

TODAS LA FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

MAGNA

# ANALISIS GRANULOMETRICOS 74

| Nº HOJA | EMP. | REC. | Nº MUESTRA | TA |
|---|---|---|---|---|
| 0807 | GT | AJ | 1474 | L1 |

0075

## GRAVAS

| >4 | 4 | 2 |
|---|---|---|
| | 014 | 011 |

## ARENA MUY GRUESA

| 1.682 | 1.414 | 1.189 | 1 |
|---|---|---|---|
| 012 | 007 | 006 | 008 |

## ARENA GRUESA

| 0'840 | 0'707 | 0'594 | 0'500 | |
|---|---|---|---|---|
| 006 | 002 | 003 | 006 | 1 |

## ARENA MEDIA

| 0'420 | 0'353 | 0'297 | 0'250 |
|---|---|---|---|
| 007 | 015 | 001 | 030 |

## ARENA FINA

| 0'210 | 0'176 | 0'148 | 0'125 |
|---|---|---|---|
| 024 | 040 | 043 | 070 |

## ARENA MUY FINA

| 0'105 | 0'088 | 0'074 | 0'062 |
|---|---|---|---|
| 071 | 079 | 139 | 047 |

## LIMOS+ARCILLA

| < 0'062 | |
|---|---|
| 9359 | 2 |

EDAD PLIOCUATERNARIO

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| T | B2 | | | | | | | |

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| Q | | | | | | | | |

PROCEDIMIENTO

FOSILES ____ F
ESTRATIGRAFICA ____ E
MICROFACIES ____ M
LITOLOGIA ____ L

L

VALORACION

BUENA ____ B
PROBABLE ____ P
DUDOSA ____ D

P

AMBIENTE CONTINENTAL

OBSERVACIONES

INFORMACION ADICIONAL

3

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

MAGNA

# ANALISIS GRANULOMETRICOS

| Nº HOJA | EMP. | REC. | Nº MUESTRA | TA |
|---|---|---|---|---|
| 0807 | GT | AI | 1475 | L1 |

0074

## GRAVAS

| >4 | 4 | 2 |
|---|---|---|
| | 282 | 314 |

## ARENA MUY GRUESA

| 1.682 | 1.414 | 1.189 | 1 |
|---|---|---|---|
| 080 | 091 | 055 | 054 |

## ARENA GRUESA

| 0'840 | 0'707 | 0'594 | 0'500 |
|---|---|---|---|
| 083 | 012 | 042 | 073 |

1 80

## ARENA MEDIA

| 0'420 | 0'353 | 0'297 | 0'250 |
|---|---|---|---|
| 031 | 092 | 009 | 096 |

## ARENA FINA

| 0'210 | 0'176 | 0'148 | 0'125 |
|---|---|---|---|
| 068 | 082 | 096 | 104 |

## ARENA MUY FINA

| 0'105 | 0'088 | 0'074 | 0'062 |
|---|---|---|---|
| 087 | 085 | 143 | 053 |

## LIMOS+ARCILLA

| < 0'062 |
|---|
| 7968 |

2 80

EDAD PLIOCUATERNARIO

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| T | B2 | | | | | | | |

15 — 24

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| Q | | | | | | | | |

25 — 34

PROCEDIMIENTO

FOSILES ____ F
ESTRATIGRAFICA ____ E
MICROFACIES ____ M
LITOLOGIA ____ L

L — 35

VALORACION

BUENA ____ B
PROBABLE ____ P
DUDOSA ____ D

P — 36

AMBIENTE CONTINENTAL

OBSERVACIONES

INFORMACION ADICIONAL — 37

3 80

# ANALISIS GRANULOMETRICOS - MAGNA

0807GTAI1475L1 0076

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.189 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.250 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 2.820 | 3.140 | 0.800 | 0.910 | 0.550 | 0.540 | 0.830 | 0.120 | 0.420 | 0.730 | 0.310 |
| FREC. ACU. | 0.000 | 0.000 | 3.140 | 3.940 | 4.850 | 5.400 | 5.940 | 6.770 | 6.890 | 7.310 | 8.040 | 8.350 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.149 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.750 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 0.920 | 0.090 | 0.960 | 0.680 | 0.820 | 0.960 | 1.040 | 0.870 | 0.850 | 1.430 | 0.530 | 79.680 |
| FREC. ACU.. | 9.270 | 9.360 | 10.320 | 11.000 | 11.820 | 12.780 | 13.820 | 14.690 | 15.540 | 16.970 | 17.500 | 0.000 |

## PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

### MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.9644 | 1.0705 | 1.0444 | 2.5413 |

### MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 1.1477 | 1.8423 | -0.1320 | 1.5676 |

### PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| -0.56 | 3.46 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = -0.779

SKEWNESS GRAFICO DE FOLK Y WARD (1957) = 1.000

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = 0.557

CLASIFICACION SEGUN FRIEDMAN (1962) = POBREMENTE CLASIFICADA

0807GTAI1475L1 0076

## HISTOGRAMA Y CURVA ACUMULADA

| INTERVALOS PHI | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|
| -2.00 - -1.00 | I**X | | | | | | | | | I |
| -1.00 - -0.75 | I* X | | | | | | | | | I |
| -0.75 - -0.50 | I* X | | | | | | | | | I |
| -0.50 - -0.25 | I* X | | | | | | | | | I |
| -0.25 - 0.00 | I* X | | | | | | | | | I |
| 0.00 - 0.25 | I* X | | | | | | | | | I |
| 0.25 - 0.50 | I X | | | | | | | | | I |
| 0.50 - 0.75 | I X | | | | | | | | | I |
| 0.75 - 1.00 | I* X | | | | | | | | | I |
| 1.00 - 1.25 | I X | | | | | | | | | I |
| 1.25 - 1.50 | I* X | | | | | | | | | I |
| 1.50 - 1.75 | I X | | | | | | | | | I |
| 1.75 - 2.00 | I* X | | | | | | | | | I |
| 2.00 - 2.25 | I* X | | | | | | | | | I |
| 2.25 - 2.50 | I* X | | | | | | | | | I |
| 2.50 - 2.75 | I* X | | | | | | | | | I |
| 2.75 - 3.00 | I* X | | | | | | | | | I |
| 3.00 - 3.25 | I* X | | | | | | | | | I |
| 3.25 - 3.50 | I* X | | | | | | | | | I |
| 3.50 - 3.75 | I* X | | | | | | | | | I |
| 3.75 - 4.00 | I* X | | | | | | | | | I |
| | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |

TODAS LAS FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

# ANALISIS GRANULOMETRICOS

MAGNA

| Nº HOJA | EMP. | REC. | Nº MUESTRA | TA |
|---|---|---|---|---|
| 0807 | GT | AJ | 1476 | L1 |

MAGNA: 0077

## GRAVAS

| >4 | 4 | 2 |
|---|---|---|
| | | 042 |

## ARENA MUY GRUESA

| 1.682 | 1.414 | 1.189 | 1 |
|---|---|---|---|
| 046 | 109 | 094 | 143 |

## ARENA GRUESA

| 0'840 | 0'707 | 0'594 | 0'500 |
|---|---|---|---|
| 273 | 057 | 138 | 221 |

1

## ARENA MEDIA

| 0'420 | 0'353 | 0'297 | 0'250 |
|---|---|---|---|
| 095 | 033 | 025 | 153 |

## ARENA FINA

| 0'210 | 0'176 | 0'148 | 0'125 |
|---|---|---|---|
| 082 | 106 | 094 | 121 |

## ARENA MUY FINA

| 0'105 | 0'088 | 0'074 | 0'062 |
|---|---|---|---|
| 032 | 078 | 122 | 044 |

## LIMOS+ARCILLA

| < 0'062 |
|---|
| 7842 |

2

EDAD: PLIOCUATERNARIO

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| T | B | 2 | | | | | | |

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| Q | | | | | | | | |

PROCEDIMIENTO: FOSILES F; ESTRATIGRAFICA E; MICROFACIES M; LITOLOGIA L — [L]

VALORACION: BUENA B; PROBABLE P; DUDOSA D — [P]

AMBIENTE: CONTINENTAL

OBSERVACIONES:

INFORMACION ADICIONAL: [ ] [3]

# ANALISIS GRANULOMETRICOS - MAGNA

0807GTAI1476L1 0077

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.189 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.250 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 0.000 | 0.420 | 0.460 | 1.090 | 0.940 | 1.430 | 2.730 | 0.570 | 1.380 | 2.210 | 0.950 |
| FREC. ACU. | 0.000 | 0.000 | 0.420 | 0.880 | 1.970 | 2.910 | 4.340 | 7.070 | 7.640 | 9.020 | 11.230 | 12.180 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.149 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.750 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 0.330 | 0.250 | 1.530 | 0.820 | 1.060 | 0.940 | 1.210 | 0.820 | 0.780 | 1.220 | 0.440 | 78.420 |
| FREC. ACU. | 12.510 | 12.760 | 14.290 | 15.110 | 16.170 | 17.110 | 18.320 | 19.140 | 19.920 | 21.140 | 21.580 | 0.000 |

PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.6358 | 0.5689 | 1.6730 | 6.9079 |

MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 1.2712 | 1.4102 | 0.1939 | 1.9023 |

PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| -0.06 | 2.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = -0.574

SKEWNESS GRAFICO DE FOLK Y WARD (1957) = 1.000

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = 0.065

CLASIFICACION SEGUN FRIEDMAN (1962) = POBREMENTE CLASIFICADA

0807GTAI1476L1 0077

## HISTOGRAMA Y CURVA ACUMULADA

```
INTERVALOS PHI          I---------10---------20---------30---------40---------50---------60---------70---------80---------90---------100
                        I                                                                                                              I
-2.00  - -1.00          I                                                                                                              I
                        I                                                                                                              I
-1.00  - -0.75          IX                                                                                                             I
                        I                                                                                                              I
-0.75  - -0.50          I*X                                                                                                            I
                        I                                                                                                              I
-0.50  - -0.25          I* X                                                                                                           I
                        I                                                                                                              I
-0.25  -  0.00          I*  X                                                                                                          I
                        I                                                                                                              I
 0.00  -  0.25          I***   X                                                                                                       I
                        I                                                                                                              I
 0.25  -  0.50          I*       X                                                                                                     I
                        I                                                                                                              I
 0.50  -  0.75          I*        X                                                                                                    I
                        I                                                                                                              I
 0.75  -  1.00          I**         X                                                                                                  I
                        I                                                                                                              I
 1.00  -  1.25          I*            X                                                                                                I
                        I                                                                                                              I
 1.25  -  1.50          I              X                                                                                               I
                        I                                                                                                              I
 1.50  -  1.75          I              X                                                                                               I
                        I                                                                                                              I
 1.75  -  2.00          I**            X                                                                                               I
                        I                                                                                                              I
 2.00  -  2.25          I*              X                                                                                              I
                        I                                                                                                              I
 2.25  -  2.50          I*               X                                                                                             I
                        I                                                                                                              I
 2.50  -  2.75          I*                X                                                                                            I
                        I                                                                                                              I
 2.75  -  3.00          I*                 X                                                                                          I
                        I                                                                                                              I
 3.00  -  3.25          I*                  X                                                                                         I
                        I                                                                                                              I
 3.25  -  3.50          I*                   X                                                                                        I
                        I                                                                                                              I
 3.50  -  3.75          I*                    X                                                                                       I
                        I                                                                                                              I
 3.75  -  4.00          I                     X                                                                                       I
                        I                                                                                                              I
                        I---------10---------20---------30---------40---------50---------60---------70---------80---------90---------100
```

TODAS L FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

MAGNA

Nº HOJA | EMP. | REC. | Nº MUESTRA | TA

| 1–4 | 5–6 | 7–8 | 9–14 | 15–18 |
|---|---|---|---|---|
| 0807 | GT | AJ | 14771 | |

# ANALISIS GRANULOMETRICOS

| 19–22 |
|---|
| 0078 |

## GRAVAS

| >4 (23–26) | 4 (27–30) | 2 (31–34) |
|---|---|---|
| | 012 | 024 |

## ARENA MUY GRUESA

| 1.682 (35–38) | 1.414 (39–42) | 1.189 (43–46) | 1 (47–50) |
|---|---|---|---|
| 016 | 009 | 014 | 015 |

## ARENA GRUESA

| 0'840 (51–54) | 0'707 (55–58) | 0'594 (59–62) | 0'500 (63–66) | 80 |
|---|---|---|---|---|
| 032 | 010 | 026 | 047 | 1 |

## ARENA MEDIA

| 0'420 (15–18) | 0'353 (19–22) | 0'297 (23–26) | 0'250 (27–30) |
|---|---|---|---|
| 026 | 091 | 020 | 141 |

## ARENA FINA

| 0'210 (31–34) | 0'176 (35–38) | 0'148 (39–42) | 0'125 (43–46) |
|---|---|---|---|
| 139 | 236 | 294 | 438 |

## ARENA MUY FINA

| 0'105 (47–50) | 0'088 (51–54) | 0'074 (55–58) | 0'062 (59–62) |
|---|---|---|---|
| 430 | 232 | 563 | 165 |

## LIMOS+ARCILLA

| <0'062 (63–66) | 80 |
|---|---|
| 7026 | 2 |

EDAD: PLIOCUATERNARIO

| S | SS | SR | SSR | P | SP | SSP | I | 2 | (15–24) |
|---|---|---|---|---|---|---|---|---|---|
| T | B | 2 | | | | | | | |

| S | SS | SR | SSR | P | SP | SSP | I | 2 | (25–34) |
|---|---|---|---|---|---|---|---|---|---|
| Q | | | | | | | | | |

PROCEDIMIENTO (35): FOSILES F; ESTRATIGRAFICA E; MICROFACIES M; LITOLOGIA L — L

VALORACION (36): BUENA B; PROBABLE P; DUDOSA D — P

AMBIENTE: CONTINENTAL

OBSERVACIONES:

INFORMACION ADICIONAL (37–80): 3

# ANALISIS GRANULOMETRICS - MAGNA

**********

0807GTAI1477L1 0078

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| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.19 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.25 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 0.120 | 0.240 | 0.100 | 0.090 | 0.10 | 0.150 | 0.320 | 0.100 | 0.260 | 0.470 | 0.260 |
| FREC. ACU. | 0.000 | 0.000 | 0.240 | 0.340 | 0.430 | 0.50 | 0.720 | 1.040 | 1.140 | 1.400 | 1.870 | 2.130 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.149 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.750 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 0.910 | 0.200 | 1.410 | 1.390 | 2.360 | 2.940 | 4.380 | 4.300 | 2.320 | 5.630 | 1.650 | 70.260 |
| FREC. ACU.. | 3.040 | 3.240 | 4.650 | 6.040 | 8.400 | 11.340 | 15.720 | 20.020 | 22.340 | 27.970 | 29.620 | 0.000 |

PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

---

MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.2112 | 0.3264 | 6.1091 | 47.3185 |

MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 2.7524 | 0.9638 | -1.7219 | 6.7932 |

PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| 1.94 | 2.89 | 3.49 | 0.00 | 0.00 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = -1.016

SKEWNESS GRAFICO DE FOLK Y WARD (1957) = 1.000

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = 0.227

CLASIFICACION SEGUN FRIEDMAN (1962) = MODERADAMENTE CLASIFICADA

0807GTAI1477L1 0078

## HISTOGRAMA Y CURVA ACUMULADA

```
INTERVALOS PHI          10        20        30        40        50        60        70        80        90       100
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I
                        I                                                                                         I
-2.00  - -1.00          I                                                                                         I
                        I                                                                                         I
-1.00  - -0.75          I                                                                                         I
                        I                                                                                         I
-0.75  - -0.50          I                                                                                         I
                        I                                                                                         I
-0.50  - -0.25          IX                                                                                        I
                        I                                                                                         I
-0.25  -  0.00          IX                                                                                        I
                        I                                                                                         I
 0.00  -  0.25          IX                                                                                        I
                        I                                                                                         I
 0.25  -  0.50          IX                                                                                        I
                        I                                                                                         I
 0.50  -  0.75          IX                                                                                        I
                        I                                                                                         I
 0.75  -  1.00          I X                                                                                       I
                        I                                                                                         I
 1.00  -  1.25          I X                                                                                       I
                        I                                                                                         I
 1.25  -  1.50          I* X                                                                                      I
                        I                                                                                         I
 1.50  -  1.75          I  X                                                                                      I
                        I                                                                                         I
 1.75  -  2.00          I*   X                                                                                    I
                        I                                                                                         I
 2.00  -  2.25          I*    X                                                                                   I
                        I                                                                                         I
 2.25  -  2.50          I**     X                                                                                 I
                        I                                                                                         I
 2.50  -  2.75          I***      X                                                                               I
                        I                                                                                         I
 2.75  -  3.00          I****       X                                                                             I
                        I                                                                                         I
 3.00  -  3.25          I****         X                                                                           I
                        I                                                                                         I
 3.25  -  3.50          I**             X                                                                         I
                        I                                                                                         I
 3.50  -  3.75          I******           X                                                                       I
                        I                                                                                         I
 3.75  -  4.00          I**                X                                                                      I
                        I                                                                                         I
                        ----------I---------I---------I---------I---------I---------I---------I---------I---------I
                                  10        20        30        40        50        60        70        80        90       100
```

TODAS LAS FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

MAGNA

# ANALISIS GRANULOMETRICOS

| Nº HOJA | EMP. | REC. | Nº MUESTRA | TA |
|---|---|---|---|---|
| 0807 | GT | AT | 1478 | LI |
| 1–4 | 5–6 | 7–8 | 9–14 | 15–18 |

0079 (19–22)

| GRAVAS | | | ARENA MUY GRUESA | | | | ARENA GRUESA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| >4 | 4 | 2 | 1.682 | 1.414 | 1.189 | 1 | 0'840 | 0'707 | 0'594 | 0'500 | |
| | 030 | 174 | 064 | 068 | 055 | 080 | 107 | 029 | 050 | 083 | 1 |
| 23–26 | 27–30 | 31–34 | 35–38 | 39–42 | 43–46 | 47–50 | 51–54 | 55–58 | 59–62 | 63–66 | 80 |

| ARENA MEDIA | | | |
|---|---|---|---|
| 0'420 | 0'353 | 0'297 | 0'250 |
| 035 | 110 | 023 | 116 |
| 15–18 | 19–22 | 23–26 | 27–30 |

| ARENA FINA | | | | ARENA MUY FINA | | | | LIMOS+ARCILLA | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0'210 | 0'176 | 0'148 | 0'125 | 0'105 | 0'088 | 0'074 | 0'062 | <0'062 | | |
| 085 | 137 | 167 | 212 | 182 | 132 | 245 | 085 | 7737 | 2 | |
| 31–34 | 35–38 | 39–42 | 43–46 | 47–50 | 51–54 | 55–58 | 59–62 | 63–66 | 80 | |

EDAD PLIOCUATERNARIO

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| T | B2 | | | | | | | |
| 15 | | | | | | | | 24 |

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| Q | | | | | | | | |
| 25 | | | | | | | | 34 |

PROCEDIMIENTO: FOSILES F; ESTRATIGRAFICA E; MICROFACIES M; LITOLOGIA L — L (35)

VALORACION: BUENA B; PROBABLE P; DUDOSA D — P (36)

AMBIENTE CONTINENTAL

OBSERVACIONES

INFORMACION ADICIONAL (37) 3 (80)

# ANALISIS GRANULOMETRICOS - MAGNA

0807GTAI1478L1 0079

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.189 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.250 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 0.300 | 1.740 | 0.640 | 0.680 | 0.550 | 0.800 | 1.070 | 0.290 | 0.500 | 0.830 | 0.350 |
| FREC. ACU. | 0.000 | 0.000 | 1.740 | 2.380 | 3.060 | 3.610 | 4.410 | 5.480 | 5.770 | 6.270 | 7.100 | 7.450 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.149 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.750 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 1.100 | 0.230 | 1.100 | 0.850 | 1.370 | 1.670 | 2.120 | 1.820 | 1.320 | 2.450 | 0.850 | 77.370 |
| FREC. ACU. | 8.550 | 8.780 | 9.880 | 10.730 | 12.100 | 13.770 | 15.890 | 17.710 | 19.030 | 21.480 | 22.330 | 0.000 |

PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.6095 | 0.8244 | 1.9472 | 5.7896 |

MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 1.7724 | 1.6509 | -0.6231 | 2.1130 |

PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| 0.01 | 2.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = -0.724

SKEWNESS GRAFICO DE FOLK Y WARD (1957) = 1.000

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = -0.013

CLASIFICACION SEGUN FRIEDMAN (1962) = POBREMENTE CLASIFICADA

0807GTAI1478L1 0079

## HISTOGRAMA Y CURVA ACUMULADA

```
INTERVALOS PHI          10        20        30        40        50        60        70        80        90       100
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I
                        I                                                                                         I
-2.00  - -1.00          I*X                                                                                       I
                        I                                                                                         I
-1.00  - -0.75          I*X                                                                                       I
                        I                                                                                         I
-0.75  - -0.50          I* X                                                                                      I
                        I                                                                                         I
-0.50  - -0.25          I*  X                                                                                     I
                        I                                                                                         I
-0.25  -  0.00          I*  X                                                                                     I
                        I                                                                                         I
 0.00  -  0.25          I*   X                                                                                    I
                        I                                                                                         I
 0.25  -  0.50          I     X                                                                                   I
                        I                                                                                         I
 0.50  -  0.75          I*    X                                                                                   I
                        I                                                                                         I
 0.75  -  1.00          I*     X                                                                                  I
                        I                                                                                         I
 1.00  -  1.25          I      X                                                                                  I
                        I                                                                                         I
 1.25  -  1.50          I*       X                                                                                I
                        I                                                                                         I
 1.50  -  1.75          I        X                                                                               I
                        I                                                                                         I
 1.75  -  2.00          I*       X                                                                               I
                        I                                                                                         I
 2.00  -  2.25          I*        X                                                                              I
                        I                                                                                         I
 2.25  -  2.50          I*         X                                                                             I
                        I                                                                                         I
 2.50  -  2.75          I**         X                                                                            I
                        I                                                                                         I
 2.75  -  3.00          I**          X                                                                           I
                        I                                                                                         I
 3.00  -  3.25          I**           X                                                                          I
                        I                                                                                         I
 3.25  -  3.50          I*            X                                                                          I
                        I                                                                                         I
 3.50  -  3.75          I**            X                                                                         I
                        I                                                                                         I
 3.75  -  4.00          I*             X                                                                         I
                        I                                                                                         I
                        I---------I---------I---------I---------I---------I---------I---------I---------I---------I
                        10        20        30        40        50        60        70        80        90       100
```

TODAS LAS FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

# ANALISIS GRANULOMETRICOS

MAGNA

| Nº HOJA (1–5) | EMP. (5–7) | REC. (7–9) | Nº MUESTRA (9–14) | TA (14–15) | (15–18) | (19–22) |
|---|---|---|---|---|---|---|
| 0807 | GT | AI | 1479 | L1 | | 0080 |

## GRAVAS

| >4 (23–26) | 4 (27–30) | 2 (31–34) |
|---|---|---|
| | 141 | 436 |

## ARENA MUY GRUESA

| 1.682 (35–38) | 1.414 (39–42) | 1.189 (43–46) | 1 (47–50) |
|---|---|---|---|
| 111 | 112 | 079 | 091 |

## ARENA GRUESA

| 0'840 (51–54) | 0'707 (55–58) | 0'594 (59–62) | 0'500 (63–66) | 1 (80) |
|---|---|---|---|---|
| 053 | 037 | 076 | 113 | |

## ARENA MEDIA

| 0'420 (15–18) | 0'353 (19–22) | 0'297 (23–26) | 0'250 (27–30) |
|---|---|---|---|
| 063 | 193 | 031 | 176 |

## ARENA FINA

| 0'210 (31–34) | 0'176 (35–38) | 0'148 (39–42) | 0'125 (43–46) |
|---|---|---|---|
| 155 | 240 | 269 | 313 |

## ARENA MUY FINA

| 0'105 (47–50) | 0'088 (51–54) | 0'074 (55–58) | 0'062 (59–62) |
|---|---|---|---|
| 334 | 212 | 513 | 156 |

## LIMOS+ARCILLA

| < 0'062 (63–66) | 2 (80) |
|---|---|
| 6096 | |

EDAD: PLIOCUATERNARIO

| S (15) | SS (16) | SR (17) | SSR (18) | P (19) | SP (20) | SSP (21) | I (22) | 2 (23–24) |
|---|---|---|---|---|---|---|---|---|
| T | B | 2 | | | | | | |

| S (25) | SS (26) | SR (27) | SSR (28) | P (29) | SP (30) | SSP (31) | I (32) | 2 (33–34) |
|---|---|---|---|---|---|---|---|---|
| Q | | | | | | | | |

PROCEDIMIENTO (35): FOSILES F; ESTRATIGRAFICA E; MICROFACIES M; LITOLOGIA L → L

VALORACION (36): BUENA B; PROBABLE P; DUDOSA D → P

AMBIENTE: CONTINENTAL FLUVIAL

OBSERVACIONES:

INFORMACION ADICIONAL (37): 3 (80)

# ANALISIS GRANULOMETRICOS - MAGNA

0807GTAI1479L1 0080

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.19 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.30 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 1.410 | 4.360 | 1.110 | 1.120 | 0.70 | 0.910 | 0.530 | 0.370 | 0.760 | 1.130 | 0.630 |
| FREC. ACU. | 0.000 | 0.000 | 4.360 | 5.470 | 6.590 | 7.10 | 8.290 | 8.820 | 9.190 | 9.950 | 11.080 | 11.710 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.19 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.70 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 1.930 | 0.310 | 1.760 | 1.550 | 2.400 | 2.40 | 3.130 | 3.340 | 2.120 | 5.130 | 1.560 | 60.960 |
| FREC. ACU. | 13.640 | 13.950 | 15.710 | 17.260 | 19.660 | 22.30 | 25.480 | 28.820 | 30.940 | 36.070 | 37.630 | 0.000 |

PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.6694 | 0.9446 | 1.7114 | 4.4583 |

MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 1.7938 | 1.7509 | -0.7196 | 2.1554 |

PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| -1.14 | 1.92 | 2.84 | 0.00 | 0.00 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = -0.308

SKEWNESS GRAFICO DE FOLK Y WARD (1957) = 1.000

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = -0.165

CLASIFICACION SEGUN FRIEDMAN (1962) = POBREMENTE CLASIFICADA

0807GTAI1479L1 0080

## HISTOGRAMA Y CURVA ACUMULADA

```
INTERVALOS PHI          I---------10---------20---------30---------40---------50---------60---------70---------80---------90---------100
                        I                                                                                                              I
-2.00  - -1.00          I***X                                                                                                          I
                        I                                                                                                              I
-1.00  - -0.75          I*   X                                                                                                         I
                        I                                                                                                              I
-0.75  - -0.50          I*     X                                                                                                       I
                        I                                                                                                              I
-0.50  - -0.25          I*     X                                                                                                       I
                        I                                                                                                              I
-0.25  -  0.00          I*       X                                                                                                     I
                        I                                                                                                              I
 0.00  -  0.25          I*        X                                                                                                    I
                        I                                                                                                              I
 0.25  -  0.50          I         X                                                                                                    I
                        I                                                                                                              I
 0.50  -  0.75          I*          X                                                                                                  I
                        I                                                                                                              I
 0.75  -  1.00          I*           X                                                                                                 I
                        I                                                                                                              I
 1.00  -  1.25          I*             X                                                                                               I
                        I                                                                                                              I
 1.25  -  1.50          I**              X                                                                                              I
                        I                                                                                                              I
 1.50  -  1.75          I                X                                                                                             I
                        I                                                                                                              I
 1.75  -  2.00          I**                X                                                                                           I
                        I                                                                                                              I
 2.00  -  2.25          I**                 X                                                                                          I
                        I                                                                                                              I
 2.25  -  2.50          I**                   X                                                                                        I
                        I                                                                                                              I
 2.50  -  2.75          I***                   X                                                                                       I
                        I                                                                                                              I
 2.75  -  3.00          I***                     X                                                                                     I
                        I                                                                                                              I
 3.00  -  3.25          I***                       X                                                                                   I
                        I                                                                                                              I
 3.25  -  3.50          I**                          X                                                                                 I
                        I                                                                                                              I
 3.50  -  3.75          I*****                         X                                                                               I
                        I                                                                                                              I
 3.75  -  4.00          I**                              X                                                                             I
                        I                                                                                                              I
                        I---------10---------20---------30---------40---------50---------60---------70---------80---------90---------100
```

TODAS L FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO

INSTITUTO GEOLOGICO Y MINERO DE ESPAÑA

# ANALISIS GRANULOMETRICOS

MAGNA

| Nº HOJA | EMP. | REC. | Nº MUESTRA | TA |
|---|---|---|---|---|
| 0807 | 6T | 4I | 1481 | L1 |
| 1–5 | | 7–9 | 9–14 | 15–18 |

0081 (19–22)

| GRAVAS | | | ARENA MUY GRUESA | | | | ARENA GRUESA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| >4 | 4 | 2 | 1.682 | 1.414 | 1.189 | 1 | 0'840 | 0'707 | 0'594 | 0'500 | |
| | 064 | 229 | 119 | 188 | 131 | 269 | 571 | 163 | 424 | 989 | 1 |
| 23–26 | 27–30 | 31–34 | 35–38 | 39–42 | 43–46 | 47–50 | 51–54 | 55–58 | 59–62 | 63–66 | 80 |

| ARENA MEDIA | | | |
|---|---|---|---|
| 0'420 | 0'353 | 0'297 | 0'250 |
| 480 | 1595 | 218 | 769 |
| 15–18 | 19–22 | 23–26 | 27–30 |

| ARENA FINA | | | | ARENA MUY FINA | | | | LIMOS+ARCILLA |
|---|---|---|---|---|---|---|---|---|
| 0'210 | 0'176 | 0'148 | 0'125 | 0'105 | 0'088 | 0'074 | 0'062 | < 0'062 |
| 321 | 351 | 232 | 227 | 145 | 086 | 159 | 049 | 2171 |
| 31–34 | 35–38 | 39–42 | 43–46 | 47–50 | 51–54 | 55–58 | 59–62 | 63–66 |

2 (80)

EDAD PLIOCUATERNARIO

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| T | B | 2 | | | | | | |

15–24

| S | SS | SR | SSR | P | SP | SSP | I | 2 |
|---|---|---|---|---|---|---|---|---|
| Q | | | | | | | | |

25–34

PROCEDIMIENTO

FOSILES ____ F
ESTRATIGRAFICA ____ E
MICROFACIES ____ M
LITOLOGIA ____ L

L (35)

VALORACION

BUENA ____ B
PROBABLE ____ P
DUDOSA ____ D

P (36)

AMBIENTE CONTINENTAL FLUVIAL

OBSERVACIONES

INFORMACION ADICIONAL (37)

3

# ANALISIS GRANULOMETRICOS - MAGNA

0807GTAI1481L1 0081

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | MAYOR 4 | 4.000 | 2.000 | 1.682 | 1.414 | 1.189 | 1.000 | 0.841 | 0.707 | 0.595 | 0.500 | 0.420 |
| TAMIZ PHI | MENOR -2 | -2.000 | -1.000 | -0.750 | -0.500 | -0.250 | 0.000 | 0.250 | 0.500 | 0.750 | 1.000 | 1.250 |
| FRECUEN. | 0.000 | 0.640 | 2.290 | 1.190 | 1.880 | 1.810 | 2.690 | 5.710 | 1.630 | 4.240 | 9.890 | 4.800 |
| FREC. ACU. | 0.000 | 0.000 | 2.290 | 3.480 | 5.360 | 7.170 | 9.860 | 15.570 | 17.200 | 21.440 | 31.330 | 36.130 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAMIZ MM | 0.354 | 0.297 | 0.250 | 0.210 | 0.177 | 0.149 | 0.125 | 0.105 | 0.088 | 0.074 | 0.063 | MEN. .06 |
| TAMIZ PHI | 1.500 | 1.750 | 2.000 | 2.250 | 2.500 | 2.750 | 3.000 | 3.250 | 3.500 | 3.750 | 4.000 | MAYOR 4 |
| FRECUEN. | 15.950 | 2.180 | 7.690 | 3.210 | 3.510 | 2.320 | 2.270 | 1.450 | 0.860 | 1.890 | 0.490 | 21.710 |
| FREC. ACU. | 52.080 | 54.260 | 61.950 | 65.160 | 68.670 | 70.990 | 73.260 | 74.710 | 75.570 | 77.460 | 77.950 | 0.000 |

PARAMETROS CALCULADOS PARA LA FRACCION ENTRE 4.0 Y 0.062 MM

MOMENTOS ARITMETICOS

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 0.5863 | 0.5535 | 2.7055 | 11.4446 |

MOMENTOS PHI

| MEDIA | DESV. TIPICA | SESGO | KURTOSIS |
|---|---|---|---|
| 1.2215 | 1.1014 | -0.1147 | 3.1518 |

PERCENTILES PHI

| Q5 | Q16 | Q25 | Q50 | Q75 | Q84 | Q95 |
|---|---|---|---|---|---|---|
| -0.67 | 0.19 | 0.71 | 1.34 | 3.21 | 0.00 | 0.00 |

SORTING GRAFICO DE FOLK Y WARD (1957) = 0.054

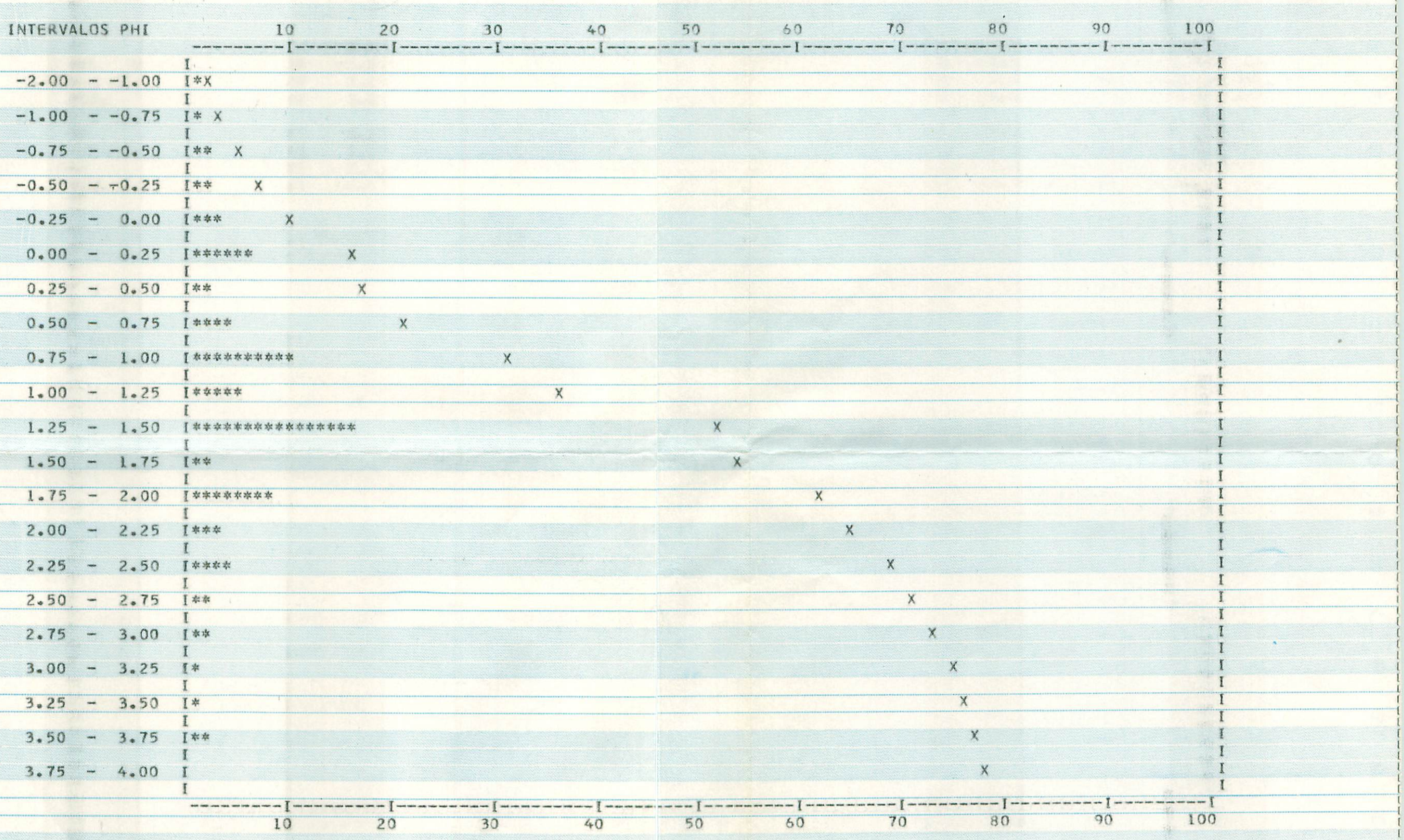
SKEWNESS GRAFICO DE FOLK Y WARD (1957) = -8.025

KURTOSIS GRAFICA DE FOLK Y WARD (1957) = 0.111

CLASIFICACION SEGUN FRIEDMAN (1962) = MODERADAMENTE CLASIFICADA

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## HISTOGRAMA Y CURVA ACUMULADA




TODAS LAS FRECUENCIAS ESTAN REDONDEADAS A SU ENTERO MAS PROXIMO